The Professional Practice Environment of Dental Hygienists in the Fifty States and the District of Columbia, 2001

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Preface

The primary goals of this study are to: document the professional practice of dental hygienists in the fifty States and DC in 2001; to assess the extent to which the professional practice environment is related to numbers of practitioners, selected characteristics of practitioners, oral health outcomes, and utilization of oral health services; and to assess the impact of dental hygienists on access to care for underserved populations. A variety of data sets have been compiled to explore these issues, including statutes and regulations from the 50 States, estimated numbers of practitioners, oral health status indicators, oral health utilization statistics, and numbers of oral health education programs and graduates. These data have been supplemented by fieldwork and interviews conducted with practitioners from 26 States.

To document the professional practice of dental hygienists in the 50 States and the District of Columbia, the Health Resources and Services Administration (HRSA) commissioned this study by the Center for Health Workforce Studies at the School of Public Health at the University at Albany.

The Center for Health Workforce Studies is a not-for-profit research center operating under the auspices of the University at Albany of the State University of New York and Health Research, Incorporated (HRI). The views expressed in this report are those of the authors and do not necessarily represent the views or positions of the State University of New York, the School of Public Health, HRI, HRSA, or the subcontractors.

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Executive Summary

This chapter presents an overview of the study and this report. It includes the following sections:

- Introduction
- Key Findings
- Discussion

Introduction

Access to oral health services is widely recognized to be an important public health issue in the U.S. The Report of the Surgeon General provides a compelling challenge to oral health professionals, to the public health community, to community constituents, and to the public to find creative solutions to meet the need for better access to oral health care.[3]

The role of Dental Hygienists (DHs) in the oral health care system was much greater in 2000 than it was a decade earlier. Some of the increase in their roles was quantitative, reflecting the significant increase in numbers of DHs from around 72,000 in 1990 to more than 120,000 in 2001, but much of the expansion in roles of DHs was qualitative, reflecting the increasing presence of DHs in providing preventive oral health services. As DHs have demonstrated their clinical ability to contribute both to quality patient care and improved access to care, they have also been successful in expanding their legal scope of practice in most States. DH roles, which

initially were rooted strictly in preventive care, have been slowly expanding into a variety of basic restorative services, stimulated in part by initiatives to increase access to care for underserved population groups.

Although acceptance of DHs may have come more slowly than some would have liked, the contributions of DHs—and their potential for even greater contributions in the future, have not gone unnoticed in State legislatures and governors' offices. Over the past decade, virtually every State expanded the legal scope of practice of DHs. This expansion and its impact on access to services and oral health outcomes are summarized in this report.

Dental Hygiene Professional Practice Index (DHPPI)

The primary objective of this study was to create a professional practice index for the dental hygiene profession that summarized the legal practice environment for the profession in each of the 50 States and the District of Columbia as of 2001. The DHPPI for each State summarizes four aspects of the legal practice environment for DHs:

- **Legal and regulatory environment.** Various factors in the legal and regulatory environment were addressed including governance of the profession, the composition of the State regulatory boards, the conditions for licensure in the State, and any required relationship between patient and dentist that might affect provision of hygiene services.
- **Supervision in different practice settings.** The supervision section of the document scored dental supervision requirements across a range of health settings including private dental practice and other non-traditional settings such as schools, nursing homes, long term care facilities, and correctional institutions.
- **Tasks permitted under varying levels of supervision.** In the section of the instrument addressing tasks allowed in legislation, services that are fundamental to hygienists such as prophylaxis were considered as well as the ability to provide expanded functions such as local anesthetics or placement of amalgam restorations.
- **Reimbursement.** The final category examined the reimbursement environment in the State and the manner in which payment to hygienists is addressed.

The criteria for the DHPPI were selected to represent the characteristics of an "ideal" professional practice for DHs. By strictly applying the scoring rules for each of the criteria to the statutes and regulations in each State, the resulting index provides a basis for comparing the legal scope of practice across the States.

The DHPPI reflects the ways in which DHs can practice and be paid in the different States. Scores were determined only by options found in legislation or regulation as of December 31, 2001; variations in actual practice not supported by laws or regulations were not considered. If a specific scoring component was not addressed in legislation or regulation, no score was awarded.

Higher scores on the DHPPI are generally associated with broader sets of tasks, more autonomous practice environments (i.e., less direct oversight by dentists), and greater opportunities for direct reimbursement for services.

Key Findings

Although it is not possible to establish causal relationships based on the analyses reported in this article, a number of general findings and conclusions about the DHPPI are justified by this study:

- There are significant differences in the legal practice environment (as reflected in the DHPPI) across the 50 States and the District of Columbia.
- The DHPPI was not significantly correlated with the numbers of DHs per capita or dentists per capita across the 50 States as of 2001.
- The DHPPI was significantly positively correlated with the salaries of DHs as of 2001, indicating that DH salaries were higher in States permitting DHs more tasks and more professional autonomy.
- The DHPPI was also significantly and positively correlated with a number of indicators of utilization of oral health services and oral health outcomes, including percentages of people visiting the dentist in the past year and percentages of people having their teeth professionally cleaned in the past year.

Discussion

Despite the progress made in both numbers and roles of DHs across the US, more can be done to increase the impact of these professionals on improved access and quality of care and reduced costs of care. More can be done to align DH scope of practice with demonstrated DH clinical skills and competencies.[2] This alignment would promote greater autonomy for DHs *in clinical situations in which they are competent to act/practice* and would promote better access to basic preventive care in many geographic areas which cannot economically sustain the practice of a dentist, but could sustain the practice of a dental hygienist.

The findings of this study, when taken in conjunction with the findings based on study of initiatives in California and Colorado, suggest that expanding the professional practice environment of DHs improves access to oral health services, utilization of oral health services, and oral health outcomes. The time would appear right for careful studies in other States to confirm this conclusion. If this finding is confirmed by further analysis, expanding professional practice opportunities for DHs (i.e., increasing the DHPPI) would be an appropriate strategy for States seeking to expand access to dental services to pursue.

Several follow-up actions are possible based on this study:

1. The DHPPI could be revisited in 2006 to track changes in legal practice environments; growth in numbers of practitioners; and changing demographic characteristics, practice patterns, contributions to care, and roles in improving access to care.
2. A pilot study could be considered in two or three States to count/estimate the numbers of DHs who work in shortage areas, and assess their roles in providing care to underserved populations in rural communities, urban neighborhoods, community health centers, and institutions serving special populations.
3. Financial incentives could be created to encourage DHs to practice with underserved populations. Options include: direct payment by State Medicaid programs, loan forgiveness/repayment programs, etc.
4. To help improve access to dental care, an effort could be made to permit practice with remote supervision in more non-traditional settings, including schools and pre-schools,

nursing homes, home health agencies, and prisons. Expansion of oral health services in traditional *medical* settings (e.g., pediatrician offices) should also be considered.

Chapter 1. Study Overview

This chapter presents an overview of the study and this report. It includes the following sections:

- Introduction
- Study objectives
- Study components
- Remainder of report

Introduction

Over the last decade, the number of Dental Hygienists (DHs) increased substantially. So have the numbers of education programs, new graduates, legal scope of practice, location of practice, visibility to patient consumers, and professional standing. Many factors have contributed to these increases in numbers and status, some environmental and some related to the profession.

Study Goals and Objectives

The numbers of DHs increased dramatically in the 1990s, but questions remain: To what extent has the legal professional practice environment for dental hygienists improved in this period? Were the increases in scope of practice related to observed increases in numbers of practitioners?

Have the overall increases in the numbers of practitioners also occurred in officially designated shortage areas? Has access to care increased in these areas?

The overarching goal of this study was to answer these questions, and to assess the impact of changing professional practice laws for dental hygienists on access to health care for the underserved in the U.S. This goal was supported by five specific objectives:

1. Create a Dental Hygiene Professional Practice Index (DHPPI) with numerical scores for each of the 50 States and the District of Columbia in 2001 that reflects key aspects of the professional practice environment for dental hygienists in the respective States;
2. Compile data on the numbers of individuals licensed as DHs in each State in 2001 and in prior years;
3. Assess the extent to which the professional practice environment for DHs improved in the 50 States in the 1990s; and
4. Estimate the extent to which the 2001 DHPPI is related to a variety of other statistics related to oral health in the 50 States, including: the numbers of DHs and dentists, oral health status indicators, other characteristics of DHs, and measures of access to health care in underserved areas.

Study Components

The Center for Health Workforce Studies at the University at Albany (SUNY) examined the impact of changing professional practice laws for the DH profession on access to health care for the underserved. The specific tasks undertaken included:

1. Review statutes and regulations governing DHs in the fifty States (plus the District of Columbia) and create a statistical professional practice index (referred to as the Dental Hygiene Professional Practice Index) that reflects the practice environment for DHs in 2001;
2. Compile data on the trends of the numbers of individuals licensed as DHs and dentists in each State over the past decade to provide a statistical perspective on the changing numbers of practitioners in the oral health professions;

3. Conduct a series of statistical analyses to assess the extent to which the DHPPI is related to the numbers of DHs and dentists, selected measures of oral health status, access to dental services, and a number of other statistics across the 50 States;
4. Conduct fieldwork in several States to gather qualitative information about the professional practice of dental hygienists to supplement the data gathered for the study.
5. Assess the impact of differences in scope of practice laws and regulations governing DHs on access to oral health services in underserved areas; and
6. Prepare report(s) for HRSA and articles for peer-reviewed journals to disseminate the findings and conclusions of the study.

Remainder of this Report

This report is presented in six chapters, including this introduction. The remaining chapters address the following topics:

Chapter 1: Study Overview
Chapter 2: Background and Context
Chapter 3: The Dental Hygiene Professional Practice Index (DHPPI)
Chapter 4: Factors Related to Scope of Practice
Chapter 5: Field Work in Seven States
Chapter 6: Access to Care

Providing additional detail for interested readers are five appendices, each providing information about some aspect of the study, the index calculations, or the fieldwork.

Appendix A: Project Advisory Committee
Appendix B: Questions for Meetings at ADHA Conference and Other Field Work
Appendix C: Detailed DHPPI Calculations
Appendix D: Field Work Details
References

Chapter 2. Background and Context

This chapter provides a context for the subsequent discussion of the professional practice index for dental hygienists. It includes the following subsections:

- Historical Context
- History of the Dental Hygiene Profession

Historical Context

Concern for the oral health status of Americans was heightened with the publication in 2000 of a report by the Department of Health and Human Services titled "Oral Health in America: A Report of the Surgeon General". The impact of poor oral health was a fundamental theme of the report which presents in cogent terms the major economic and social issues surrounding oral health delivery systems, the biology of oral disease, the effects on individuals and society of poor oral health, and most importantly, the need to extend oral health services to a variety of Americans with inadequate access to fundamental dental services. The report clarifies the relationship of oral health to the overall public health of Americans, indicates that oral disease in our society is a "silent epidemic", and documents the remarkable voids in oral health care delivery.

In recent years, a changing paradigm in healthcare has focused renewed attention on the importance of viewing the human body as a totality that is influenced by many internal and external factors. Curing diseases is now viewed as only a part of the process of achieving health. Well-being is accomplished through multiple paths including education and prevention strategies in addition to disease treatment. As this holistic approach to health has gained acceptance, oral health is assuming a new level of importance in our perceptions of the definition of a healthy being. The World Health Organization has defined this new concept as the "physical, social, and psychological well-being of the individual, not just the absence of disease."[1] The Surgeon General labels this new focus as disease prevention and health promotion.

The health of the mouth and surrounding tissues affects us physically, emotionally, mentally, and socially and is integral to overall health status. Despite this awareness of the systemic connection of oral health to the rest of the body, dental care may still be marginalized in the minds of many.[2] The interesting challenge of improving oral health is that most dental disease is preventable, treatable, and manageable if proper care is received. The costs to the public are substantial when dental decay goes untreated. Prevention is cited throughout pertinent literature as being significantly less costly than treatment of progressed oral disease.

The issue of improved oral health must be "cast as a community health problem"[3] in order for the public to have a better understanding of its impact on our society, our economy, and our healthcare system. In his testimony to Congress, Dr. Burton Edelstein, founder of the Children's Dental Health Project, suggested that the problem is "discreet", "solvable", and "timely".[4] The resources to achieve oral health for millions of Americans already largely exist. However, those resources must be enlisted in a united effort to achieve established, common goals.

Among those resources are the professionals who provide oral health services. The contributions of dentists and dental hygienists in meeting the needs of the underserved are already significant. However, there is potential for even greater contribution if access to services is approached in

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[1] Community Voices: Healthcare for the Underserved, "Oral Health for All: Policy for Available, Accessible, and Acceptable Care", p. 1 (citation from Helberg H, "Health for All or for Some Only?" 1994) http://www.communityvoices.org/Uploads/vgon0eagtnzfjwbujlpvmb55_20020813104505.pdf.

[2] Isman R and Isman B, "Access to Oral Health Services in the U.S. 1997 and Beyond", p. 199, Oral Health America, http://www.oralhealthamerica.org/Access%201997%20and%20Beyond-Isman.pdf

[3] Isman, p. 199.

[4] Kaiser Family Foundation, " Congressional Prevention Coalition Oral Health Policy Briefing", September 24, 2002, Washington, DC. Comments by Dr. Burton Edelstein, Founding Director, Children's Dental Health Project of Washington, D.C., http://www.kaisernetwork.org/admin/healthcast/uploaded_files/Transcript_OralHealth.doc.pdf.

less conventional, more creative terms. Dental professionals have "a formidable, extensive, well-researched, and cost effective set of preventive procedures to draw upon" [5] in working towards improved oral health. The creation of multiple entry points to the oral health system, the effective utilization of the competencies of *all* dental professionals, changes in the configuration of the delivery system, an emphasis on education and prevention services, and the engagement of other community and medical partners will be necessary. These efforts will advance the objective of improving the oral health status of millions of Americans by making oral health services "available", "accessible", and "acceptable" to the needs of the underserved.[6]

The following are some facts and perspectives about oral health in America which inform our understanding of the problem:

Background

- "Oral health is much more than healthy teeth".[7] The mouth is a central organ and a "sentinel" of disease processes in the body. The mouth enables social interaction through speech and expression. It is the pathway for nutrition, and it provides key indicators of overall health status. Many systemic illnesses manifest in the oral cavity. Accurate and early diagnosis by medical and dental providers can alter the progression and treatment of more pervasive disease.[8]
- Oral health status is determined by a number of individual factors including biology, behavior, socioeconomic status, and the environment.[9]
- Prevention of oral disease requires both a public health perspective and an individual orientation. Healthy People 2010 asserts the need for "promotion of oral health requiring self care and professional care as well as population based initiatives."[10] Community water fluoridation, tobacco education programs, community screening programs, and

[5] Isman, p. 58 (citation: Ripa LW, "A Half-Century of Community Water Fluoridation in the United States: Review and Commentary, Journal of Public Health Dentistry 1993:52(1): 17-44.)
[6] Community Voices, Oral Health for All, p.16.
[7] Oral Health in America: A Report of the Surgeon General, Department of Health and Human Services, U.S. Public Health Service, Rockville, MD, 2000, p. 1 and p. 7.
[8] Oral Health in America, p. 1 and p. 53.
[9] Oral Health in America, p. 269.
[10] U.S. Department of Health and Human Services, Healthy People 2010, Volume II, http://www.healthypeople.gov/document/tableofcontents.htm, p. 21-7.

school-based clinics are important to increasing the oral health status of the public.[11] Increasing access to preventive, prophylactic and restorative services including oral health education and dental screening are substantive initiatives at an individual level.

The Problem

- Untreated dental conditions contribute significantly to documented loss of school days for children and workdays for adults.[12] A 1989 survey indicated that 52 million hours of school and 164 million hours of work were missed because of oral health problems or for dental treatments to treat oral conditions.[13] Oral health status is correlated to quality of life issues, to mortality and to morbidity.[14]
- Although there have been significant reductions in the incidence of oral health disease over the last decade, there is still a striking incidence of oral cancers and dental caries. The annual mortality rate from oral cancer is about 8,000.[15] It is estimated that 80 percent of tooth decay is found in 25 percent of children.[16] The number one chronic illness in childhood is dental disease.[17] Dental decay is five times more common in children than childhood asthma.[18]

Access

- Access to oral health services is disproportionately available to certain racial, ethnic, and socioeconomic groups. The National Health and Nutrition Examination Survey found that Mexican Americans and non-Hispanic black populations were more likely to have untreated decay than non-Hispanic whites.[19]

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[11] Oral Health in America, p. 156-157.
[12] Oral Health in America, p. 7
[13] Community Voices, The Disparity Cavity: Filling America's Oral Health Gap, http://www.communityvoices.org/Uploads/fiok23y4gwhfkg45ksbde3jb_20020826095615.pdf. , p 1
[14] Oral Health in America, p. 7
[15] Community Voices, p. 6.
[16] United States General Accounting Office, Oral Health: Dental Disease is a Chronic Problem Among Low-Income Populations, April 2000, p.7, http://www.gao.gov/
[17] Oral Health America, "Keep America Smiling: Oral health in America", The Oral Health America National Grading Project 2003, http://www.oralhealthamerica.org/Report%20Card.htm, p. 2.
[18] Edelstein, Oral Health Policy Briefing.
[19] Community Voices, p. 6.

- The needs of the homeless, the elderly, children with disabilities or children with lower socioeconomic status, and migrant workers present challenges to the health system that are multi-dimensional.[20]

- Access to care increases with the availability of dental insurance[21]. In one study, half of the people identified as having no insurance had no dental visit in the year prior to the survey while only 28 percent of those with dental insurance had not seen a dental professional in the same time period.[22] The 2001 National Health Interview Survey found that among those under 65, only 37.6 percent of those without dental insurance had seen a dental professional in the previous year. Of those under 65 with private dental insurance, 72.5 percent had seen a dental professional in the previous year. For those over 65 without dental insurance, 37.6 percent had seen a dental professional in the previous year while among those in the same age cohort with dental insurance, 62.2 percent had seen a dental professional within the previous year[23]. A study of 1994 national survey data found that those with private dental insurance were twice as likely to receive oral health services as those with Medicaid and four times as likely to receive oral health services as those with no insurance.[24]

- In 1996, it was estimated that approximately 45 percent of the population had dental insurance.[25] The National Health Interview survey of 1995 revealed that 44 percent of the US population had some form of private dental insurance, 9 percent had public insurance such as Medicaid or State Child Health Insurance Program, 2 percent had other forms of dental insurance with 45 percent reporting an uninsured status.[26] A study published in the Journal of the American Dental Association in May 2003 which reviewed data in the 1989 and 1999 National Health Interview Survey revealed that overall there had been a

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[20] Community Voices, p. 7-8.
[21] Community Voices, p. 8.
[22] Community Voices, p. 8.
[23] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2001, p. 119, www.cdc.gov/nchs/data/series/sr_10/sr10_218pdf.
[24] Barnett WS and Brown KC, "American Dental Association, Dental Health Policy Analysis Series: Issues in Children's Access to Dental Care Under Medicaid", Chicago, IL, April 2000, p. 15, (citation from a study by Mueller et al. "Access to dental care in the United States: Estimates from a 1994 survey", Journal of the American Dental Association, 129, 429-437.)
[25] Isman R and Isman B, "Access to Oral Health Services in the U.S. 1997 and Beyond", p. 7, Oral Health America, http://www.oralhealthamerica.org/Access%201997%20and%20Beyond-Isman.pdf.
[26] Healthy People 2010, Volume II, p. 21-7.

drop in the number of people with private dental insurance over the decade. The study found that the overall percentage of people with private dental insurance dropped from 40.5 percent in 1989 to 35.2 percent in 1999.[27]

- Access to insurance is not necessarily a predictor of utilization of services. Other factors may prevent those with insurance (and particularly public insurance) from seeking care including "structural"[28] barriers related to workplace restraints or lack of transportation, and "non-structural" barriers such as cultural attitudes that affect perceptions about the need for oral health services.[29]
- More than 40 million people live in areas designated as Dental Health Professions Shortage Areas.[30] Rural areas present special challenges with fewer providers or public programs available for residents. It is estimated that 11 percent of those living in rural areas have never seen a dentist.[31]

The Providers

- The supply of professional providers is affected by a number of factors. The rate of dentists per population is decreasing, raising concerns over the availability of providers to meet the oral health needs of an expanding population.[32]
- The refusal of some dentists to participate in Medicaid due to low reimbursement rates further affects the availability of services to publicly insured populations.[33]
- There is a need for culturally competent and/or minority dental professionals to work with populations that are underserved.[34]
- The lack of supply of dental providers affects care in certain geographic locations where medical and dental services are not widely available.[35]

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[27] American Dental Association, "Uninsured Persons Record Big Increase in Dental Visits, Remain Far Behind Those with Dental Insurance, Study Says", http://www.ada.org/public/media/releases/0305_release03.asp.
[28] Isman, p. 64.
[29] Oral Health in America, Chapter 4, and p.
[30] Community Voices, Disparity Cavity, p. 2 (citation: Division of Shortage Designation Bureau of Primary Health Care, HRSA. http://bphc.hrsa.gov/databases/newhpsa/newhpsa.cfm).
[31] Isman, p. 6
[32] Oral Health in America, p. 235 and p. 241.
[33] Oral Health in America, p. 241 and p. 269.
[34] American Dental Education Association et al., "Improving the Oral Health Status of All Americans: Roles and Responsibilities of Academic Dental Institutions,"

- Public health providers cannot meet the need for oral health services.[36] The safety net is deficient. Only about one third of community health centers offer comprehensive dental services.[37]

Possible Solutions

- Achieving nationally established goals (Healthy People 2010) to improve the oral health status of all Americans will require the participation of both medical and dental primary care providers.[38] Dental hygienists may contribute to increased access through their competencies in cleaning, instruction, nutrition, and behavior education.[39]
- The Surgeon General's Report states that "safe and effective measures" already exist to prevent or treat decay and gum disease.[40] However, disparities in the delivery of those services to certain populations are notable and must be addressed.
- Encouraging community partnerships in oral health promotion is seen as a necessary strategy to provide multiple points of entry to the oral health system and to reach populations with marginal or no access.[41] The Surgeon General's Report calls upon "the collective and complementary talents" of an array of community, health, and citizens groups to achieve better oral health in their communities.[42]
- The interplay of a number of factors contributes to the oral health of a community. Creative solutions will require differing strategies and a variety of approaches depending on the needs and the characteristics of the public being served. The needs of the elderly living in a nursing home will differ from those of children in a Head Start Program. The Surgeon General suggests that a customized approach that addresses the distinctive needs of a group will best achieve optimal oral health outcomes.[43]

As suggested by this brief overview of the current status of oral health in America, improvements in oral health status will only be achieved through creative collaboration and

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[35] Oral Health in America, p. 241.
[36] Oral Health America, Grading Project, p. 2.
[37] Kaiser, comments by Edelstein.
[38] Oral Health in America, p. 216.
[39] Barnett et al. p. 7.
[40] Oral Health in America, p. 10.
[41] Isman et al., p. 117.
[42] Oral Health in America, p. 286.
[43] Oral Health in America, p. 268.

rational allocation of existing and emerging resources. This study addresses the professional workforce component, dental hygienists, that are trained to provide preventive and prophylactic oral health services and patient education about lifestyle and social behavior that affect oral health. Dental hygienists are uniquely educated in these competencies. Presently, however, they are not being effectively utilized within the delivery system in a manner that maximizes their potential contributions to oral health. Positioning the profession to enable it to contribute to increased access will require change at the local, State, and National levels in several areas including professional regulation, supervision, professional practice, and reimbursement for the profession.

History of the Profession

Dental hygiene has a history that dates to the early part of the twentieth century. A Connecticut dentist, Dr. Alfred Civilion Fones, who was himself a legacy to dentistry, is considered the founder of the profession. Dr. Fones' father was a dentist and a dental commissioner in the State of Connecticut.[44] In the early part of the 1900s when the young Dr. Fones began practice, the contemporary solution to dental problems was tooth extraction. However, it was Dr. Fones' belief that such extreme action would become increasingly unnecessary for patients who received proper preventive oral health care.

Another dentist, Dr. Levi Spear Parmly, had championed the concept of preventive oral health services as early as a century before.[45] Although his ideas generated some interest in the dental community in the 1800s, no change in dental practice or procedure had occurred to implement Dr. Parmly's theories.

Young Dr. Fones adopted the idea that preventive dental services and patient education about oral health would contribute to a reduction in dental disease, particularly among children. It was his theory that prophylactic services could be provided by a dental aide. He trained his cousin, Irene Newman, to be his first assistant by teaching her to remove calculus and plaque from patient's teeth, to "clean" teeth. With this training, the "hygienist" profession was born.

[44] History of Fones School, University of Bridgeport, School of Dental Hygiene, http://www.bridgeport.edu/dental/history.html
[45] History of Dental Hygiene, http://www.askadentalhygienist.com/hst/defalut.asp.

Dr. Fones and Ms. Newman practiced in an old carriage house in Bridgeport, Connecticut in which Dr. Fones eventually established the first school of dental hygiene. He established an educational model for the profession that included courses in anatomy and other clinical subjects and taught sterilization techniques.[46] Dr. Fones also invited both local and international lecturers to teach his students. The first graduating class from the Fones program completed their education in 1915. Dr. Fones subsequently traveled widely to lecture and share his ideas with others.[47] The profession that began with 16 assistants in 1915 has swelled to a licensed profession of more than 120,000 hygienists in the year 2002.[48] These professionals are trained in more than 260 accredited education programs in 50 States and the District of Columbia, which graduate approximately 5,000 new hygienists each year.[49]

The profession is presently licensed in every State and the District of Columbia. Professional hygienists practice in a variety of settings providing preventive oral health education and oral health services including prophylaxis (scaling and polishing teeth), dental hygiene assessment, fluoride varnishes, sealant applications, etc. In some States they are legally enabled to perform more extended functions such as placing and polishing amalgam restorations and administration and monitoring of local anesthetics and nitrous oxide.

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[46] History of Fones School, University of Bridgeport, School of Dental Hygiene.
[47] History of Fones School, University of Bridgeport, School of Dental Hygiene.
[48] American Dental Hygienist Association, Licensee Populations and State Board Representation.
[49] Dental Assisting, Hygiene and Laboratory Technology Education Programs, American Dental Association, Commission on Dental Accreditation, http://www.ada.org/prof/ed/programs/dahlt/alliedus.asp.

Chapter 3. The Dental Hygiene Professional Practice Index

This chapter summarizes the professional practice indices for DHs for the 50 States and the District of Columbia. It includes the following subsections:

- Introduction
- Description of the Scoring Instrument
- A Summary of the DHPPI Scores
- The details of the scoring of the DHPPI for each State can be found in Appendix C.

Introduction

The Index

The index that quantifies the practice environment for dental hygienists across States is built on a number of conditions for practice that are perceived to enable provision of care to patients without traditional access to oral health services and especially without access to preventive oral health services. The items on this index were chosen after consultation with hygiene professionals, discussion with the project advisory committee, and considerable research by project staff about the legal requirements for provision of hygiene services across States.

The index is composed of a number of individual items that carry a designated score. A score totaling from 0 to 100 is theoretically possible. The optimal score of 100 would indicate an actualized practice environment that would maximize access for the patient by enabling a hygienist to provide services within the scope of training unencumbered by unnecessary restraints of supervision and setting that distract from the provision of appropriate levels of care. This is a theoretical index built on several premises including recognition that care must be provided within parameters of education, training, and skill, that patient safety is of prime importance, and that appropriate oral health care should be available to the patient, enabled to the professional, and facilitated rather than discouraged by regulation.

Certain procedural standards were adopted in creating and scoring the index:

- Legislation and/or regulation that was passed or enacted by December 31, 2001 was scored on the instrument. If a law was passed in a State but the regulation not yet promulgated the new legislated standard was scored. However, if legislation was pending on December 31, 2001, no credit was given for expansion of practice. In cases where change has occurred subsequent to December 31, 2001, those changes are footnoted as completely as possible. Those changes would elevate the score in the affected State in any future index.
- Explicit legislative or regulatory provisions guided the scoring on the instrument. Although actual practice conditions may differ from the legal standards in a State, the scoring instrument reflects, as accurately as possible, the legal conditions that enable practice. If, for instance, practice in an alternative setting is permitted in legislation but does not actually occur in a State due to other limitations, a score was still awarded. Although it is understood that actual practice may differ from that enabled in law and regulation, an objective standard is necessary to establish a level of confidence in the measures provided by the index. It is also surmised that when actual practice differs from the legal standard, it occurs within the parameters of the standard but may not be as expansive as the law permits.
- In certain situations, scoring was implicit. If, for example, a statute has no stated limitations on settings in which hygienists may practice then the supposition was made that no legal limitations on practice settings apply.

- The standard of unsupervised practice for hygienists in the provision of preventive oral health services was adopted as the theoretically optimal configuration for practice. This benchmark is based on the assumption that a licensed and regulated health professional who meets educational and certification standards can provide services within the scope of his/her clinical training with autonomy without endangering public safety or public health. This seems a fair assumption considering the legal and regulatory safeguards that establish parameters for practice of health professionals across States. Also worthy of consideration is the constraint and good judgment that is engendered in the education and training process of clinicians. Standards of prudent care are also part of the credentialing and certification process for clinical professions. Each of these processes, education, certification and licensure, provide inherent safeguards that foster clinical practice standards with a primary goal of doing no harm to patients. These extrinsic professional standards create implicit controls for professionals that probably do not need to be so explicitly legislated.

The Scoring Instrument

A scoring instrument was designed by researchers to quantify particular aspects of the legal practice environments for dental hygienists. The component items within the index selected for scoring were intended to capture characteristics of professional practice for dental hygienists in the 50 States and the District of Columbia that enabled hygienists to provide oral health services. An optimal environment was hypothesized to be one in which a professional hygienist had sufficient autonomy to provide preventive and prophylactic services to patients within a scope of practice that is consistent with the education and training of professional hygienists.

Emphasis within the instrument was placed on enabling features within practice acts and board regulations that permit greater access to hygiene services particularly for underserved populations. The individual items on the instrument were selected based on conditions that are perceived to affect access in a variety of practice environments. Weighted scores were applied depending on the perceived importance to achieving access.

Points (totaling 100) were assigned to the various items. A composite score for each State was achieved by summing the scores for each item within the instrument. A score of 0 would indicate

a restrictive environment that did not favor access while a score of 100 would suggest an optimal environment for access to hygiene services. Scores in the range reflect more or less favorable practice environments.

The construction of the instrument was also guided by the dental hygiene profession and its perception of an ideal legal practice environment that would encourage optimal use of the skills and competencies of the trained professional.

The following suppositions guided the construction of the index:

- Professionals must be legally enabled to perform their work;
- Professionals must be allowed to work under circumstances that permit them some autonomy within their scope of practice;
- The tasks permitted must be within their professional education and training;
- Professionals must be paid for the services that they provide.

The instrument is designed under four major groupings that were selected to identify environmental considerations that affect practice by the profession:

- **Legal and regulatory environment.** Various factors in the legal and regulatory environment were addressed including governance of the profession, the composition of the State regulatory boards, the conditions for licensure in the State, and any required relationship between patient and dentist that might affect provision of hygiene services.
- **Supervision in different practice settings.** The supervision section of the document scored dental supervision requirements across a range of health settings including private dental practice and other non-traditional settings such as schools, nursing homes, long term care facilities, and correctional institutions.
- **Tasks permitted under varying levels of supervision.** In the section of the instrument addressing tasks allowed in legislation, services that are fundamental to hygienists such as prophylaxis were considered as well as the ability to provide expanded functions such as local anesthetics or placement of amalgam restorations.
- **Reimbursement.** The final category examined the reimbursement environment in the State and the manner in which payment to hygienists is addressed.

A continuum of practice conditions applies. For example, a dental hygienist may be permitted to provide oral hygiene education without direct involvement of a dentist. However, the administration of nitrous oxide would generally require more immediate involvement or availability of a dentist. This index is designed to accommodate that continuum.

A more lengthy explanation with State specific examples to illustrate the importance of the items chosen for the index is included in this report in Appendix C.

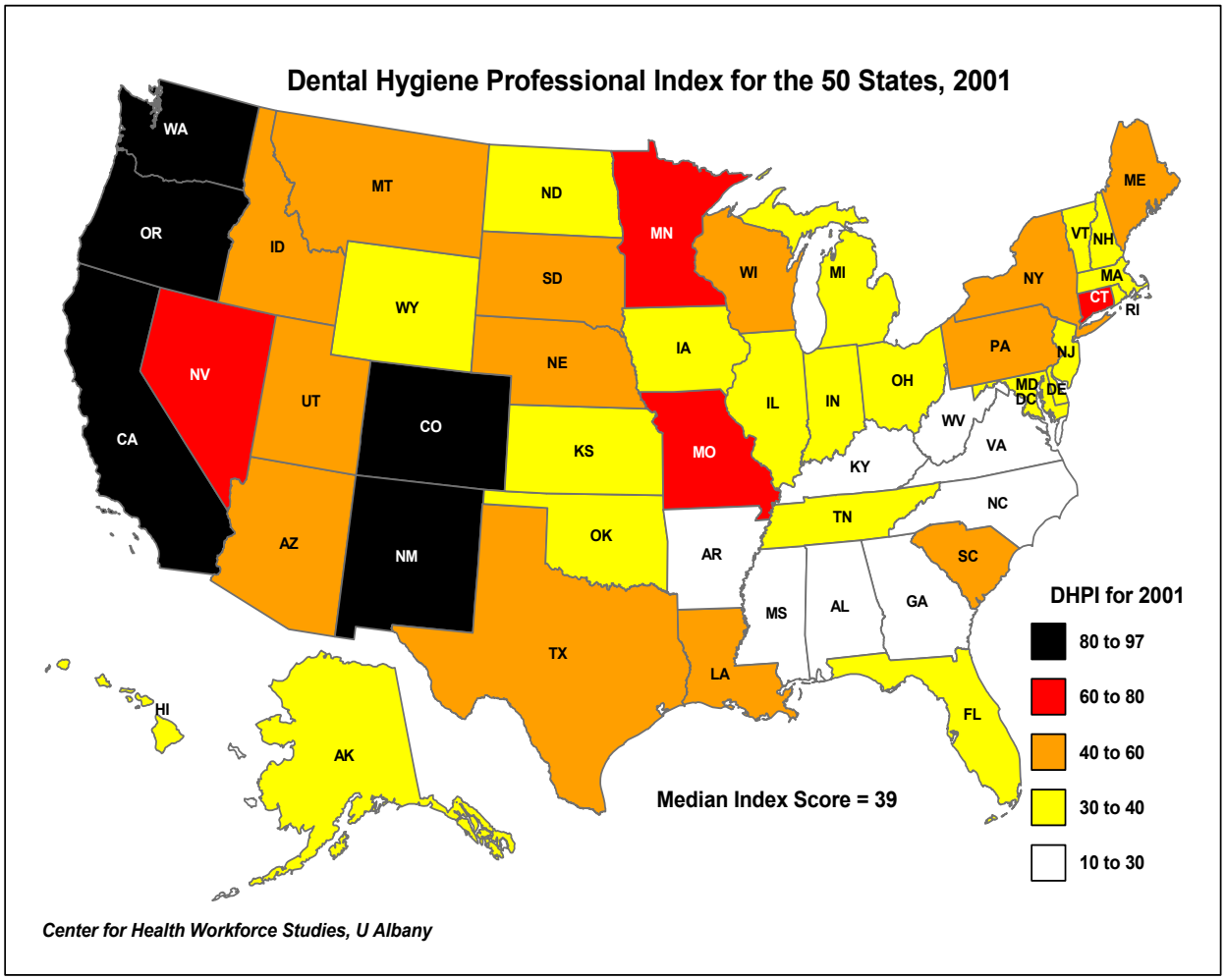
The Dental Hygiene Professional Practice Index

The DHPPI scores for the 50 States and the District of Columbia are shown in Table 3-1. The scores are shown graphically in Figure 3-1.

Table 3-1
Dental Hygiene Professional Index, 2001
Index Components by State

State	DHPI Component Regs	Sup	Tasks	Reimb	Total	DHPI Rating
Maximum Score	**10**	**47**	**28**	**15**	**100**	
Colorado	9	47	26	15	97	
Washington	10	45	26	15	96	
Oregon	10	41	22	15	88	**Excellent**
California	8	37	26	15	86	
New Mexico	10	37	24	15	86	
Connecticut	9	33	18	15	75	
Missouri	8	29	22	15	74	
Nevada	9	36	20	0	65	
Minnesota	8	36	20	0	64	**Favorable**
Maine	8	30	18	0	56	
Utah	7	21	20	5	53	
New York	9	23	18	0	50	
Arizona	6	21	18	0	45	
Idaho	7	18	20	0	45	
South Carolina	8	21	16	0	45	
Nebraska	7	21	16	0	44	
Wisconsin	7	21	16	0	44	**Satisfactory**
Pennsylvania	8	18	16	0	42	
South Dakota	6	16	20	0	42	
Louisiana	8	15	18	0	41	
Montana	9	16	16	0	41	
Texas	8	23	10	0	41	
Kansas	7	14	18	0	39	
New Hampshire	9	16	14	0	39	
Tennessee	7	14	18	0	39	
Vermont	9	16	14	0	39	
Ohio	6	16	16	0	38	
Indiana	8	19	10	0	37	
New Jersey	6	15	16	0	37	
Iowa	8	10	18	0	36	
Illinois	7	11	18	0	36	
Maryland	10	16	10	0	36	
Alaska	9	12	14	0	35	**Limiting**
Michigan	7	18	10	0	35	
Massachussetts	6	16	12	0	34	
Wyoming	4	14	16	0	34	
Florida	6	21	6	0	33	
Rhode Island	7	16	10	0	33	
District of Columbia	6	16	10	0	32	
Delaware	8	16	8	0	32	
Hawaii	5	11	16	0	32	
North Dakota	6	16	10	0	32	
Oklahoma	6	7	18	0	31	
North Carolina	6	9	14	0	29	
Arkansas	6	5	16	0	27	
Georgia	8	9	6	0	23	
Alabama	6	12	0	0	18	**Restrictive**
Kentucky	6	8	4	0	18	
Virginia	7	8	2	0	17	
Mississippi	6	7	2	0	15	
West Virginia	6	2	2	0	10	

Center for Health Workforce Studies, University at Albany, 6/2003



Summary

The scores compiled on the index provide a statistical comparison of State practice environments for dental hygienists across the fifty States and the District of Columbia.

The scores should be viewed as a reference to evaluate conditions of practice in a State in comparison to practice in other States at a particular point in time. The individual components of the score provide insight to areas where change might better enable access to hygiene services or improve the availability of preventive oral health services in alternative settings. Caution is suggested when evaluating small variations of a point or two between States that are relatively insignificant. Overall, however, the wide variation in the range of scores is of note.

This range in scores from 10 to 97 suggests that the dental hygiene profession is unlike similarly positioned medical professionals. Index scores recently established for "mid-level" medical providers in a related scope of practice study indicate that nurse practitioners, physician assistants, and certified nurse midwives are experiencing standardization across States in their conditions for practice. These scopes of practice were scored based on legal recognition, prescriptive authority, and direct reimbursement indicators. The range of scores in the indices for these medical professions is much smaller suggesting more homogeneous models for practice across States. Their medical and nursing scopes of practice incorporate both permissive and restrictive characteristics especially with regard to supervision and collaboration with physicians, achieving a more equal tension than is afforded to dental hygiene. These legal conditions enable effective practice for the medical and nursing professionals while still providing safeguards to the public.

The broad range of scores for dental hygiene scope of practice across States is suggestive of a less progressed environment for practice. There does not appear to be the same standardization presently occurring for the hygiene profession across States as has occurred for medical professionals. Whereas some tension between permissive and restrictive features of professional practice seems to be desirable for any profession, the hygienists' scope of practice in most States appears still to be much more restrictive than permissive in legislation and in regulation. The benchmarks for the professional regulation of hygienists are the States with the higher scores that have enabled practice for the profession and access for underserved population while still ensuring public safety and providing appropriate professional oversight.

Standardization of the professional norms across States will require legislative and regulatory change. It may also require a change in governance for the profession. Self-regulation may need to occur before practice conditions can be changed to further enable access. Some change in the present paradigm for provision of oral health services may also be indicated. This statistical index of professional scope of practice for dental hygienists supports the fact that significant disparity in professional regulation of hygienists exists. The index provides a graphical illustration of this variation across States and suggests there is opportunity for change to occur which might increase access while still providing appropriate inherent safeguards to the public.

Chapter 4. Factors Related to the DHPPI

This chapter summarizes a series of statistical analyses performed to help understand the relationship between the DHPPI and a variety of measures of the supply of oral health practitioners, different aspects of the dental hygiene profession, and access to oral health services across the 50 States. It includes the following subsections:

- Introduction
- Literature Review
- Hypotheses
- Data and Methods
- Results
- Conclusions

Introduction

Oral health is an integral aspect of overall health. Recent studies have demonstrated that oral health may be systemically linked to overall health, yet oral healthcare has traditionally been marginalized in society, as reflected in most health insurance policies. National health policy has been focusing increasingly on both the identification and the reduction of inequities in access to

health care, including oral health care. Health inequities are regularly observed across a number of broad socio-economic categories, such as race/ethnicity, income, education, etc…

To date, however, no State-level analysis of factors relevant to the number of dental practitioners, the utilization of dental services, and oral health outcomes has been conducted, although preliminary national statistics and survey research has been developed. The analyses in this chapter explore the relationship between the professional practice of dental hygienists, the supply of dental practitioners, access to dental care, the use of dental services, and selected oral health outcomes across States in the United States.

Dental hygiene is a profession in the United States that reflects some of the attributes of an "authentic" profession but falls short on others. For example, DHs earn comparatively high salaries for their level of education (on average, $52,000 a year for a two year degree in 2000)[CDC] ; however, in most States they work under the direct supervision of dentists, displaying little professional autonomy. DHs have not ascended as far up the "professional ladder" as some other healthcare professionals, e.g., nurse practitioners (NPs), physician assistants (PAs), and certified nurse midwives (CNMs), who function with increasing autonomy in concert with their physician counterparts. However, given the fact that professionals like NPs, PAs, and CNMs have played increasingly important roles in contemporary healthcare, an examination of relationships between dental hygienists and dentists, and between dental hygienists and pertinent oral health outcomes, provides important insights for policymakers concerned with access to care.

Literature Review

Racial disparities exist with respect to oral health; untreated dental caries are more prevalent among African American children and Hispanic children than white children (36 percent and 43 percent versus 26 percent) [(National Center for Health Statistics. National Health and Nutrition Examination Survey III, 1988-1994. Hyattsville MD, Centers for Disease Control and Prevention (CDC)]. Individuals who are poor are 2.7 times more likely to have untreated tooth decay than non-poor adults ["Going Beyond Poor/Non-Poor Comparisons in Studying Oral Health Inequalities. T.F. Drury and J.G. Corrigan, National Institute of Dental and Craniofacial Research] Poor adults were found to be 2.6 times less likely to have visited a dentist or a dental hygienist in the past 12 months than those adults who were not poor ["Going Beyond Poor/Non-

Poor Comparisons in Studying Oral Health Inequalities. T.F. Drury and J.G. Corrigan, National Institute of Dental and Craniofacial Research]. Other studies have found that socioeconomic status (SES) is an important factor as well. Using NHANES III survey data, Drury et al found that those with lower SES scores were at least 1½ - 2 times more likely to have gingivitis than those with higher SES scores ("Socioeconomic Disparities in Adult Oral Health in the United States" T.F. Drury, I. Garcia, and M. Adesanya (National Institute of Dental and Craniofacial Research, NIH). Furthermore, they found that those with lower SES scores were 6.1 times more likely to have untreated coronal decay, 7.2 times more likely to have untreated root decay, 7.5 times more likely to have a restoration or tooth condition involving pulpal pathology or a retained root that might benefit from treatment compared with those individuals with higher SES scores ("Socioeconomic Disparities in Adult Oral Health in the United States" T.F. Drury, I. Garcia, and M. Adesanya. National Institute of Dental and Craniofacial Research, NIH). In addition, one study found the five-year survival rate for oral and pharyngeal cancer is lower among African Americans compared to whites (34 percent versus 56 percent). [NIH. SEER Cancer Statistics Review 1973-1996. Bethesda, MD 1999. National Cancer Institute, NIH] www.seer.ims.sci.nih.gov/Publications/CSR1973_1996. June 15, 1999.]

Many people in the U.S. do not receive necessary dental care, which can have a significant impact upon their quality of life. One recent survey indicated that while 50 percent of non-Hispanic whites visited a dentist within the past year, only 30 percent of Hispanics and 27 percent of African Americans had done so. Moreover, while 55 percent of those with some college had visited a dentist in the past year, only 24 percent of those with less than a high school education had done so. ["Use of Dental Services; An Analysis of Visits, Procedures and Providers 1996. R. Manski, J. Moeller Journal of the American Dental Association 133: February 2002 167-175; Medical Expenditure Panel Survey 1996;]. One study found that black/white differences in oral health were only partially explained by SES and recent use of dental services (R.M. Adesanya, T. F. Drury, "Black/White Disparities in Oral Health Status of American Adults, National Institute of Dental and Craniofacial Research, NIH). Another study found evidence for gender differences with respect to oral health; women were less likely to have untreated coronal decay, untreated root decay, gingivitis, gingival recession, advanced loss of attachment; they were also more likely to have visited a dentist or a dental hygienist in the past 12 months, compared to men (T.F. Drury, M. Redford, I. Garcia, and M. Adesanya "Identifying

and Estimating Oral Health Disparities Among U.S. Adults, National institute of Dental and Craniofacial Research, NIH, Bethesda MD).

Hypotheses

Insights gleaned from previous health research and from discussions conducted as part of this study suggest a number of hypotheses related to the Dental Hygiene Professional Practice Index that can be tested as part of this study.

Hypothesis 1: The relationship between dental hygienists and dentists is a complementary one given the fact that the work environment for dental hygienists is predicated upon the supervision of dentists in almost every State. A positive relationship between the number of dentists per capita and the number of dental hygienists per capita would be anticipated.

Hypothesis 2: The professional practice index will positively co-vary with the number of dental hygienist practitioners, as it is expected that dental hygienists would elect to operate in more autonomous work environments.

Hypothesis 3: The dental hygiene professional practice index would be positively correlated with salary levels; States with more favorable work environments for dental hygienists should have higher overall dental hygienist salaries.

Hypothesis 4. Greater professional latitude in professional work environments for dental hygienists should be reflected in more favorable oral health measures within the population.

Hypothesis 5. Socio-economic factors should be positively correlated with the utilization of dental care and with favorable oral health outcomes. Although not directly related to the work in this study on the DHPPI, this hypothesis is relevant to the broader question of access to dental services.

Hypothesis 6. A positive statistical relationship should exist between the utilization of dental care and the available supply of dental practitioners per capita.

Hypothesis 7. States with larger numbers of dental practitioners per capita are associated with greater access to oral health care and more favorable oral health outcomes.

Data and Methods

The State level data has been collected from a variety of official sources, including the American Dental Association, the American Dental Hygienist Association, the Bureau of the Census, the Center for Disease Control, the Health Resources and Services Administration, the Statistical Abstracts of the United States, the Behavioral Risk Factor Surveillance System Survey (BRFSS), and the National Center for Education Statistics. Information regarding dental insurance, utilization of dental services (visits to the dentist, dental cleanings), and oral health outcomes (number of teeth removed due to tooth decay or gum disease) have been gathered from the CDC's Behavioral Risk Factor Surveillance System Survey and aggregated up to the State level (unweighted).). Final weights were not available for all years and were missing from years 1998, 1999, and 2000. One or more of the variables necessary to compute the final weights for those years were missing. As the years for the dental variables spanned 1995-2001, it was thought to be methodologically more prudent to keep all aggregated totals similarly unweighted than to have some weighted and others not. Moreover, comparisons were made between those States with weighted percentages and those with unweighted percentages; in all but a handful of cases differences between the weighted and unweighted percentages were less than 2 percent; almost all fell within the 95 percent confidence intervals listed for the weighted percentages. Given that the unweighted percentages for nearly all States fell within the 95 percent confidence intervals for the weighted State estimates, it was determined that unweighted percentages were methodologically justified.

Table 4-1 summarizes the variable used in the different analyses and their sources. Non-parametric correlations (Spearman's Rho) and stepwise regression analysis are employed. Each variable and its source is listed below.

Table 4-1. Variables Included in Statistical Analyses, With Sources

Variable	Definition	Source
DH ’01	DHs for 2001	ADHA Report
DH ‘80 & ‘90	DHs for 1980 and 1990	Area Resource File
Population ’87, ’91, ’95, ’98, ‘01	Civilian Pop in U.S., 1987, 1991, 1995, 1998, 2001	US Bureau of the Census
Dentists ‘01	Dentists, 2001	CDC
Dentists ’87, ’91, ’95, ‘98	Dentists, 1987, 1991, 1995, 1998	ADA
DH / Pop ’80, ’90, & ‘01	DHs per 100K Pop, 1980, 1990, and 2001	Computed
Dentists/Pop ’87, ’91, ’95, ’98, ‘00	Dentists per 100K Pop, 1987, 1991, 1995, 1998, 2001	Computed
DH Salaries, 2000	Mean and Mean Hourly and Mean Annual Salaries of DHs, 2000	CDC Website
% Pop w/ Bach Degree	% of Pop w/ Bachelor’s Degrees or Higher:	NCES Online
% Pop White, Black, Hispanic, Asian, Indian	% Pop White, Black, Hispanic, Asian, Indian	US Census Bureau
Per capita income 1991, 2000	Per capita income 1991, 2000	Statistical Abstract of U.S., 1994, 2003
Per capita expenditure on dental 1991	Per capita expenditure on dental 1991	Statistical Abstract of U.S., 1994
Dental use variables	Dental insurance, Dental visits, # teeth removed, & Reason for not visiting dentist	Aggregated to the State level from BRFSS survey (CDC),
Unemployment rate, 1999	Unemployment rate, 1999	Statistical Abstracts of the United States, 2002
People in dental HPSAs, 2001.	People in dental HPSAs, 2001.	Health Resources and Services Administration
% of Pop living in Dental HPSA, 2001	People in Dental HPSAs / State Pop 2001	Computed
% of Pop by Age Category, 1996	% of Pop by Age Category, 1996	Statistical Abstracts of the United States, 2000

Results

We find a positive relationship between the DHPPI and the supply of dental practitioners per capita, one of which is just shy of statistical significance. As previously hypothesized, this is not surprising given the nature of dental hygienists’ work and the requirement for dental oversight. Table 4-2 summarizes this relationship.

Table 4-2. Relationship Between Dental Hygienists per capita in 2001 and Dentists per Capita in 1998 and 2001	
Dentists per capita 1998	+0.25 (p=0.073)
Dentists per capita 2001	+0.27 (p=0.056)

Moreover, the dental hygiene professional practice index is uncorrelated with either the number of dentists per capita in 1998, the number of dentists per capita in 2001, or the number of dental hygienists per capita in 2001; however, the direction is positive (Table 4-3), indicating that more favorable work environments are associated with a greater supply of dental practitioners.

Table 4-3. Relationship Between the 2001 DHPPI and The Supply of Oral Health Professions and Occupations	
Dentists per capita 1998	+0.23 (p=0.101)
Dentists per capita 2001	+0.13 (p=0.365)
Dental hygienists per capita 2001	+0.13 (p=0.355)

Since the value ascribed to the skills of a profession is in part reflected by higher salary levels, it is reasonable to expect that the dental hygiene professional practice index would be positively correlated with various measures of monetary success. This is validated by our findings; the higher the dental hygiene professional practice index, the higher the dental hygiene salary, whether median hourly, mean hourly, or annual (Table 4-4). The correlation between the DHPPI and dentists' salaries is, however, not statistically significant. Thus, we observe that the professional practice environment of dental hygienists has a positive impact upon measures of professional success, such as monetary outcomes.

Table 4-4. Relationship Between the 2001 DHPPI and Several Measures of Incomes of Dental Hygienists	
Dental hygienist median hourly salary, 2000	+0.31 *
Dental hygienist median hourly salary, 2001	+0.57 **
Dental hygienist mean hourly salary, 2000	+0.32 *
Dental hygienist mean hourly salary, 2001	+0.60 **
Dental hygienist mean annual salary, 2000	+0.33 *
Dental hygienist mean annual salary, 2001	+0.66 **

An important component of the DHPPI is the scope of practice permitted to dental hygienists. By scope of practice we mean the tasks permitted to the profession under varying levels of supervision. Extending beyond positive outcomes measures for dental hygienists (monetary success), it is reasonable to suppose that a broader scope of practice (more tasks permitted to DHs with less restrictive supervision) among dental hygienists should have a positive impact upon utilization of dental services among the general population by making such services more widely available. A corollary assumption is that greater utilization of dental hygiene service should have a positive impact upon the overall oral health status of those who receive services.

Considerable support for these hypotheses was found. Drawing upon data from the Center for Disease Control's BRFSS survey, aggregated up to the State level, we find the DHPPI linked to several positive outcomes (Table 4-5). The negative relationships between the DHPPI and poor oral health status as well as the positive correlation with good oral health support the hypothesis that utilization of oral health services tends to be greater in States where the DHPPI is higher.

Table 4-5. Relationship Between the 2001 DHPPI and Several Measures of Oral Health Problems	
% not visiting a dentist in the past year due to no reason to go	-0.29 *
% having 1-5 permanent teeth removed due to tooth decay or gum disease	-0.38 **
% having 6 or more, but not all, teeth removed due to tooth decay / gum disease	-0.52 **
% having all teeth removed due to tooth decay or gum disease	-0.39 **
% having no teeth removed due to tooth decay or gum disease	+0.49 **

Clearly the professional environment in which dental hygienists operate has a strong impact upon both the utilization of dental services and the oral health of the population. More autonomous professional practice environments contribute to increased dental visitations.

Table 4-5 shows that the professional practice environment for dental hygienists has a positive impact upon oral health status. In States where professional practice environments for dental hygienists were more favorable, the percentage of respondents having no teeth removed due to tooth decay or gum disease were significantly higher. In addition, the percentage of respondents having 1-5, 6, or all teeth removed due to tooth decay or gum disease was significantly lower. This is evidence that the professional practice environment for dental hygienists has a positive impact not only upon the utilization of dental services, but also on the oral health of the population.

Although not statistically significant, the DHPPI was positively correlated with the percentage of respondents having their teeth cleaned by a dentist or dental hygienist within the past year, and negatively associated with the percentage having their teeth cleaned by a dentist or a dental hygienist further back in time (1-5 years ago, or even never).

The DHPPI is clearly not the only factor related to access to dental care. To help understand how several factors impact access to oral health services, other measures that affect utilization of oral health services and affect oral health outcomes are examined in the following analysis.

The percentage of the population with dental insurance is often hypothesized to be a critical determinant of both the utilization of services and oral health outcomes. These hypotheses are supported by the figures in Table 4-6. The percentage of respondents with dental insurance is positively correlated with the percentage having visited a dentist between 1 and 12 months ago, and negatively correlated with the percentage visiting a dentist further back in time (2 to 5 years ago, 5 or more years ago). The percentage with dental insurance is also positively correlated with the percentage having their teeth cleaned (a task typically performed by DHs) between 1 and 12 months ago, and negatively correlated with the percentage having their teeth cleaned further back in time (2 to 5 years ago, 5 or more years ago, or never). Moreover, the percentage with dental insurance is also positively correlated with the percentage having no teeth removed due to tooth decay or gum disease, and negatively correlated with the percentage having some teeth removed

for tooth decay or gum disease. Thus, dental insurance has a profound impact upon not only the utilization of dental services, but also on oral health outcomes.

Table 4-6. Correlation Between Percentage of Population Having Dental Insurance and Selected Measures of Access to Dental Care	
% Visited a dentist 1-12 months ago	+0.70 **
% Visited a dentist 2-5 years ago	-0.34 *
% Visited a dentist 5 or more years ago	-0.78 **
% Had 1-5 teeth removed due to decay	-0.38 *
% Had 6 or more removed due to decay	-0.37 **
% Had all teeth removed due to decay	-0.74 **
% Had no teeth removed due to decay	+0.61 **
% Had teeth cleaned 1-12 months ago	+0.52 **
% Had teeth cleaned 1-2 years ago	-0.32 *
% Had teeth cleaned 2-5 years ago	-0.28 *
% Had teeth cleaned 5 or more years ago	-0.60 **
% Never have had teeth cleaned	-0.59 **

Another economic factor often hypothesized to have a significant impact on both the utilization of dental services and oral health outcomes is per capita income. As seen in Table 4-7, per capita income by State is positively correlated with the percentage of the population having their teeth cleaned 1 to 12 months ago and negatively correlated with the percentage having their teeth cleaned further back in time (1 to 2 years ago, 2 to 5 years ago, 5 or more years ago, or never). Per capita income is also positively correlated with the percentage visiting a dentist recently (within the past 12 months) and negatively correlated with the percentage visiting a dentist further back in time (1 to 2 years ago, 2 to 5 years ago, or 5 or more years ago). Per capita income is also positively correlated with the percentage having no teeth removed due to tooth decay or gum disease, and negatively correlated with the percentage having some teeth removed due to tooth decay or gum disease. These correlations are statistically significant irrespective of the time period in which the relationship is examined (i.e., whether per capita income is temporally prior to or temporally concurrent with the various utilization/status measures).

Table 4-7. Relationship Between 2000 Per Capita Income in States and Selected Measures of Access to Dental Services		
	Per Capita Income 1991	**Per Capita Income 1998**
% Visited dentist 1-12 mo. ago	+0.644 **	+0.662 **
% Visited dentist 1-2 yrs ago	-0.271 (p=0.055)	-0.378 **
% Visited dentist 2-5 yrs ago	-0.368 **	-0.449 **
% Visited dentist 5+ yrs ago	-0.680 **	-0.679 **
% Had 6+ teeth removed decay	-0.312 *	-0.331 *
% Had all teeth removed decay	-0.578 **	-0.578 **
% Had no teeth removed decay	+0.364 **	+0.399 **
% Had teeth cleaned 1-12 months ago	+0.542 **	+0.590 **
% Had teeth cleaned 1-2 years ago	-0.326 *	-0.408 **
% Had teeth cleaned 5+ years ago	-0.538 **	-0.585 **
% Never had teeth cleaned	-0.606 **	-0.585 **

Another indication that financial or economic factors have a significant impact upon both the utilization of services and oral health outcomes is observed in the correlation between the unemployment rate and a number of aggregated dental questions from the BRFSS survey. Table 4-8 shows that unemployment rates are negatively correlated with the percentage having their teeth cleaned by a dentist or a dental hygienist recently (1 to 12) months ago, and positively correlated with the percentage having their teeth cleaned further back in time (1 to 2 years ago, 2 to 5 years ago, 5 or more years ago, or never). The unemployment rate is negatively correlated with the percentage visiting a dentist recently (1 to 12 months ago) and positively correlated with the percentage visiting a dentist further back in time (1 to 2 years ago, 2 to 5 years ago, 5 or more years ago, or never). Furthermore, the unemployment rate is positively associated with the percentage having 1 to 5 teeth removed due to tooth decay or gum disease (an indicator of inadequate preventive care generally provided by DHs).

Table 4-8. Relationship Between State Unemployment Rate in 1999 and Selected Measures of Access to Dental Care	
% Visited dentist 1-12 mo. ago	-0.335 *
% Visited dentist 1-2 yrs ago	0.349 *
% Visited dentist 2-5 yrs ago	0.440 **
% Never visited a dentist	0.316 *
% Had 1-5 teeth removed due to decay	0.455 **
% Had teeth cleaned 1-12 months ago	-0.459 **
% Had teeth cleaned 1-2 years ago	0.402 **
% Had teeth cleaned 2-5 years ago	0.444 **
% Had teeth cleaned 5+ years ago	0.398 **
% Never had teeth cleaned	0.373 **

Another economic factor correlated with access to dental services and oral health outcomes is per capita expenditures on dental care. As one might expect, greater expenditures on dental care are positively correlated to both recent utilization of dental services and negatively correlated with bad oral health outcomes (Table 4-9).

Table 4-9. Relation Between Per capita Personal Expenditure on Dental Care in 1991 and Selected Measures of Access to Dental Care	
% Visited a dentist 1-12 months ago 1999-2001	+0.646 **
% Visited a dentist 2-5 years ago 1999-2001	-0.314 *
% Visited a dentist 5+ years ago 1999-2001	-0.727 **
% Not visited a dentist in past year due to cost 1995-2001 excluding 1999	+0.423 **
% Had 1-5 permanent teeth removed decay 1999-2001	-0.307 *
% Had 6+ teeth removed due to decay 1999-2001	-0.411 **
% Had no teeth removed due to decay 1999-2001	+0.586 **
% Had teeth cleaned 1-12 months ago 1999-2001	+0.478 **
% Had teeth cleaned 5 or more years ago 1999-2001	-0.529 **
% Never had teeth cleaned 1999-2001	-0.654 **

Economic factors are clearly important correlates of both utilization of dental services and oral health outcomes, but they are not the only factors of interest. As was previously hypothesized, one would expect that the number of oral health practitioners would be also positively correlated with utilization of services and oral health outcomes.

These hypotheses were strongly supported by the data. The numbers of dental hygienists per capita in 2001 are significantly correlated with both the utilization of services and oral health outcomes in the population (spanning the years 1995-2001). The numbers of dentists per capita in 2001 are also significantly correlated with both the utilization of services as well as oral health outcomes within the population (spanning 1995-2001). This is evident whether one correlates access measures and oral health status measures with the percentage of the population living within a dental HPSA (Table 4-10), or with numbers of dental practitioners per capita (Table 4-11).

Table 4-10. Relationship Between the Percentage of State Population Living in a Dental HPSA in 2000 and Selected Measures of Access to Dental Care	
% Visited a dentist 1-12 months ago 1999-2001	-0.376 **
% Visited a dentist 5 or more years ago 1999-2001	0.395 **
% Had teeth cleaned 1-12 months ago 1999-2001	-0.333 *
% Had teeth cleaned 5 or more years ago 1999-2001	0.391 **
% Never had their teeth cleaned 1999-2001	0.347 *

Table 4-11. Relationship Between the Numbers of Dentists and Dental Hygienists in 2001 and Selected Measures of Access to Dental Care in 2001		
	Dentists per capita, 2001	**Dental Hygienists per capita, 2001**
% Visited dentist 1-12 months ago	0.639 **	0.472 **
% Visited a dentist 1-2 years ago	-0.240 (p=0.089)	-0.542 **
% Visited a dentist 2-5 years ago	-0.387 **	-0.478 **
% Visited a dentist 5 or more years ago	-0.696 **	-0.352 *
% Had 1-5 teeth removed due to decay	Not Significant	-0.389 **
% Had 6 or more teeth removed due to decay	-0.282 *	Not Significant
% Had all teeth removed due to decay	-0.559 **	-0.288 *
% Had no teeth removed due to decay	0.409 **	0.377 **
% Had teeth cleaned 1-12 months ago	0.525 **	0.494 **
% Had teeth cleaned 1-2 years ago	-0.262 (p=0.064)	-0.510 **
% Had teeth cleaned 2-5 years ago	-0.320 *	-0.437 **
% Had teeth cleaned 5 or more years ago	-0.562 **	-0.356 **
% Never had teeth cleaned	-0.561 **	-0.457 **
% Have dental insurance	0.607 **	0.347 *

The financial status and educational background of the population are also significantly correlated with the numbers of DHs per capita and recent visits to the dentist (Table 4-12). Both per capita personal income in 2001 and the percentage of the population with a bachelors degree in 2000 were positively correlated with per capita expenditures on dental care in 2000, the percentage of the population that visited the dentist in the past year in 1999-2001, and the number of dental hygienists per capita in 2001.

Table 4-12. Correlations Among Selected Measures of Population Characteristics and Access to Dental Care and Numbers of Dental Hygienists per Capita					
	Per Cap Exp on Dental Care '00	**Per Cap Income 2000**	**% of Pop w/ Bach Degree, 2000**	**% Visit Dentist Within 1 Year**	**Dental Hygienists per capita, 2001**
PC Expenditures on Dental Care, 2000	1.00	-	-	-	-
PC Income, 2000	0.814**	1.00	-	-	-
Percent of Pop with Bach Degree, 2000	0.728**	0.728**	1.00	-	-
% Visit dentist 1-12 months ago 1999-2001	0.646**	0.644**	0.665**	1.00	-
Dental Hygienists per Capita, 2001	0.467**	0.316*	0.273*	0.472**	1.00

Table 4-13 shows that the financial status of the population is also significantly correlated with the number of dentists per capita in 1998, and the percentage of the population having no teeth removed due to tooth decay or gum disease in 1999-2001.

Table 4-13. Correlations Between Per Capita Income, Numbers of Dentists, and Percent of Population with No Teeth Removed Due to Decay			
	Per Capita Personal Income, 2000	**Dentists per Capita, 1998**	**% w/ No Teeth Removed Due to Decay '99-'01**
Per Capita Personal Income 2000	1.00	-	-
Number of Dentists per Capita 1998	0.717 **	1.00	-
% w/ No Teeth Removed Due to Decay 1999-2001	0.364 **	0.515 **	1.00

Demographics and Dental Professionals

Among racial/ethnic groups in a State level analysis, Asians rate the best with respect to both utilization of dental care as well as oral health status. Table 4-14 shows that Asians are more likely than other racial/ethnic groups to have dental insurance, more likely to visit the dentist regularly, and more likely to have no teeth pulled as a result of tooth decay or gum disease. Hispanics are more likely than some racial/ethnic groups to have dental insurance and more likely to have better oral health (no teeth pulled due to tooth decay or gum disease); they are also

less likely to have visited a dentist further back in time (5 or more years ago). The percentages of the population that is white or black are largely uncorrelated with various measures of utilization of care and oral health at the State level, apart from the negative correlation between percent black and the percentage having dental insurance. American Indians are generally associated with lower levels of recent visits to the dentist or having one's teeth cleaned recently.

Table 4-14. Relationships Between Proportions of Population in Different Racial-Ethnic Groups and Selected Measures of Access to Dental Services and Oral Health Outcomes

	% White	% Black	% Asian	% Hispanic	% American Indian
% Visited dentist 1-12 months ago	n.s.	n.s.	0.430**	n.s.	-0.305*
% Visited dentist 1-2 years ago	n.s.	n.s.	n.s.	n.s.	0.535 **
% Visited dentist 2-5 years ago	n.s.	n.s.	n.s.	n.s.	0.411**
% Visited dentist 5 or more years ago	n.s.	n.s.	-0.632**	-0.292*	n.s.
% Never visited a dentist	n.s.	n.s.	n.s.	0.328*	n.s.
% Didn't visit dentist in past year due to cost	n.s.	n.s.	n.s.	0.390**	0.422**
% Had 6 or more teeth removed due to decay	n.s.	n.s.	-0.508**	-0.491**	-0.411**
% Had all teeth removed due to decay	n.s.	n.s.	-0.778**	-0.611**	n.s.
% Had no teeth removed due to decay	n.s.	n.s.	0.546**	0.384**	n.s.
% Had teeth cleaned 1-12 months ago	n.s.	n.s.	n.s.	n.s.	-0.436**
% Had teeth cleaned 1-2 years ago	n.s.	n.s.	n.s.	n.s.	0.575**
% Had teeth cleaned 2-5 years ago	n.s.	n.s.	n.s.	n.s.	0.449**
% Had teeth cleaned 5 or more years ago	n.s.	n.s.	-0.402**	n.s.	n.s.
% Have dental insurance	n.s.	-0.297*	0.736**	0.410**	n.s.

Another demographic factor related to utilization of care and oral health is age. Table 4-15 shows that younger age groups are more likely to have dental insurance, more likely to have visited a dentist recently, more likely to have no teeth removed due to decay or gum disease, and more likely to have had their teeth cleaned recently.

Table 4-15. Relationships Between Access/Health Status Indicators and Age Groups in Population

Access/ Health Status Indicator	Age Group													
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
% Teeth Cleaned 1-12 Months Ago	-0.419 (p=.002)	0.395 (p=.004)	0.402 (p=.004)	0.364 (p=.009)	n.s.	n.s.	n.s.	0.381 (p=.006)	n.s.	n.s.	n.s.	n.s.	0.280 (p=.049)	n.s.
% Teeth Cleaned 1-2 Years Ago	0.335 (p=.017)	-0.314 (.026)	-0.338 (p=.016)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-0.352 (p=.012)	n.s.	n.s.	-0.316 (p=.025)	n.s.
% Teeth Cleaned 2-5 Years Ago	0.319 (.024)	n.s.	-0.274 (p=.054)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-0.305 (p=.031)	n.s.	n.s.	-0.321 (p=.023)	n.s.
% Teeth Cleaned 5+ Years Ago	0.313 (p=.027)	-0.471 (.001)	-0.361 (p=.010)	-0.342 (p=.15)	n.s.	0.288 (p=.043)	n.s.	0.395 (p=.005)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
% Teeth Never Cleaned	0.515 (p=.000)	0.287 (p=.044)	-0.457 (p=.001)	-0.456 (p=.001)	n.s.	n.s.	n.s.	0.295 (p=.038)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
% w/ Dental Insurance	-0.290 (p=.046)	0.460 (p=.001)	0.578 (p=.000)	0.532 (p=.000)	n.s.	n.s.	n.s.	-0.426 (p=.003)	-0.458 (p=.001)	-0.334 (p=.020)	n.s.	n.s.	n.s.	-0.359 (p=.012)
% No Teeth Removed	n.s.	n.s.	n.s.	0.329 (p=.020)	0.300 (p=.034)	n.s.	n.s.	-0.453 (p=.001)	-0.337 (p=.017)	-0.490 (p=.000)	n.s.	n.s.	n.s.	n.s.
% 1-5 Teeth Removed	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	0.289 (p=.042)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
% 6+ Teeth Removed	n.s.	n.s.	n.s.	n.s.	-0.345 (p=.014)	n.s.	n.s.	0.357 (p=.011)	0.411 (p=.003)	0.639 (p=.000)	n.s.	n.s.	0.363 (p=.010)	n.s.
% All Teeth Removed	n.s.	n.s.	-0.371 (p=.008)	-0.479 (p=.000)	-0.299 (p=.035)	n.s.	n.s.	0.450 (p=.001)	0.422 (p=.002)	0.445 (p=.001)	n.s.	n.s.	0.314 (p=.025)	0.281 (p=.048)
% Visited dentist 1-12 Months ago	-0.409 (p=.003)	0.343 (p=.015)	0.422 (p=.002)	0.449 (p=.001)	n.s.	n.s.	n.s.	-0.447 (p=.001)	-0.266 (p=.062)	n.s.	n.s.	n.s.	n.s.	n.s.
% Visited dentist 1-2 years Ago	0.311 (p=.028)	n.s.	n.s.	-0.306 (p=.030)	n.s.	n.s.	n.s.	n.s.	n.s.	-0.369 (p=.008)	-0.288 (p=.042)	-0.286 (p=.044)	-0.327 (p=.020)	n.s.
% Visited Dentist 2-5 Years Ago	0.399 (p=.004)	n.s.	n.s.	-0.314 (p=.026)	n.s.	n.s.	n.s.	n.s.	n.s.	-0.274 (p=.054)	-0.276 (p=.053)	-0.302 (p=.033)	-0.329 (p=.020)	-0.341 (p=.015)
% Visited Dentist 5+ Years Ago	0.356 (p=.011)	-0.355 (p=.011)	-0.454 (p=.001)	-0.467 (p=.001)	n.s.	n.s.	n.s.	0.430 (p=.002)	0.362 (p=.010)	n.s.	n.s.	n.s.	n.s.	n.s.
% Never Visited Dentist	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

Conclusions

Consistent with previous research, numerous socio-demographic factors were found to be relevant to oral health in the United States. However, this analysis was able to go beyond existing findings by incorporating not only the level of professionalism of dental hygienists, but also the number of dental practitioners within the population and the ways in which the numbers of dental practitioners impacts both the utilization of care as well as oral health outcomes.

The professionalism of dental hygienists is highly relevant to the utilization of care, oral health outcomes, as well as the supply of practitioners. The supply of dental professionals (both dentists and dental hygienists) are significantly correlated with both utilization of dental care and oral health outcomes.

Financial factors (including per capita income, possession of dental insurance, unemployment rates, and personal expenditure on dental care per capita) were found to be highly correlated with both the utilization of dental care as well as oral health outcomes. Age plays a role as well: younger adults are more likely to have dental insurance, to utilize dental care, and to have more positive oral health outcomes than are older adults.

Chapter 5. Fieldwork

This chapter summarizes the findings of the fieldwork component of the study. It includes the following subsections:

- Introduction
- Discussion

Additional details about the fieldwork can be found in Appendix D.

Introduction

As part of the study of scope of practice for dental hygienists in the 50 States and the District of Columbia, fieldwork was conducted through discussion groups with hygienists at the national professional meeting of the American Dental Hygienists' Association in Beverly Hills, California in June 2002. Hygienists from a number of States were invited to discuss pertinent issues related to practice for hygienists and access to oral health care for underserved populations. Discussion groups were hosted independent of the professional meetings to gather the insights and perspectives of practicing hygienists from a variety of States. Hygienists were invited to participate based on criteria for the State in which practice occurred.

States with very restrictive or very liberal scopes of practice for hygienists were of interest as well as States with dedicated initiatives to increase access to oral health services for needy populations. Geographic challenges and demographic diversity of populations were also considered when States were selected for inclusion in the fieldwork. In addition to the formal discussion groups convened to address the fieldwork requirements for the project, researchers attended association discussion groups dedicated to scope of practice issues as part of the formal professional association program. In all, informants from more than half of the States contributed to the fieldwork research.

A panel of formal questions was developed to initiate and guide discussion in the various groups. A copy of those questions is included in this report. Not all of the questions were considered in each of the fieldwork groups. However, in one or another of the discussions, all of the questions were addressed. Concerns about scope of practice varied depending on the present conditions of practice in particular States. Supervision by dentists was of significant concern to hygienists from States where direct supervision is required in practice settings. Direct reimbursement for services was a concern in States where unsupervised practice for hygienists occurs. However, there were some pervasive issues that were addressed by all informant groups.

Discussion

Overall, informants recognize that there is significant potential for hygienists to contribute to increasing the oral health status of a variety of populations. However, some change in the legal conditions for practice must occur in a majority of States to further enable access. Hygienists also suggest that some professional education of their peers would need to occur to acquaint practicing hygienists with the needs of the underserved and the professional opportunities to practice in environments that are accessed by those populations. Informants comment that there are several professional issues that affect access to care as well as a number of environmental issues that influence provision of care to underserved populations.

Scope of practice issues for dental hygienists which affect access to care for a variety of patients include the following:

- The tasks that are permitted to hygienists in State legislation and regulation;
- The level of supervision by dentists required for the tasks that are permitted;

- The settings in which dental hygienists are permitted to provide preventive and prophylactic oral health services;
- The required relationship between the dentist and the patient and the dentist and the hygienist;
- The ability of the hygienist to be paid for the services provided.

Access to preventive oral health care is also affected by several characteristics of patients or of the environment:

- The geographic location of the patient;
- The ability of the patient to pay for oral health services;
- The availability of insurance coverage for oral health services;
- The physical ability of the patient to access oral health services in private dental practice;
- An adequate understanding or knowledge of the importance of oral health preventive services to general oral and medical health.

Barriers to Access

Supervision requirements in statute and regulation are perceived to create barriers to access to preventive oral health services. Hygienists comment that supervision requirements in many States are a primary impediment to provision of preventive and prophylactic oral health services to populations without traditional access. Most States require supervision by dentists at some level depending on the task, the setting, and the patient being served. In some States, fundamental hygiene services require the direct supervision of the hygienist by the dentist. This level of supervision frequently requires that the dentist see the patient either before or immediately after services are performed. In some States, there is also a prerequisite for the dentist to establish a relationship with the patient (patient of record) and to prescribe the preventive or prophylactic services performed by the hygienist. Direct supervision also limits the hygienist to providing preventive and prophylactic services to periods when a dentist is physically present in the facility where services are performed. Such conditions for practice are perceived to be unnecessarily restrictive to appropriate preventive oral health care when certain hygiene services are provided.

Hygienists understand that supervision requirements are established to protect patient safety. However, direct supervision for basic preventive and prophylactic services is perceived to be overly zealous. Hygienists are concerned that they are not always viewed as a clinical profession even though they are regulated and licensed like other medical and dental professionals. Hygienists emphasize that they have a strong clinical education and substantial clinical training in hygiene assessment and in prophylaxis. Some autonomy in professional practice should be provided considering the required education and certification process. Compelling dental oversight of every hygiene service is probably unnecessary especially since there is little significant inherent danger in most of the services provided.

In fact, hygienists seem confounded by supervision requirements in many States that permit less direct oversight by dentists in alternative settings where patients with limited access might be treated by hygienists. Patients in these alternative settings are often permitted to receive hygiene services under general supervision while patients in private dental offices in the same State may only receive services under direct supervision. Patients who present for care in settings like nursing homes, public health clinics, and community settings are often more compromised medically than those who are capable of paying for private dental services and of accessing care in private settings. Hygienists comment that if patient safety were really the issue driving legislation of levels of supervision, these conditions for practice would not be permitted.

Hygienists comment that the paradigm in which oral health services are provided is a fundamental barrier to access. The structural characteristics of dental practice obstruct care provided in non-traditional settings. There are several features that contribute to decreased access to oral health services:

- Most dentists practice in solo or small group private practice with only a few practicing in public health settings. This limits access to oral health services to only those patients who have dental insurance or who are capable of paying for dental or hygiene services.
- More than three times as many patients are dentally uninsured as are medically uninsured. Additionally, there is no subsidy in dental insurance to help defray the costs of providing care to the uninsured as happens with medical insurance.
- Most State laws require that a dentist examine the patient either prior to or subsequent to the provision of preventive services, limiting hygienists to settings where dentists are

available or requiring an established relationship between dentists and hygienists and dentists and patients.

- Oral health services are provided in a hierarchical model of care in which the dentist directs and supervises both the patient and the hygienist. The dentist is the vehicle through which patients access hygienists and hygienists access patients. Hygienists encourage viewing the provision of oral health care on a continuum with prevention and prophylaxis at one end and restorative and surgical care at the other end. Hygienists suggest that a more appropriate model for the distribution of oral health resources would permit reduced utilization of dentist resources for prevention education and services. Dental resources are better allocated to provision of restorative services to more patients.
- Hygienists are not generally permitted initial interface with patients exclusive of a dentist. States may require that patients be seen first by the dentist before the hygienist can provide any education, assessment or prophylactic services. Unlike nurses who are often the first professional encounter for patients seeking medical services, hygienists are dependent on a dentist for diagnosis and determination of the need for hygiene services.
- Oral health services are primarily accessed in private dental offices. This is unlike medical services that are accessed at multiple entry points in addition to physicians' private practices. Oral health services should be more available in alternative settings where patients in need of care might access both dentists and hygienists.
- The equipment needed to provide oral health services is more extensive than that needed for basic medical care. Although it is possible to provide oral health services in alternate settings, the equipment required creates an additional barrier to provision of oral health services. Mobile dental vans or dedicated dental suites in alternative settings such as nursing homes address this concern. Portable dental equipment is also available that permits the provision of basic services in homes, schools, and in other public settings.
- The importance of preventive oral health care is not always understood despite the significant ramifications to general health of poor oral health status. Poor oral health significantly impacts attendance at school and work. Additionally, certain systemic diseases manifest in oral symptoms. Oral disease can often be easily prevented or treated

if oral health professionals are actively involved. The public needs more education about the importance of oral health and especially about regular preventive oral health care.

Hygienists were clear that there are State initiatives and many private/public collaborations that are increasing access to oral health services. Many States have convened oral health task forces or commissioned studies of oral health status within the State. There are many volunteer initiatives in which dentists and hygienists engage that contribute to increasing access. Of particular concern to hygienists are the very young and the very old who do not receive regular oral health care because of access issues. Dentists do not usually see infants and toddlers. School age children are particularly vulnerable to decay. Much preventable disease occurs in that age cohort. Older people are often limited by mobility issues and by the settings in which they live. Hygienists suggest that there are many opportunities to interface with these populations in alternative settings. However, even when hygienists are willing to work in these settings there are impediments to care in the form of supervision requirements, limitations on tasks that are permitted (specifically, services like sealants, fluorides, assessment, and referral), and the inability to be paid directly for the services provided.

Hygienists suggest that a differentiated model of practice for the profession would contribute to access for compromised populations. The nursing model was cited as an example. Licensed vocational nurses, registered nurses and advanced practice nurses provide services within different scopes of practice under varying levels of delegation and supervision depending on their educational and clinical preparation, certification, and licensure. Implementation of a similar professional model would provide additional opportunities for hygienists and would contribute to access. Several States already provide for extended functions or advance practice for hygienists in their statutes and/or regulations. (See Appendix C for details).

Hygienists express concern that their profession is singular among clinical professions in that another clinical profession regulates it. A fundamental goal for the profession is self-regulation through independent Boards of Dental Hygiene or Dental Hygiene Committees with powers of determination for the profession. It is incumbent for the profession to have some control over scope of practice, requirements for supervision, establishing educational standards, and licensing

requirements. Self-regulation would permit more standardization of practice across States as well as provide a measure of security and control for the profession.

Several changes in practice conditions for hygienists would further encourage practice that would meet the needs of the underserved:

- Levels of supervision required for hygienists in States should be evaluated in light of not only patient safety issues but also with a focus on goals for reasonable patient access to preventive oral health services.
- Self-regulation through Dental Hygiene Boards or Committees within States would permit hygienists to have some needed professional control while still ensuring the quality of preventive and prophylactic services provided to patients.
- Expanded functions and advanced practice options for hygienists would provide new opportunities for interested professionals to interface with a variety of patient populations and to increase access to services.
- Legislated direct reimbursement for preventive and prophylactic services to hygienists from both public payers and private insurers would further enable access to care.
- Supporting creative programs that offer oral health services in other than the traditional settings should be encouraged. It is possible to provide safe, effective services outside the traditional paradigm for oral health care. More varied points of entry to the oral health care system must be available.
- Public initiatives, private/public collaborations, and volunteer efforts to provide oral health services are important contributors to increased access for a variety of populations who might not otherwise receive prophylactic oral health services. These activities should be encouraged at the community, State, and National levels.
- Finally, increasing public awareness of the importance of preventive oral health services will be critical to any initiatives to increase access to services. The public must acquire a fundamental understanding of oral health and its impact on overall health and be educated to the need to seek regular preventive oral health services. Once that is achieved it will be the responsibility of the system to provide the opportunities for access to support the care to be provided.

Chapter 6. Access to Care

This chapter summarizes the findings of the study relating the impact of the professional practice index of DHs on access to health care in the U.S. It includes the following subsections:

- Introduction
- Discussion

Introduction

Of primary interest to this study is the question of the effects of the legal scope of practice for dental hygienists on access to care for underserved populations. Traditionally, these oral health professionals have provided services through gatekeeper dentists who supervise hygienists and manage provision of care to the patient. The roles of dentists in the management of oral health care are described in the dental practice acts and the dental hygiene acts that govern the licensure and the practice of oral health professions. The statutes in each State are augmented by the regulations promulgated by Boards of Dentistry and Boards of Dental Examiners who regulate the services which may be provided, the locations in which practice may occur, and the circumstances (including supervision requirements and patient affiliation with the dentist) under which care may be provided.

Of particular interest is the effect of legislative and regulatory controls on access to oral health care by populations with marginal or no access to regular dental services. As discussed in this report, the DHPPI was created to provide a numerical indicator to be used in analysis of this question. Initially, it was hoped that a statistical index for the profession could be developed for the year 1992 as well as for the year 2001. Composing an index that accurately reflected the legal conditions of practice for dental hygienists in 1992 proved to be beyond the scope of this study. Statutes are dynamic documents that change incrementally over time and ascertaining the prevailing legal conditions for hygienists in 1992 would require significant expert legal research. In the absence of comprehensive historical documents to inform the creation of an index for 1992, researchers examined available sources to support the investigation into changes over the decade in supervision requirements, tasks allowed to the hygienist, and permission to provide services in a variety of non-traditional settings. This chapter will detail the findings from this investigation. Each of the areas examined in the index are addressed below. Although this overview of practice across the decade is not as comprehensive as the detailed index for 2001, the thrust of changes that have occurred is clearly evident. In fact, this overview further supports the researchers' conclusion that change for the profession has been slow. Change has occurred in increments with more change in the later years of the decade than in the earlier ones.

There have been many ongoing legislative initiatives in more recent years (the later years of the 90s and the first years of the new century) that address supervision, settings, and tasks.

In an effort to understand how scope of practice has changed over the decade, researchers examined historical documents published by constituent organizations including the American Dental Hygienists' Association and the American Dental Association. These documents provide a picture of changing conditions and permit several observations about the quality and quantity of change that has occurred over the decade.

Regulation of the Dental Hygiene Profession

In most States, Boards of Dentistry or Boards of Dental Examiners oversee the regulation of the profession. The hygiene profession has been well established for many decades. Since 1951,

hygienists are licensed in every State and the District of Columbia.[50] The profession is also universally title protected meaning that States define and protect the use of the title "dental hygienist". This protection establishes legal recognition for the profession. Presently, the profession enjoys self-regulation in only a few States. Over the past decade several States have passed legislation that has moved the profession towards self-regulation but there are still only a handful of States that permit hygienists any autonomy in professional regulation. Self-regulation is emerging as a particularly cogent issue for the profession as hygienists consider future practice for the profession. The following list details the slow progression to professional regulatory autonomy.

- From the **early 1980's**, a Dental Hygiene Advisory Committee that is composed of three hygienists and one public member has governed hygienists in the State of **Washington**. The committee was originally invested with limited authority that has evolved to full regulation of hygienists in the State.[51]
- In the **1990's**, **Florida** passed legislation creating a Council on Dental Hygiene and a Council on Dental Assisting with advisory capacity to the Florida Board of Dentistry.[52]
- In **1992, Maryland** created a Committee on Dental Hygiene as a result of a sunset review of the Board of Dental Examiners. The committee operates in an advisory capacity.[53]
- Since **1993**, hygienists in the State of **Connecticut** have been regulated directly by the Department of Health. The profession is enabled in statute but only minimal regulations exist which relate to continuing education requirements for the profession. Regulation of the profession occurs in a more diffuse form. For instance, there are social service regulations that pertain to the provision of oral health care by hygienists in the schools and to reimbursement for those services.[54]

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[50] American Dental Hygienists' Association (ADHA), *Educational Standards Position Paper*, 2001, Chicago, IL, p. 2, http://www.adha.org/profissues/education_standards.htm.
[51] ADHA, *Dental Hygiene Participation in Regulations*, September 2001.
[52] Florida Statutes, Title XXXII, Chapter 466.004 (2) (a), http://www.flsenate.gov/Statutes/index.cfm?App_mode=Display_Index&Title_Request=XXXII#TitleXXXII.
[53] Maryland Code, Title 4, Subtitle 2, 4-205, http://198.187.128.12/maryland/lpext.dll?f=templates&fn=fs-main.htm&2.0.
[54] Regulations of Connecticut State Agencies, Department of Social Services Concerning Requirements for Payment of Public Health Dental Hygienist Services, Sections 17b-262-698, 17b-262-699, 17b-262-700.

- In **1994**, the **New Mexico** legislature established a Dental Hygienists Committee that has the power to make mandatory recommendations regarding practice by hygienists to the Board of Dental Health Care. The board may decline to ratify the recommendations that pertain to hygiene practice only under very specific circumstances.[55]
- In **1994, Texas** created a Dental Hygiene Advisory Committee to provide advice to the Board of Dental Examiners pertaining to practice by hygienists.[56]
- In **1996**, **Arizona** legislated a five-member dental hygiene committee including three hygienists, one dental assistant and one dentist to advise the board or matters pertaining to dental hygiene.[57]
- Effective in **1997**, the **Delaware** legislature further empowered an already existing Dental Hygiene Committee with power to advise the Board of Dental Examiners on dental hygiene policy, practice and licensure.[58]
- In **1999,** the **Iowa** Legislature created a Dental Hygiene Committee within the State Board of Dental Examiners. The committee is empowered to make rules for the practice of dental hygiene. It is mandated that committee recommendations be passed unless a reasonable impediment can be demonstrated.[59]
- In **2001**, the State of **Missouri** established a five member Advisory Commission for Dental Hygienists to make recommendations to the Dental Board.[60]
- In **2002**,a sunset review by the Committee on Dental Auxiliaries in **California** in October 2002 resulted in the passage by the legislature of a bill expressing legislative intent to create an independent Board of Dental Hygiene in the State.[61]

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[55] New Mexico Statutes, Chapter 61, Article 5A, 61-5A-9, 61-5A-10, 61-5A-11, http://198.187.128.12/newmexico/lpext.dll?f=templates&fn=fs-main.htm&2.0.
[56] Texas Occupations Code, Chapter 262, Subchapter B, 262.051 to 262.057, http://www.capitol.state.tx.us/statutes/oc/oc0026200.html#oc004.262.051.
[57] ADHA, *DH Participation in Regulation*.
[58] Delaware Code, Title 24, Professions and Occupations, Chapter 11, Subchapter I, 1104. http://www.professionallicensing.state.de.us/decode/t24/dentistry/t24_0110.htm#TopOfPage.
[59] Iowa Statutes 2003, Chapter 153.33A, http://www.legis.state.ia.us/IACODE/2003/153/33A.html.
[60] Missouri Revised Statutes, Chapter 332.086, http://www.moga.state.mo.us/statutes/C300-399/3320086.HTM.
[61] *Committee on Dental Auxiliaries of the Dental Board of California, Supplemental Sunset Review Report on Auxiliary Scopes of Practice*, October 5, 2002, p.20, http://www.comda.ca.gov/sunset2002supplemental.pdf.

Self-regulation provides a profession with the autonomy to govern licensed professionals within the boundaries of patient safety while maintaining or elevating the profession by encouraging expertise in professional practice. The regulation of hygienists by the profession of dentistry limits the hygienist profession to practice consistent with the prerogatives of another profession. This situation is at variance with the prevailing standard of self-regulation for most health professions.

Supervision of Hygienists

The required level of supervision for hygienists is a central aspect of access to care. If hygienists are required by law or rule to be directly supervised, hygienists are limited in the circumstances in which they can provide service. Direct supervision confines the hygienist to situations where the dentist is physically present. Two decades ago, direct supervision was more prevalent than it is today. Two decades ago, only 23 States permitted general supervision of hygienists. By 2001, that number has increased to 35 States with a total of 43 States permitting general supervision in at least some settings.[62] Less restrictive supervision requirements most often apply in public settings where dental services are not traditionally offered such as schools and long-term care facilities.

Table 1 demonstrates the change in supervisory requirements from 1993 to 2000 in all fifty States and the District of Columbia in the following locations:

1. in dental offices,
2. in long-term care facilities,
3. in schools,
4. in homes,
5. and in State institutions.

This information was obtained from publications of the American Dental Association that detail legal provisions for supervision of dental hygienists and assistants across States in 1993, 1998, and 2000.[63] The published material was obtained by survey of the Executive Secretary or

[62] ADHA, *Dental Hygiene Legislative Activity 1985 to 2001*, October 2001, Chicago, IL.
[63] American Dental Association, 1993 *Legal Provisions for Delegating Functions to Dental Assistants and Dental Hygienists*, Chicago, IL, 1998 *Survey of Legal Provisions for Delegating Expanded Functions to Chairside*

Administrator of each State Board of Dentistry in each year. Table 6-1 was created from Chart E-1 in Appendix E of this report which details the actual level of supervision required by year by State by setting. In Chart E-1, in cases where supervision in a setting is not addressed or where the information was not available, a blank space occurs. It is of interest, that in some States, there has been some regression in the amount of supervision required in certain settings. States that might have had less direct supervision in the early part of the decade may now require more direct supervision.

Table 6-1 of this report provides an illustration of the net change in supervision over the seven-year period. In scoring the change in level of supervision the following scores were applied to the level of supervision detailed in Chart E-1:

- Direct Supervision 0
- Indirect Supervision 1
- General Supervision 2
- No Supervision 3

To create Table 6-1, a numerical score was assigned to the level of supervision (see Chart E-1) required in each year in each setting. After that assignment was complete, the level of supervision applicable in the year 1993 in a setting was subtracted from the level of supervision required in that same setting in the year 2000. The results are presented here in tabular form (Table 6-1).

In several States, negative change is noted in one, some or all settings. For those States, according to informants, the mandated level of supervision required for hygienists actually increased over the decade. Although the net change across States was positive, change was relatively small and net gains in more autonomous practice for hygienists were negligible. The chart evidences that the most significant change occurred in dental office settings indicating a decrease in the level of supervision required in private practice locations.

This chart does not accommodate the required level of supervision for extended function hygienists. In a few States, this category of hygienist may work with little or no supervision in some or all settings. Practice by extended function hygienists is addressed in a further section of

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Assistants and Dental Hygienists, Chicago, IL, *2000 Survey of Legal Provisions for Delegating Intraoral Functions to Chairside Assistants and Dental Hygienists,* Chicago, IL.

this chapter. Rather, this particular evaluation addresses supervision by licensed dental hygienists in the State. There are several interesting observations about changes in required supervision over the past decade:

- In a large number of States, no change has occurred in the level of supervision required in any of the five settings during the seven year period. (25 of 51).
- Change occurred in 26 of the 51 jurisdictions. Net change was negative in 10 of those States indicating that supervision requirements are more restrictive now than in the early part of the decade.
- In 9 of the 26 States in which some change in required supervision occurred, the change happened only in a single setting. In the other 17 jurisdictions, change in required supervision occurred across multiple settings.
- Importantly, there has been comparatively little net change over the decade in required levels of supervision in the five settings examined.
- The level of supervision required is generally less restrictive in non-traditional dental settings. That is to say that the supervision required in dental offices is generally more restrictive than the incumbent level in other health settings.
- Some States provide the opportunity for multiple levels of supervision in a particular setting. The applicable supervision may be dependent on the task that is being performed (e.g. prophylaxis or administration of anesthesia) or may be at the discretion of the supervising dentist who determines the level of supervision depending on the skill or experience of the performing hygienist. In cases where several levels of supervision apply, for purposes of tabulation, the most restrictive supervision was scored.

  0 = No Change
  +1 to + 16 = Degree of Easing of Supervision Requirements
  -1 to –10 = Degree of Increase in More Restrictive Supervision Requirements

Table 6-1. Change in Required Supervision of Hygienists By State By Setting, 1993 to 2000

State	Office	LTC	Schools	Home	Public Inst.	Net Change Score
Alabama	0	0	0	0	0	**0**
Alaska	0	0	0	0	0	**0**
Arizona	2	0	0	0	0	**2**
Arkansas	1	0			0	**1**
California	2	1	1	1	1	**6**
Colorado	0	0	0	0	-3	**-3**
Connecticut	0	0	1	0	0	**1**
Delaware	0	0	0	0	0	**0**
District of Columbia	0	0	0	0	0	**0**
Florida	-2	-2	0	0	-2	**-6**
Georgia	0	0	0	0	0	**0**
Hawaii	0	0	0	0	0	**0**
Idaho	0	0	0	0	0	**0**
Illinois	0	2	0	0	0	**2**
Indiana	0	0	0	0	0	**0**
Iowa	0	0	0	0	0	**0**
Kansas	0	0	0	0	0	**0**
Kentucky	-1	-1	-1	-1	-1	**-5**
Louisiana	0	0	0	0	0	**0**
Maine	2	0	-1	0	0	**1**
Maryland	-1	-1	1	-1	1	**-1**
Massachusetts	-2	-2	-2	-2	-2	**-10**
Michigan	0	0	0	0	0	**0**
Minnesota	0	0	0	0	0	**0**
Mississippi	0	-1	-1	-1	-1	**-4**
Missouri	0	0	0	0	0	**0**
Montana	0	0	0	0	0	**0**
Nebraska	0	0	0	0	0	**0**
Nevada	2	0	0	0	0	**2**
New Hampshire	-1	-1	-1	-1	-1	**-5**
New Jersey	0	-2	-2	0	0	**-4**
New Mexico	0	0	0	0	0	**0**
New York	0	0	0	2	0	**2**
North Carolina	0	0	1	0	0	**1**
North Dakota	3	2	3	3	2	**13**
Ohio	-1	0	-1	0	0	**-2**
Oklahoma	2	2	2	2	2	**10**
Oregon	0	0	0	0	0	**0**
Pennsylvania	3	0	0	0	0	**3**
Rhode Island	1	1	1	1	1	**5**
South Carolina	0	1	0	1	1	**3**
South Dakota	2	2	0	0	0	**4**
Tennessee	0	0	0	0	0	**0**
Texas	0	0	0	0	0	**0**
Utah	0	0	0	0	0	**0**
Vermont	-2	0	0	0	-2	**-4**
Virginia	0	0	0	0	0	**0**
Washington	2	0	2	0	0	**4**
West Virginia	0	0	0	0	0	**0**
Wisconsin	0	0	0	0	0	**0**
Wyoming	0	0	0	0	0	**0**
Total Change Score	**12**	**1**	**3**	**4**	**-4**	**16**

Tasks Permitted to Dental Hygienists

A review of documents from the American Dental Association provided a longitudinal history of the level of required supervision required for selected tasks by dental hygienists across the fifty States and the District of Columbia from 1993 to 2000.[64] In order to assess change over the seven year period, once again, a chart was created from Chart E-2 in Appendix E titled Dental Hygiene Required Supervision by Task by Year which details the supervision required for selected hygiene services.

In order to examine the range of allowable services, the chart includes some fundamental preventive services and some extended functions. If the service was permitted to a hygienist in the jurisdiction, the required level of supervision was indicated. If a service was not permitted to hygienists, not permitted was placed in the chart. If the respondent had not provided information to the surveyors and supervision could not be noted or permission to perform the task was in question, the notation N/A was inserted.

To quantify the chart, a scoring system was applied:

Not Permitted or N/A	= 0
Direct Supervision	= 1
Indirect Supervision	= 2
General Supervision	= 3
None or No Supervision	= 4

If an informant indicated only that the task was "permitted", it was assumed that the level of supervision remained the same from the previous reported year. In cases where the task was permitted but the level of supervision was not indicated (permitted/none specified), it was assumed that no supervision applied and therefore, a score of 4 was applied.

The net scores for each State for each task are presented here in Table 6-2. The net score was achieved by subtracting the score for the level of supervision by task in 1993 from the score for the level of supervision by task in 2000. This was assumed to represent net change. In some

[64] American Dental Association, *1993 Legal Provisions for Delegating Functions, 1998 Survey of Legal Provisions, 2000 Survey of Legal Provisions.*

States, negative change occurred suggesting that either the level of supervision required increased

Table 6-2. Change in Tasks Permitted and Required Supervision of Dental Hygienists by State, 1993 to 2000

State	X-Rays	Coronal Polish	Apply Fluoride	Apply Sealants	Place Perio. Dressings	Removal of Sutures	Monitor N_2O	Admin N_2O	Admin Block Local	Place Amalgam	Sub-gingival Scaling	Net Change
Alabama	0	0	0	0	0	0	0	-1	0	0	0	**-1**
Alaska	1	0	0	0	0	0	1	1	0	0	0	**3**
Arizona	0	0	0	0	1	2	1	1	1	1	0	**7**
Arkansas	1	1	1	0	1	1	1	1	1	0	1	**9**
California	3	0	2	0	0	0	1	0	0	0	2	**8**
Colorado	0	0	0	0	0	0	0	1	0	0	0	**1**
Connecticut	0	0	0	0	0	-3	0	0	0	0	0	**-3**
Delaware	0	0	0	0	0	0	3	3	3	3	0	**12**
District of Columbia	0	0	0	0	0	0	0	0	0	0	0	**0**
Florida	0	0	0	0	-2	0	0	0	0	1	0	**-1**
Georgia	0	0	0	0	0	0	0	0	0	1	0	**1**
Hawaii	0	0	0	0	0	0	0	0	1	1	0	**2**
Idaho	0	0	0	0	-1	0	1	1	0	0	0	**1**
Illinois	0	0	0	0	1	0	1	0	0	1	0	**3**
Indiana	0	0	0	0	0	0	-1	0	0	0	0	**-1**
Iowa	0	0	0	0	0	0	0	0	1	0	1	**2**
Kansas	0	0	0	0	0	0	0	0	0	0	0	**0**
Kentucky	0	-1	-1	-1	0	0	0	0	0	0	-1	**-4**
Louisiana	-1	0	-1	-1	0	-1	1	0	1	0	0	**-2**
Maine	0	0	0	0	1	0	-1	2	2	-1	0	**3**
Maryland	-1	0	2	0	0	1	0	0	0	0	0	**2**
Massachusetts	0	0	0	0	0	0	-1	0	0	0	0	**-1**
Michigan	0	0	0	0	0	0	1	0	0	0	1	**2**
Minnesota	0	0	0	0	0	0	0	1	1	0	0	**2**
Mississippi	0	0	0	0	0	0	0	0	0	0	0	**0**
Missouri	1	1	1	1	0	-1	0	0	0	1	1	**5**
Montana	0	0	0	0	0	0	2	3	1	0	0	**6**
Nebraska	0	0	0	0	0	0	1	0	2	1	0	**4**
Nevada	2	2	1	2	2	1	0	0	0	0	2	**12**
New Hampshire	0	0	0	1	1	0	0	0	0	0	0	**2**
New Jersey	0	0	0	0	0	0	0	0	0	0	0	**0**
New Mexico	0	0	0	0	4	4	0	2	1	0	0	**11**
New York	0	0	0	0	-1	0	0	0	0	0	0	**-1**
North Carolina	0	0	0	1	2	0	0	0	0	2	0	**5**
North Dakota	0	0	0	0	0	0	0	0	0	0	0	**0**

continued

Table 6-2. Change in Tasks Permitted and Required Supervision of Dental Hygienists by State, 1993 to 2000, continued

State	X-Rays	Coronal Polish	Apply Fluoride	Apply Sealants	Place Perio. Dressings	Removal of Sutures	Monitor N_2O	Admin N_2O	Admin Block Local	Place Amalgam	Sub-gingival Scaling	Net Change
Ohio	1	1	1	1	0	0	0	0	0	0	1	**5**
Oklahoma	2	2	2	2	2	2	0	0	0	0	2	**14**
Oregon	0	0	0	0	0	0	2	0	0	0	0	**2**
Pennsylvania	2	2	2	2	0	0	0	0	0	0	2	**10**
Rhode Island	1	1	1	1	1	2	0	0	0	-1	1	**7**
South Carolina	-1	-1	-1	-2	-1	0	1	0	0	0	-1	**-6**
South Dakota	0	0	2	0	1	1	3	0	0	0	0	**7**
Tennessee	0	0	0	0	0	0	0	0	0	0	0	**0**
Texas	0	0	0	0	0	0	0	1	0	0	0	**1**
Utah	0	0	0	0	0	0	2	1	0	0	0	**3**
Vermont	0	0	0	0	0	0	1	0	1	0	0	**2**
Virginia	0	0	0	0	0	0	-1	0	0	-1	0	**-2**
Washington	1	0	0	0	0	0	0	0	0	0	0	**1**
West Virginia	0	0	0	0	1	0	0	0	0	0	0	**1**
Wisconsin	0	0	0	0	0	0	2	0	1	0	0	**3**
Wyoming	-1	-1	0	0	0	0	0	0	-1	0	-1	**-4**
Mean Change	**0.22**	**0.14**	**0.24**	**0.14**	**0.25**	**0.18**	**0.41**	**0.33**	**0.31**	**0.18**	**0.22**	**2.61**
Net Change	**11**	**7**	**12**	**7**	**13**	**9**	**21**	**17**	**16**	**9**	**11**	**115**

over the seven year period or that a particular task permitted to hygienists in 1993 was no longer permitted in 2000.

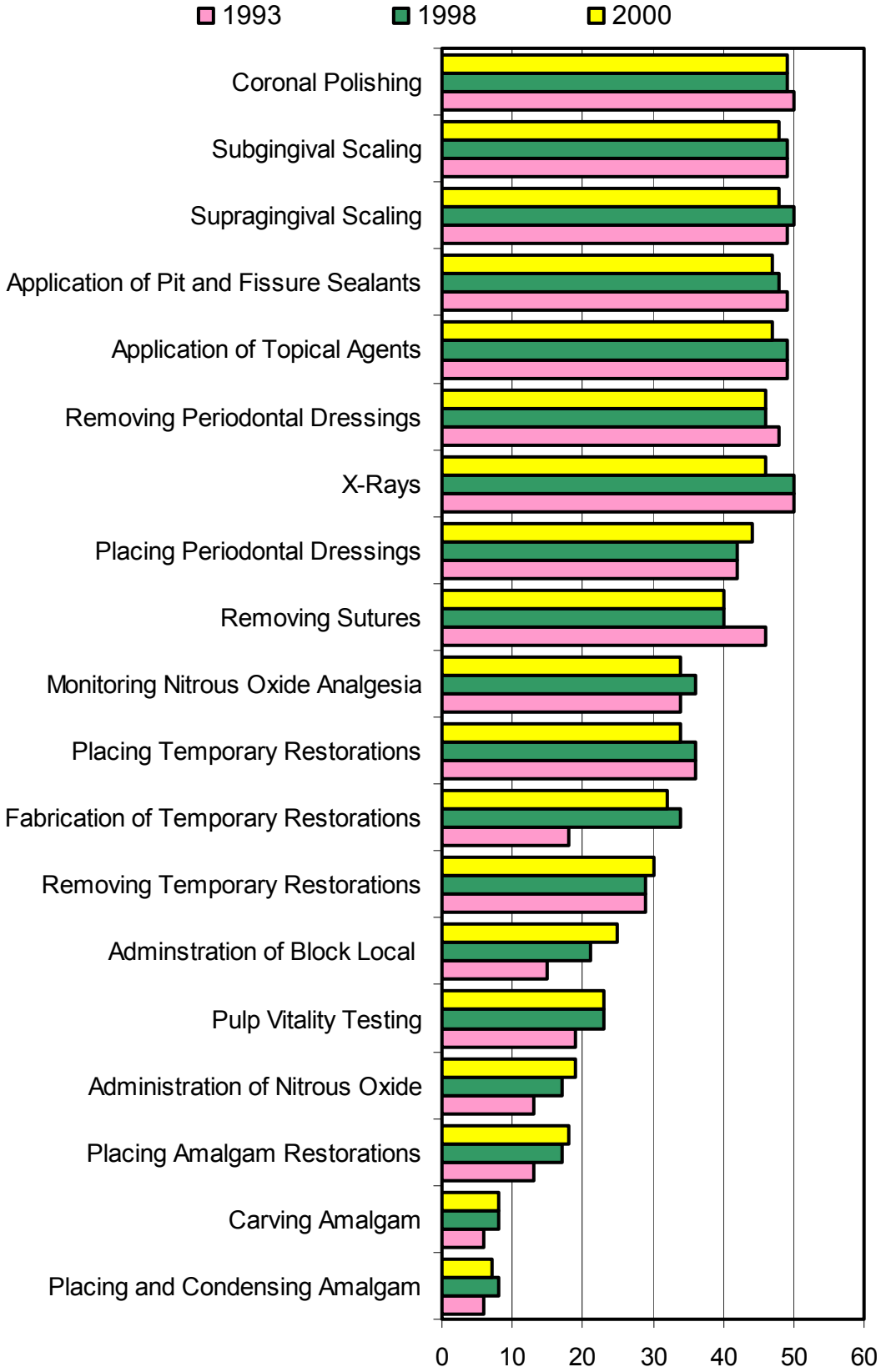
Overall, positive change has occurred in the tasks that are permitted to hygienists over the seven year period. Some conclusions about change in tasks permitted to hygienists are evident:

- Overall, positive change occurred indicating that permitted tasks have increased and the incumbent level of supervision is more permissive.
- Change occurred in 48 of the 51 jurisdictions examined. Change was positive in 37 States, with negative change occurring in the other 11 jurisdictions.
- Most change occurred in the period between 1993 and 1998. However, there has been significant change between 2000 and 2003 in several States. There are a number of legislative initiatives or pending bills in States addressing both supervision and permitted services by hygienists. The reader is directed to the footnotes in Appendix C of this report that document by State impending change in operative supervision, permitted services, and locations where services may be provided.
- As would be expected, the most change occurred in expanded functions for dental hygienists including monitoring of nitrous oxide, administration of local anesthesia, and administration of nitrous oxide. Most health professions have experienced expansion in scope of practice due to increased educational levels, increased technology available to perform and monitor services, and increased recognition of the skill of the profession.
- The least change occurred in coronal polishing and application of sealants. This would be anticipated since these tasks are fundamental to the hygiene profession and are staple services provided to patients. In most States, the level of supervision required would be the most liberal for these prophylactic services so a measure of change would be minimal.
- A small change measure would also be expected for restorative services such as placing amalgam restorations. Since this is outside the traditional scope of practice for the profession, permission to perform the service would be less frequent and it would be expected that supervision would be restrictive.

- It is of interest (refer to Chart 2 in Appendix E) to note that although supervision by task does differ within States, each State seems to adopt a prevailing level of supervision that applies to prophylactic and preventive services. When direct supervision applies to the basic services performed by the hygienist, it is reasonable to expect that direct supervision will apply to more expanded functions. In States, that permit general supervision, more permissive practice is apparent. However, it is also not surprising that in States where general supervision prevails, there is often a requirement for direct or indirect supervision when anesthesia is administered. Patient safety guides the degree of regulation/supervision for these more complicated tasks when provided by hygienists.
- When positive change has occurred in the level of supervision required, it often applies across the tasks permitted. Delaware, Nevada, New Mexico, Pennsylvania, and Oklahoma are examples of States where prevailing supervision changed substantially over the seven year period.

The following Chart 6-3 is a graphical representation of the number of States that permitted hygienists to perform a variety of tasks in 1993, 1998, and 2000. The chart demonstrates expansion of practice in a number of areas for dental hygienists over the last decade. This chart was created from Table E-3 in Appendix E.

Chart 6-3. Numbers of States Permitting Selected Services by DHs, 1993, 1998, 2000



Expanded Functions for Dental Hygienists

An increase in the number of expanded functions permitted to dental hygienists is noted across the decade. Chart 4 in Appendix E, which documents this expansion, is a compilation from various sources. The chart provides a visual overview of change through the past decade.

- In 1993, only 12 States provided for the provision of expanded services by dental hygienist.
- In 2001, 35 States permit some form of expanded function to dental hygienists.
- The greatest change in permission for expanded functions has occurred in the period between 1998 and 2001.
- There has been notable change across States in permission to administer both nitrous oxide and local anesthesia over recent years. In 1985, only 14 States permitted a hygienist to administer local anesthesia and only 5 States permitted administration of nitrous oxide. In 2001, 28 States permited administration of local anesthesia with 18 States permitting administration of nitrous oxide by hygienists.[65]
- In 2001, hygienists are permitted unsupervised practice for certain services in designated settings in 14 States.[66]
- Expanded functions are permitted to hygienists in a variety of settings in order to meet designated public health and legislative prerogatives. For instance, Connecticut has mandated school based oral health services. Hygienists are permitted to provide those services unsupervised in schools and to receive direct reimbursement for those services. South Carolina is another example of a State that has focused on a school based sealant program that permits hygienists to provide services to school age children with permission of the parent.
- California has created an expanded function license that requires extensive education and experience of the hygienist. A hygienist providing services under that license may do so unsupervised by a dentist. New Mexico has legislated that a hygienist may perform

[65] American Dental Hygienists Association, Dental Hygiene Legislative Activity 1985 to 2001.
[66] Ibid.

services as long as a collaborative agreement with a dentist is in place. This is much like the nursing model for advanced practice.

Direct Reimbursement for Dental Hygienists

The ability to be reimbursed for services is essential to the provision of any service by a health professional. Almost universally, oral health services are billed by dentists to public and private payers. Dentists, therefore, receive the professional reimbursement for the prophylactic and preventive services provided by the hygienists in their employ. Since reimbursement is generally contingent on an arrangement with a dentist, hygienists are limited to providing services to locations and patients with whom their employing dentists are engaged. The ability to be reimbursed directly for services would provide hygienists some autonomy in practice and would permit some self-determination about work locations and patients served. However, in only seven States is any direct reimbursement available to hygienists:

- In California, registered dental hygienists in alternative practice are permitted to submit insurance or other third party claims for direct reimbursement.
- In Colorado, unsupervised hygienists providing services in public settings are permitted to submit claims to Colorado Medicaid for direct reimbursement to the hygienist.
- In Connecticut, hygienists working in a variety of public health settings including nursing facilities, intermediate care facilities for the mentally retarded or developmentally disabled, in group homes, schools, and community based clinics may be directly reimbursed for services by Connecticut Medicaid or by Medicaid Managed Care Programs in the State.
- In Missouri, Medicaid is required to directly reimburse any eligible provider including dental hygienists who provides certain health services to a Medicaid eligible child.
- In New Mexico, collaborative practice dental hygienists are eligible to participate as Medicaid oral health providers.
- In Oregon, limited access dental hygienists practicing in State licensed facilities are entitled to direct reimbursement for services provided to patients.

- In Washington, dental hygienists are eligible to enroll as a provider with the Medical Assistance Administration for direct reimbursement for oral health services provided to Medicaid eligible patients.
- Utah insurance law enumerates dental hygienists as eligible health care providers but as yet, not direct reimbursement is in place for the profession.

Access to care is directly affected by the reimbursement policies mandated in law and regulation. More autonomous practice would require some mechanism for direct reimbursement for these professionals to provide care.

Conclusions

- The dental hygiene profession has made slow progress over the decade in some areas:
  - The number of States that permit self-regulation by the dental hygiene profession remains small. A few States have created advisory committees for the profession that have some power to effect the conditions for practice by hygienists in the State.
  - The level of supervision required for hygienists has decreased, but only marginally, in office settings and in public health settings in the majority of States.
  - Direct reimbursement to hygienists as a mechanism for increasing access to services is only recently receiving attention. In most States, hygienists are required to be employed by or contracted to a dentist who receives reimbursement for preventive and prophylactic services of hygienists and then pays the hygienists through a salary or stipend.
- Moderate progress has occurred in other areas which directly affect access by underserved populations:
  - The settings in which hygienists are permitted to practice have been expanded to include other than the traditional dental office settings. Hygienists are now permitted in most States to practice without the direct supervision of a dentist in one or another public health setting.

- There has been an expansion in the tasks allowed to hygienists in a number of States beyond traditional prophylaxis and education including some basic restorative and treatment services.
- Expanded functions are permitted in many more States than in the early part of the decade. These privileges enable the hygienist to provide multiple points of entry to oral health services in locations that expand access to care.

- Progress in self-regulation, in scope of practice, in supervision, and in reimbursement has occurred incrementally in most States. Some States (e.g. New Mexico) have undertaken substantive change in regulation of the profession, in settings and tasks permitted, and in reimbursement policy driven by a vision to increase access for underserved populations. Global change for the profession is, however, still the exception rather than the rule.
- The dental hygiene profession has progressed less quickly than most other health professions. This is largely due to the regulation of the profession by dentistry, a condition that is unusual in health regulation since most other professions are provided with autonomy in governing their constituents.

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Appendix B. Questions for Meetings at ADHA Conference and Other Field Work

The fieldwork conducted as part of the study was designed to gather insights about the extent to which dental hygienists provide essential oral health services for underserved population groups. Questions were asked about a number of topics:

Scope of Practice

1. What States have the broadest legal scope of practice for dental hygienists? What States have the most restrictive legal scope of practice for dental hygienists?
2. Do actual practice opportunities for dental hygienists achieve the possibilities spelled out in statutes, regulations, and rules?
3. What steps are being taken, if any, to improve practice opportunities for dental hygienists in your State?

Underserved Populations

4. What are the roles and responsibilities of dental hygienists in providing oral health services to underserved populations?

5. What are critical prerequisites for creating and maintaining programs to provide dental services to underserved populations?

Best Practices

6. What States have "best practices" with respect to opportunities for dental hygienists to provide dental services to underserved populations? With respect to dental hygienists being reimbursed directly for their services? With respect to working independently of dentists?

Miscellaneous

7. Does the fact that dental hygiene is a "women's profession" have a significant impact on the scope of practice for the profession?

8. What is you attitude about pediatricians (and other physicians) participating in the provision of dental screening and prophylactic services? Supervising dental hygienists?

Job Market

9. What is your assessment of the job market for dental hygienists in your city/town? In your State? Nationally?

10. Do the jobs that are available have good pay, benefits, and working conditions?

Looking to the Future

11. What are the critical issues facing the dental hygiene profession today? How will these issues be resolved?

12. How do you expect the dental hygiene profession to evolve over the next decade? What must happen in order to achieve these changes?

Appendix C. Detailed DHPPI Calculations

Of primary interest to this study is the question of the effects of the legal scope of practice for dental hygienists on access to care for underserved populations. Traditionally, these oral health professionals have provided services through gatekeeper dentists who supervise hygienists and manage provision of care to the patient. The roles of dentists in the management of oral health care are described in the dental practice acts and the dental hygiene acts that govern the licensure and the practice of oral health professions. The statutes in each State are augmented by the regulations promulgated by Boards of Dentistry and Boards of Dental Examiners who regulate the services which may be provided, the locations in which practice may occur, and the circumstances (including supervision requirements and patient affiliation with the dentist) under which care may be provided.

Of interest is the direct effect of legislative and regulatory controls on access to oral health care by populations with marginal or no access to regular dental services. As discussed in this report, the statistical index of scope of practice for dental hygienists was created to provide a numeric indicator to be used in analysis of this question. Initially, it was hoped that a statistical index for the profession could be developed for the year 1992 as well as for the year 2001. Composing an index that accurately reflected the legal conditions of practice for dental hygienists in 1992 proved to be beyond the scope of this study. Statutes are dynamic documents that change

incrementally over time and ascertaining the prevailing legal conditions for hygienists in 1992 would require significant expert legal research. In the absence of comprehensive historical documents to inform the creation of an index for 1992, researchers examined available sources to support the investigation into changes over the decade in supervision requirements, tasks allowed to the hygienist, and permission to provide services in a variety of non-traditional settings. This chapter will detail the findings from this investigation. Each of the areas examined in the index are addressed below. Although this overview of practice across the decade is not as comprehensive as the detailed index for 2001, the thrust of changes that have occurred is clearly evident. In fact, this overview further supports researchers conclusion that change for the profession has been slow. Change has occurred in increments with more change in the later years of the decade than in the earlier ones.

There have been many ongoing legislative initiatives in more recent years (the later years of the 90s and the first years of the new century) that address supervision, settings, and tasks.
In an effort to understand how scope of practice has changed over the decade, researchers examined historical documents published by constituent organizations including the American Dental Hygienists' Association and the American Dental Association. These documents provide a picture of changing conditions and permit several observations about the quality and quantity of change that has occurred over the decade.

The Legal and Regulatory Environment

Governance of the Profession

Statutory regulation for dental hygiene in individual States usually occurs within Dental Practice Acts or, in some cases, separate Dental Hygiene Acts with supporting regulations developed through State Boards of Dentistry or Boards of Dental Examiners. These statutory and regulatory conditions directly affect practice circumstances since one profession (dentistry) is regulating another (dental hygiene). The legal environment for dental hygienists is reflective of this subordination. Legislation is framed in terms of supervision and permission of dentists to perform tasks.

Dental hygiene is idiosyncratic in that most health professions are self-regulated. Dental hygiene is largely under the purview of dentistry. This is not true for similarly situated medical

professionals who are principally self-regulated. Only the physician assistant (PA) profession is, to some extent, governed by Boards of Medicine. However, in many States, separate Physician Assistant Committees actually regulate the profession with nominal reporting responsibilities to a medical board. This configuration effectively and essentially makes the PA profession self-governing.

Composition of State Dental Boards and Hygiene Committees

Presently, Washington is one of two States where the profession of dental hygiene is self-regulated through a Dental Hygiene Examining Committee that reports to the Department of Health. New Mexico is the other State that provides autonomy to hygiene. New Mexico has established a Board of Dentistry that includes hygiene representation and regulates dentists, dental assistants, and dental technicians.[67] New Mexico also has a Committee on Dental Hygiene that has the power to regulate hygienists in the State. This committee includes a dentist and a public member from the Board of Dentistry and also includes five hygienists representing all districts in the State.[68] The State of California recently passed legislation expressing intent to create an independent Board of Dental Hygiene.

There are a few States, including Oregon, Maryland, Texas, California, and Missouri that have established Dental Hygiene Committees that are empowered to exert some level of influence on dental boards and to recommend rules governing the practice, examination or licensing of dental hygienists in their respective State. Florida has both a Council on Dental Hygiene and a Council on Dental Assisting appointed by the Board of Dentistry and including the hygienist or assistant who is a member of the larger board as a member of the adjunct committee.[69] Acceptance by State dental boards of hygiene committee recommendations is not always mandatory across even those States where such committees exist, however.

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[67] New Mexico Statutes, Powers and Duties of the Board and the Committee 61-5A-10, http://www.rld.state.nm.us/b&c/dental/rulesnlaw/61-5A-10%20Powers%20and%20duties%20of%20the%20board%20and%20committee.pdf.

[68] New Mexico Statutes, Committee Created 61-5A-9, http://www.rld.state.nm.us/b&c/dental/rulesnlaw/61-5A-10%20Powers%20and%20duties%20of%20the%20board%20and%20committee.pdf.

[69] Online Sunshine, the 2002 Florida Statutes, Title XXXII, Chapter 466, 466.004(2)(a)&(b), http://www.flsenate.gov/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0466/SEC004.HTM&Title=->2002->Ch0466->Section%20004.

In most States, the Board of Dentistry or Dental Examiners includes at least one member who is a dental hygienist. That member may be appointed by the Governor, elected by hygienists, or chosen directly from applications to the Board.

- In South Carolina, the board holds an election from all licensed hygienists in the State to nominate a candidate for appointment by the Governor.[70]
- In Oklahoma, the dental hygienist board member is elected directly by licensed dental hygienists in the State.[71]
- In Illinois, all members of the board are appointed by the Director of the Board of Dentistry from recommendations received from a variety of professional organizations.[72]
- In some States, the hygienist member(s) enjoy full voting privileges. In others, hygienist member(s) are limited in their powers. In Georgia, "the dental hygienist member of the board may vote only on matters relating to dental hygiene, administration, and policy which do not directly relate to practical or scientific examination of dentists for licensing in this State."[73]

In all States, hygiene representation is small when compared to the numbers of dentists on the board with voting privileges. Existing dentist to hygienist ratios on dental boards across States make the hygiene vote somewhat ineffectual in influencing policy since permitted representation by hygienists on boards is universally small. Board structure is somewhat problematic since statutory change would usually be required to alter representation on professional boards. Some State legislatures have provided automatic remedies to this problem by legislating dates for sunset review of one or another professional boards. At review, the effectiveness of the board is evaluated and structure is often reconsidered. The recent legislative mandate for the creation of a dental hygiene board in California is an example of the outcomes of a sunset review process.

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[70] South Carolina Code of Laws, Title 40, Chapter 15, Dentists, Dental Hygienists, Section 40-15-20, http://www.1pitr.state.sc.us/code/t40c015.htm.
[71] Office of the Attorney General, State of Oklahoma, State Dental Act, 59-328.7, http://oklegal.onenet.net/oklegal-cgi/get_statute?99/Title.59/59-328.7.html.
[72] Illinois Compiled Statutes, Professions and Occupations, Illinois Dental Practice Act, 225 ILCS 25/6, http://www.legis.state.il.us/ilcs/ch225/ch225act25.htm.
[73] Georgia Official Code, 43-11-2 G(d)(1), http://www.ganet.state.ga.us/cgi-bin/pub/ocode/ocgsearch?doc…/2&highlight=dental/hygien.

California reviewers determined that the board structure was ineffectual and that remediation in the form of an independent hygiene board would better serve the profession and the public.

Legislative Statute and Board Regulation

In all fifty States, the profession is governed within State law and regulation. By 1951, hygienists were licensed as a profession in every State.[74] The profession enjoys universal title protection across all States. The title conferred by passage of the certifying exams is "registered dental hygienist" (RDH).

In most States, the statute addressing professional practice by dental hygienists is the Dental Practice Act. Often, the mechanism used to enable practice is a joint article within a statute that addresses practice by dentists, dental hygienists, dental assistants, or other auxiliaries and occasionally, dental laboratories and/or denturists. A few examples of the diversity of statutory and regulatory configuration elucidate the different ways in which States enable practice.

- New Mexico addresses practice by oral health professionals in a Dental Health Care Act that contains a mixture of separate as well as combined sections on dentistry, dental assistants, and dental hygienists.[75]
- Utah has promulgated a Dentist and Dental Hygienist Practice Act.[76] The statute creates a Dentist and Dental Hygienist Licensing Board rather than a Dental Board.
- Oregon addresses dental hygiene in a separate chapter from dentists but includes the profession of denturist in the same chapter with hygienists.[77]
- Colorado law has a typical configuration with its statutes addressing professions and occupations in health care containing a separate combined chapter addressing dentists and dental hygienists.[78]

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[74] American Dental Hygienists Association Educational Standards Position Paper 2001, http://www.adha.org/profissues/education_standards.htm
[75] Boards and Commissions, Board of Dental Health Care State of New Mexico, Rules and Law, 61-5A-1, Short Title, http://www.rld.state.nm.us/b&c/dental/rulesnlaw/61-5A-1%20Short%20title.pdf.
[76] Utah Code, Dentist and Dental Hygienist Practice Act, Title 58, Chapter 69, http://www.le.state.ut.us/~code/TITLE58/58_2F.htm.
[77] Oregon Revised Statutes, Chapter 680, Dental Hygienists; Denturists, http://landru.leg.state.or.us/ors/680.html.
[78] Colorado Revised Statutes, Title 12 Professions and Occupations Health Care, Article 35. Dentists and Dental Hygienists, Lexis-Nexis Academic Universe-Document, file://D:\Dental Hygiene.

In a few States, the legislature addresses practice by dental hygienists separate from dentistry in a section of business and professions code:

- Practice in North Carolina is enabled in a Dental Hygiene Act that is a distinct article in the statute.[79]
- This is also true in Washington where the profession is enabled in a separate chapter of the Business and Professions Statute.[80]
- In Delaware dental hygiene is addressed separately in a subchapter of the chapter on dentistry and dental hygiene.[81]

Statutes vary considerably in the amount of detail contained within them addressing the dental hygiene profession. Some legislatures have passed very definitive and detailed law about the profession while others pass broader legislation that simply enables boards of dentistry to regulate the details of professional practice by hygienists.

California is an example of a State with elaborate statutes[82] and detailed regulation for practice by dental auxiliaries including dental hygienists.[83] The State has legislated a number of different categories of dental auxiliaries including registered dental hygienist, registered dental hygienist in alternative practice, registered dental hygienist in extended functions, registered dental assistant, and registered dental assistant in extended functions.[84] The conditions required to practice in each of these categories are highly detailed in both code and rule with each category of auxiliary addressed separately under several different topics such as scope of practice and extended functions.

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[79] Article 16, Dental Hygiene Practice Act, North Carolina, http://www.ncdentalboard.org/d_hygiene_act.htm.
[80] Annotated Revised Code of Washington, Title 18. Businesses and Professions, Chapter18.29. Dental Hygienists, Lexis-Nexis Academic Universe-Document, file://A:\WAS3.HTM
[81] Delaware Code Annotated, Title 24. Professions and Occupations, Chapter 11. Dentistry and Dental Hygiene, Subchapter III. Dental Hygiene, Lexis-Nexis Academic Universe-Document, file://A:\delawareey.htm.
[82] California Codes, Business and Professions, Code, Section 1740-1770, WAIS Document Retrieval, …/waisgate?WAISdocID=7261163566+2+0+0&WAIsaction=retri10/10/2001.
[83]Dental Regulations –1085 (California), http://www.comda.ca.gov/1085.html.
[84] California Codes, Business and Professions Code, Section 1740, http;//www.leginfo.ca.gov/cgi-bin/waisgate?WAISdocID=93022113963+0+0+0&WAISac..

Mississippi is a State that addresses practice by dentists in lengthy code and regulation with practice by dental hygienists only incidentally addressed within those laws and rules.[85] Dental hygienists practice under direct supervision of dentists in the State, which requires the direct involvement and direction of the dentist in hygiene practice. An exception is made for hygienists providing oral hygiene instruction and screening in a public school or for the State Board of Health. Hygienists may provide those services in certain settings under general supervision in Mississippi.[86] However, these conditions are clearly exceptions to the general rule. Both statute and regulation in the State provide only minimal but definitive guidelines for practice by hygienists in dental offices under dental direction. There is, conversely, expansive detail in both rule and law about practice by dentists in the State.

Level of Supervision

The level of supervision required for hygienists to work within their scope of practice is a critical element in provision of services. The legislative or regulatory requirements of supervision affect:

- The settings in which services are delivered;
- The circumstances under which services are provided (i.e. that is in the presence or absence of a dentist);
- The kinds of services that can be offered;
- And the patients to whom services are supplied.

Variation in supervisory level by settings, variation in supervisory level by task, and variation in supervisory level determined by the health of the patient are all conditions that create a matrix for practice by dental hygienists in some States that is difficult to understand. Particular rules may restrict supervision in a setting while other rules may restrict the actual tasks performed under certain levels of supervision. Understanding this variation is important because practice becomes increasingly convoluted when many detailed legal conditions apply.

[85] Mississippi Dental Practice Act, Code of 1972 Annotated, Title 73, Chapter 9, Dentists, http://msbde.state.ms.us/rrpart1.htm. and Mississippi Regulations and Rules Adopted by the Mississippi State Board of Dental Examiners, http://www.msbde.state.ms.us/rrpart2.htm.
[86] Mississippi Dental Practice Act, 73-9-5(1), http://www.msbde.state.ms.us/rrpart1.htm.

The following examples of the significant variation in supervision of dental hygienists required by States elucidate some of the complexities that arise from legislated supervision requirements.

- In Oklahoma a defined list of hygiene services may be provided under direct, indirect or general supervision at the discretion of the supervising dentist.[87] This creates individual variation within practice environments for practicing hygienists. A hygienist may practice in one dental office under direct supervision and provide the same service in another office under general supervision.
- In South Carolina, a dental hygienist works under general supervision in hospitals, nursing homes, long term care facilities, rural and community clinics, health facilities operated by the Federal, State, county, or local governments, hospices, education institutions, and in charitable institutions and may provide oral prophylaxis, or apply sealants and fluorides. In school settings, a hygienist may apply fluoride and/or sealants and perform oral prophylaxis with the permission of a parent or guardian under general supervision.[88] The statute specifically states however that general supervision is not applicable to hygiene practice in a dental office. Prophylaxis, sealants, etc. performed in office settings must be provided under direct supervision.[89]
- In Pennsylvania, the level of supervision is determined by the service being provided and by the "class" of the patient to whom services are being rendered. The American Society of Anesthesiologists (ASA) created the classification detailed in Pennsylvania Code. For instance, an ASA Class 1 patient is one without systemic disease while an ASA Class V patient is "moribund" and "not expected to survive 24 hours with or without operation."[90] Dental hygiene regulations in Pennsylvania stipulate which tasks may be performed on which class of patient under what kind of supervision in particular practice sites.[91] Such rules create complexity for providers and for patients in determining what services can be

[87] Rules and Regulations Pursuant to Title 59 O.S. 328.1 ET SEQ., Board of Dentistry, State of Oklahoma, 195:15-1-6©, p. 42-43, http://www.dentist.state.ok.us/Rules.pdf.
[88] South Carolina Code of Law, Title 40 Professions and Occupations, Chapter 15 Dentists, Dental Hygienists and Dental Technicians, Section 40-15-80 (B) and (C), http://www.lpitr.state.sc.us/code/t40c015.htm.
[89] South Carolina Code of Law , Section 40-15-85 (B).
[90] The Pennsylvania Code, Subchapter A. General Provisions, 33.1 Definitions, http://www.pacode.com/secure/data/049/chapter33/subchapAtoc.html.
[91] The Pennsylvania Code, Title 49, Professional and Vocational Standards, Chapter 33, State Board of Dentistry, Section 205(d)(1)(i)(1).

provided under what conditions. The potential for variation in practice is high since so many factors determine the circumstances for provision of care.

Interestingly, access to care legislation also contributes to variation within individual States. Several States have enacted laws that enable more expanded practice by hygienists in a variety of public health settings or with special populations. Connecticut, Missouri, and Oregon are examples of States that have expanded scope of practice legislation for hygienists to enable provision of care to patients with limited or no routine access to oral health care. Even this necessary variation contributes to some confusion in practice circumstances. For instance, in Missouri, a child on Medicaid may receive sealants from an unsupervised dental hygienist in a school setting while another child, whose dental care is funded privately and who is a student in the same school, may only receive sealants from that same hygienist under the direct supervision of a dentist. If a child with Medicaid were in a mental health facility in the State, an unsupervised hygienist could provide prophylaxis to that child while the same service could not be offered to an older patient with Medicaid in the same facility.

Restrictive supervision requirements deter hygienists from practice in alternative settings with underserved patients. In some States, such as Arkansas, restrictions are so explicit that hygienists are confined for most services to direct supervision in a dental office.[92] This directive significantly diminishes the possibilities for access to preventive oral health care for populations without access to private dental care. In other States such as Washington, a dental hygienist with clinical experience could effectively practice unsupervised within the scope of traditional duties working in a range of settings with a variety of populations needing oral health services.[93] This spectrum of supervision for hygiene tasks is obvious within the scoring index that has been created as part of this study demonstrating that variation in practice circumstances is more the rule than the exception across States. Specific regulation of so many aspects of dental hygiene practice complicates provision of care for hygienists and for their supervising dentists. It also affects access to care for patients.

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[92] Arkansas State Board of Dental Examiners, Rules and Regulations, Article XI, Dental Hygienists Functions (A), http://www.asbde.org/.

[93] Annotated Revised Code of Washington, Title 18. Businesses and Professions, Chapter 18.29, Section .056(1) and (2), Lexis-Nexis Academic Universe-Document, file://A:\WAS7.HTM.

The level of legislated supervision is the critical factor in determining if a particular service can be provided by a hygienist without the immediate involvement of a dentist. If direct supervision is required in all settings at all times, as is true in the State of West Virginia, services can be provided only when a dentist is present and has authorized the procedure. Under such circumstances, hygienists can provide services only in locations where dentists choose to practice and only when they are physically present.

The level of required supervision is an area where legislated change within individual States might enhance the opportunities for provision of oral health preventive services by hygienists. If services can be supplied in the absence of dentists, especially to populations with compromised access, then prophylactic and preventive services can be made more immediately available. For purposes of understanding the varying levels of supervision, the following elaboration will help in understanding dental hygiene legislation.

Supervision is defined across States as ***personal, direct, indirect, general***, or ***unsupervised***. In each State, level of supervision is defined in statute or rule as intended by the legislating entity. Although there are differences in how a particular level of supervision is applied across States, there are some common features that permit comparison.

- **Personal supervision** implies the immediate presence and active participation of the dentist in the procedure or services being provided to the patient. Generally, this level of supervision applies when a dentist is the primary provider of a service and the hygienist is assisting. ("Personal supervision is a level of supervision indicating that the dentist or dental hygienist is personally treating a patient and authorizes the dental hygienist…to aid his treatment by concurrently performing a supportive procedure."[94]) In Michigan, the hygienist is actually called a "second pair of hands" when providing services under these circumstances.[95]

- **Direct supervision** usually indicates that the dentist has prescribed and/or authorized the services being provided to the patient while the dentist is physically present in the office.

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[94] South Dakota State Board of Dentistry, Statutes, Title 26, Chapter 6A, Section 26(19), http://legis.state.sd.us/statutes/Index.cfm?FuseAction=DisoplayStatute&FindType=Statute&txtStatute=36-6A.

[95] Archived Rule Revisions for 1996, Department of Consumer and Industry Services, Office of Health Services, Board of Dentistry, General Rules, Part 1, R 338.11101(q) and R 338.1109, http:…/arcrules.asp?type=Numeric&id+1996&subID=1996%2D044+CI&subCat=Admincod.

In some States, this level of supervision requires that the dentist examine the patient after the hygienist has completed the service and prior to the patient's departure. ("Direct supervision shall mean that the dentist must be in the dental office at the time the duties under his/her supervision are being performed. In order to provide direct supervision of patient treatment, the dentist must at least diagnose the condition to be treated, authorize the treatment procedure prior to implementation, and examine the condition after treatment and prior to the patient's discharge."[96])

- **Indirect supervision** suggests that the dentist has authorized the work to be performed by the hygienist at some time in his interface with the patient (either immediately or at some prior point) and that the dentist is physically present and readily available to the hygienist. ("Indirect supervision is a level of supervision in which the dentist has authorized the procedure for a patient of record and remains in the treatment facility while the procedure is performed."[97])
- **General supervision** often means that the dentist has authorized a hygienist to perform a hygiene task that is not always a patient specific authorization but may be a task specific one i.e. may perform a dental hygiene assessment on patients. The dentist is not required to be present in the facility where the services are performed but should be available or have dental coverage available to the hygienist as needed. He may also authorize the performance of the task in a setting other than the dental office. In some cases written authorization or a prescription from the authorizing dentist is required for the patient to receive hygiene services. This authorization may need to be patient specific or it may be part of a formal hygiene protocol for treating patients. In some States, dental boards or legislatures have appended a provision to general supervision that requires that the patient be informed that the supervising dentist is not on the premises.[98] ("General supervision shall mean the directing of the authorized activities of a dental hygienist or other dental

[96] Maine Department of Professional and Financial Regulation, Board of Dental Examiners, Rules Relating to Dental Hygienists, 02-313 Chapter 1, Section 1B, http://www.state.me.us/sos/cec/rcn/apa/02/chaps02.htm.
[97] Rules of Department of Economic Development, Division, 110 – Missouri Dental Board, Chapter 2 – General Rules, Section 2.001, p. 3, http://www.sos.state.mo.us/adrules/csr/current/4csr/4c110-2.pdf.
[98] Rules of Department of Economic Development, Division 110 – Missouri Dental Board, Chapter 2 – General Rules, Section 2.001(5)

auxiliary by a licensed dentist and shall not be construed to require the physical presence of the supervisor when directing such activities."[99])

- **Unsupervised** indicates the most autonomous form of practice for a hygienist. When unsupervised practice is described in law, the tasks permitted are usually well defined and focused on special competencies of dental hygienists such as oral hygiene instruction and education, dental hygiene treatment planning, oral prophylaxis, or fluoride treatments. In situations where unsupervised practice is permitted, as is the case in Washington State, there is often a stipulation for the hygienist to refer the patient to a dentist for any needed dental services or dental treatment.[100]

When addressing conditions of supervision, some States limit the number of hygienists who may be supervised by a dentist at any time. Ohio statute clearly states, "at no time shall more than three dental hygienists be practicing clinical hygiene under the supervision of the same dentist."[101] Tennessee statutes also limit the number of dental hygienists under general supervision to no more than three at any one time.[102] California limits the number of dental auxiliaries in "extended functions" that a dentist may supervise to two.[103]

Tasks Permitted

Hygienists are trained in accredited education programs that have standardized curriculums. In most States, graduation from an accredited hygiene program is one of the conditions of licensure. The Commission on Dental Accreditation (CODA), under the auspices of the American Dental Association,[104] accredits educational programs for the profession and also certifies dental assisting and dental laboratory technology programs.[105] This process assures some consistency in the training for services provided by dental hygienists.

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[99] Nebraska Administrative Code, Title 172, Chapter 53, Section 001.05, http://www.sos.state.ne.us//hhs/t172-55.pdf.
[100] Washington State Legislature, Revised Code of Washington, Title 18, Chapter 29, Section .056, http://www.leg.wa.gov/RCW/index.cfm?fuseaction=section8section=18.29.056.
[101] Ohio Revised Code, 4715.23 Limitations on practice, http://www.state.oh.us/den/laws.htm.
[102] Tennessee Statute, Lexis Nexis™, Title 63 Professions of the Healing Arts: Chapter 5, Dentists, http://198.187.128.12/tennessee/lpext.dll?f=templates&fn=fs-main.htm&2.0.
[103] California Business and Professions Code, Section 1763, WAIS Document Retrieval, http://www.leginfo.ca.gov/cgi-bin/waisgate?WAISdocID=35171727440+0+0+0&WAISaction=retrieve.
[104] American Dental Association, http://www.ada.org/prof/ed/accred/whatis /index.html.
[105] American Dental Association, http://www.ada.org/prof/ed/programs/dahlt/

The requirement for dental hygienists to graduate from an accredited program is not, however, universal. The State of Alabama has established an alternative to the formalized education process. Alabama has changed the requirements for licensure in the State to include precepted hygienists who have at least one year of experience as a dental assistant. These assistants may be trained chairside by an approved dentist with a training permit. The assistant in training is required to attend an abbreviated hygiene educational program created by the Board of Dental Examiners of Alabama that is called the Dental Hygiene Program[106]. This curriculum was created as an alternative to the traditional educational process in which a hygienist is required to graduate from a nationally accredited program. North Carolina is another example of a State that does not require graduation from a CODA approved program but rather cites a "board approved program" as the standard for licensure.

In general, tasks for which hygienists are trained include dental hygiene assessment and oral prophylaxis. Hygienists are skilled in oral hygiene education and in such skills as taking x-rays for assessment of oral conditions. Many education programs include expanded function courses such as administration of local anesthesia. Graduation from a formal, accredited program assures standardized training in core skills that is consistent with appropriate dental hygiene practice.

Legislation across States varies considerably when addressing the tasks that may be performed by a hygienist providing services to patients. In some States, a basic hygiene education is considered sufficient to permit a hygienist to provide x-rays or apply sealants under general supervision. In other States, these services require the direct supervision of a dentist when provided by a hygienist. As an example, West Virginia requires direct supervision for all services performed by a hygienist including prophylaxis, application of sealants, and x-rays.

One of the guiding principles in legislation related to allowable dental hygiene services under varying degrees of supervision is the characterization of a task as having alterable results or inalterable effects. The classification of the service as "remediable" or reversible or "irremediable" and therefore, non-reversible often drives the kind and degree of supervision that laws and regulations stipulate. In Rhode Island, "any reversible intraoral procedure not

[106] The Code of Alabama, Section 34-9-26, http://www.legislature.state.al.us/codeofalabama/1975/34-9-26.htm.

specifically enumerated as delegable or non-delegable . . . may be delegated to any category of dental auxiliary . . .based on the discretion of the delegating dentist . . ."[107]

Florida Statutes define remediable tasks as

- "those intraoral tasks which are reversible and do not create unalterable changes within the oral cavity or the contiguous structures and which do not cause an increased risk to the patient."[108]

In the same law, "irremediable" is defined as:

- "those intraoral treatment tasks which, when performed, are irreversible and create unalterable changes within the oral cavity or the contiguous structures or which cause an increased risk to the patient."[109]

A wide range of allowable tasks is enumerated in the legislation and regulation of different States. In some locations, remediable services do require the direct involvement of the supervising or employing dentist while in other States the dental hygienist may perform those same tasks unsupervised or with minimal supervision by a dentist. In many States, reversible tasks such as oral prophylaxis can be performed with little supervision. At the same time, the direct involvement of a dentist is almost universally required in States when permission for expanded functions such as administration of nitrous oxide anesthesia is provided. Administration of anesthetics is considered an irremediable procedure with an increased risk of causing harm.

Reimbursement

The broad range of scores compiled in the index created for this report evidences significant disparity across States in supervisory, legal, and reimbursement requirements for a variety of dental hygiene services. These differences result in considerable variation in the total hygiene index composite scores across States. Of particular note for the item's contribution to this

[107] Rules and Regulations Pertaining to Dentists – Dental Hygienists – and Dental Assistants, State of Rhode Island and Providence Plantations, Department of Health, Board of Examiners in Dentistry, http://www.rules.state.ri.us/rules/wrappers/175.html.
[108] The 2001 Florida Statutes, Title 22, Chapter 466, Section 003(12), http://www.leg.state.fl.us/Statutes/index.cfm?mode=View%20Statutes&Sub…/Ch0466.HT.
[109] The 2001 Florida Statutes, Title 22, Chapter 466, Section 003(11).

variation is the reimbursement category, which strongly evidences the inability of most hygienists to be paid directly for hygiene services.

Generally, hygienists must be employed by or paid on contract to a dentist or other legally contracting body. The organizational entities that are permitted to hire hygienists are often specifically enumerated in statute or regulation. In some States, hygienists are permitted to work under independent contractor status. Many States specifically prohibit a hygienist from owning a hygiene practice or being self-employed.

- Hawaii's statute indicates " the licensed dental hygienist may operate in the office of any licensed dentist, or legally incorporated eleemosynary dental dispensary or infirmary, private school, or welfare center or in any building owned or occupied by the State or any county, but only under the aforesaid employment … No dental hygienist may establish or operate any separate care facility which exclusively renders dental hygiene services."[110]
- Oklahoma statutes state that it is unlawful for a dental hygienist to "attempt to conduct a practice of dental hygiene in some other location other than in an office of a dentist and under his supervision."[111]
- Louisiana has legislated that " Any licensed dentist licensed in Louisiana of good standing, public institution, or school authority may employ a licensed hygienist who may perform such duties as may be authorized by the board. A registered dental hygienist may operate only in the office of a licensed dentist under his direct supervision on the premises, except that when employed by a public school or Federal or State institution where health care is provided, the hygienist may operate under the general direction and supervision of a licensed dentist also employed by the public school or Federal or State institution." The conditions of employment further require that the hygienist keep the board advised of the name and location of the employer.[112]

[110] Hawaii Statutes, Chapter 447 Dental Hygienists, Section 447-3(c), http://www.capitol.hawaii.gov/hrscurrent/Vol10_Ch0436-0471/HRS0447/HRS_0447-0003.htm.
[111] Oklahoma Statutes, Chapter 59, Section 328.29 (l), http://oklegal.onenet.net/oklegal-cgi/get_statute?99/Title.59/59-328.29.html.
[112] Louisiana Revised Statutes, Title 37, Chapter 9 Dentists, Section 766, Hygienists, employment; operations limited, http://oklegal.onenet.net/oklegal-cgi/get_statute?99/Title.59/59-328.29.html.

- In Colorado, "the group practice of dentistry or dental hygiene is permitted"[113] so it would be possible for a dental hygienist to be self-employed.
- California permits "the establishment of independent practice by a registered dental hygienist in alternative practice" but the RDHAP must provide documentation of a relationship with a dentist who would provide referral, consultation, and emergency services.[114]
- New Hampshire statutes specifically state, "nothing in this chapter shall be construed to permit the independent practice of dental hygienists."[115]
- New Jersey statute provides a similar admonition. "Nothing in this act shall be construed as permitting a licensed dental hygienist to establish an independent office for the purpose of performing traditional hygienist services whether or not there is supervision or direct supervision of a licensed dentist."[116]
- Virginia is also explicit in the prohibition to self-employment. "Dental hygienists. . .shall engage in their respective duties only while in the employment of a licensed dentist or governmental agency and under the direction and control of the employing dentist or the dentist in charge, or the dentist in charge or control of the governmental agency."[117]
- Kentucky limits the practice of dental hygiene by including a provision in statute that "it shall be unlawful for a person or corporation to practice dental hygiene in a manner that is separate or independent from the dental practice of a supervising dentist or to establish

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[113] Colorado Revised Statutes, Title 12, Professions and Occupations, Healthcare Article 35 Dentist and Dental Hygienists, Part 1 General Provisions 12-35-112 http://198.187.128.12/colorado/lpext.dll?f=templates&fn=fs-main.htm&2.0.

[114] California Code of Regulations, Title 16 Professional and Vocational Regulation, Division 10 Dental Board, Chapter 3 Dental Auxiliaries, Article 5 Duties and Settings, Section 1090, RDHAP Duties and Settings, http://www.comda.ca.gov/1076.html.

[115] State of New Hampshire Revised Statutes Online, Title XXX Occupations and Profession, Chapter 317-A, Dentists and Dentistry, Dental Hygienist, Section 317-A:21-d Practice Limitations, http://www.gencourt.state.nh.us/rsa/html/XXX/317-A/317-A-21-d.htm.

[116] New Jersey State Board of Dentistry Statutes, Annotated, Title 45, Chapter 6. Article 64, Establishment of independent office of dental hygienist; prohibition, http://www.state.nj.us/lps/ca/dentistry/denty.htm#denty1.

[117] Virginia Board of Dentistry, Title of Regulations 18VAC 60-20-10, Regulations Governing the Practice of Dentistry and Dental Hygiene, http://www.dhp.state.va.us/dentistry/leg/Dentistry%206-21-00.doc.

or maintain an office that is primarily devoted to the provision of dental hygiene services."[118]

Constraints imposed on the hygienist regarding employment represent another barrier to provision of services in non-traditional settings. A required status of employee limits hygienists to practice settings in which their employing dentist is engaged. Although some States permit employment by a health care facility, legislation often further limits the circumstances under which a hygienist is paid.

Direct Medicaid reimbursement is presently available (in 2001) in only six States. Even when Medicaid reimbursement is permitted, funds are not always mandated to support the law. Missouri is an example of a State where the payment mandate has not yet been funded. This is an example of a circumstance that further deters hygienists from working in underserved settings with underserved populations.

- In Maine, a hygienist who has been approved by the board to practice under Public Health Supervision "may be compensated by salary, honoraria, and other mechanisms by the employing or sponsoring entity. Nothing in this rule shall preclude the entity that employs or sponsors a dental hygienist from seeking payment, reimbursement or other source of funding for the services provided."[119]
- In Connecticut, law mandates direct payment to dental hygienists for services provided to patients in chronic and convalescent hospitals and homes. "Payment for dental hygiene care rendered to patients in chronic and convalescent hospitals or convalescent homes shall be made directly to the dental hygienist rendering such care."[120]
- In Missouri where qualified hygienists are permitted to provide prophylaxis, fluoride and sealants without dental supervision in public health settings to Medicaid eligible children, there is a statutory provision to permit payment. "Medicaid shall reimburse any eligible provider who provides fluoride treatments, teeth cleaning, and sealants to eligible

[118] Kentucky Revised Statutes, Title XXVI Occupations and Professions, Chapter 313 Dentists and Dental Specialists, Section 310(7), http://www.lrc.state.ky.us/KRS/313-00/310.PDF.
[119] Maine Department of Professional and Financial Regulation, Board of Dental Examiners, Rules Relating to Dental Hygienists, 02-313-1- Section 4. Public Health Supervision Status (F) Reimbursement, http://www.state.me.us/sos/cec/rcn/apa/02/chaps02.htm.
[120] Connecticut Statutes, Chapter 379A Dental Hygienists, Sec. 20-126s Payment for dental hygiene care . . , http://www.dph.state.ct.us/Licensure/apps/dent_hyg_stats.pdf.

children."[121] This is a relatively new statutory provision that appears not to have been funded at the time of the writing of this report.

- Washington State's rules for the medical assistance program in the State list a number of licensed professionals and organizational health care providers who are authorized to provide services to clients eligible for medical assistance and then to bill for dental-related services provided to entitled patients. Those who "practice as dental hygienists"[122] are among the professions enumerated.

The ability to be reimbursed directly for services is of special importance to hygienists practicing in other than traditional settings and under less restrictive supervision requirements than in private dental offices. Professionals need to be paid for the services that they provide in an equitable fashion. Hygienists providing services to compromised patients or those without regular access could conceivably practice preventive and prophylactic oral health care without direct interface with an employing dentist should reimbursement be available. Direct reimbursement is another aspect of professional practice that affects increased access and one that must receive the attention of State legislators and regulatory boards.

Components of the DHPPI

The following provides a detailed description of each of the scored items on the Dental Hygiene Professional Practice Index.

Legal Scope of Practice (Maximum = 10 points)

The distribution of the score under ***regulated by*** supposes that self-regulation through a board of dental hygiene or a dental hygiene committee empowered by a dental board with a mandate to regulate the profession contributes most significantly to a legal scope of practice for the profession that effectively utilizes their skills and education. Although hygiene representation on dental boards is important, the power to influence policy or the conditions of practice for hygienists is minimal when only nominal hygiene representation is the mode. One hygienist

[121] Missouri Revised Statutes, Chapter 332 Dentists, Section 311.2, http://www.moga.state.mo.us/statutes/c300-399/3320311.htm.

[122] Washington Administrative Code, Title 388 Department of Social and Health Services, Chapter 388 Dental Related Services, WAC 388-535-1070 Dental-related services provider information, http://search.leg.wa.gov/wslwac/WAC%20388%20%20TITLE/WAC%20388%20-535%20%20CHAPTER/WAC%20388%20-535%20-1070.htm.

working with many dentists may not have the same power to effect change as several hygienists working with one or two dentists.

Other regulatory conditions that affect practice include ***licensure by endorsement***. The profession is licensed based on national standards for education and certification. Hygienists are generally required by statute or regulation to graduate from an education program approved by the Commission on Dental Accreditation. States also require hygienists to be certified through national or regional examinations as qualified for clinical practice. Mandating that a hygienist who has been licensed and has practiced in another State be clinically examined in a new State when applying to transfer license to that State is an impediment to practice. Although passage of a legal examination is a common mandate for all newly licensed professionals in a State, clinical examination is not a universal requirement. Legal conditions for practice do vary across States so examination about legal aspects of practice might be expected. Clinical practice, however, does not vary by locale so clinical re-examination is often extraneous. When licensure by endorsement is available in a State, it is not universally available to all professions. Although licensure by endorsement for dentists may exist in a State, it does not necessarily follow that licensure by endorsement for hygienists is similarly legislated in that same State.

The definition of ***scope of practice in law or regulation*** is important to a profession. Although a particular scope of practice may not be completely exclusive to a profession, definition of the tasks that can be performed and the conditions under which practice can occur within the skill set and competencies of the practicing professional is important to establishing a standard for the professional group.

A broad definition in law of scope of practice is optimal. A scope that defines the hygienist as the professional provider of preventive and prophylactic oral health services is preferable to one that defines each separate task that can be provided to patients. Too much definition can be as restrictive as too little. Lack of appropriate definition positions the profession too dependently and limits hygienists to providing services as delegated by a dental professional. Too much definition may restrict the profession to specifically stated tasks. More loosely defined scopes permit oral health professionals, both dentists and hygienists, to work together to provide services within a framework of basic competencies. There may be services other than those

enumerated in legislation that the hygiene professional might provide to patients. A legal scope that permits some independence or latitude in practice is the most desirable.

Another aspect of legislated scope of practice is the issue of ***patient of record.*** Requiring that a hygienist be confined to the patient of record of an employing dentist when providing prophylactic and preventive services is a barrier to access to care. Hygienists should be viewed as threshold professionals to the oral health care system. If legally enabled, hygienists might potentially access patients in other than traditional settings who are in need of services but who do not have a formal dentist provider. A requirement that hygienists provide services only to a patient of record of an employing dentist confines the professional and the patient. In States where the hygienist has access to patients regardless of the patient's relationship to a dentist, the protection of the patient is addressed in legislated requirements for referral. The hygienist must assess the patient and if it is determined that the patient is in need of restorative or corrective dental work, the patient must be provided with a referral to a dentist.

Supervision (Maximum = 47 points**)**

There is perhaps no greater impediment to provision of preventive oral health services in non-traditional settings for patients without traditional access than the degree of **supervision** required by a dentist in State law and/or board regulation. As discussed in other parts of this report, supervision requirements vary greatly across States along the spectrum from direct or personal supervision requiring the immediate involvement of a dentist in the provision of any oral health service to unsupervised practice that requires the involvement of a dentist only upon referral by the hygienist providing prophylactic, preventive, assessment, or educational services to a patient.

Supervision requirements across States cannot be considered exclusive of limitations on settings in which services can be provided. Statutes and regulations across States are quite specific about supervisory levels in a variety of enumerated settings. In some States, a loosening of requirements occurs in a wide variety of public settings while a small number of States are universally permissive in the settings where services can be provided. Other States are quite restrictive in permission for hygiene services stating that they may be provided only in dental offices, in schools, in correctional facilities, or in specific public health settings, etc. The settings selected for scoring on the instrument include ***dentists' offices, long term care facilities, schools, public health agencies and federally qualified health clinics, correctional facilities, public***

institutions and mental health facilities, hospitals including rehabilitation hospitals and convalescent settings, *and* ***homes of patients.*** These settings were chosen to be inclusive of places where oral health services might be provided to patients with and without traditional access. Unsupervised practice in any setting is considered optimal, general supervision is favorable while direct supervision creates an impediment to access. However direct supervision is scored since it still provides an opportunity to work in a non-traditional setting even if it is a restricted opportunity. The scoring reflects this assessment.

An additional feature of the legislation and regulation affecting provision of prophylactic and preventive oral health services is the ***requirement*** in some States ***that a patient have a prior examination by a dentist*** before the hygienist can provide any service. This mandate is an impediment when services are needed by a patient who is without access to a dentist. This legal condition precludes a hygienist from providing prophylaxis, hygiene assessment and screening services, and hygiene education to a patient without prior agreement from a dentist. It prevents the hygienist from acting as an entry point to the oral health system and can result in missed opportunity for patients to interface with oral health services through a hygiene professional.

Hygienists suggest that the nursing paradigm is an ideal model in which to enable care. Nurses are usually the first health professional encountered by a patient at entry to the medical system. The nurse provides education and assessment services, takes a history, and supplies some basic medical services prior to the patient's encounter with the physician. In the oral health system, the hygienist is often prevented from accessing patients until a dentist has first seen the patient. This may not be the most efficient process or pathway for either the patient or the provider. Hygienists are educated in a clinical curriculum that prepares them to assess oral health conditions that need more extensive evaluation and treatment. Hygienists should be positioned to provide care as patients enter the oral health system. Permitting this initial contact with a hygienist could significantly impact the entry points to the system. It is conceivable that hygienists could provide services in a number of health care settings and refer patients for care to dentists in other settings, such as private dental practices.

No limits on settings enable hygienists to practice wherever patients present. This category was scored in one of two ways. If statute and regulation are not specific about practice in any particular setting and simply detail conditions for practice in all settings, no limits are considered

to exist. If a comprehensive list of settings is specifically enumerated in statute, then a score is also applied since the listing is inclusive. Provision of services outside the traditional office setting is considered optimal in meeting the needs of patients who might not have access to private dental practices but who could conceivably receive services in other settings like schools and nursing homes.

Dental Hygienist Tasks Allowed in Legislation (Maximum = 28 points)

Hygienists are almost universally required to graduate from accredited educational programs. There is consistency in the standard academic content of these programs and the practical clinical training of hygienists. Professionals who graduate from those programs must also become nationally or regionally certified. Hygienists are considered expert providers of prophylactic oral health services including cleaning of teeth, application of sealants and fluoride varnishes, hygiene assessment and prevention education. As oral health professionals, their ability to provide services to patients unencumbered by restrictive supervision levels would be considered the optimal conditions for provision of services. ***Prophylaxis, sealants, fluorides, x-rays, hygiene screening and assessment*** are basic hygiene skills for which the hygienist is fundamentally trained and which could be provided without direct supervision. A score is awarded in this category if a State permits provision of these services without the direct intervention of a dentist.

There are extended functions for which hygienists are often trained through their basic education program including ***placing amalgam restorations, administration of local anesthesia and administration of nitrous oxide.*** Some States require that any basic education in these skills be supplemented through continuing education or through dedicated certification programs in a State before a hygienist can perform them in practice. The ability to provide these services enables hygienists to practice more efficiently. A score is awarded in these categories if the hygienist is permitted to perform these functions at all in a State. A score was allowed regardless of the various educational requirements imposed by a State or a regulating board for the privilege and also regardless of the level of supervision required.

If a State permits ***extended functions*** to a hygienist or provides a hygienist with the ability to work in ***extended practice*** in a variety of settings under less restrictive or minimal supervision, extra points were awarded within the index for a contribution to increased access to oral health

services for patients. Extended functions and/or practice permit a hygienist to provide services with more autonomy than is usually allowed in States.

There are several conditions for practice that contribute to access to care by offering the practicing hygienist more autonomy within the scope of practice and also enhancing the quality and/or the quantity of care that is provided. These conditions include the ability of the ***hygienist to refer a patient for other oral health services***, the ability of the hygienist to ***supervise a dental assistant*** in providing oral health services, and the ability of the hygienist to be ***supervised by a medical provider*** such as in hospitals or pediatricians' offices. The ability to be ***self-employed*** is also a feature of practice that would contribute to access to preventive services. It minimizes the need for any unnecessary involvement of a dentist. Dentists in many States are the only permissible conduits for patients to access the services of a hygienist just as in many States, the dentist must also act as the agent for the hygienist to whom he refers patients for prophylactic services. This positioning as an intermediary may be unnecessary when basic preventive services are being sought or provided.

Reimbursement (Maximum = 15 points**)**

In order to continue to practice, professionals must be able to be paid for the care that is provided to patients. Hygienists are not permitted in most States to seek direct reimbursement for their services from private or public payers. Payment for the preventive services that they provide is dependent on employment by or contract with a dentist or a legally contracting entity. Limiting payment options for hygienists is a significant constraint to expansion of practice to other than office settings and is an impediment to practice in alternate settings. ***Direct Medicaid reimbursement and the ability to be paid directly*** by other third party insurers or patients would enable expanded practice for the profession.

This appendix summarizes the detailed point allocations for the DHPPI for each of the fifty States and the District of Columbia. Detailed notes and statutory and regulatory sources are provided for all of the scoring.

Table C-1
Dental Hygiene Professional Practice Index, 2001
Detailed Criteria, Scoring, and Data Sources for AL, AK, AZ, AR, CA, and CO

SCORING CATEGORY	Points	Max Score	*fn*	AL		AK		AZ		AR		CA		CO	
Regulated by:															
Board of Dental Hygiene/Independent Dental Hygiene Committee	4	**4**	*a*												
Board of Dentistry/Dental Examiners with Dental Hygiene Advisory Committee	4							4	*a*			4	*a*		
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member (2+)	3					3	*a*							3	*a*
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member	2			2	*a*					2	*a*				
Board of Dentistry/Dental Examiners with Dental Hygienist as a Non-Voting Member	1														
Other State Boards or Departments	3														
Other Regulatory:															
Licensure by Credential/Endorsement with no new clinical exam required	2	**2**	*b*	0	*b*	2	*b*	0	*b*	2	*b*	0	*b*	2	*b*
Scope of Practice Defined in Law or Regulations	2	**2**	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*
Hygienist not restricted to patient of record of primary employing dentist	2	**2**	*d*	0		2		0	*d*	0		2		2	
Total Regulation Score		**10**		**6**		**9**		**6**		**6**		**8**		**9**	
Supervision:			*fn*	AL		AK		AZ		AR		CA		CO	
Dental Hygiene Practice: Highest level of supervision in state laws and regs:															
Unsupervised	4	**4**	*e*									4	*e*	4	*e*
Collaborative Practice Arrangements	3														
General	2					2	*e*	2	*e*	2	*e*				
Direct	1			1	*e*										
Supervision Requirements In:															
Dentists Office															
Unsupervised	4	**4**	*f*											4	*f*
Collaborative Practice Arrangements	3														
General	2					2	*f*	2	*f*			2	*f*		
Direct	1			1	*f*					1	*f*				
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Long Term Care Facilities - Skilled Nursing Facilities															
Unsupervised	4	**4**	*g*									4	*g*	4	*g*
Collaborative Arrangements	3														
General	2							2	*g*						
Direct	1			1	*g*	0				0					
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Schools-Private or Public															
Unsupervised	4	**4**	*h*									4	*h*	4	*h*
Collaborative Practice Arrangements	3														
General	2					2	*h*	2	*h*						
Direct	1			1	*h*					0					
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Public Health Agencies- Federally Qualified Health Centers															
Unsupervised	4	**4**	*i*									4	*i*	4	*i*
Collaborative Practice Arrangements	3														
General	2					2	*i*	2	*i*						
Direct	1			1	*i*					0					
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Correctional Facilities															
Unsupervised	4	**4**	*j*									4	*j*	4	*j*
Collaborative Practice Arrangements	3														
General	2					2	*j*	2	*j*	2	*j*				
Direct	1			1	*j*										
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Public Institutions- Mental Health Facilities															
Unsupervised	4	**4**	*k*									4	*k*	4	*k*
Collaborative Practice Arrangements	3														
General	2					2	*k*	2	*k*						
Direct	1			1	*k*					0					
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Hospitals/Rehabilitation Hospitals or Convalescent settings															
Unsupervised	4	**4**	*l*									4	*l*	4	*l*
Collaborative Practice Arrangements	3														
General	2							2	*l*						
Direct	1			1	*l*	0				0					
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Home Settings- Personal Residences															
Unsupervised	4	**4**	*m*									4	*m*	4	*m*
Collaborative Practice Arrangements	3														
General	2							2	*m*						
Direct	1			1	*m*	0				0					
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
No Limits on Settings Allowed for Practice by Dental Hygienists	3	**3**	*n*	3		0		3	*n*	0		3	*n*	3	*n*
Total Supervision Score		**47**		**12**		**12**		**21**		**5**		**37**		**47**	

continued…

Table C-1, AL to CO, continued…

Dental Hygienist Tasks Allowed in Legislation:				**AL**		**AK**		**AZ**		**AR**		**CA**		**CO**	
Prophylaxis - Physical Presence of Dentist Not Required	2	**2**	*o*	0	*o*	2	*o*	2	*o*	2	*o*	2	*o*	2	*o*
Fluoride Treatment - Physical Presence of Dentist Not Required	2	**2**	*p*	0	*p*	2	*p*	2	*p*	2	*p*	2	*p*	2	*p*
Sealant Application - Physical Presence of Dentist Not Required	2	**2**	*q*	0	*q*	2	*q*	2	*q*	2	*q*	2	*q*	2	*q*
X-Rays - Physical Presence of Dentist Not Required	2	**2**	*r*	0	*r*	2	*r*	2	*r*	0	*r*	2	*r*	2	*r*
Place Amalgam Restorations	2	**2**	*s*	0		0	*s*	0	*s*	0		0	*s*	2	*s*
Administer Local Anesthesia	2	**2**	*t*	0		2	*t*	2	*t*	2	*t*	2	*t*	2	*t*
Administer Nitrous Oxide	2	**2**	*u*	0		2	*u*	2	*u*	2	*u*	2	*u*	2	*u*
Hygienist allowed to perform initial screening or assessment	2	**2**	*v*	2	*v*	2		2	*v*	2	*v*	2	*v*	2	*v*
Hygienist allowed to refer patient	2	**2**	*w*	0		0		0		0		2	*w*	2	*w*
Hygienist may be self employed other than as an independent contractor	2	**2**	*x*	0	*x*	0	*x*	0		0	*x*	2	*x*	2	*x*
Hygienist may supervise a dental assistant	2	**2**	*y*	0		0		0		0		2	*y*	2	
Hygienist may be supervised by a medical provider	2	**2**	*z*	0	*z*	0	*z*	0	*z*	0	*z*	2	*z*	0	
Expanded functions and/or extended practice available in the state	4	**4**	*aa*	0		0		4	*aa*	4	*aa*	4	*aa*	4	*aa*
Total Tasks Score		**28**		**0**		**14**		**18**		**16**		**26**		**26**	

Reimbursement:				**AL**		**AK**		**AZ**		**AR**		**CA**		**CO**	
Medicaid Reimbursement Directly to Hygienists	10	**10**	*bb*	0		0		0		0		10	*bb*	10	*bb*
Dental Hygienist may be paid directly for services provided	5	**5**	*cc*	0		0		0		0		5	*cc*	5	*cc*
Total Reimbursement Score		**15**		**0**		**0**		**0**		**0**		**15**		**15**	

TOTAL SCORE		**100**		**18**		**35**		**45**		**27**		**86**		**97**	

FOOTNOTES

ALABAMA

a) 6 member Board of Dental Examiners with 1 dental hygienist member. The dental hygienist member is only permitted to vote on matters pertaining to dental hygiene. (Statutes, Alabama Code, Title 34, Chapter 9, Article 1, 34-9-40).

b) In 2001, not available. Licensure by credential for dental hygienists is available in the state effective in 2002. (Statute, Alabama Code, Title 34, Chapter 9, Article 1, 34-9-10). Another avenue to licensure is the Alabama Dental Hygiene Program. A dental assistant with one year work experience (two years effective in 2004) may train as a dental hygiene trainee under a qualified dentist while attending academic instruction under the auspices of the Dental Board and then be licensed as a dental hygienist. (Statutes, Alabama Code, Title 34, Chapter 9, Article 1, 34-9-26 and Rules, Administrative Code, 270-X-3-.04(4) and (9).

c) Scope of practice is defined in regulation. (Rules, Administrative Code, Chapter 270-X-3-.10(2) and (3).

e) All services must be performed under direct supervision. (Rules, Administrative Code, 270-X-3-.06) The dentist must examine and diagnose the patient before any hygiene treatment can be provided. (Rules, Administrative Code, 270-X-3-.10).

f,g,h,i,j,k,l,m) There are no limits enumerated in statute or regulation on practice locations. However, all practice must be under direct supervision of a dentist.

o,p,q,r) Direct supervision is required for fluoride treatments, x-rays, prophylaxis and sealants. (Statutes, Alabama Code, Title 34, Chapter 9, Article 1, 34-9-27 and Rules, Administrative Code, 270-X-3-.10(2) and (3)). A dentist must examine the patient's teeth both immediately before and after application of pit and fissure sealants. (Rules, Administrative Code, 270-X-3-.10

v) Hygienists are permitted to perform preliminary charting and inspection of the oral cavity. (Rules, Administrative Code, 270-X-3-.10(2)(a).

x) Only a licensed dentist can employ a hygienist. (Statutes, Alabama Code, Title 34, Chapter 9, Article 1, 34-9-9).

z) A hygienist may provide services only under the direct supervision of a licensed dentist in the state. (Statutes, Alabama Code, Title 34, Chapter 9, Article 1, 34-9-27).

ALASKA

a) The Alaska Dental Board is under the auspices of the Division of Occupational Licensing in the Department of Community and Economic Development. 9 Member Board. 2 voting dental hygienists. (Statutes, Alaska Statutes, Title 8, Chapter 36, Article 1, 08.36.010).

b) Licensure by credentials is available in the state. (Statutes, Alaska Statutes, Title 8, Chapter 32, Article 1, AS 08.32.030).

c) Scope of practice is defined as educational, preventive and therapeutic services. (Statutes, Alaska Statutes, Title 8, Chapter 32,Article 3, 08.32.190(2). A list of permissible tasks is also provided in statute. (Statutes, Alaska Statute, Title 8, Chapter 32, Article 2, 08.32.110).

e,z) A hygienist practices under the general supervision of a licensed dentist. Direct or indirect supervision applies for administration of local anesthetics. (Statutes, Alaska Statutes, Title 8, Chapter 32, Article 2, 08.32.140 and 08.32.110(6). Services provided to patients must be in accordance with the diagnosis and treatment plan of a dentist. (Statutes, Alaska Statutes, Title 8, Chapter 32, Article 3, 08.32.190(4)).

f,h,i,j,k) Hygienists may practice in offices, charitable dental clinics, schools, welfare centers, state or federal institutions, village health facilities and in other places approved by the board. (Statutes, Alaska Statutes, Title 8, Chapter 32, Article 2, 08.32.120).

t) Certification to administer local anesthesia is available from the Board. (Statutes, Alaska Code, Title 8, Chapter 32, Article 2, 08.32.110(6) and Rules, Article 3, 12 AAC 28.320).

u) A dental hygienist may qualify to administer nitrous oxide under direct or indirect supervision through a course of instruction. (Rules, Article 7, 12 AAC 28.720).

x) A hygienist may only be employed by a dentist or others designated in statute and work in the office of a dentist or in the organizations of the specific employers. (Statutes, Alaska Statutes, Title 8, Chapter 32, Article 2, 08.32.100 and 08.32.120).

continued…

Table C-1, AL to CO, continued…

ARIZONA

a) The Board of Dental Examiners is composed of 11 members, 2 of whom are hygienists. (Statutes, Title 32, Chapter 11, Article 1, 32-1203). There is also a Dental Hygiene Committee which makes recommendations to the Board regarding hygiene issues. The committee consists of 7 members, 5 of whom are hygienists. (Rules, R4-11-605).

b) Licensure by credential was not effective in 2001. However, in 2002, the Arizona legislature passed a statutory revision to permit licensure by credential for dentists and dental hygienists. (Statutes, Title 32, Chapter 11, Article 4, 32-1292.01).

c) Scope of practice is defined in statute in a list of enumerated tasks. (Statutes, Title 32, Article 4, 32-1281 and in Rules, R4-11-601).

d,e) When providing services in a dental office, the hygienist is limited to a patient of record. In other settings, the patient must have been examined by a dentist within the previous twelve months. (Statutes, Title 32, Article 4, 32-1281(G)). Services must have been authorized by a dentist under all applicable levels of supervision. (Statutes, Title 32, Article 4, 32-1281(E)and (H)). All procedures must be performed under the supervision of a dentist. (Rules, R4-11-601).

f,g,h,i,j,k,l,m) A hygienist may provide services in a dental office, in a health care facility, nursing home, public health agency or institution and for patients who are homebound. (Statutes, Title 32, Chapter 11, Article 1, 32-1203(A) and (B). Article 4, 32-1281(G). Special provisions for treating homebound patients appear in regulation. (Rules, R4-11-602). A hygienist may provide services in a public or private school. (Statutes, Title 32, Chapter 11, Article 4, 32-1289.)

t,u,aa) A hygienist may administer local anesthesia or nitrous oxide after completion of a course and under the direct supervision of a dentist. (Statutes, Title 32, Article 4, 32-1281(F)).

v) A hygienist may examine the oral cavity and perform a periodontal exam. (Statutes, Title 32, Article 4, 32-1281). A hygienist employed in public agencies, institutions or schools may screen patients before a dental exam. (Statutes, Title 32, Article 4, 32-1289).

ARKANSAS

a) The Arkansas State Board of Dental Examiners is under the auspices of the Governor's Office of Boards and Commissions. It is a 9 member Board with 1 voting dental hygienist. (Statutes, Arkansas Code Annotated, 17-82-201(a)).

b) Licensure by credential is available to hygienists. (Statutes, Arkansas Code Annotated, 17-82-308 and Rules, Article IX, (B)).

c) Scope of practice is defined in statute as "assessment, prevention and treatment of oral diseases". Services which may be provided include removal of deposits above and below the gum line and any services permitted in regulation by the Board. (Statutes, Arkansas Code Annotated, 17-82-102(2)).

e,f,j) Services in a dental office must be provided under direct, personal or operative supervision. (Rules, Article XI) However, a hygienist working in a correctional facility may provide services under general supervision. (Statutes, Arkansas Code Annotated, 17-82-104(d)(1)).

o) Prophylaxis may only be provided under direct supervision in a dental office (Rules, Article XI (A)(1)) but may be provided under general supervision in correctional facilities. (Statutes, Arkansas Code Annotated, 17-82-104(d)(2)(C)).

p) Application of fluoride treatments may be performed by dental assistants under personal supervision. (Rules, Article XVII(A)(2)(p)). Dental hygienists are permitted to provided the same services as dental assistants under direct supervision. (Rules, Article XI(A)(1)(a)). These services may be provided under general supervision in correctional facilities. (Statutes, Arkansas Code Annotated, 17-82-104(d)(2)(C).

q) Sealants may only be applied under personal supervision in a dental office (Rules, Article XI (2)(a)) but under general supervision in a correctional facility. (Statutes, Arkansas Code Annotated, 17-82-104(d)(2)(C).

r) Statute requires that x-rays taken by a hygienist be provided in the dental office under the direct supervision of the dentist. (Statutes, Arkansas Code Annotated, 17-82-102(2)(B). X-rays may by provided under direct supervision. (Rules, Article XI(A)(1).

t,aa) A hygienist with certification may administer local anesthetic under supervision of a dentist. (Statutes, Arkansas Code Annotated, 17-82-103(c) and Rules, Article XVI(A)).

u,aa) A hygienist may induce and monitor nitrous oxide upon certification and under the direct supervision of a licensed dentist. (Rules, Article XI(A)(1)(e).

x) Only licensed dentists may employ hygienists. (Statutes, Arkansas Code Annotated, 17-82-103(a).

z) All procedures must be performed under the supervision of a licensed dentist (Statutes, Arkansas Code Annotated, 17-82-103(b)(2)).

CALIFORNIA

a) The California Dental Board is under the auspices of the Department of Consumer Affairs. The Dental Board has 14 members with 1 voting hygienist. (Statutes, Business and Professions Code 2001, Division 2, Chapter 4, Article 1, 1601.1) There is a Committee on Dental Auxiliaries. Auxiliaries include all classes of dental assistants and dental hygienists in the state. The committee reviews education programs for auxiliaries, reviews and issue licenses, composes examinations, and makes recommendations regarding practice for dental auxiliaries. (Statutes, Business and Professions Code 2001, Division 2, Chapter 4, Article 7, 1742). The committee includes 3 hygienists and 3 assistants. (Statutes, Business and Professions Code 2001, Division 2, Chapter 4, Article 7, 1743).

b) Licensure by credential was not available in 2001 but is effective in 2003.

c) In statutes in 2001, scope of practice is defined in terms of the tasks which can be performed. (Statutes, Business and Professions Code 2001, Division 2, Chapter 4, Article 7, 1760). In statutes revised in 2002, scope of practice includes dental hygiene assessment, development, planning and implementation of a dental hygiene care plan. It also includes oral health education counseling and screenings. (Statutes, Business and Professions Code 2003, Division 2, Chapter 4, Article 7, 1760.5).

e) Dental hygienists provide most services under general supervsion.(Rules, Title 16, Chapter 3, Article 5, 1088(c)). Expansion of settings and permission for some unsupervised services (i.e. screenings) by dental hygienists in certain public settings was effective in 2003. In 2001, a registered dental hygienist in alternative practice (RDHAP) may perform functions "independently" and without supervision of a dentist including oral prophylaxis but agreements with dentists for referral and consultation are required. A RDHAP must provide to the board documentation of an existing relationship with dentist. (Rules, Title 16, Chapter 3, Article 5, 1090(8)(c). Practice for RDHAPs is defined in law. (Statutes, Business and Professions Code 2001, Division 2, Chapter 4, Article 7, 1768 and Statutes, Business and Professions Code 2003, Division 2, Chapter 4, Article 7, 1775).).

continued…

Table C-1, AL to CO, continued…

f,g,h,i,j,k,l,m) RDHAP may practice in an office, in residences of the homebound, in schools, in residential facilities and other institutions, and in HPSAs. (Statutes, Business and Professions Code 2001, Division 2, Chapter 4, Article 7, 1770(b) and Statutes, Business and Professions Code 2002, Division 2, Chapter 4, Article 7, 1775(b). Settings listed in regulations include licensed clinics, community care facilities, public institutions and mobile units. (Rules, Title 16, Chapter 3, Article 5. 1088(e)). In 2002, hygienists may practice in any setting within their scope of practice under the required supervision. (Statutes, Business and Professions Code 2002, Division 2, Chapter 4, Article 7, 1764(b)).

o,p,q,r) A RDHAP may provide services to a patient upon written prescription of a dentist or physician who has examined and diagnosed the patient prior to the services being provided. The prescription is valid for services up to 15 months from date of issuance.(Statutes, Business and Professions Code 2001, Division 2, Chapter 4, Article 7, 1770(h) and Statutes, Business and Professions Code 2002, Division 2, Chapter 4, Article 7, 1775(h)

s) Placing of restorations is prohibited. (Rules, Title 16, Chapter 3, Article 5, 1090(a)(5)).

t,u,aa) Dental hygienists may complete courses for Board approval to administer local anesthesia and nitrous oxide. (Rules, Title 16, Chapter 3, Article 5, 1088(3) and (4).

v) Dental hygienists are permitted to perform preliminary examinations detailed in regulations. (Rules, Title 16, Chapter 3, Article 5, 1088(c)(5)).

w) A RDHAP must have a documented relationship with a dentist to permit referral for patients. (Statutes, Business and Professions Code 2001, Division 2, Chapter 4, 1770(g) and Statutes, Business and Professions Code 2003, Division 2, Chapter 4, 1775(g)).

x) A RDHAP may be a proprietor of a dental hygiene practice. (Statutes, Business and Professions Code (2001), Division 2, Chapter 4, Article 7, 1770(a), Statutes, Business and Professions Code (2002), Division 2, Chapter 4, Article 7, 1775(a).

y) A RDHAP may hire and supervise dental assistants. (Statutes, Business and Professions Code 2001, Division 2, Chapter 4, 1770(f)). Statutes, Business and Professions Code 2003, Division 2, Chapter 4, Article 7, 1775(f)).

z) An RDHAP may provide services to a patient who presents with a prescription form a dentist or physician. (Statutes, Business and Professions Code, Division 2, Chapter 4, Article 7, 1770(h) and Statutes, Business and Professions Code 2003, Division 2, Chapter 4, Article 7, 1775(h)).

bb,cc) Statutes permits an RDHAP to submit insurance or third party claims for services performed for patients. (Statutes, Business and Professions Code 2001, Division 2, Chapter 4, Article 7, 1770(d) and Statutes, Business and Professions Code 2002, Division 2, Chapter 4, Article 7, 1775(d)).

COLORADO

a) The Colorado Board of Dental Examiners is under the auspices of the Department of Regulatory Agencies-Division of Registrations. 10 member Board, two voting dental hygienists. (Statutes, Colorado Revised Statutes, Title 12, Article 35, Part 1, 12-35-104).

b) Licensure by credential is available. (Statues, Colorado Revised Statutes, Title 12, Article 35, Part 1, 12-35-124(4)(a)).

c) Scope of practice is defined in law. (Statutes, Colorado Revised Statutes, Title 12, Article 35, Part 1, 12-35-122.5 and 12-35-122.6)

e) Statutes contain a description of both supervised and unsupervised practice for dental hygienists. Supervised hygiene practice requires general supervision. (Statues, Colorado Revised Statutes, Title 12 Article 35, Part 1, 12-35-122.5 and 122.6).

f,g,h,i,j,k,l,m) There is no limitation on settings in which services may be provided.

o,p,q,r) Prophylaxis, application of sealants and fluoride treatments and taking x-rays are all services which may be provided by an unsupervised dental hygienist. (Statutes, Colorado Revised Statutes, Title 12, Article 35, Part 1, 12-35-122.5(1).

s) "A dental hygienist may perform any dental task or procedure assigned the hygienist by a licensed dentist that does not required the professional skill of a dentist under general supervision." (Statutes, Colorado Revised Statutes, Title 12,Article 35, Part 1, 12-35-125(2)(a)).

t,u, aa) Dental hygienists may administer local anesthesia and nitrous oxide. They must qualify to provide the services through completion of appropriate coursework. (rules, Rule XVII (G)(1)(4)(a) and Rule XVIII (D)(2)).

v) Hygienist gathers and assembles information, performs an oral inspection and dental and periodontal charting. (Statutes, Colorado Revised Statutes, Title 12, Article 35, Part 1, 12-35-122.5(d)).

w) Hygienists are required by law to refer a patient. (Statutes, Colorado Revised Statutes, Title 12, Article 35, Part 1, 12-35.118(w)). A dental hygienist providing services for Medicaid eligible children must attempt to identify a dentist participating in Medicaid to whom to refer the child as needed. (Statutes, Colorado Revised Statutes, Title 26, Article 4,Part 4, 26-4-414.3(2)).

x) The group practice of dental hygiene is permitted. (Statutes, Colorado Revised Statutes, Title 12, Article 35, Part 1, 12-35-112(2)). "A dental hygienist may be the proprietor of a place where supervised or unsupervised dental hygiene is performed." (Statutes, Colorada Revised Statues, Title 12, Article 35, Part 1, 12-35-122.5(3)).

bb, cc) When an unsupervised hygienist provides services in public settings, direct reimbursement is permitted in law. (Statutes, Colorado Revised Statutes, Title 26, Article 4, Part 4, 26-4-414.3(1)).

SOURCES

ALABAMA
http://www.legislature.state.al.us/CodeofAlabama/1975/coatoc.htm
http://alabamaadministrativecode.state.al.us/
ALASKA
http://www.dced.state.ak.us/occ/pub/DentalStatutes.pdf
ARIZONA
http://www.azleg.state.az.us/ars/32/title32.htm
http://www.sosaz.com/public_services/Title_04/4-11.pdf
ARKANSAS
http://www.asbde.org/
CALIFORNIA
http://www.comda.ca.gov/laws-regs.pdf
COLORADO
http://www.dora.state.co.us/dental/dstatu.htm#statute
http://www.dora.state.co.us/dental/rules.htm

Table C-1, continued
Dental Hygiene Professional Practice Index
Detailed Criteria, Scoring, and Data Sources for CT, DE, DC, FL, GA, and HI

SCORING CATEGORY	Points	Max Score	*fn*	CT		DE		DC		FL		GA		HI	
Regulated by:															
Board of Dental Hygiene/Independent Dental Hygiene Committee	4	4	*a*												
Board of Dentistry/Dental Examiners with Dental Hygiene Advisory Committee	4					4	*a*			4	*a*				
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member (2+)	3													3	*a*
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member	2							2	a			2	*a*		
Board of Dentistry/Dental Examiners with Dental Hygienist as a Non-Voting Member	1														
Other State Boards or Departments	3			3	*a*										
Other Regulatory:															
Licensure by Credential/Endorsement with no new clinical exam required	2	**2**	*b*	2	*b*	2	*b*	2	b	0	*b*	2	*b*	0	
Scope of Practice Defined in Law or Regulations	2	**2**	*c*	2	*c*	2	*c*	2	c	2	*c*	2	*c*	2	*c*
Hygienist not restricted to patient of record of primary employing dentist	2	**2**	*d*	2		0		0		0	*d*	2		0	
Total Regulation Score		**10**		**9**		**8**		**6**		**6**		**8**		**5**	
Supervision:				**CT**		**DE**		**DC**		**FL**		**GA**		**HI**	
Dental Hygiene Practice: Highest level of supervision in state laws and regs:															
Unsupervised	4	**4**	*e*	4	*e*										
Collaborative Practice Arrangements	3														
General	2					2	*e*	2	e	2	*e*	2	*e*	2	*e*
Direct	1														
Supervision Requirements In:															
Dentists Office															
Unsupervised	4	**4**	*f*												
Collaborative Practice Arrangements	3					2	*f*								
General	2			2	*f*			2	f	2	*f*				
Direct	1											1	*f*	1	*f*
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
Long Term Care Facilities - Skilled Nursing Facilities															
Unsupervised	4	**4**	*g*	4	*g*										
Collaborative Practice Arrangements	3														
General	2					2	*g*	2	g	2	*g*				
Direct	1											0		0	
No requirement for prior examination by a dentist	1	**1**		1		0		0		0		0		0	
Schools-Private or Public															
Unsupervised	4	**4**	*h*	4	*h*										
Collaborative Practice Arrangements	3														
General	2					2	*h*	2	h	2	*h*			2	*h*
Direct	1											0	*h*		
No requirement for prior examination by a dentist	1	**1**		1		0		0		0		0		0	
Public Health Agencies- Federally Qualified Health Centers															
Unsupervised	4	**4**	*i*	4	*i*										
Collaborative Practice Arrangements	3														
General	2					2	*i*	2	i	2	*i*	2	*i*	2	*i*
Direct	1														
No requirement for prior examination by a dentist	1	**1**		1		0		0		0		0		0	
Correctional Facilities															
Unsupervised	4	**4**	*j*												
Collaborative Practice Arrangements	3														
General	2			2	*j*	2	*j*	2	j	2	*j*	2	*j*	2	*j*
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
Public Institutions- Mental Health Facilities															
Unsupervised	4	**4**	*k*	4	*k*										
Collaborative Practice Arrangements	3														
General	2					2	*k*	2	k	2	*k*	2	*k*	2	*k*
Direct	1														
No requirement for prior examination by a dentist	1	**1**		1		0		0		0		0		0	
Hospitals/Rehabilitation Hospitals or Convalescent settings															
Unsupervised	4	**4**	*l*	4	*l*										
Collaborative Practice Arrangements	3														
General	2					2	*l*	2	l	2	*l*				
Direct	1											0	*l*	0	
No requirement for prior examination by a dentist	1	**1**		1		0		0		0		0		0	
Home Settings- Personal Residences															
Unsupervised	4	**4**	*m*												
Collaborative Practice Arrangements	3														
General	2									2	*m*				
Direct	1			0		0		0				0		0	
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
No Limits on Settings Allowed for Practice by Dental Hygienists	3	**3**	*n*	0		0		0		3		0		0	
Total Supervision Score		**47**		**33**		**16**		**16**		**21**		**9**		**11**	

continued…

Table C-1, CT to HI, continued…

Dental Hygienist Tasks Allowed in Legislation:				CT		DE		DC		FL		GA		HI	
Prophylaxis - Physical Presence of Dentist Not Required	2	**2**	*o*	2		2		2		2		2	*o*	2	*o*
Fluoride Treatment - Physical Presence of Dentist Not Required	2	**2**	*p*	2		2		2		2		0	*p*	2	*p*
Sealant Application - Physical Presence of Dentist Not Required	2	**2**	*q*	2		2		2		0	*q*	0	*q*	2	*q*
X-Rays - Physical Presence of Dentist Not Required	2	**2**	*r*	2		2		2		2		0	*r*	2	*r*
Place Amalgam Restorations	2	**2**	*s*	0	*s*	0		0	s	0		0		0	
Administer Local Anesthesia	2	**2**	*t*	0	*t*	0		0	t	0		0		2	*t*
Administer Nitrous Oxide	2	**2**	*u*	0	*u*	0		0	u	0	*u*	0	*u*	0	
Hygienist allowed to perform initial screening or assessment	2	**2**	*v*	2	*v*	0	*v*	2	v	0		2	*v*	2	*v*
Hygienist allowed to refer patient	2	**2**	*w*	2	*w*	0		0		0		2	*w*	0	
Hygienist may be self employed other than as an independent contractor	2	**2**	*x*	0	*x*	0	*x*	0		0		0		0	*x*
Hygienist may supervise a dental assistant	2	**2**	*y*	2		0		0		0	*y*	0	*y*	0	
Hygienist may be supervised by a medical provider	2	**2**	*z*	0		0	*z*	0	z	0		0		0	
Expanded functions and/or extended practice available in the state	4	**4**	*aa*	4	*aa*	0		0		0		0		4	*aa*
Total Tasks Score		**28**		**18**		**8**		**10**		**6**		**6**		**16**	

Reimbursement:				CT		DE		DC		FL		GA		HI	
Medicaid Reimbursement Directly to Hygienists	10	**10**	*bb*	10	*bb*	0		0		0		0		0	
Dental Hygienist may be paid directly for services provided	5	**5**	*cc*	5	*cc*	0		0		0		0		0	
Total Reimbursement Score		**15**		**15**		**0**		**0**		**0**		**0**		**0**	

TOTAL SCORE		**100**		**75**		**32**		**32**		**33**		**23**		**32**	

FOOTNOTES

CONNECTICUT

a) The Commissioner of Public Health in Connecticut issues the regulations governing practice of dentists and hygienists in the state with the advice of a State Dental Commission. There are 9 members on the dental commission, none of whom are hygienists. (Statutes, Chapter 379, Sec 20-103a).

b) Licensure without examination available. (Statutes, Chapter 379a, Sec. 20-126k).

c) Scope of practice is defined in statute as educational, preventive and therapeutic services with certain tasks specifically enumerated. (Statutes, Chapter 379a, Sec. 20-1261(a)(3)).

e,f,j) General supervision of a dentist is required unless the hygienists has met the requirements to practice in a public health setting without supervision. (Chapter 379a, Sec. 20-1261(b)). General supervision requires that the dentist authorize the procedures to be performed by the hygienist. (Statutes, Chapter 3791, Section 126l(a)(1)).

f,g,h,i,j,k,l) Hygienists may practice in the office of a dentist, in a public or private institution or in a convalescent home. (Statutes, Chapter 379a, Sec. 20-126l(c). Hygienists may also practice in a public health facility which is an institution, a community health center, a group home or a school. (Statutes, Chapter 379a, Sec. 20-126l(2)).

g,h,i,k,l,aa) Hygienists may practice unsupervised if qualified to practice in a public health facility as a public health dental hygienist. (Statutes, Chapter 379a, Sec.126l(b)(B) and (e)).

s,t,u) Placing of restorations and the administration of anesthetics is specifically prohibited to hygienists in legislation. (Statutes,Chapter 379a, Sec 20-126l(d)(4) and (6)).

v) Dental hygiene examination, assessment, treatment planning and evaluation is included in the definition of scope of practice. (Statutes, Chapter 379a, Sec. 20-126l(a)(3)).

w) "Each dental hygienist practicing in public health facility shall refer for treatment any patient with needs outside the hygienists scope of practice." (Statutes, Chapter 379a, Sec 20-126l(e)).

x) Only a licensed dentist or a professional service corporation (with certain exceptions) is permitted to own a dental services corporation. (Statutes, Chapter 379,Sec. 20-122).

bb,cc) Payment for care provided to patients by hygienists in chronic or convalescent hospitals or homes may be made directly to the hygienist, (Statutes, Chapter 379a, Sec. 20-126s). Public health dental hygienists are permitted to participate in Medicaid and to provide necessary and appropriate services to patients in nursing facilities, intermediate care facilities for the mentally retarded, a group home, a school, clinic, community health center or hospital outpatient department without on-site dental clinic. (Regulations, Department of Social Services, Section 17b-262-697(5)).

DELAWARE

a) The Board of Dental Examiners is regulated by the Division of Professional Regulation in the Department of Administrative Services. 9 members on Board with 1 voting hygienist member.(Statutes, Delaware Code Annotated, Title 24, Chapter 11, Subchapter 1, 1101(b)). There is an Advisory Commitee for Dental Hygiene which consists of 3 hygienists who advise the board on matters pertaining to hygiene and participate in board votes on matters pertaining to licensure and examination of hygienists. (Statutes, Delaware Code Annotated, Title 24, Chapter 11, Subchapter 1, 1104).

b) Licensure by reciprocity is available under certain conditions. (Statute, Delaware Code Annotated, Title 24, Chapter 11, Subchapter III, 1153).

c) Scope of practice is defined in statute by the tasks which can be performed and as proplylactic and preventive measures authorized by the Board. (Statutes, Delaware Code Annotated, Title 24, Chapter 11, Subchapter III, 1157(b)).

e,z) Statute requires that hygienists work under the "general direction or supervision" of a licensed dentist. (Statutes, Delaware Code Annotated, Title 24, Chapter 11, Subchapter III, (c)). Rules provide for three levels of supervision - direct, indirect, and general. (Rules, 1100 Board of Dental Examiner 1.0). The conditions that are applicable to general supervision are defined in regulation including the proviso that a dentist must review the treatment records of each patient prior to and following the hygiene treatment. (Rules, 1100 Board of Dental Examiners 5.0).

continued…

Table C-1, CT to HI, continued…

f,g,h,i,j,k,l) Hygienists may provide services in dental offices, in public schools or institutions. (Statutes, Delaware Code Annotated, Title 24, Chapter 11, Subchapter III, 1157(c). A hygienist may also provide services in state institutions, federally qualified health centers, and other locations as designated by public authority. (Statutes, Delaware Code Annotated, Title d24, Chapter 11, Subchapter III, 1157(d)).

v) Hygienists may make instrumental examaination fo the teeth for cavities and assemble information for use by the dentist in making a diagnosis. (Statute, Delaware Code Annotated, Title 24, Chapter 11, Subchapter III, 1157(b)).

x) Dental hygienists may be employed by a dentist, a public institution or a school. (Statutes, Delaware Code Annotated, Title 24, Chapter 11, Subchapter III, 1157(a)).

DISTRICT OF COLUMBIA

a) A Board of Dentistry regulated by Department of Health governs practice. 7 Board members, 1 voting dental hygienist. (Statutes, DC Official Code, Division 1, Title 3, Subtitle I, Chapter 12, Unit A, Subchapter II, 3-1202.01)

b) Licensure by reciprocity and endorsement is available. (Statutes, Division I, Title 3, Subtitle I, Chapter 12, Subchapter V, 3-1203.07 and Rules, Title 17, Chapter 43, 4309.1).

c) Scope of Practice is defined in statute in terms of the tasks which are permitted. (Statutes, DC Official Code, Division 1, Title 3, Subtitle I, Chapter 12, Subchapter I, 3-1201.02(4)).

e,z) Services may be provided by a dental hygienist only under the supervision of a licensed dentist. (Statutes, Division 1, Title 3, Subtitle I, Chapter 12, Subchapter 1, 3-1201.02(4)(B).

f,g,h,i,j,k,l) Hygienists may provide services in an office, a public school or and institution.

s)The restoration of all or a part of a tooth with an artificial substance or material is considered the practice of dentistry. (Statutes, Division 1, Title 3, Subtitle I, Chapter 12, Subchapter I, 3-1201.02(5)(C)). Placement of amalgam restorations is prohibited in regulation. (Rules, Title 17, Chapter 43, 4310.3).

t,u) The administration of an anesthetic agent is considered the practice of dentistry.(Statutes, Division I, Title 3, Subtitle I, Chapter 12, Subchapter I, 3-1201.02(5)E)). Hygienists may *assist* in the administration of nitrous oxide and monitor the procedure, but may not administer local anesthetics. (Rules, Title 17, Chapter 43, 4310.2, and 4310.3).

v) Hygienists may provide a preliminary dental examination (Statutes, Division I, title 3, Subtitle I, Chapter 12, Subchapter I, 3-1201.02(4)(A)(i) and including charting of cavities. (Rules, Title 17, Chapter 43, 4310.1(a) and (b)).

FLORIDA

a) Florida Dental Board is within the Florida Department of Health. 11 member Board with two hygienists. (Statutes, Title XXXII, Chapter 466, 466.004(1)). Florida also has both a Council on Dental Hygiene and a separate Council on Dental Assisting. Recommendations made to the Board by these Councils are advisory and not mandatory. (Statutes, Title XXXII, Chapter 466, 466.004(2)(a).

b) There is no licensure by endorsement available to hygienists in this state. Licensure requires passage of the national board within the previous ten years and a clinical and written exam for each applicant . (Statutes, Title XXXII, Chapter 46, 466.007).

c) Scope of Practice is defined in law by the tasks which are permitted. (Statutes, Title XXXII, Chapter 466, 466.023(1)). Dental hygiene is defined as a provision of educational, preventive, and therapeutic dental services. (Statutes, Title XXXII, Chapter 466, 466.003(4)).

d) Each patient must have a dentist of record who is responsible for all treatment on the patient. This section assigns responsibility for treatments by hygienists on patients of record to the supervising dentist. (Statutes, Title XXXII, Chapter 466, 466.018(1)).

e) Dental hygiene services may be provided under direct, indirect, or general supervision of a dentist. (Statutes, Title XXXII, Chapter 466, 466.023(1)). DH may "without supervision provide educational programs and fluoride rinse programs" as approved by the Board but may not provide treatment services for dental conditions without supervision of a dentist. (Statutes, Title XXXII, Chapter 466, 466.023 (3). In order to provide services under general supervision, a dentist must authorize the services no more than 13 months prior to the hygienist's treatment. (Rules, FAC 64B516.001). Levels of supervision required are defined in regulation. (rules, FAC 64B5-16.007).

f,g,h,i,j,k,l,m) Hygienists may work in offices, in public health programs and institutions of Dept. of Juvenile Justice, Children and Family Services and Health, in licensed public and private health facilities, other state and federal public institutions, educational institutions and homes of patients as well as in other places approved by the Board. (Statutes, Title XXXII, Chapter 466, 466.023.

q) Application of sealants is a remediable delegable task which must be performed under direct supervision. (Rules, FAC 64B5-16.006).

u) Hygienists may only monitor the administration of nitrous oxide. (Rules, FAC 64B5-16.006).

GEORGIA

a) Georgia Board of Dentistry is under the auspices of the Professional Licensing Boards Division of the Secretary of State. 1 dental hygienist member on 11 member Board. (Statutes, Georgia Code, 43-11-2(a)(2)). The hygienist member is only permitted to vote on matters related to dental hygiene. (Statutes, Georgia Code, 43-11-2 (d)(1)).

b) Licensure without examination is only available to hygienists from another state seeking a teacher's or instructor's license to teach in a college or clinic in Georgia. (Statutes, Georgia Code, 43-11-42(a)).

c) Scope of Practice is defined in regulations. (Rules, 150-5-.01).

f) Dental hygienists may only perform services under direct supervision of a dentist. (Statutes, Georgia Code, 43-11-74(a)) Direct supervision in the state requires that the dentist order the procedures to be performed by the hygienist and examine the patient before the patient is dismissed. (Rules, 150-5-.03).

h,l) Hygienists may only perform dental screenings in schools and hospitals.

continued…

Table C-1, CT to HI, continued…

e,i,j,k) General supervision is permitted in approved dental facilities of the Dept. of Human Resources or Dept. of Corrections, or in county boards of health. (Rules, 150-5-.03).

o) A hygienist may only provide services under general supervision in certain public facilities. Otherwise, all services are provided under direct supervision. (Rules, 150-5-.03(2)(b) and (1).

p,q,r) These services may only be provided under the direct supervision of a dentist. (Rules, 150-5-.03(4)).

u) In statute, the Board is specifically prohibited from permitting hygienists to administer anesthesia. (Statutes, Georgia Code, 43-11-74(a).

v) Dental screenings by hygienists without direct supervision are permitted in certain public settings. (Statutes, Georgia Code, 43-11-74(2)). Dental screenings are defined as a visual assessment of the oral cavity. (Statutes, Georgia Code, 43-11-74(e)(1)).

w) Hygienists providing screening services must advise patients to seek an examination by a dentist for a thorough diagnosis. (Statutes, Georgia Code, 43-11-74(3).)

y) Dental assistants may only perform duties assigned to them under the direct personal supervision of a dentist. (Statutes, Georgia Code, 43-11-81).

HAWAII

a) Board of Dental Examiners is under the auspices of the Governor's Office of Commerce and Consumer Affairs, Professional and Vocational Licensing Division. 12 member Board with 2 voting dental hygienists. (Statutes, Hawaii Revised Statutes, Division 2, Title 25, Chapter 447, 447-2).

c) Scope of practice is defined in statute by the tasks which are permitted. (Statutes, Hawaii Revised Statutes, Division 2, Title 25, Chapter 447, 447-3(b)).

e) Hygienists may only provide services under the direct or general supervision of a licensed dentist. In private dental practices, the hygienist must practice under direct supervision. (Statutes, Hawaii Revised Statutes, Division 2, Title 25, Chapter 447, 447-3(c)).

f,g,h,i,j,k,l) Hygienists may provide services in an office , charitable dental clinic or infirmary, school, welfare center, and state or county building. (Statutes, Hawaii Revised Statutes, Division 2, Title 25, Chapter 447, 447-3). This statute was amended to clarify settings permitted and now includes nursing homes, adult day care centers, hospitals, assisted living facilities, mental institutions, and nonprofit health clinics effective in 06/02.

f,g,h,i,j,k,l) The conditions of direct and general supervision in the state require that the dentist examine and diagnose the patient prior to treatment by a hygienist. (Rules, Title 16, Chapter 79, 16-19-2(1) and (2)).

o,p,r) Effective in 2002, the hygienist may provide only education, screening and fluoride treatments in public settings. All other services require that a dentist prescreen and authorize the procedures for the patient. (Statutes, Hawaii Revised Statutes, Division 2, Title 25, Chapter 447, 447-3(d)).

q) Application of sealants under general supervision is only permitted in enumerated public settings. Otherwise, application requires direct supervision. (Rules, Title 16, Chapter 79, 16-79-69.10(4)).

t,aa) A hygienist may administer local anesthesia with certification under the direct supervision of a dentist. (Statutes, Hawaii Revised Statutes, Division 2, Title 25, Chapter 447-3(b) and Rules, Title 16, Chapter 79, 16-79-6).

v) Hygienists are permitted to provide a preliminary oral screening. (Rules, Title 16, Chapter 79, 16-79-67). Statutes permit hygienists to provide dental screenings in public health settings. (Statutes, Hawaii Revised Statutes, Division 2, Title 25, Chapter 447, 447-3(d)).

x) A dental hygienist may not establish or operate any separate facility to provide hygiene services exclusively. (Statutes, Hawaii Revised Statutes, Division 2, Title 25, Chapter 447-3(c)).

z) A hygienist may only provide services under the supervision of a licensed dentist. (Statutes, Division 2, Title 25, Chapter 447-3(c)).

bb and cc) Revised provisions of the dental hygiene statute passed in 2002 specifically state that no direct reimbursement should be provided to dental hygienists. (Statutes, Hawaii Revised Statutes, Division 2, Title 25, Chapter 447-3(d)).

SOURCES:

Connecticut
http://www.cga.state.ct.us/2001/pub/Chap379.htm
http://www.cga.state.ct.us/2001/pub/Chap379a.htm
http://www.dph.state.ct.us/Licensure/apps/dent_hyg_ceu_regs.pdf
http://www.ctmedicalprogram.com/bulletin/pb01_36.pdf

Delaware
http://198.187.128.12/delaware/lpext.dll?f=templates&fn=fs-main.htm&2.0
http://www.state.de.us/research/profreg/Frame.htm

District of Columbia
http://dccode.westgroup.com/Find/Default.wl?DocName=DCCODES3-1202%2E01&FindType=W&DB=DC-TOC-WEB%3BSTADCTOC&RS=WLW2%2E07&VR=2%2E0
http://dchealth.dc.gov/prof_license/services/boards_regulations_action.asp?strAppId=5

Florida

http://www.flsenate.gov/Statutes/index.cfm?App_mode=Display_Statute&URL=Ch0466/titl0466.htm&StatuteYear=2002&Title=%2D%3E2002%2D%3EChapter%20466
http://fac.dos.state.fl.us/faconline/chapter64.pdf

Georgia
http://www.legis.state.ga.us/legis/2003_04/gacode/43-11-1.html
http://www.state.ga.us/rules/index.cgi?base=150

Hawaii
http://www.capitol.hawaii.gov/hrscurrent/Vol10_Ch0436-0471/HRS0447/HRS_0447-0001.htm
http://www.hsba.org/Hawaii/Admin/DCCA/79-C.pdf

Table C-1, continued
Dental Hygiene Professional Practice Index, 2001
Detailed Criteria, Scoring, and Data Sources for ID, IL, IN, IA, KS, and KY

SCORING CATEGORY	Points	Max Score	*fn*	ID		IL		IN		IA		KS		KY	
Regulated by:															
Board of Dental Hygiene/Independent Dental Hygiene Committee	4	**4**	*a*												
Board of Dentistry/Dental Examiners with Dental Hygiene Advisory Committee	4									4	*a*				
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member (2+)	3			3	*a*	3	*a*					3	*a*		
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member	2							2	*a*					2	*a*
Board of Dentistry/Dental Examiners with Dental Hygienist as a Non-Voting Member	1														
Other State Boards or Departments	3														
Other Regulatory:															
Licensure by Credential/Endorsement with no new clinical exam required	2	**2**	*b*	2	*b*	2	*b*	2	*b*	2	*b*	2	*b*	2	*b*
Scope of Practice Defined in Law or Regulations	2	**2**	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*
Hygienist not restricted to patient of record of primary employing dentist	2	**2**	*d*	0		0		2		0		0		0	
Total Regulation Score		**10**		**7**		**7**		**8**		**8**		**7**		**6**	
Supervision:				**ID**		**IL**		**IN**		**IA**		**KS**		**KY**	
Dental Hygiene Practice: Highest level of supervision in state laws and regs:															
Unsupervised	4	**4**	*e*					4	*e*						
Collaborative Practice Arrangements	3														
General	2			2	*e*	2	*e*			2	*e*	2	*e*		
Direct	1													1	*e*
Supervision Requirements In:															
Dentists Office															
Unsupervised	4	**4**	*f*												
Collaborative Practice Arrangements	3														
General	2			2	*f*					2	*f*	2	*f*		
Direct	1					1	*f*	1	*f*					1	*f*
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
Long Term Care Facilities - Skilled Nursing Facilities															
Unsupervised	4	**4**	*g*												
Collaborative Practice Arrangements	3														
General	2			2	*g*	2	*g*	1	*g*			2	*g*		
Direct	1									0				1	*g*
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
Schools-Private or Public															
Unsupervised	4	**4**	*h*					4	*h*						
Collaborative Practice Arrangements	3														
General	2			2	*h*					2	*h*	2	*h*		
Direct	1					1	*h*							1	*h*
No requirement for prior examination by a dentist	1	**1**		0		0		1		0		0		0	
Public Health Agencies- Federally Qualified Health Centers															
Unsupervised	4	**4**	*i*												
Collaborative Practice Arrangements	3														
General	2			2	*i*					2	*i*	2	*i*		
Direct	1					1	*i*	1	*i*					1	*i*
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
Correctional Facilities															
Unsupervised	4	**4**	*j*												
Collaborative Practice Arrangements	3														
General	2			2	*j*			1	*j*						
Direct	1					1	*j*			0		0		1	*j*
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
Public Institutions- Mental Health Facilities															
Unsupervised	4	**4**	*k*												
Collaborative Practice Arrangements	3														
General	2			2	*k*	2	*k*	1	*k*			2	*k*		
Direct	1									0				1	*k*
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
Hospitals/Rehabilitation Hospitals or Convalescent settings															
Unsupervised	4	**4**	*l*												
Collaborative Practice Arrangements	3														
General	2			2	*l*			1	*l*	2	*l*	2	*l*		
Direct	1					1	*l*							1	*l*
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
Home Settings- Personal Residences															
Unsupervised	4	**4**	*m*												
Collaborative Practice Arrangements	3														
General	2			2											
Direct	1					0		1	*m*	0		0		0	
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
No Limits on Settings Allowed for Practice by Dental Hygienists	3	**3**	*n*	0		0		3		0		0		0	
Total Supervision Score		**47**		**18**		**11**		**19**		**10**		**14**		**8**	

continued…

Table C-1, ID to KY, continued…

Dental Hygienist Tasks Allowed in Legislation:				ID		IL		IN		IA		KS		KY	
Prophylaxis - Physical Presence of Dentist Not Required	2	**2**	*o*	2		2		2	*o*	2	*o*	2		0	
Fluoride Treatment - Physical Presence of Dentist Not Required	2	**2**	*p*	2		2		0	*p*	2	*p*	2		0	
Sealant Application - Physical Presence of Dentist Not Required	2	**2**	*q*	2		2		0	*q*	2	*q*	2		0	
X-Rays - Physical Presence of Dentist Not Required	2	**2**	*r*	2		2		0	*r*	2	*r*	2		0	*r*
Place Amalgam Restorations	2	**2**	*s*	0		0	*s*	2		0		0		2	
Administer Local Anesthesia	2	**2**	*t*	2	*t*	2	*t*	0		2	*t*	2	*t*	0	*t*
Administer Nitrous Oxide	2	**2**	*u*	2	*u*	2	*u*	0		2	*u*	2	*u*	0	*u*
Hygienist allowed to perform initial screening or assessment	2	**2**	*v*	2	*v*	2	*v*	2	*v*	2	*v*	2	*v*	2	*v*
Hygienist allowed to refer patient	2	**2**	*w*	0		0		0		0		0		0	
Hygienist may be self employed other than as an independent contractor	2	**2**	*x*	0		0	*x*	0		0	*x*	0		0	*x*
Hygienist may supervise a dental assistant	2	**2**	*y*	0		0	*y*	0		0		0		0	
Hygienist may be supervised by a medical provider	2	**2**	*z*	2	*z*	0		0		0	*z*	0		0	*z*
Expanded functions and/or extended practice available in the state	4	**4**	*aa*	4	*aa*	4	*aa*	4	*aa*	4	*aa*	4	*aa*	0	
Total Tasks Score		**28**		**20**		**18**		**10**		**18**		**18**		**4**	

Reimbursement:				ID		IL		IN		IA		KS		KY	
Medicaid Reimbursement Directly to Hygienists	10	**10**	*bb*	0		0		0		0		0		0	
Dental Hygienist may be paid directly for services provided	5	**5**	*cc*	0		0		0		0	*cc*	0		0	
Total Reimbursement Score		**15**		**0**		**0**		**0**		**0**		**0**		**0**	

TOTAL SCORE		**100**		**45**		**36**		**37**		**36**		**39**		**18**	

FOOTNOTES

IDAHO

a) Board of Dentistry is under the auspices of the Bureau of Occupational Licenses in the Department of Self-Governing Agencies. 2 voting dental hygienists on 8 member Board. (Statutes, Title 54 Chapter 9, 54-907).

b) Licensure by credential available. (Statutes, Title 54, Chapter 9, 54-916a and Rules, IDAPA 19.01.01.020).

c) Scope of Practice defined in law. (Statutes, Title 54, Chapter 9, 54-902).

e,f,g,h,i,j,k,l) A hygienist may only work under general supervision if the dentist has provided written orders for the patient which have been signed within the twelve months prior to the hygienist providing services. (Rules, IDAPA 19.01.01.30.04).

f,g,h,i,j,k,l) A hygienist may work in a private office or in public settings. (Statutes, Title 54, Chapter 9, 54-904).

t,u) Hygienists "may administer prescribed anesthetics." (Statutes, Title 54, Chapter 9, 54-902). Hygienists are prohibited from administering local anesthetic or nitrous oxide except under the indirect supervision of a dentist or physician in a hospital setting. (Rules, IDAPA 19.01.030.01).

v) A hygienist is permitted to prepare preliminary records of oral conditions. (Statutes, Title 54, Chapter 9, 54-902).

z) A hygienist who provides services without the supervision of a dentist commits a misdemeanor in the state. (Statutes, Title 54, Chapter 9, 54-906). However, they may administer local anesthesia or nitrous oxide under the supervision of an attending physician in a hospital. (Rules, IDAPA 19.01.030.01`

aa) Hygienists are permitted to administer local anesthesia and nitrous oxide.

ILLINOIS

a) Illinois Board of Dentistry is situated in the Illinois Department of Professional Regulation. 2 voting dental hygienists on 11 member Board. (Statutes, 225 ILCS 25/6).

b) Licensure by credential is available. (Statutes, 225 ILCS 25/19).

c) Scope of Practice is defined in law. (Statutes, 225 ILCS 25/18).

e) Supervision is defined in Illinois statute as requiring the physical presence of the dentist when hygiene services are performed. (Statutes, 225 ILCS 25/4(h)). Acts permitted to hygienists must be "under the supervision of a dentist." (Statutes, 225 ILCS 25/18(a)). There is an exception for services provided in long-term care, mental health or development disability facilities which permits general supervision if the dentist has examined, diagnosed and provided the patient with a treatment order within 90 days of provision of hygiene services. (Statutes, 225 ILCS 25 (b)).

e,f,g,h,i,j,k,l) Hygienists in Illinois may work in the office a dentist, in a federal, state, county or municipal agency or institution, in a public or private school, or in a federal state, county, municipal or other public clinic. (Statutes, 225 ILCS 25/18).

s) Placing restorations is expressly prohibited in regulation. (Rules, Title 68, Chapter VII, Subchapter b, Part 1220. 240(3)).

t,u,aa) Upon completion of a training program, a hygienist may be certified to administer and monitor nitrous oxide and local anesthetics. (Statutes, 225 ILCS 25 (v) and (vi) and Rules, Title 68, Chapter Vii, Subchapter b, 1220.240(e)).

v) Hygienist "may record case histories and oral conditions observed." (Statutes, 225 ILCS 25/18 (c) and Rules, Title 68, Chapter VII, Subchapter b, Part 1220.240(b)).

x) A hygienist is prohibited from providing services if employed by any one other than a dentist. (Statutes, 225 ILCS 25/38.1).

y) Dental assistant must be supervised by a dentist. (Statutes, 225 ILCS 25/4 (f).

continued…

Table C-1, ID to KY, continued…

INDIANA

a) Indiana Dental Board is under the auspices of the Indiana Health Professions Bureau. 1 voting dental hygienist on 11 member State Board of Dentistry. (Statutes, Indiana Code Annotated, IC 25-14-12 (a)(2)).

b) Licensure by endorsement is available under specific conditions. (Statutes, Indiana Code Annotated, IC 25-13-1-17 and Rules, 828 IAC 1-3-1-1(a)).

c) Scope of practice is defined in law. (Statutes, Indiana Code Annotated IC-25-13-1-11).

f,g,h,i,j,k,l,m) Hygienists may work in hospitals, public health clinics, rural, charitable or federally qualified health centers, for government entities or in any location (including mobile vans) approved by the board. (Statutes, Indiana Code Annotated, IC 25-14-1-1 (b)) Hygienists may also work in dental offices, schools, and industrial clinics. (Statutes, Indiana Code Annotated, IC 25-13-1-10). Homes of patients are included in the definition of a mobile dental facility or portable dental operation. (Rules, 828 IAC 4-2-2 (2). Hygienists are permitted to provide hygiene services in mobile facilities or portable dental operations. (Rules, 828 IAC 4-1-2(d)).

e,h) Hygiene services must be supervised by a licensed dentist in all settings except schools or institutional practice where prophylaxis and hygiene instruction to children up to grade 12 is provided or when providing screening and referrals for patients in public health settings. These services may be provided without the supervision of a dentist. (Statutes, Indiana Code Annotated, IC 25-13-1-10).

f,g,i,j,k,l,m) The level of supervision in offices and other settings is direct or indirect. Improper conduct of a dentist is partly defined as "failing to inspect dental services during the course of their performance" (direct supervision) or "failing to be present in the dental facility to properly supervise the treatment of patients" (indirect supervision). (Rules, 828 IAC 1-1-15(10) and (11)).

h) Hygienists may provide prophylaxis without supervision of a dentist to children up to grade 12. (Statutes, Indiana Code Annotated, IC 25-13-1-10(5)(b)(2)).

o,p,q,r) All services must be provided under direct or indirect supervision of a dentist with the exception of prophylaxis which can be provided to children in public settings without supervision by a dentist.

v,w) Screening and referral of patients in public health settings may be provided by hygienists without supervision by a dentist. (Statutes, Indiana Code Annotated, IC 25-13-1-10(5)(b)(3)). Screening is defined as assessment of the health of the hard or soft tissues of the oral cavity. (Statutes, Indiana Code Annotated, IC 25-13-1-2(g)). Referral is defined as a recommendation to seek further care from a dentist but not a specific dentist. (Statutes, Indiana Annotated Code, IC 25-13-1-2(f)).

IOWA

a) The Iowa Board of Dental Examiners is under the auspices of the Bureau of Professional Licensure in the Division of Administrative and Regulatory Affairs in the Department of Public Health. 2 dental hygienists on 9 member Dental Board. (Statutes, Iowa Code, 147.14(4) and Rules, Iowa Administrative Code, IAC 650-5.1(133)). A Dental Hygiene Committee of the Board was created In 1999. (Statutes, Iowa Code, 153.33A and Rules, Iowa Administrative Code, IAC 650-5.1(153)(5.1(3) and 5.6(153)).

b) A reciprocity license was available under law (Statues, Iowa Code, 147.80(11)) in 2001. Regulations also permitted licensure by credential (Rules, Iowa Administrative Code, IAC 650-11.6(153). Iowa Code addressing reciprocity for dentists was changed in 2002 to licensure by credential for both dentists and dental hygienists. (Statutes, Iowa Code 153.21).

c) Scope of practice is defined in law as educational, therapeutic, and preventive services. Some of the permitted services are enumerated. (Statutes, Iowa Code, 153.15).

f,h,i,l) Hygiene services may be provided in dental offices, schools, public health agencies, hospitals, and for the armed forces. (Statutes, Iowa Code, 153.15).

e,f,h,i,l o,p,q,r) Hygienists may provide services in any allowable setting under general supervision but the patient must have been examined and the services authorized by the supervising dentist. Certain other requirements apply to general supervision. (Rules, Iowa Administrative Code, IAC650-10.3(153(10.3(2)).

t,u,aa) Administration of local anesthesia or nitrous oxide is permitted under direct supervision of dentist. A permit issued by the Board is required to administer local anesthesia. (Rules, Iowa Administrative Code, IAC 650-10.3(153)(10.3(1) and IAC 650-11.10(153)). The hygienist must meet the training requirements established by the Board for administration of nitrous oxide. (Rules, Iowa Administrative Code, IAC 650-29.6(153).

v) Rules explicitly state that nothing in them shall prevent a dental hygienist from providing certain services including assessment and screening. (Rules, Iowa Administrative Code, IAC 650-10.3(153)).

x,z) Rules specifically state that a hygienist is not allowed to practice independent of the supervision of a dentist and is also prohibited from establishing a separate office. (Rules, Iowa Administrative Code, IAC 650-10.3(153)910.3(3)).

KANSAS

a) 2 voting dental hygienists on 9 member Board, members of Board appointed by governor. (Statutes, Chapter 74, Article 14, 74-1404(a) and (b)).

b) A hygienist may be licensed without examination by endorsement after meeting certain qualifications. (Statutes, Chapter 65, Article 14, 65-1434).

c) Scope of Practice is defined in law as educational, preventive and therapeutic procedures including the delineation of some specific tasks permitted to dental hygienists. (Statutes, Chapter 65, Article 14, 65-1456(b)).

continued…

Table C-1, ID to KY, continued…

e) Kansas statutes provide for hygienists to work "under direct or general" supervision. General supervision applies only if the dentist has immediately or within the previous 12 months examined the patient and authorized hygiene services. (Statutes, Chapter 65, Article 14, 65-1465(d)(2)).

f,g,h,i,j,k,l) In 2001, hygienists were permitted to practice in these settings only under the direct supervision of a dentist. Effective in 2002 with the revised statutes, hygienists may practice in dental offices, schools, health care facilities, or government institutions under general supervision. (Statutes, Title XXVI, Chapter 313, KRS 313.310).

t,u,aa) Hygienists are permitted to administer local anesthesia and nitrous oxice under direct supervision after completion of required courses of inistruction. (Statutes, Chapter 65, Article 14, 65-1456(g)(3)).

v,aa) The dental hygienist must have a permit issued by the Board to provide screening services in public institutions or facilities. (Statutes, Chapter 65,Article 14, 65-1435(f)).

x,z) A hygienist may be employed by a dentist or by certain public institutions but must always be under the supervision of a licensed dentist. (Statutes, Chapter 65, Article 14, 65-1456(e)(2)).

KENTUCKY

a) Board of Dentistry is supported by the Division of Occupations which is regulated by the Department of Finance and Administration. 1 voting hygienist on a 9 member Board. (Statutes, Title XXVI, Chapter 313, KRS 313.200(1)

b) Reciprocal licensing is available to hygienists holding a valid license from another state. (Statutes, Title XXVI, Chapter 313, KRS 313.303).

c) Scope is defined in statute in terms of prophylaxis but may also include other dental activities. (Statute, Title XXVI, Chapter 313, KRS 313.010(3)).

e) In 2001, hygienists practiced under direct supervision of a dentist. (Rules, 201 KAR 8:135, Section 1). Effective in 2002, a hygienist is permitted to practice under general supervision for not more than 15 consectuive days and provided that the patient has been examined by the supervising dentist within the previous 7 months. (Statutes, Title XXVI, Chapter 313, KRS 313.310(3)). New regulations were written to address the change in supervision. (Rules, 201 KAR 8:450).

f,g,,h,i,j,k,l) In 2001, hygienists were permitted to practice in these settins only under the direct supervision of a dentist. Effective in 2002 with the revised statutes, hygienists may practice in dental offices, schools, health care facilities, or government institutions under general supervision. (Statutes, Title XXVI, Chapter j313, KRS 313.310).

r) Continuous supervision of dentist is required when taking X-rays. (Rules, 201 KAR 8:130, Section 2).

t,u) Effective in 2002, a hygienist with appropriate education can admininister nitrous oxide or local anasthesia under direct supervision. (Statutes, Title XXVI, Chapter 313, KRS 313.343(1)) with new administrative regulations (Rules, 201 KAR 8:460, Section 3).

v) Screening is permitted as delegated by dentist. (Rules, 201 KAR 8:135 Section 1

x) It is unlawful to practice dental hygiene in a manner that is separate from the dental practice of a supervising dentist. (Statutes, Title XXVI, Chapter 313, KRS 313.310(7)).

z) Hygienists may practice in the state only as an employee of a practicing, licensed dentist and the continuous supervision of that dentist. (Statutes, Title XXVI, Chapter 313, KRS 313.310)

SOURCES

Idaho
http://www3.state.id.us/idstat/TOC/54009KTOC.html
http://www2.state.id.us/adm/adminrules/rules/idapa19/0101.pdf
Illinois
http://www.legis.state.il.us/legislation/ilcs/ch225/ch225act25.htm
http://www1.ildpr.com/WHO/ARpropsd/WEBdentrules.pdf
Indiana
http://www.in.gov/legislative/ic/code/title25/ar13/
http://www.in.gov/legislative/iac/title828.html
Iowa
http://www.legis.state.ia.us/IACODE/2003/153/
http://www.state.ia.us/dentalboard/boardrules.html
Kansas
www.accesskansas.org/kdb/statutes.html
www.accesskansas.org/kdb/regulations.html
Kentucky
http://www.lrc.state.ky.us/KRS/313-00/CHAPTER.HTM
http://www.lrc.state.ky.us/kar/TITLE201.HTM

Table C-1, continued
Dental Hygiene Professional Practice Index, 2001
Detailed Criteria, Scoring, and Data Sources for LA, ME, MD, MA, MI, and MN

SCORING CATEGORY	Points	Max Score	*fn*	LA		ME		MD		MA		MI		MN	
Regulated by:															
Board of Dental Hygiene/Independent Dental Hygiene Committee	4	**4**	*a*												
Board of Dentistry/Dental Examiners with Dental Hygiene Advisory Committee	4							4	*a*						
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member (2+)	3											3	*a*		
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member	2			2	*a*	2	*a*			2	*a*			2	*a*
Board of Dentistry/Dental Examiners with Dental Hygienist as a Non-Voting Member	1														
Other State Boards or Departments	3														
Other Regulatory:															
Licensure by Credential/Endorsement with no new clinical exam required	2	**2**	*b*	2	*b*	2	*b*	2	*b*	2	*b*	2	*b*	2	*b*
Scope of Practice Defined in Law or Regulations	2	**2**	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*
Hygienist not restricted to patient of record of primary employing dentist	2	**2**	*d*	2	*d*	2	*d*	2	*d*	0		0	*d*	2	
Total Regulation Score		**10**		**8**		**8**		**10**		**6**		**7**		**8**	
Supervision:				**LA**		**ME**		**MD**		**MA**		**MI**		**MN**	
Dental Hygiene Practice: Highest level of supervision in state laws and regs:															
Unsupervised	4	**4**	*e*												
Collaborative Practice Arrangements	3					3	*e*							3	*e*
General	2			2	*e*			2	*e*	2		2	*e*		
Direct	1														
Supervision Requirements In:															
Dentists Office															
Unsupervised	4	**4**	*f*												
Collaborative Practice Arrangements	3														
General	2					2	*f*			2	*f*			2	*f*
Direct	1			1	*f*			1	*f*			1	*f*		
No requirement for prior examination by a dentist	1	**1**		0		1		1		0		0	*f*	0	
Long Term Care Facilities - Skilled Nursing Facilities															
Unsupervised	4	**4**	*g*												
Collaborative Practice Arrangements	3					3	*g*							3	*g*
General	2			2	*g*			2	*g*	2	*g*	2	*g*		
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		1	
Schools-Private or Public															
Unsupervised	4	**4**	*h*												
Collaborative Practice Arrangements	3					3	*h*							3	*h*
General	2			2	*h*			2	*h*	2	*h*	2	*h*		
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		1	
Public Health Agencies- Federally Qualified Health Centers															
Unsupervised	4	**4**	*i*												
Collaborative Practice Arrangements	3					3	*i*							3	*i*
General	2			2	*i*			2	*i*	2	*i*	2	*i*		
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		1	
Correctional Facilities															
Unsupervised	4	**4**	*j*												
Collaborative Practice Arrangements	3					3	*j*							3	*j*
General	2			2	*j*			2	*j*	2	*j*	2	*j*		
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		1	
Public Institutions- Mental Health Facilities															
Unsupervised	4	**4**	*k*												
Collaborative Practice Arrangements	3					3	*k*							3	*k*
General	2			2	*k*			2	*k*	2	*k*	2	*k*		
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		1	
Hospitals/Rehabilitation Hospitals or Convalescent settings															
Unsupervised	4	**4**	*l*												
Collaborative Practice Arrangements	3					3	*l*							3	*l*
General	2			2	*l*			2	*l*	2	*l*				
Direct	1											0			
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		0		1	
Home Settings- Personal Residences															
Unsupervised	4	**4**	*m*												
Collaborative Practice Arrangements	3													3	*m*
General	2														
Direct	1			0		0		0		0		0			
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
No Limits on Settings Allowed for Practice by Dental Hygienists	3	**3**	*n*	0		0		0		0		0		3	
Total Supervision Score		**47**		**15**		**30**		**16**		**16**		**18**		**36**	

continued…

Table C-1, LA to MN, continued…

Dental Hygienist Tasks Allowed in Legislation:				LA		ME		MD		MA		MI		MN	
Prophylaxis - Physical Presence of Dentist Not Required	2	**2**	*o*	2	*o*	2		2	*o*	2		2	*o*	2	
Fluoride Treatment - Physical Presence of Dentist Not Required	2	**2**	*p*	2		2		1.5	*p*	2		0		2	
Sealant Application - Physical Presence of Dentist Not Required	2	**2**	*q*	2		2	*q*	1.5	*q*	2		0		2	
X-Rays - Physical Presence of Dentist Not Required	2	**2**	*r*	2		2		2	*r*	2		0		2	
Place Amalgam Restorations	2	**2**	*s*	0	*s*	0		0	*s*	2	*s*	0		0	
Administer Local Anesthesia	2	**2**	*t*	2	*t*	2	*t*	0	*t*	0	*t*	0	*t*	2	*t*
Administer Nitrous Oxide	2	**2**	*u*	0	*u*	0	*u*	0	*u*	0	*u*	0		2	*u*
Hygienist allowed to perform initial screening or assessment	2	**2**	*v*	2		2	*v*	2	*v*	2	*v*	2	*v*	2	*v*
Hygienist allowed to refer patient	2	**2**	*w*	2	*w*	2	*w*	0	*w*	0		2	*w*	2	*w*
Hygienist may be self employed other than as an independent contractor	2	**2**	*x*	0	*x*	0		0	*x*	0		0		0	*x*
Hygienist may supervise a dental assistant	2	**2**	*y*	0	*y*	0		0		0		0		0	*y*
Hygienist may be supervised by a medical provider	2	**2**	*z*	0	*z*	0	*z*	0		0		0		0	*z*
Expanded functions and/or extended practice available in the state	4	**4**	*aa*	4	*aa*	4	*aa*	0		0		4	*aa*	4	*aa*
Total Tasks Score		**28**		**18**		**18**		**10**		**12**		**10**		**20**	

Reimbursement:				LA		ME		MD		MA		MI		MN	
Medicaid Reimbursement Directly to Hygienists	10	**10**	*bb*	0		0		0		0		0		0	
Dental Hygienist may be paid directly for services provided	5	**5**	*cc*	0		0	*cc*	0		0		0	*cc*	0	
Total Reimbursement Score		**15**		**0**		**0**		**0**		**0**		**0**		**0**	
TOTAL SCORE		**100**		**41**		**56**		**36**		**34**		**35**		**64**	

FOOTNOTES

LOUISIANA

a) 1 voting dental hygienist on a 14 member Board. Board of Dentistry is situated int the Department of Health and Hospitals. (Statutes, LSA RS 37:753 (B)).

b) Licensure by credentials permitted. (Statutes, LSA RS 37:768 and LSA RS 37.752(8) and Rules, Title 46, Part XXXIII, Chapter 7, 706)).

c) Scope of duties is defined in regulations. (Rules, Title 46, Part XXXIII, Chapter 7, 701.)

d) Hygienists may treat patients of both an employing dentist or a supervising dentist. (Rules, Title 46, Part XXXIII, 108 (A)).

f) Hygienists providing services in the office of a dentist work under direct supervision. (Statutes, LSA RS 37:766).

e,g,h,i,j,k,l) Hygienists providing services in public schools and in federal and state institutions may do so "under the general direction and supervision of a licensed dentist." (Statutes LSA RS 37:766, Rules, Title 46, Part XXXIII, Chapter 7, 701(B)). "Dental health care providers" are permitted to provide services in hospitals (Rules, Title 46, Part XXXIII, Chapter 7, 314(A) and nursing facilitates or other long-term care facilities (Rules, Title 46, Part XXXIII, Chapter 7, 314(B) if certain requirements are met. Hygienists are included as dental health care providers. (Rules, Title 46, Part XXXIII, Chapter 7, 316(B)).

o) A dentist may delegate any "chairside dental act which seems reasonable" to a dental hygienist under direct supervision in the office but under general supervision in public settings. (Rules, Title 46, Part XXXIII, Chapter 7, 701(B). Many chairside dental acts are enumerated in rules. (Rules, Title 46, Part XXXIII, Chapter 5).

s) Dentists are specifically prohibited from delegating the placement of amalgam to a dental hygienist. (Rules, Title 46, Part XXXIII, Chapter 7, 701 (B)(9)).

t, aa) Hygienist "may qualify for special endorsement to administer local anesthesia under direct on-premises supervision of licensed dentist." (Rules, Title 46, Part XXXIII, Chapter 7, 710(A)).

u) The authority to administer nitrous oxide to dental patients is specifically limited to dentists in statute. (Statutes, LSA RS 37: 793(F)).

w) Hygienists are prohibited from referring to entities other than the practice in which they work if they have a financial interest in that entity unless they first disclose that interest. (Rules, Title 46, Part XXXIII, Chapter 3, 316(B)).

x) Hygienists are responsible for notifying the Board of Dentistry about the name and address of their employer. (Statutes, LSA RS 37:766).

y) Dental assistants may only be supervised by a licensed dentist. (Statutes, LSA RS 37:792.1 (A) and (B)).

z) Services provided by a hygienist are required to be under either direct or general supervision of a licensed dentist depending on the setting. (Rules, Title 46, Part XXXIII, Chapter 7, 701(B)).

MAINE

a) Dental Board regulated by Office of Licensing and Registration within the Maine Department of Professional and Financial Regulation. 1 voting dental hygienist on a 7 member Board. (Statutes, Title 32, Chapter 16, Subchapter 2, # 1071).

b) Licensure by endorsement is available. (Statutes, Title 32, Chapter 16, Subchapter 4, # 1099)

c) Scope of practice is defined in regulation. (Rules, 02-313, Chapter 1, Section 2).

d,f) Services provided by a hygienist in a dental office must be performed on a patient of record under general or direct supervision. (Rules, 02-313, Chapter 1, Section 1(A)).

e,g,h,i,j,k,l) Maine permits a qualified hygienist to work under public health supervision status in settings other than traditional dental practices including schools, medical facilities, nursing homes, residential care facilities, vans, and other settings when a supervision agreement with a dentist is in place. (Rules 02-313, Chapter 1, Section 4 (B)). Patients seen by the hygienist in these settings are not "deemed to be" the patient of record of the collaborating dentist. (Rules 02-313, Chapter 1, Section 1 (C) (1)).

q) In office settings, a dentist must first make the determination that sealants should be applied. This condition does not apply to public health hygiene services. (Rules, 02-313, Chapter 1, Section 2(K)).

continued…

Table C-1, LA to MN, continued…

t) Hygienist may qualify to provide local anesthesia for hygiene procedures by special endorsement. (Rules, 02-313, Chapter 1, Section 3(G)).

u) Hygienist may monitor nitrous oxide but not administer it. (Rules 02-313, Chapter 1, Section 3 (F)).

v) Hygienists may perform oral inspections, record histories and perform charting. (Rules, 02-313, Section 2 (A),(B),(C), D)).

w) Referral of patient for needed dental care is a requirement to practice as a hygienist under public health supervision status. (Rules, 02-313, Chapter 1, Section 4(2).

z) Dental hygienists practice under the supervision of a dentist. (Statutes, Title 32, Chapter 16, Subchapter 4, #1095).

aa) Public Health Supervision Status is expanded practice and local anesthesia is an extended function.

cc) Dental hygienists can be paid salary or honoraria for services rendered in public health settings. The entity that employs the hygienists may apply for insurance reimbursement. (Rules, 02-313, Chapter 1,Section 4(F)

MARYLAND

a) Board of Dental Examiners is situated in the Maryland Department of Health and Mental Hygiene. 3 dental hygienists on a 15 member Board. 3 hygienists on dental hygiene committee, have full voting privileges. (Statutes, Maryland Code Annotated 4-202(a)(1) and (2) (i-iii)). There is also a Dental Hygiene Committee which has the power to make recommendations to the board. (Statutes, Maryland Annotated Code, 4-205 (7) (iii)).

b) Licensure without examination is described in law. (Statutes Maryland Annotated Code, 4-306 (a) (2)(d)(2)(ii) and Rules, 10.44.09.02). Maryland permits Retired Volunteer Hygienist Licenses. (Statutes, Maryland Annotated Code 4-304 (e) and 4-308(f)).

c) Scope defined by tasks allowed. (Statutes, Maryland Code Annotated 4-101(l) (1) to (7) and Rules 10.44.04.02).

d,e,g,h,i,j,k,l) Regulations require that prior to treatment by a dental hygienist in a public setting, a patient must be evaluated by a supervising dentist, the patient's dentist, a facility dental consultant, or a physician who must first establish a diagnosis and treatment plan. (Rules, 10.44.21.07 (A)). All recall patients must be scheduled for an examination by a dentist every 6 months or as determined to be necessary. (Rules, 10.44.21.07 (D)). There is no requirement that patient be a patient of record of the employing dentist.

f) Supervision in office settings requires that the supervising dentist be on premises during the provision of any hygiene services. (Statutes, Maryland Annotated Code, 4-101(h)).

e,f,g,h,i,j,k,l) Hygienists may practice in offices, dental clinics, hospitals, schools, charitable institutions, HMOs, federal state and local government dental facilities, mental health facilities, and facilities which provide care to the poor, the elderly or handicapped. (Statutes, Maryland Annotated Code, 4-308(e)(l)(ii) and (2)). On-site supervision requirements may be waived by the board in certain of these public settings. (Statutes, Maryland Annotated Code, 4-308(2) and Rules, 10.44.21.02 and .03).

o,p,q,r) These services may only be provided under general supervision in qualified public settings (as enumerated in footnote above).

t,u) There is specific statutory restriction preventing the Board of Dentistry from authorizing hygienist to administer anesthesia other than topicals. (Statutes, Maryland Annotated Code, 4-206(b)(6).

v) Hygienists are allowed to perform a preliminary dental examination. (Statutes, Maryland Code Annotated, 4-101(l)(1)).

x)" A dental hygienist may not own or operate a dental practice or dental hygiene practice." (Statutes, Maryland Code Annotated, 4-605).

y) A dental hygienist may only provide services under the supervision of a licensed dentist. (Statutes, Maryland Code Annotated, 4-308(e)(i)).

MASSACHUSETTS

a) Board of Registration in Dentistry is under the auspices of the Division of Professional Licensure. 1 voting dental hygienist on 8 member Board. (Statutes, General Laws, Part I, Title II, Chapter 13, Section 19).

b)Licensure by credentials is available to hygienists. (Commonwealth of Mass., Division of Prof. Licensure, www.state.ma.us/reg/boards/dn).

c) Scope of practice is defined as the provision of services on teeth that are educational, therapeutic, prophylactic, and preventive in nature. (Statutes, General Laws, Part I, Title XVI, Chapter 112, Section 51).

f,g,h,i,j,k,l) Hygienists may practice in public or private institutions including schools, hospitals, orphanages, sanitariums and in offices of dentists under general supervision. (Rules, CMR 234-2.00 (5)).

s) Hygienist may place amalgam for condensation by a dentist. (Rules, CMR 234-2.00(15)(b)(17)).

t) Administration of local anesthesia is prohibited. (Rules, CMR 234-2.00(15)(c)(6).

u) Hygienist may only assist in administration of nitrous oxide. (Rules, CMR 234-2.00(15)(b)(20)).

v) Hygienist may conduct dental screening. (Rules, CMR 234-2.00(15)(b)(48). "Hygienist may call the attention of the dentist to any defects of the teeth or gums observed." (Rules, CMR 234-2.00(6)).

MICHIGAN

a) Michigan Board of Dentistry is situated in the Department of Consumer/Industry Services. 4 voting hygienists on 19 member Board. (Statutes, Chapter 333, Article 15, 333.16621 (1)).

b) Licensure by endorsement is available in the state. (Rules, Part 2, R 338.11259).

continued…

Table C-1, LA to MN, continued…

c) Scope of practice is defined in negative terms i.e. a dental hygienist shall not perform a list of enumerated tasks unless assigned by a dentist. (Rules, Part 4, R 338.11408).

d) Guidelines for practice by hygienists require assignment of tasks by a dentist. The definition of assignment includes a requirement that the dentist assign tasks only for a patient of record. (Statutes, Chapter 333, Article 15, 333.16601).

e) General supervision is defined in rules as requiring the physical presence of the dentist in the office while procedures are being performed. (Rules, Part 1, R 338.11101 (i)). However, conditions for practice by a hygienist in a public health setting permit the dentist to be off premises but require that the dentist be readily available. (Statutes, Chapter 333, Article 15, 333.16625 (4)).

f) The definition of general supervision requires the presence of the dentist in the office while services are provided. (For scoring purposes this is considered direct supervision). (Rules, Part 1, R 338.1101(i)). All patients must be a patient of record which is defined as the dentist having examined and diagnosed the patient prior to any treatment by a hygienist. (Rules, Part 1, R 338.1101(m)).

g,h,i,j,k,l) In order for hygienists to provide services in public health settings, the institutions must meet defined criteria. (Statutes, Chapter 333, Article 15, 333.16625 (2)). Hygienists may provide services in these settings to patients who are not assigned by a dentist. (Statutes, Chapter 333, Article 15, 333.16625 (2)).

o) May be provided without the presence of a dentist in public health settings only.

t) Effective 06/02, a hygienist may qualify by completion of a course to administer local anesthesia under direct supervision. (Statutes, Chapter 333, Article 15, 333.16611(4)).

v) In public health settings hygienists may see patients who have not been examined by a dentist. An assessment of need for further dental treatment would be required. In these settings, the supervising dentist is required to be available for consultation for the hygienist. (Statutes, Chapter 333, Article 15, 333.16625).

w) In public health settings, a hygienist would be required to refer a patient with dental treatment need to a dentist.

aa) Hygienists may work in a program for dentally underserved populations in certain health agencies approved by the state. (Statutes, Chapter 333, Article 15, 333.16625 (2)).

MINNESOTA

a) Board of Dentistry is under the auspices of the Council of Health Boards which reports to an administrative branch in the Executive branch of the Minnesota State Government. 1 voting hygienist on 9 member Board. (Statutes, Chapter 150A.02, Subdivision 1).

b) Licensure by credential detailed in regulation. (Rules, Chapter 3100.1400 (D)).

c) Scope of practice is education, preventive, and therapeutic care… (Statutes, Chapter 150A.05, Subdivision 1A (1)).

e) Collaborative practice is permitted to hygienists who qualify by experience who have a collaborating dentist. (Statutes, Chapter 150A, Subdivision 1A (a)).

f) All services provided in a dental office must be authorized by a dentist and performed under general, indirect or direct supervision according to the diagnosis and treatment plan. (Statutes, Chapter 3100.8700 Subpart I, 2, 2a).

g,h,i,k,l,m) A dental hygienist who qualifies by experience and has entered into a collaborative agreement with a dentist may provide prophylaxis in a health care facility without prior exam by a dentist. (Statutes, Chapter 150A, Subdivision 1A (a)). Health care facilities include hospitals, nursing homes, home health agencies, group home settings, federal, state, and local public health facilities, correctional facilities. (Statutes, Chapter 150A, Subdivision 1A (2)(d).

t,u) Administration of local anesthesia and nitrous oxide is permitted under indirect supervision. (Rules, Chapter 3100.8700, Subpart 2 (B) and (C).

v) Hygienists assess and plan dental hygiene care needs. (Statutes, Chapter 150A.05, Subdivision 1a, (2)). Hygienists are permitted to perform preliminary and periodontal charting , dietary and salivary analysis. (Rules, Chapter 3100.8700 (c) and (d).

w) Hygienist practicing under collaborative arrangement must refer to a dentist.

x) Hygienists may only practice as an employee or an independent contractor to a dentist. (Rules, Chapter 3100.8200).

y) All services provided by dental assistants must be performed under the supervision of a licensed dentist. (Statutes, Chapter 150A, Subdivision (2).

z) All services provided by a hygienists must be under the supervision of a licensed dentist. (Statutes, Chapter 150A, Subdivision 1.)

aa) Dental hygienists may qualify to administer nitrous oxide and local anesthesia in the state and to practice under collaborative agreements with dentists.

SOURCES

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http://www.state.la.us/osr/lac/46v33/46v33.pdf
Maine
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Minnesota
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Table C-1, continued
Dental Hygiene Professional Practice Index, 2001
Detailed Criteria, Scoring, and Data Sources for MS, MO, MT, NE, NV, NH

SCORING CATEGORY	Points	Max Score	*fn*	MS		MO		MT		NE		NV		NH	
Regulated by:															
Board of Dental Hygiene/Independent Dental Hygiene Committee	4	**4**	*a*												
Board of Dentistry/Dental Examiners with Dental Hygiene Advisory Committee	4					4	*a*								
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member (2+)	3							3	*a*	3	*a*	3	*a*	3	*a*
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member	2			2	*a*										
Board of Dentistry/Dental Examiners with Dental Hygienist as a Non-Voting Member	1														
Other State Boards or Departments	3														
Other Regulatory:															
Licensure by Credential/Endorsement with no new clinical exam required	2	**2**	*b*	2	*b*	2	*b*	2	*b*	2	*b*	2	*b*	2	*b*
Scope of Practice Defined in Law or Regulations	2	**2**	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*
Hygienist not restricted to patient of record of primary employing dentist	2	**2**	*d*	0		0	*d*	2		0		2	*d*	2	
Total Regulation Score		**10**		**6**		**8**		**9**		**7**		**9**		**9**	
Supervision:				**MS**		**MO**		**MT**		**NE**		**NV**		**NH**	
Dental Hygiene Practice: Highest level of supervision in state laws and regs:															
Unsupervised	4	**4**	*e*			4	*e*								
Collaborative Practice Arrangements	3														
General	2			2	*e*			2	*e*	2	*e*	4	*e*	2	
Direct	1														
Supervision Requirements In:															
Dentists Office															
Unsupervised	4	**4**	*f*												
Collaborative Practice Arrangements	3														
General	2					2		2	*f*	2	*f*	2	*f*	2	*f*
Direct	1			1											
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
Long Term Care Facilities - Skilled Nursing Facilities															
Unsupervised	4	**4**	*g*									4	*g*		
Collaborative Practice Arrangements	3														
General	2					2		2	*g*	2	*g*			2	*g*
Direct	1			0											
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		1		0	
Schools-Private or Public															
Unsupervised	4	**4**	*h*			4	*h*					4	*h*		
Collaborative Practice Arrangements	3														
General	2			2	*h*			2	*h*	2	*h*			2	*h*
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		0	
Public Health Agencies- Federally Qualified Health Centers															
Unsupervised	4	**4**	*i*			4	*i*					4	*i*		
Collaborative Practice Arrangements	3														
General	2			2	*i*			2	*i*	2	*i*			2	*i*
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		0	
Correctional Facilities															
Unsupervised	4	**4**	*j*									4	*j*		
Collaborative Practice Arrangements	3														
General	2					2		2	*j*	2	*j*			2	*j*
Direct	1			0											
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		1		0	
Public Institutions- Mental Health Facilities															
Unsupervised	4	**4**	*k*									4	*k*		
Collaborative Practice Arrangements	3														
General	2					2		2	*k*	2	*k*			2	*k*
Direct	1			0											
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		1		0	
Hospitals/Rehabilitation Hospitals or Convalescent settings															
Unsupervised	4	**4**	*l*									4	*l*		
Collaborative Practice Arrangements	3														
General	2					2		2	*l*	2	*l*			2	*l*
Direct	1			0											
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		1		0	
Home Settings- Personal Residences															
Unsupervised	4	**4**	*m*												
Collaborative Practice Arrangements	3														
General	2					2				2	*m*				
Direct	1			0				0				0		0	
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		0	
No Limits on Settings Allowed for Practice by Dental Hygienists	3	**3**	*n*	0		3		0		3	*n*	0		0	
Total Supervision Score		**47**		**7**		**29**		**16**		**21**		**36**		**16**	

continued…

Table C-1, MS to NH, continued…

Dental Hygienist Tasks Allowed in Legislation:				MS		MO		MT		NE		NV		NH	
Prophylaxis - Physical Presence of Dentist Not Required	2	**2**	*o*	0	*o*	2		2		2		2		2	
Fluoride Treatment - Physical Presence of Dentist Not Required	2	**2**	*p*	0	*p*	2		2		2		2		2	
Sealant Application - Physical Presence of Dentist Not Required	2	**2**	*q*	0	*q*	2		2		2		2		2	*q*
X-Rays - Physical Presence of Dentist Not Required	2	**2**	*r*	0	*r*	2		2		2		2		2	
Place Amalgam Restorations	2	**2**	*s*	0		2	*s*	0	*s*	0		0		0	
Administer Local Anesthesia	2	**2**	*t*	0		2	*t*	2	*t*	2	*t*	2	*t*	0	*t*
Administer Nitrous Oxide	2	**2**	*u*	0		2	*u*	0		0	*u*	2	*u*	0	
Hygienist allowed to perform initial screening or assessment	2	**2**	*v*	2	*v*	2	*v*	2	*v*	2	*v*	2	*v*	2	*v*
Hygienist allowed to refer patient	2	**2**	*w*	0		2	*w*	0		0		0		0	
Hygienist may be self employed other than as an independent contractor	2	**2**	*x*	0		0		0	*x*	0		0		0	*x*
Hygienist may supervise a dental assistant	2	**2**	*y*	0		0	*y*	0	*y*	0	*y*	0		0	*y*
Hygienist may be supervised by a medical provider	2	**2**	*z*	0		0	*z*	0	*z*	0		2	*z*	0	*z*
Expanded functions and/or extended practice available in the state	4	**4**	*aa*	0		4	*aa*	4	*aa*	4	*aa*	4	*aa*	4	*aa*
Total Tasks Score		**28**		**2**		**22**		**16**		**16**		**20**		**14**	

Reimbursement:				MS		MO		MT		NE		NV		NH	
Medicaid Reimbursement Directly to Hygienists	10	**10**	*bb*	0		10	*bb*	0		0		0		0	
Dental Hygienist may be paid directly for services provided	5	**5**	*cc*	0		5		0		0		0		0	
Total Reimbursement Score		**15**		0		**15**		**0**		**0**		**0**		**0**	

TOTAL SCORE		**100**		**15**		**74**		**41**		**44**		**65**		**39**	

FOOTNOTES

MISSISSIPPI

a) 1 voting hygienist with restricted voting rights (can only vote on dental hygiene and administrative issues) on 8 member Board. (Statutes, MS Code Annotated, Title 73-9-7).

b) Hygienist must have been practicing for the 5 prior years when applying for licensure by credential. (Statutes, MS Code Annotated 73-9-24(b) and Rules, Board Regulation Number 47).

c) Scope of practice defined in statute. (Statutes, MS Code Annotated 73-9-5(1)).

e) Services provided by dental hygienists must be under the direct supervision of a dentist (Exceptions for education and screening in certain public settings which may be provided under general supervision.) (Statutes, MS Code Annotated 73-9-5 (2)).

h,i) Hygienist in the employ of State Board of Health or in public schools may provide hygiene screening and instruction under general supervision. (Statutes, MS Code Annotated 73-9-5 (2)).

o,p,q,r) "The work of dental auxiliaries shall at all times be under the direct supervision of a licensed dentist." (Rules, Board Regulation Number 13).

v) "Periodontal screening and probing" may be performed by dental hygienists. (Rules, Board regulation number 13 (1)).

MISSOURI

a) The Missouri Dental Board is situated in the Department of Economic Development. 1 voting hygienist with restricted privileges on 7 member Board. (Missouri Revised Statutes 332.021.1) A 5 member hygiene advisory committee was established by the legislature in August 2001 to be appointed by April 1, 2002 (Missouri Bill SB 0046, Missouri Revised Statute 332.086).

b) License without examination legislated in statute. (Missouri Revised Statute 332.281) and detailed in regulations (Rules, Dept. of Ec. Development, Division 110, Chapter 2, 4 CSR 110-2.070).

c) Scope defined in statute (Missouri Revised Code 332.091) and in regulation (Rules, Dept. of Ec. Development, Division 110, Chapter 2, 4 CSR 110-2.130(3)).

d) The patient must always be a patient of record of the supervising dentist regardless of the incumbent supervision. (Rules, Dept. of Ec. Development, Division 110, Chapter 2, 4 CSR 110-2.001(3),(4),(5),and (6)). There is an exception for unsupervised practice in public health settings.

e) Effective 07/01, a hygienist with the required experience may provide prophylaxis, fluoride and sealants in public health settings for children eligible for medical assistance without the supervision of a dentist. (Missouri Revised Statutes 332.311(2)). Otherwise, dental supervision is required. (Missouri Revised Statutes, 332.311 (1)).

h,i) Unsupervised practice is permitted when providing services for Medicaid eligible children in public health settings. (Missouri Revised Statute, 332.311 (2)).

s) Placing amalgam restorations is an expanded function task for which hygienists can qualify. (Missouri Revised Statutes 4 CSR 110-2.120 (4) and 4 CSR 110-2.130 (5) (B)).

t,u) A hygienist may administer local anesthesia or nitrous oxide under indirect supervision. (Rules, Dept. of Ec. Development, Division 110, Chapter 2, 4 CSR 110-2.130(4)).

v) A hygienist may perform clinical exam of teeth and tissue for diagnosis by dentist. (Missouri Revised Statutes 332.091).

y) A hygienist who conducts oral screenings must refer the patient to a dentist for diagnosis. (Rules, Dept. of Ec. Development, Division 110, Chapter 2, 4 CSR 110-2.150(7)).

y) A dental assistant works only "under the direct supervision" of a licensed dentist. (Missouri Revised Statute 332.093).

z) A hygienist may only practice under supervision of a licensed dentist. (Missouri Revised Statutes 332.311 and Rules, Dept. of Ec. Development, Division 110 Chapter 2, 4 CSR 110-2.130(1)). A physician is authorized to administer fluoride treatments to a child during a visit for an immunization. (Missouri Revised Statute 192.070).

aa) Unsupervised practice in public health settings and expanded functions are both available to hygienists in the state.

bb) "Medicaid shall reimburse any eligible provider who provides" certain services to Medicaid eligible children. (Missouri Revised Statutes 332.311 (2)).

continued…

Table C-1, MS to NH, continued…

MONTANA

a) The Board of Dentistry in Montana is situated in the Department of Labor and Industry, Business Standard Division, Health Care Licensing Bureau. 2 voting hygienists on 10 member Board. (Statutes, Montana Code Annotated 2-15-1842(2)).

b) Licensure by credential defined in regulations. (Rules, Board of Dentistry Sub-chapter 6, 8.16.605A).

c) Scope of practice is defined as educational, therapeutic, prophylactic, or preventive procedures. (Statutes, Montana Code Annotated 37-4-401). Scope of duties detailed in regulation. (Rules, Board of Dentistry Sub-chapter 6, 8.16.602).

e) General supervision of a licensed dentist is required in all settings. Only oral hygiene education may be provided without supervision. (Statutes, Montana Code Annotated 37-4-405).

f,g,h,i,j,k,l) A hygienist may practice in a dental office, in a public or private institution, for a board of health, in a public clinic in a hospital, or extended care facility. (Statutes, Montana Code Annotated 37-4-405.)

s) Regulations prohibit a hygienist from placing restorations. (Rules, Board of Dentistry, Sub-Chapter 6, 8.16.602(3)(e)).

t) Hygienist may be certified by the board to provide local anesthetic under direct supervision of a dentist. (Statutes, Montana Code Annotated 37-4-401).

v) Dental health screenings are permitted and do not constitute the practice of dentistry. (Rules, Board of Dentistry Sub-chapter 6, 8.16.719(2)).

y) Dental auxiliaries performing any function are required to be under the direct supervision of a licensed dentist. (Rules, Board of Dentistry, Sub-Chapter 6, 8.16.707A(3).

x,z) A hygienist may only practice with the permission of a supervising dentist in lcoations enumerated in statute. (Statutes, Montana Code Annotated 37-4-405).

aa) Hygienists may be certified to perform local anesthesia.

A bill is presently being considered in the Montana legislature to expand practice for hygienists in the state to work under "public health supervision". (2003 Montana Legislature, Senate Bill No. 190).

NEBRASKA

a) Dental Board is situated in the Department of Regulation and Licensure. 2 voting hygienists on 10 member Board. (Statutes, Chapter 71, 71-116(2)).

b) Licensure by endorsement is available under certain described conditions. (Rules, Nebraska Administrative Code 172 NAC 56-003.01J).

c) Scope is defined in regulations (Rules, Nebraska Administrative Code 172 NAC 53.002) and in statute (Statutes, Chapter 71, 71-193.17)

e) A licensed hygienist may provide services under general supervision of a dentist. (Statutes, Chapter 71, 71-193.17).

f,g,h,i,j,k,l,m) There are no limitations on settings in which hygiene services may be provided in either statute or regulation.

t) A hygienist may be approved by the Board to administer local anesthesia. (Statutes, Chapter 71, 71-193.18(2). The regulations, however, conflict with this saying that under no circumstances is a licensed hygienist permitted to administer local anesthetics. (Rules, Nebraska Administrative Code 172 NAC 53.002.02(C)). Within the regulations, there is a subsequent section which addresses the requirements for approval of a hygienist to administer local anesthesia. (Rules, Nebraska Administrative Code 172 NAC 57.004 and 57.005).

u) A licensed hygienist may only monitor nitrous oxide. (Statutes, Chapter 71, 71-193.18).

y) Only a licensed dentist may delegate and supervise a dental auxiliary. (Rules, Nebraska Administrative Code 172 NAC 53.003).

v) "Department of Health and Human Services may permit hygienists to perform preliminary charting and screening examinations." (Statutes, Chapter 71, 71-193.15).

aa) Authorization to administer local anesthesia.

NEVADA

a) Board of Dental Examiners of Nevada is under the auspices of the Division of Professional Licensing Boards in Office of the Governor, Executive Branch. 2 voting hygienists on 10 member Board. (Statutes, Nevada Revised Statutes, NRS 631.120 and 631.130)

b) Licensure by credentials detailed in regulation. (Rules, Nevada Administrative Code, NAC 631.03(c)(d)).

c) Hygiene is defined as the performance of educational, preventive and therapeutic treatments . . . in law (Statutes, Nevada Revised Statutes, NRS 631.030) Duties delegable to dental hygienists are listed in regulations. (Rules, Nevada Administrative Code, NAC 631.210).

d) In public settings in which unsupervised hygiene services are provided, no prior authorization of a dentist is required. Such practice requires the approval of the Board of Dental Examiners. (Statutes, Nevada Revised Statutes, NRS 631.287 and Rules, Nevada Administrative Code, NAC631.210(5)). However, a hygienist practicing with an employing dentist in an office may only provide services to a patient that are authorized by the dentist. The dentist must have examined the patient within the previous 18 months. (Rules, Nevada Administrative Code NAC 631.210(1)).

e,g,h,i,j,k,l) Unsupervised practice is permitted to hygienists in health facilities defined in statute as schools and other places approved by the board. (Rules, Nevada Administrative Code, NAC 631.210(5)). Hygiene services may be performed "without authorization of the dentist of the patient who is receiving services" in these public settings. ((Rules, Nevada Administrative Code, NAC 631.210(5)).

f) Hygienists practice under general supervision in dental offices with services authorized by the employing dentist. (Rules, Nevada Administrative Code, NAC 631.210(1)(a) to (m)).

continued…

Table C-1, MS to NH, continued…

g,h,i,j,k,l)) Hygienists may practice in the office of a dentist, in public schools, in state institutions, in hospitals and in other places as permitted by the board. (Statute, Nevada Revised Statutes, NRS 631.310 (1)). Health facilities include hospices, rehabilitation hospitals, facilities which provide mental health services, and nursing homes. (Statutes, Nevada Revised Statues, NRS 449.260).

t,u,aa) A hygienist who meets specific educational requirements may be authorized to administer local anesthesia or nitrous oxide. (Rules, Nevada Administrative Code, NAC 631.210 (3)).

v) Hygienist may "inspect and record condition of patient's teeth" (Rules, Nevada Administrative Code, NAC 631.210 (1) (d)).

z) Can be supervised by a medical provider only in a public health setting (Statutes, Nevada Revised Statutes NRS. 631.313(4)(b)).

aa) Special endorsement to practice public health dental hygiene in schools, community centers, hospitals, nursing homes and other locations. (Statute, Nevada Revised Statutes NRS 631.287).

NEW HAMPSHIRE

a) 2 voting hygienists on 9 member Board. (Statutes, NH Revised, Title XXX, Chapter 317-A:2).

b) Licensure by credential is available if the state in which the hygienist is licensed has similar licensing requirements. (Statutes, NH Revised, Title XXX, Chapter 317-A:24 and Rules, Den 101.10).

c) Scope defined in statutes. (Statutes, NH Revised, Title XXX, Chapter 317-A:21-c (II)).

f) Hygiene services must be authorized by a dentist and the dentist must evaluate and review the procedures with the patient at least once every 12 months. (Rules, Den 302.02)

g,h,i,j,k,l) Public health supervision is available to hygienists practicing in schools, hospitals or institutions. All services provided must be authorized by a dentist who must review records every 12 months. (Rules, Den 101.13)

q) May only place dental sealants if qualified. Services must be provided within 3 months of the dentist's authorization. (Rules, Den 402.01 (8)). Sealant application is considered an expanded duty requiring additional education detailed in regulation. (Rules, Den 302.05(d)).

t) Effective 07/02, statute was changed to permit the administration of local anesthesia. (Statutes, NH Revised,Title XXX , Chapter 317-A:21-c (e) with rules effective 01/03.

v) Hygiene practice includes assessment of the patient and inspection of the oral cavity, etc. (Statutes, NH Revised, Title XXX, Chapter 317-A:21-c(II)(a) and (b)).

x) Statutes specifically prohibit independent practice by dental hygienists. (Statutes, NH Revised, Title XXX, Chapter 317-A:21-d).

y) All duties permitted to dental assistants must be performed under the supervision of a dentist. (Rules, Den 401.01).

z) Dental hygiene services must be provided under supervision of a dentist. (Statutes, NH Revised, Title XXX, Chapter 317-A:21-c (III).

aa) Public health supervision is an expanded function. (Rules, Den 302.02 (d)). Application of sealants, provisional crown and bridge restorations, orthodontic duties, placement and removal of periodontal fibers are all considered to be expanded duties. (Rules, Den 302.05).

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Table C-1, continued
Dental Hygiene Professional Practice Index, 2001
Detailed Criteria, Scoring, and Data Sources for NJ, NM, NY, NC, ND, OH

SCORING CATEGORY	Points	Max Score	*fn*	NJ		NM		NY		NC		ND		OH	
Regulated by:															
Board of Dental Hygiene/Independent Dental Hygiene Committee	4	**4**	*a*			4	*a*								
Board of Dentistry/Dental Examiners with Dental Hygiene Advisory Committee	4														
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member (2+)	3							3	*a*						
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member	2			2	*a*					2	*a*	2	*a*	2	*a*
Board of Dentistry/Dental Examiners with Dental Hygienist as a Non-Voting Member	1														
Other State Boards or Departments	3														
Other Regulatory:															
Licensure by Credential/Endorsement with no new clinical exam required	2	**2**	*b*	2	*b*	2	*b*	2	*b*	2	*b*	2	*b*	2	*b*
Scope of Practice Defined in Law or Regulations	2	**2**	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*	2	*c*
Hygienist not restricted to patient of record of primary employing dentist	2	**2**	*d*	0	*d*	2	*d*	2		0		0	*d*	0	
Total Regulation Score		**10**		**6**		**10**		**9**		**6**		**6**		**6**	
Supervision:				**NJ**		**NM**		**NY**		**NC**		**ND**		**OH**	
Dental Hygiene Practice: Highest level of supervision in state laws and regs:															
Unsupervised	4	**4**	*e*												
Collaborative Practice Arrangements	3					3	*e*								
General	2			2	*e*			2	*e*	2	*e*	2	*e*	2	*e*
Direct	1														
Supervision Requirements In:															
Dentists Office															
Unsupervised	4	**4**	*f*												
Collaborative Practice Arrangements	3														
General	2					2	*f*	2	*f*			2	*f*	2	*f*
Direct	1			1	*f*					1	*f*				
No requirement for prior examination by a dentist	1	**1**		0		1		1		0		0		0	
Long Term Care Facilities - Skilled Nursing Facilities			*g*												
Unsupervised	4	**4**													
Collaborative Practice Arrangements	3					3	*g*								
General	2			2	*g*			2	*g*			2	*g*	1.5	*g*
Direct	1									0					
No requirement for prior examination by a dentist	1	**1**		0		1		1		0		0		0	
Schools-Private or Public															
Unsupervised	4	**4**	*h*												
Collaborative Practice Arrangements	3					3	*h*								
General	2			2	*h*			2	*h*			2	*h*	1.5	*h*
Direct	1									0					
No requirement for prior examination by a dentist	1	**1**		0		1		1		0		0		0	
Public Health Agencies- Federally Qualified Health Centers															
Unsupervised	4	**4**	*i*												
Collaborative Practice Arrangements	3					3	*i*								
General	2			2	*i*			2	*i*	2	*i*	2	*i*	2	*i*
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		1		0		0		0	
Correctional Facilities															
Unsupervised	4	**4**	*j*												
Collaborative Practice Arrangements	3					3	*j*								
General	2			2	*j*			2	*j*	2	*j*	2	*j*	1.5	*j*
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		1		0		0		0	
Public Institutions- Mental Health Facilities															
Unsupervised	4	**4**	*k*												
Collaborative Practice Arrangements	3					3	*k*								
General	2			2	*k*			2	*k*	2	*k*	2	*k*	1.5	*k*
Direct	1														
No requirement for prior examination by a dentist	1	**1**		0		1		1		0		0		0	
Hospitals/Rehabilitation Hospitals or Convalescent settings															
Unsupervised	4	**4**	*l*												
Collaborative Practice Arrangements	3					3	*l*								
General	2			2	*l*			2	*l*			2	*l*	2	*l*
Direct	1									0					
No requirement for prior examination by a dentist	1	**1**		0		1		1		0		0		0	
Home Settings- Personal Residences															
Unsupervised	4	**4**	*m*												
Collaborative Practice Arrangements	3					3	*m*								
General	2							0						0	
Direct	1			0						0		0			
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		0		0	
No Limits on Settings Allowed for Practice by Dental Hygienists	3	**3**	*n*	0		3		0		0		0		0	
Total Supervision Score		**47**		**15**		**37**		**23**		**9**		**16**		**16**	

continued…

Table C-1, NJ to OH, continued…

Dental Hygienist Tasks Allowed in Legislation:				NJ		NM		NY		NC		ND		OH	
Prophylaxis - Physical Presence of Dentist Not Required	2	**2**	*o*	2	*o*	2		2		2	*o*	2		2	
Fluoride Treatment - Physical Presence of Dentist Not Required	2	**2**	*p*	2	*p*	2		2		2	*p*	2	*p*	1.5	
Sealant Application - Physical Presence of Dentist Not Required	2	**2**	*q*	2	*q*	2		2		2	*q*	2	*q*	1.5	*q*
X-Rays - Physical Presence of Dentist Not Required	2	**2**	*r*	2	*r*	2		2		2	*r*	2		1.5	
Place Amalgam Restorations	2	**2**	*s*	2	*s*	0		0	*s*	0	*s*	0		2	*s*
Administer Local Anesthesia	2	**2**	*t*	0		2	*t*	2	*t*	0	*t*	0		0	
Administer Nitrous Oxide	2	**2**	*u*	0	*u*	2	*u*	2	*u*	0	*u*	0	*u*	0	*u*
Hygienist allowed to perform initial screening or assessment	2	**2**	*v*	2	*v*	2	*v*	2	*v*	2	*v*	2	*v*	0	
Hygienist allowed to refer patient	2	**2**	*w*	0		2	*w*	0		0		0		0	
Hygienist may be self employed other than as an independent contractor	2	**2**	*x*	0	*x*	2	*x*	0		0		0		0	*x*
Hygienist may supervise a dental assistant	2	**2**	*y*	0		2	*y*	0		0		0		0	
Hygienist may be supervised by a medical provider	2	**2**	*z*	0		0		0	*z*	0	*z*	0		2	*z*
Expanded functions and/or extended practice available in the state	4	**4**	*aa*	4	*aa*	4	*aa*	4	*aa*	4	*aa*	0		4	*aa*
Total Tasks Score		**28**		**16**		**24**		**18**		**14**		**10**		**16**	

Reimbursement:				NJ		NM		NY		NC		ND		OH	
Medicaid Reimbursement Directly to Hygienists	10	**10**	*bb*	0		10	*bb*	0		0		0		0	
Dental Hygienist may be paid directly for services provided	5	**5**	*cc*	0		5	*cc*	0		0		0		0	
Total Reimbursement Score		**15**		**0**		**15**		**0**		**0**		**0**		**0**	

TOTAL SCORE		**100**		**37**		**86**		**50**		**29**		**32**		**38**	

FOOTNOTES

NEW JERSEY

a) State Board of Registration and Examination in Dentistry is situated in the Division of Professional Boards of the Department of Law and Public Safety, Division of Consumer Affairs. Dental Hygiene regulated under "Dental Auxiliaries Act". 1 voting hygienist on 11 member Board. (Statutes, 45:6-1.

b) A waiver from examination is available to a hygienist who holds a license from another state. (Rules, NJ Admin. Code Title 13, Chapter 30, Subchapter 1A, 13:30-1A.I 8(d)(l)) and Statutes, 45:6-54).

c) Scope defined in statute.(Statutes,45:6-49(d)).

d) Each patient has dentist of record (Rules, NJ Admin. Code, 13:30-8.15).

e) Statute defines "supervision" as "order, control, and full professional responsibility of a dentist whether physically present or not. (Statute, 45:6-49(d)and(f)).

f) Hygienists practice under direct supervision in the office. (Statutes, 45:6-49 (e)).

g,h,i, j,k,l) Hygienists may practice under general supervision in nursing homes, veterans homes, hospitals, prisons, in state or county facilities for the mentally disabled. (Rules, NJ Admin. Code 13:30-1A.2(a)). Or in appropriately equipped schools, licensed clinics or public or private institutions. (Statutes, 45:6-49 (d)).

o,p,q,r) may be provided under general supervision in institutions. (Rules, NJ Admin. Code 13:30-1A.2(c) (1) to (8)).

s) Place amalgam and old foil in a tooth. (Rules, NJ Admin. Code 13:30-1A.2(b)(14).

u) Hygienist may only assist dentist in administration of nitrous oxide. (Rules, NJ Admin. Code 13:30-1A.2(29)).

v) "surveying intra and extra oral structures, noting deformities, defects, and abnormalities." (Statutes, 45:6-49(d)

x) Statutes are explicit in prohibiting hygienists from establishing an independent practice to provide dental hygiene services. (Statutes, 45:6-64)

aa) Dental hygienist permitted to practice in institutions under general supervision. (Rules, NJ Admin. Code 13:30-1A.2(c)). Board empowered to prescribe expanded functions in statute. (Statutes, 45:6-49(g)).

NEW MEXICO

a) 9 member Board of Dental Health Care with two dental hygiene members. (Statutes, 61-5A-8.A) 7 Member Dental Hygiene Committee (Statute 61-5A-9) which regulates the examination and licensure of dental hygienists. (Statute. 61-5A-10 (1)). Recommendations of the committee must be ratified by the board unless there is a justifiable reason which prevents the board from doing so. (Statutes, 61-5A-11).

b) Licensure by endorsement available to hygienists. (Statutes, 61-5A-13 (C)

c) Scope of practice is defined as the science of the prevention and treatment of oral disease through the provision of educational, assessment, preventive, clinical and other therapeutic services . . " (Statutes, 61-5A-4 (B) and Rules, 16.16.5.17.7(C)).

d) Collaborating, consulting dentist must agree to be or continue to be dentist of record for patients of a collaborating dental hygienist. (Rules, 16.5.17.7(D). Hygienist is prohibited from performing any work if the patient does not have an active consulting dentist. (Rules, 16.5.17.11(H).

e) Special certification for collaborative practice is available to dental hygienists under standard protocols and with written or verbal prescriptive orders without general supervision in a consulting working relationship with a dentist. (Rules, 16.5.17.7(C)).

f) Dental hygienists practice under general supervision in the office of dentists. (Statutes, 61-5A-4 (B)).

g,h,i,j,k,l,m) Collaborative practice hygienists or dental hygienists may practice in these settings under supervision or without supervision as permitted in collaborative practice agreements. (Rules, 15.5.29 (10)).

t) A dental hygienist who meets criteria of the Board may administer local anesthetic under indirect supervision. (Statutes, 61-5A-4(C).

u) The "prescribed administration" of nitrous oxide is permitted to dental hygienists under the indirect supervision of a dentist. (Rules 16.5.15.7(F)).

continued…

Table C-1, NJ to OH, continued…

v)Preliminary assessment of periodontal conditions. (Rules,16.5.29 (10)).

w) A collaborative practice dental hygienists must refer each patient for an exam by a dentist once every twelve months. (Rules, 16.5.17.11(A)).

x) A collaborative practice dental hygienist may own a dental hygiene practice. (Rules, 16.5.17.12(C)).

y) A collaborative practice dh may work with and supervise dental assistants.(Rules 16.5.17.14).

aa) Collaborative practice available to hygienists. Under certain circumstances collaborative practice hygienists may dispense non-controlled substances on prescription from the consulting dentist. (Rules, 16.5.17.12 (a)). Local anesthesia is considered an expanded function which requires certification. (Rules, 16.5.28 (8)).

bb) Collaborative practice dental hygienists are listed as eligible to participate as Medicaid oral health providers. (Rules, 8.310.I7.10 (A)).

NEW YORK

a) State Board of Dentistry under the auspices of the Department of Education, Office of the Professions. Board is composed of not less than eighteen members with a minimum of 3 hygienists. Member Hygienist may act as chair of the Board, sit on panels dealing with discipline issues and chair committees. (Statutes, Article 133, Education Law, Section 6603).

b) Licensure by endorsement in regulations. (Rules, Commissioner of Education, Part 61.8).

c) Scope of Practice defined in statute. (Statutes, Article 133, Education Law, Section 6606).

e) Services by a hygienist must be provided under the supervision of a dentist. (Statutes, Article 133 Education Law, Section 6606). The level of supervision, either general or personal, is defined in regulation. (Rules, Commissioner of Education, Part 61.9).

f,g,h,i,j,k,l) Services may be provided in a dental office, an appropriately equipped school, or in a public institution. (Statutes, Article 133, Education Law, Part 6606).

s) hygienists may place and remove temporary restorations under the personal supervision of a dentist . (Rules, Commissioner of Education, Part 61.9).

t,u,aa) Certification for hygienists for the privilege to administer nitrous oxide and local anesthesia passed in the legislature 11/01 with rules to be effective 5/03. (Statutes, Article 133, Education Law, Section 6605-b and 6606.).

v) "Taking medical history. . . charting caries,. . ." (Rules, Commissioner of Education, Part 61.9(8) and (9)).

z)"The practice of dental hygiene shall be performed under the supervision of a licensed dentist." (Rules, Commissioner of Education, Part 61.9).

NORTH CAROLINA

a) Board of Dental Examiners is under the auspices of the Governor of the state. 1 hygienist with limited voting rights on 8 member Board. (Statutes, Chapter 90, Article 2, 90-22 (b)). Hygienists are regulated in Dental Hygiene Act.

b) Licensure by credential or endorsement for dental hygiene effective in January 2003. (Statute, Chapter 90, Article 16, 90-224.1, Senate bill #861).

c) Scope of practice defined in statute (Statutes, Chapter 90, Article 16, 90-2210 and regulations (Rules, Subchapter 16G.0101).

e) Direct control and supervision of a dentist (Rules, Subchapter 16G.0101) except in public health settings (Rules, Subchapter 16W.0100.) where features of general supervision apply. Services must be supplied to the patient within 60 days of the dentist's evaluation.

f) Licensed dentist must be physically present and all acts are performed "pursuant to the dentist's order, control, and approval." (Statutes, Chapter 90, Article 16, 90-221(f)).

i,j,k) Only those who qualify as public health hygienists may practice in these locations.(Rules, Subchapter 16W.0101).

o,p,r) These services may only be provided under general supervision by a qualified public health hygienist.(Rules, Subchapter 16W.0101). All other hygienists must work under direct supervision when providing these services. (Statutes, Chapter 90, Article 16, 90-221(f)).

q) Sealants may only be provided in an office setting when a dentist has examined the patient and prescribed the service. (Rules, Subchapter 16G.0101) Public health hygienists and registered nurses who have completed a certification course may apply them under general supervision in public health settings.

s) Hygienist can place and remove temporary restorations. (Rules Subchapter 16G (14)).

t,u) The administration of any anesthetic by any route is prohibited to dental hygienists. (Rules, Subchapter 16G.0103 (13)).

v) "Preparation of diagnostic aids and written records or oral condition for interpretation by the dentist." (Statutes, Chapter 90, Article 16, 90-221(a)).

z) "A dental hygienist may practice only under the supervision of one or more licensed dentists." (Statutes, Chapter 90, Article 16, 90-233 (a)). A hygienist who has received education in nitrous oxide "may aid and assist" a dentist in the administration of nitrous. (Statutes, Chapter 90, Article 16, 90-29 (13)).

aa) Expanded functions available to public health hygienists who qualify by experience and education. (Rules, Subchapter 16W.0100).

NORTH DAKOTA

a) The State Board of Dental Examiners is under the auspices of the Office of the Governor Division of Boards and Commissions. 1 hygienist on 7 member Board. (Statutes, ND Century Code, Chapter 43-28-03). Hygienists are regulated in a separate Dental Hygiene Act (Chapter 43-20).

b) Licensure by credential permitted in statute. (Statutes, ND Century Code, Chapter 43-20-07).

c) Scope is defined in statute (Statutes, ND Century Code, Chapter 43-20-12) and in regulations (Rules, Article 20-04001-01).

d) In order for general supervision to be operative at provision of services, the patient must be patient of record. (Statutes, ND Century Code, Chapter 43-20-03(1)).

continued…

Table C-1, NJ to OH, continued…

e) Hygiene services may be provided under direct, modified general or general supervision. The latter is permitted under conditions defined in statute which include the provision that the patient has been seen by the dentist within the prior 12 months. (Statutes, ND Century Code, Chapter 43-20-03).

f,g,h,i,j,k,l) Hygienists are permitted to provide services in the office of the supervising dentist, in a public health setting, a hospital, a long term care facility, or in an institutional setting. (Statutes, ND Century Code, Chapter 40-23-03.

p,q) Qualified dental assistants are also allowed to apply fluoride varnishes and pit and fissure sealants. (Rules, Article 20-03-01-01(3) and (29)).

u) Both the hygienist (Rules, Article 20-04-01-01(16)) and the assistant (Rules, Article 20-03-01-01(16)) may monitor nitrous oxide after administration by a dentist.

v) "Provide oral hygiene treatment planning." (Rules, Article 20-04-01-01(30)).

OHIO

a) Members of the Ohio State Dental Board are appointed by the Governor. 1 voting hygienist on 7 member Board. (Statute, Ohio Revised Code 4715.02).

b) Reciprocity in statute. (Statutes, Ohio Revised Code 4715.27).

c) Scope of practice is defined in law (Statutes, Ohio Revised Code 4215.23) and in regulation (Rules, Ohio Administrative Code, 4715-3-01(N)).

e) DH may provide services under general supervision for no more than 15 consecutive days if qualified by education and experience.(Statute, Ohio Revised Code, 4715.22 (C)). The dentist must have examined the patient within the previous seven months and evaluated the medical history of the patient within one year prior to the provision of services. (Statute, Ohio Revised Code, 4715.22 (C)(8) and Rules, Ohio Administrative Code 4715-9-05 (6) and (8)).

f,g,h,i,j,k,l) A hygienist may provide services in a dental office, a public or private school, a health care facility (including hospitals and "homes"), a dispensary or public institution. (Statutes, Ohio Revised Code 4715.22 (B)).

q) Sealants may be provided "under supervision of a licensed dentist" (Rules, Ohio Administrative Code, 4715-9-01(B)).

s) Placement of amalgam restorative material is considered an advanced remediable task which may be performed by expanded function auxiliaries. (Rules, Ohio Administrative Code, 4715-3-01(N) (2) (a)).

u) With appropriate education, dental hygienist may monitor nitrous oxide after administration by a dentist. (Rules, Ohio Administrative Code 4715-0-01(F)).

x) A hygienist is prohibited from practicing in a manner independent from the practice of the supervising dentist or from establishing an office primarily devoted to provision of hygiene services. (Rules, Ohio Administrative Code, 4715.22(E)).

z) When services are provided in a health care facility, a hygienist may provide services in absence of the supervising dentist if a doctor or RN is present in the facility. (Statute, Ohio Revised Code 4715.22(9))

aa) A dental hygienist may perform advanced "remediable" services subject to the regulations governing expanded function dental auxiliaries. (Rules, Ohio Administrative Code, 4715-9-01(E)).

New Jersey
http://www.state.nj.us/lps/ca/dentistry/dentresta.pdf
New Mexico
http://www.rld.state.nm.us/b&c/dental/rulesnlaw/rulesnlaw.htm
http://www.nmcpr.state.nm.us/nmac/cgi-bin/hse/homepagesearchengine.exe
New York
http://assembly.state.ny.us/leg/?cl=30&a=127
http://www.op.nysed.gov/dhygiene.htm
North Carolina
http://www.ncdentalboard.org/rules_and_laws.htm
North Dakota
http://www.nddentalboard.org/
Ohio
http://www.state.oh.us/den/laws.htm

Table C-1, continued
Dental Hygiene Professional Practice Index, 2001
Detailed Criteria, Scoring, and Data Sources for OK, OR, PA, RI, SC, SD

SCORING CATEGORY	Points	Max Score	*fn*	OK		OR		PA		RI		SC		SD	
Regulated by:															
Board of Dental Hygiene/Independent Dental Hygiene Committee	4	**4**	*a*												
Board of Dentistry/Dental Examiners with Dental Hygiene Advisory Committee	4					4	*a*								
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member (2+)	3									3	*a*				
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member	2			2	*a*			2	*a*			2	*a*	2	*a*
Board of Dentistry/Dental Examiners with Dental Hygienist as a Non-Voting Member	1														
Other State Boards or Departments	3														
Other Regulatory:															
Licensure by Credential/Endorsement with no new clinical exam required	2	**2**	*b*	2	*b*	2		2	*b*	2	*b*	2	*b*	2	*b*
Scope of Practice Defined in Law or Regulations	2	**2**	*c*	2	*c*	2	*c*	2	*c*	2		2		2	*c*
Hygienist not restricted to patient of record of primary employing dentist	2	**2**	*d*	0	*d*	2		2	*d*	0		2		0	*d*
Total Regulation Score		**10**		**6**		**10**		**8**		**7**		**8**		**6**	
Supervision:				**OK**		**OR**		**PA**		**RI**		**SC**		**SD**	
Dental Hygiene Practice: Highest level of supervision in state laws and regs:															
Unsupervised	4	**4**	*e*			4	*e*	4	*e*						
Collaborative Practice Arrangements	3														
General	2			2	*e*					2	*e*	2		2	*e*
Direct	1														
Supervision Requirements In:															
Dentists Office															
Unsupervised	4	**4**	*f*												
Collaborative Practice Arrangements	3														
General	2			2	*f*	2		2	*f*	2	*f*			2	
Direct	1											1	*f*		
No requirement for prior examination by a dentist	1	**1**		0		1	*f*	0		0		0		0	*f*
Long Term Care Facilities - Skilled Nursing Facilities															
Unsupervised	4	**4**	*g*			4									
Collaborative Practice Arrangements	3														
General	2							2	*g*	2	*g*	2	*g*	2	
Direct	1			0											
No requirement for prior examination by a dentist	1	**1**		0		1	*g*	0		0		1		0	*g*
Schools-Private or Public															
Unsupervised	4	**4**	*h*			4	*h*								
Collaborative Practice Arrangements	3														
General	2							2	*h*	2	*h*	2	*h*	2	
Direct	1			1	*h*										
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		0	*h*
Public Health Agencies- Federally Qualified Health Centers															
Unsupervised	4	**4**	*i*												
Collaborative Practice Arrangements	3														
General	2					2		2	*i*	2	*i*	2	*i*	2	
Direct	1			1											
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		0	*i*
Correctional Facilities															
Unsupervised	4	**4**	*j*			4	*j*								
Collaborative Practice Arrangements	3														
General	2							2	*j*	2		2	*j*	2	
Direct	1			0											
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		0	*j*
Public Institutions- Mental Health Facilities															
Unsupervised	4	**4**	*k*			4									
Collaborative Practice Arrangements	3														
General	2							2	*k*	2		2	*k*	2	
Direct	1			0											
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		1		0	*k*
Hospitals/Rehabilitation Hospitals or Convalescent settings															
Unsupervised	4	**4**	*l*												
Collaborative Practice Arrangements	3														
General	2					2	*l*	2	*l*	2		2	*l*	2	
Direct	1			1											
No requirement for prior examination by a dentist	1	**1**		0	*l*	1		0		0		1		0	*l*
Home Settings- Personal Residences															
Unsupervised	4	**4**	*m*			4									
Collaborative Practice Arrangements	3														
General	2						*m*	0							
Direct	1			0						0		0		0	
No requirement for prior examination by a dentist	1	**1**		0		1		0		0		0		0	
No Limits on Settings Allowed for Practice by Dental Hygienists	3	**3**	*n*	0		3		0		0		0		0	
Total Supervision Score		**47**		**7**		**41**		**18**		**16**		**21**		**16**	

continued…

Table C-1, OK to SD, continued…

Dental Hygienist Tasks Allowed in Legislation:				OK		OR		PA		RI		SC		SD	
Prophylaxis - Physical Presence of Dentist Not Required	2	**2**	*o*	2		2		2		2	*o*	2	*o*	2	
Fluoride Treatment - Physical Presence of Dentist Not Required	2	**2**	*p*	2		2		2		2		2	*p*	2	
Sealant Application - Physical Presence of Dentist Not Required	2	**2**	*q*	2		2		2		2		2	*q*	2	
X-Rays - Physical Presence of Dentist Not Required	2	**2**	*r*	2		2		0	*r*	2	*r*	0		2	
Place Amalgam Restorations	2	**2**	*s*	0		0		2	*s*	0		0		0	
Administer Local Anesthesia	2	**2**	*t*	2	*t*	2	*t*	0	*t*	0	*t*	2	*t*	2	*t*
Administer Nitrous Oxide	2	**2**	*u*	2	*u*	2	*u*	0		0	*u*	0	*u*	2	*u*
Hygienist allowed to perform initial screening or assessment	2	**2**	*v*	2	*v*	2		2	*v*	0		2		2	*v*
Hygienist allowed to refer patient	2	**2**	*w*	0		2		2		2	*w*	2		0	
Hygienist may be self employed other than as independent contractor	2	**2**	*x*	0	*x*	2	*x*	0	*x*	0		0		0	
Hygienist may supervise a dental assistant	2	**2**	*y*	0		0		0		0		0		2	*y*
Hygienist may be supervised by a medical provider	2	**2**	*z*	0		0		0		0		0		0	
Expanded functions and/or extended practice available in the state	4	**4**	*aa*	4	*aa*	4	*aa*	4	*aa*	0		4	*aa*	4	*aa*
Total Tasks Score		**28**		**18**		**22**		**16**		**10**		**16**		**20**	

Reimbursement:				OK		OR		PA		RI		SC		SD	
Medicaid Reimbursement Directly to Hygienists	10	**10**	*bb*	0		10		0		0		0		0	
Dental Hygienist may be paid directly for services provided	5	**5**	*cc*	0		5	*cc*	0		0		0		0	
Total Reimbursement Score		**15**		**0**		**15**		**0**		**0**		**0**		**0**	

TOTAL SCORE		**100**		**31**		**88**		**42**		**33**		**45**		**42**	

FOOTNOTES

OKLAHOMA

a) 1 voting hygienist on 11 member Board. (Statutes 59.328.7)

b) Endorsement (Statute 59.328.34)

c) Scope is partially defined in statutes and fully defined in rules. (Statute 59-328.34 and Rules 195.15-1-6(b)).

d,f,h,l) Patient must have been seen within prior 13 months. (Rules 195.15-1-1.1)

e) The level of supervision may be direct, indirect or general at the discretion of the supervising dentist,. If the service is provided under general supervision patient must have been examined by the dentist within 13 months prior. (Rules 195.15-1-6.1 (c) and 195.15-1-1.1)

h) In schools hygienists may only provide an examination and teach oral hygiene. (Statutes 59-328.34)

t,u,aa) Administration of nitrous and local are expanded duties of dental hygienists. (Rules 195.15-1-6.1(1) and (2))

v) Dental hygiene assessment and treatment planning. (Rules 195.15-1-6 (b) (4)).

x) "Dental hygienist shall not own or operate an independent practice of dental hygiene." (Rules 195.15-1-6 (e)).

OREGON

a) 2 voting hygiene members on 9 member Board. Dental Hygiene Committee appointed by Board. (Statutes ORS 679.230 (w)).

c) Scope of practice defined (Statutes ORS 679.010(4)).

e) Unsupervised practice limited to hygienist with limited access permit who treats aged, infirm or disabled patients without traditional access. (Statutes ORS 680.205)

f) "A supervising dentist, without first examining a new patient" may authorize certain services by a hygienist. (Rules (818-035-0020).

g) Limited access dental hygienists must refer each patient to a dentist once every calendar year. (Statutes ORS 680.205 (2))

h,j) Expansion of the definition of Limited Access Permit sites occurred in 2001 to include schools and correctional facilities. (Statutes ORS 680.205(a)).

l,m) a dental hygienist may provide services under general supervision in any place where limited access patients are located. (Statutes ORS 680.150 (3)). Services in certain settings may be provided without supervision.

t,u) Upon completion of appropriate courses, a dental hygienist my administer local and/or nitrous oxide. (Rules, 818-035-0040).

x) Limited access hygienists

aa) Limited access permit available to hygienist with 5000 hours of clinical practice and meets other requirements.(Statute ORS 680.200 (1)).

cc) A limited access dental hygienist may be paid directly for services provided.

PENNSYLVANIA

a) Pennsylvania State Board of Dentistry is situated in the Bureau of Professional and Occupational Affairs which is regulated by the Pennsylvania Department of State. 1 voting hygienist on 13 member Board. (Statutes, Title 63, Chapter 4, 121.1 (a)).

b) Board will grant license to hygienist who left a state that recognizes Penns. license. (Rules PA Code, 33.107).

c) Scope defined. (Rules PA Code 33.205 (a) (1) to (6)).

d) Oral health education and screening may be provided in any setting without supervision of dentist. (Rules PA Code 33.205 (4)).

e) Oral health education and screening may be provided in any setting without the supervision of a dentist. (Rules PA Code 33.205(4)).

continued…

Table C-1, OK to SD, continued…

f,g,i,j,k,l) Hygienist works under varying levels of supervision depending on ASA class of patient. (Rules PA Code 33.205 (d)).

h) Dental hygienist can practice in schools under supervision of a dentist. Hygienist may also be employed by a school district. (Statutes, Title 24, Chapter 1, 14-401 (a), 14-403 (b)).Schools are reimbursed for hygiene services performed on school premises. (Statutes, Title 24, Chapter 1, 25-2505.1)

r) "The dentist shall be on premises when a radiological procedure is performed" (Rules PA Code 33.302).

s) Hygienists who qualify as expanded function dental assistants may place amalgam. (Rules PA Code 33.205 (a)).

t) Statutes prohibit hygienists from administering local anesthesia. (Statute Title 63, 121 and Rules PA Code 33.205 (a).

v) "Evaluation of the patient to collect data to identify dental care needs" (Rules PA Code 33.205).

x) Hygienist prohibited from having an office for hygiene services independent from office where supervision is provided. (Rules PA Code 33.205 (b)).

aa) DH may apply for certification as expanded function dental assistant to place restorations under direct supervision. (Rules PA Code 33.107 and 33.205(a)).

RHODE ISLAND

a) Rhode Island Sate Board of Examiners in Dentistry is situated in the Rhode Island Department of Health through Health Professions Regulation. 2 voting hygienists on 13 member Board. (Statutes, Title 5, Chapter 31.1-2, also DH Examining Committee (Statutes, Title 5, Chapter 31.1-3)

b) RI Rules 10.1.1 (c) (i) and (ii)

e,f,g,h) RI Rules, Part IV, Section 13.1.1., Statutes, Title 5, Chapter 31.1-1 (4)

i) Hygienist may be employed by dentist, public institution or school. Rules, Part 4, 12.1 and Statutes, Title 5, Chapter 31.1-33)

o) Rules, Part IV, 13.1.1

r) With appropriate education. (Rules, Part IV, Rules 14.1 (13)

t,u) Prohibited (RI Rules, Part IV, 14.1 (4) and (6))

w) Hygienist must refer patient as needed when examining school children, but hygienist is prohibited from referring to employing dentist, unless it is a dental emergency. (Statutes, Title 16, Chapter 21-9 ©)

SOUTH CAROLINA

a) 1 voting hygienist with limited voting privileges on 9 member Board. (SC Code of Laws, Title 40, Chapter 15-20).

f) "General supervision is not applicable to practice of dental hygiene in a private dental office." (SC Code of Laws, 40-15-85 (B)).

g,h,i,j,k,l) Hygienist allowed to provide services in hospitals, nursing homes, long term care facilities, clinics, other health facilities, hospices, charitable clinics under general supervision. (SC Code of Laws, Title 40, Chapter 15-80 (B), (C), (D) and (G) and 40-15-85 (B)).

h,p,q) In school settings may apply topical fluoride and sealants and provide oral prophylaxis under general supervision, also requires written permission of parents. (SC Code of Laws, Title 40, Chapter 15-80(B)).

g) Hygienist may provide hygiene services without prior authorization (SC Code of Laws, 40-15-80(D)).

o,p,q) Physical presence of dentist not required in public health settings (SC Code of Laws, 40-15-85(B)).

t) With certification may administer local anesthesia under direct supervision.(SC Code of Laws, 40-15-80(E)).

u) May only monitor nitrous oxide. (SC Code of Laws, 40-15-105).

aa) Public health dental hygiene and local anesthesia. (SC Code of Laws, 4015-80(E)).

SOUTH DAKOTA

a) 1 voting hygienist on 7 member Board (SD Codified Laws 36-6A-1).

b) SD Codified Laws 36-6-44 (2), (8), and 36-6A-47.

c) Scope defined. (SD Codified Law 36-6a-24(7) and 36-6A-31(7)).

d,e) All services performed under general supervision on patient of record. (SD Codified Laws 36-6A-40).

f, g, h, i, j, k, l) A dentist shall have completed the last evaluation of a patient within 6 months of delegation of procedures.(SD Codified Laws 36-6A-24(15)).

t,u, aa) With appropriate education under direct supervision of dentist (Rules, Article 20, Chapter 43:04:06).

v) Regulations state hygienist can perform preliminary screening of oral cavity (Rules, Article 20, Chapter 43:04:04).

y) Hygienists can supervise dental assistants under personal supervision. (Rules, Article 20, Chapter 43:08:10).

continued…

Table C-1, OK to SD, continued…

SOURCES

Oklahoma
http://oklegal.onenet.net/ok-legl-cgi/get_statute?99/Title.59
http://www.dentist.state.ok.us/RULES.pdf
Oregon
www.leg.state.or.us/ors/679.html
http://www.leg.state.or.us/ors/680.html
http://www.oregondentistry.org/
Pennsylvania
http://members.aol.com/StatutesP4/63.Cp.4.html
http://www.pacode.com/index.html
Rhode Island
http://www.rilin.state.ri.us/Statutes/Statutes.html
http://www.rules.state.ri.us/dar/regdocs/released/pdf/DOH/DOH_175_.pdf
South Carolina
http://www.lpitr.state.sc.us/code/t40c015.htm
http://www.lpitr.state.sc.us/coderegs/39.htm
South Dakota
http://legis.state.sd.us/statutes/Index.cfm?FuseAction=DisplayStatute&FindType=Statute&txtStatute=36-6A
http://legis.state.sd.us/rules/rules/2043.htm

Table C-1, continued
Dental Hygiene Professional Practice Index, 2001
Detailed Criteria, Scoring, and Data Sources for TN, TX, UT, VT, VA, WA

SCORING CATEGORY	Points	Max Score	*fn*	TN		TX		UT		VT		VA		WA	
Regulated by:															
Board of Dental Hygiene/Independent Dental Hygiene Committee	4	**4**	*a*											4	*a*
Board of Dentistry/Dental Examiners with Dental Hygiene Advisory Committee	4					4	*a*								
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member (2+)	3			3	*a*			3	*a*	3	*a*	3	*a*		
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member	2														
Board of Dentistry/Dental Examiners with Dental Hygienist as a Non-Voting Member	1														
Other State Boards or Departments	3														
Other Regulatory:															
Licensure by Credential/Endorsement with no new clinical exam required	2	**2**	*b*	2	*b*	2	*b*	2		2	*b*	2		2	*b*
Scope of Practice Defined in Law or Regulations	2	**2**	*c*	2		2		2		2	*c*	2	*c*	2	*c*
Hygienist not restricted to patient of record of primary employing dentist	2	**2**	*d*	0	*d*	0	*d*	0	*d*	2		0		2	
Total Regulation Score		**10**		**7**		**8**		**7**		**9**		**7**		**10**	
Supervision:				**TN**		**TX**		**UT**		**VT**		**VA**		**WA**	
Dental Hygiene Practice: Highest level of supervision in state laws and regs:															
Unsupervised	4	**4**	*e*											4	*e*
Collaborative Practice Arrangements	3														
General	2			2	*e*	2	*e*	2	*e*	2	*e*				
Direct	1											1	*e*		
Supervision Requirements In:															
Dentists Office															
Unsupervised	4	**4**	*f*												
Collaborative Practice Arrangements	3														
General	2			2	*f*	2	*f*	2		2				2	
Direct	1											1	*f*		
No requirement for prior examination by a dentist	1	**1**		0		0		0	*f*	0		0		1	
Long Term Care Facilities - Skilled Nursing Facilities															
Unsupervised	4	**4**	*g*											4	
Collaborative Practice Arrangements	3														
General	2			2	*g*	2		2		2					
Direct	1											1	*g*		
No requirement for prior examination by a dentist	1	**1**		0		1	*g*	0		0		0		1	
Schools-Private or Public															
Unsupervised	4	**4**	*h*											4	*h*
Collaborative Practice Arrangements	3														
General	2			2		2		2		2					
Direct	1											1	*h*		
No requirement for prior examination by a dentist	1	**1**		0		1	*h*	0		0		0		1	
Public Health Agencies- Federally Qualified Health Centers															
Unsupervised	4	**4**	*i*											4	
Collaborative Practice Arrangements	3														
General	2			2		2		2		2					
Direct	1											1	*i*		
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Correctional Facilities															
Unsupervised	4	**4**	*j*											4	
Collaborative Practice Arrangements	3														
General	2			2		2		2		2					
Direct	1											1	*j*		
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Public Institutions- Mental Health Facilities															
Unsupervised	4	**4**	*k*											4	
Collaborative Practice Arrangements	3														
General	2			2		2		2		2					
Direct	1											1	*k*		
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Hospitals/Rehabilitation Hospitals or Covalescent settings															
Unsupervised	4	**4**	*l*											4	
Collaborative Practice Arrangements	3														
General	2					2		2		2					
Direct	1			0								1	*l*		
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
Home Settings- Personal Residences															
Unsupervised	4	**4**	*m*											4	
Collaborative Practice Arrangements	3														
General	2					2		2							
Direct	1			0						0		0			
No requirement for prior examination by a dentist	1	**1**		0		0		0		0		0		1	
No Limits on Settings Allowed for Practice by Dental Hygienists	3	**3**	*n*	0		3		3		0		0		3	
Total Supervision Score		**47**		**14**		**23**		**21**		**16**		**8**		**45**	

continued…

Table C-1, TN to WA, continued…

Dental Hygienist Tasks Allowed in Legislation:				TN		TX		UT		VT		VA		WA	
Prophylaxis - Physical Presence of Dentist Not Required	2	**2**	*o*	2		2		2		2		0		2	
Fluoride Treatment - Physical Presence of Dentist Not Required	2	**2**	*p*	2		2		2		2		0		2	
Sealant Application - Physical Presence of Dentist Not Required	2	**2**	*q*	2		2		2		2		0		2	
X-Rays - Physical Presence of Dentist Not Required	2	**2**	*r*	2		2		2		2		0		2	
Place Amalgam Restorations	2	**2**	*s*	2	*s*	0		0		0		0		2	*s*
Administer Local Anesthesia	2	**2**	*t*	0	*t*	0		1.5	*t*	2	*t*	0		2	
Administer Nitrous Oxide	2	**2**	*u*	2	*u*	0	*v*	1.5	*u*	0	*u*	0		2	*t*
Hygienist allowed to perform initial screening or assessment	2	**2**	*v*	2	*v*	0		2	*v*	0		2		2	*u*
Hygienist allowed to refer patient	2	**2**	*w*	0		2	*w*	0		0		0		2	*w*
Hygienist may be self employed other than as an independent contractor	2	**2**	*x*	0	*x*	0	*x*	0		0		0		2	
Hygienist may supervise a dental assistant	2	**2**	*y*	0		0		2	*y*	0		0		2	
Hygienist may be supervised by a medical provider	2	**2**	*z*	0		0		0		0	*z*	0		0	
Expanded functions and/or extended practice available in the state	4	**4**	*aa*	4	*aa*	0		4	*aa*	4	*aa*	0		4	*aa*
Total Tasks Score		**28**		**18**		**10**		**20**		**14**		**2**		**26**	

Reimbursement:				TN		TX		UT		VT		VA		WA	
Medicaid Reimbursement Directly to Hygienists	10	**10**	*bb*	0		0		0		0		0		10	
Dental Hygienist may be paid directly for services provided	5	**5**	*cc*	0		0		5	*cc*	0		0		5	
Total Reimbursement Score		**15**		**0**		**0**		**5**		**0**		**0**		**15**	

TOTAL SCORE		**100**		**39**		**41**		**53**		**39**		**17**		**96**	

FOOTNOTES

TENNESSEE

a) Tennessee Board of Dental Examiners has 2 voting hygienists on a 10 member Board. (Statutes, Tennessee Code, Title 63, Chapter 5-102).

b) Tennessee Code, Title 63, Chapter 5-114 (d)(1) and Rules 0460-3-.02

d,e) The supervising dentist must examine the patient not more than seven months prior to the date the dental hygienist provides the dental hygiene services. The dental hygienist must provide dental hygiene services to the patient in accordance with a written treatment plan developed by the supervising dentist for the patient. (Statutes, Tennessee Code, Title 63, Chapter 5-108 (b) (3)

f) Hygienist may work under general supervision for not more than 15 consecutive days. (Statute, Tennessee Code, Title 63, Chapter 5-108(b)).

g) Special provisions for long-term care facilities. (Rules 0460-3-.09 (2)).

s) "placement of amalgam in prepared cavities." (Rules 0460-3-.09 (t)).

t) May not administer local anesthesia. (Statutes, Tennessee Code, Title 63, Chapter 5-108 (c) (3)

u) May administer nitrous oxide if directed by a dentist. (Statutes, Tennessee Code, Title 63, Chpt 5-108 (3)) (Effective 2002, Rules effective 3003).

v) "Perform clinical exam of teeth and surrounding tissue for diagnosis by a dentist." (Rules 0460-3-.09)

x) " A hygienist may only practice under the employment and direct supervision of licensed dentist." (Rules 0460-3-.09)

a) Rules 0460-1-.01(4).

TEXAS

a) Dental Hygiene Advisory Committee includes 3 dental hygienists appointed by the governor. (Texas Statute, Chapter 262.052 (1). 2 voting dental Hygienists on an 18 member Board of Dental Examiners. (Texas Statute, Chapter 252.001.(a) (1) and (2)).

b) License by endorsement available.(Texas Statute Sec. 256.101). Texas also permits alternative training programs for dental hygienists. (Texas Statute 256.0531

d) "The dentist must have and maintain a doctor-patient relationship with any patient to whom a hygienist under his supervision provides services." (Rules 115.1(5)

e) Statutes 262.151 (c)

f) General supervision in dentist office restricted to patients that had dental exam within previous 12 months. (Texas Statutes, Chapter 262.151 (a)(2)(B)).

g,h) With experience, a dental hygienist may provide dental hygiene services to a patient in a nursing facility or school without prior exam by a dentist This provision permits only one set of services until the patient is seen by a dentist. (Texas Statutes, Chapter 262.1515 ((2) (A) and (B)).

v) Hygienist allowed to ***monitor*** **nitrous oxide. (Rules, 115.2 (2)).**

w) Hygienists who treat patients in nursing homes and schools are required to refer the patient to a dentist once services are provided by the hygienist.(Texas Statutes, Chapter 262.1515(b)).

x) Hygienists are permitted to provide services in office or in alternate settings. Must be employed by a supervising dentist who is licensed or may be employed by school, hospital, etc. (Rules 115.3 and 115.2).

UTAH

a) 2 voting dental hygienists on 9 member Board. (Statute, UT Code, 58-69-201 (1)

d) Practice "upon patients of record" (Statute, Utah Code, 58-69-801 (3)(c)(v)(B)).

e) Unlawful to practice unsupervised. (Statute, Utah Code, 58-69-501 (2).

f) Dentist's exam must have occurred within the 6 months prior to provision of dental hygiene service.(Statutes, Utah Code, 58-69-801(c)(v)(B)).

continued…

Table C-1, TN to WA, continued…

t,u) Indirect supervision required to administer local anesthesia and nitrous. Dentist must be present in facility and available for face to face communication. (Statute, Utah Code 58-69-801(3)(a) and 58-69-102 (5)

v) "Perform preliminary clinical examination" of teeth and gums. (Statute, Utah Code, 58-69-102 (7)(a) (i) and "assess dental hygiene status" 58-69-102(7)(a) (iv)).

y) Direct dental assistant when supervising dentist is not on the premises. (Statutes, Utah Code 58-69-102 (7) (d)

aa)administration of local anesthesia and nitrous oxide under indirect supervision is an extended function for hygienists in basic scope of practice within the state. (Statutes, Utah Code, 58-69-102 (7)(b)(i)(ii)).

cc) Insurance law includes dental hygienists as eligible health care providers.(Statutes, Utah Code 78-14-3 (6) and (11)).

VERMONT

a) Vermont Board of Dental Examiners is situated in the Office of Professional Regulation. 2 voting dental hygienists on 9 member Board. (Rules Part 1.3)

b) Qualification for licensure by endorsement in rules. (Rules, Part 2.7B).

c) Duties for which qualified by education (Statutes, Title 26, Chapter 13.854).

e)In public or private schools or public or private institutions. (Statutes, Title 26, Chapter 13.854).

t) Statutes provide for special endorsement to administer local anesthesia in office of a licensed dentist (Statutes, Title 26, Chapter 13.854).Qualifying for this special endorsement is addressed in the rules of the Board. (Rules, Part 2.8).

u) DH may monitor nitrous oxide after administration by dentist. (Rules 2.6G).

z) Statute states a dental hygienist can only be supervised by a licensed dentist. (Statutes, Title 26, Chapter 13.854).

aa) A licensed dental hygienist may qualify for registration as an expanded function dental assistant and may perform associated duties for which the dh has been trained in a formal program accredited by Commission on Dental Accreditation of the American Dental Association. (Rules, Part 2.9)

VIRGINIA

a) 2 voting hygienists on 10 member Board. (Code of Virginia, Chapter 27, 54.1-2702)

c) Dental hygiene means cleaning and polishing teeth and assisting the members of the dental profession in providing oral health care and oral health education to the public. (Code of Virginia, Chapter 27, 54.1-2700)

e,f,g,i,j,k,l)In 2001, direct supervision was required. Virginia subsequently passed new regulations effective July 2002 which allow for general supervision in any setting if working under patient specific authority conveyed by dentist's prescription. (Rules 18 VAC 60-20-10, etc, pursuant to Chapter 170 Acts of Assembly).

h) State Board of Health may employ hygienists in schools. (Code of Virginia, Chapter 27, 54.1.274).

WASHINGTON

a) Dental Hygienists regulated by a Dental Hygiene Examining Committee. (Statutes, RCW 18.29.110)

b) Licensure by endorsement available. (Statutes, RCW 18.29.045).

c)Scope is defined in statute. (Statutes, RCW 18.29.50).

e) DH may be employed in select health care facilities without dental supervision while performing hygiene tasks. (Statutes, RCW 18.29.056)

h) Washington state has a community based sealant program in schools in which hygienists provided services. (Statutes, RCW 18.29.220).

s) All DH applicants for licensure in the state must demonstrate education in the placement of restorations into cavities. (Rules, WAC 246-815-030 (c)).

w) Hygienist required to refer patient for dental planning and treatment. (Statutes, RCW 18.29.056).

aa) Expanded functions including administration of local anesthesia and nitrous oxide are described in statute as dental hygiene functions. (Statutes, RCW 18.29.190)

SOURCES

Tennessee
http://198.187.128.12/tennessee/lpext.dll?f=templates&fn=fs-main.htm&2.0
http://www.state.tn.us/sos/rules/0460/0460-03.pdf
Texas
http://www.capitol.state.tx.us/statutes/oc/oc0026200toc.html
http://www.tsbde.state.tx.us/documents/rules/ch103.pdf
Utah
http://www.le.state.ut.us/~code/TITLE58/58_2E.htm
http://www.code-co.com/utah/admin/2000/r156069.htm
Vermont
http://www.leg.state.vt.us/statutes/sections.cfm?Title=26&Chapter=013
http://vtprofessionals.org/opr1/dentists/
Virginia
http://www.dhp.state.va.us/dentistry/leg/Chapter%2027.doc
http://www.dhp.state.va.us/dentistry/leg/Dentistry%202-26-03.doc
Washington
http://www.leg.wa.gov/RCW/index.cfm?fuseaction=chapterdigest&chapter=18.29
http://www.leg.wa.gov/wac/index.cfm?fuseaction=chapter&chapter=246-815&RequestTimeout=500

Table C-1, continued
Dental Hygiene Professional Practice Index, 2001
Detailed Criteria, Scoring, and Data Sources for WV, WI, WY

SCORING CATEGORY	Points	Max Score	*fn*	WV		WI		WY	
Regulated by:									
Board of Dental Hygiene/Independent Dental Hygiene Committee	4	**4**	*a*						
Board of Dentistry/Dental Examiners with Dental Hygiene Advisory Committee	4								
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member (2+)	3					3	*a*		
Board of Dentistry/Dental Examiners with Dental Hygienist as a Voting Member	2			2	*a*			2	*a*
Board of Dentistry/Dental Examiners with Dental Hygienist as a Non-Voting Member	1								
Other State Boards or Departments	3								
Other Regulatory:									
Licensure by Credential/Endorsement with no new clinical exam required	2	**2**	*b*	2	*b*	2	*b*	0	*b*
Scope of Practice Defined in Law or Regulations	2	**2**	*c*	2	*c*	2	*c*	2	*c*
Hygienist not restricted to patient of record of primary employing dentist	2	**2**	*d*	0		0		0	
Total Regulation Score		**10**		**6**		**7**		**4**	
Supervision:	0			**WV**		**WI**		**WY**	
Dental Hygiene Practice: Highest level of supervision in state laws and regs:									
Unsupervised	4	**4**	*e*						
Collaborative Practice Arrangements	3								
General	2					2	*e*	2	*e*
Direct	1			1	*e*				
Supervision Requirements In:									
Dentists Office									
Unsupervised	4	**4**	*f*						
Collaborative Practice Arrangements	3								
General	2					2	*f*	2	*f*
Direct	1			1					
No requirement for prior examination by a dentist	1	**1**		0		0		0	
Long Term Care Facilities - Skilled Nursing Facilities									
Unsupervised	4	**4**	*g*						
Collaborative Practice Arrangements	3								
General	2					2	*g*	2	*g*
Direct	1			0					
No requirement for prior examination by a dentist	1	**1**		0		0		0	
Schools-Private or Public									
Unsupervised	4	**4**	*h*						
Collaborative Practice Arrangements	3					2	*h*		
General	2								
Direct	1			0				0	
No requirement for prior examination by a dentist	1	**1**		0		0		0	
Public Health Agencies- Federally Qualified Health Centers									
Unsupervised	4	**4**	*i*						
Collaborative Practice Arrangements	3								
General	2					2	*i*	2	*i*
Direct	1			0					
No requirement for prior examination by a dentist	1	**1**		0		0		0	
Correctional Facilities									
Unsupervised	4	**4**	*j*						
Collaborative Practice Arrangements	3								
General	2					2	*j*	2	*j*
Direct	1			0					
No requirement for prior examination by a dentist	1	**1**		0		0		0	
Public Institutions- Mental Health Facilities									
Unsupervised	4	**4**	*k*						
Collaborative Practice Arrangements	3								
General	2					2	*k*	2	*k*
Direct	1			0					
No requirement for prior examination by a dentist	1	**1**		0		0		0	
Hospitals/Rehabilitation Hospitals or Convalescent settings									
Unsupervised	4	**4**	*l*						
Collaborative Practice Arrangements	3								
General	2					2	*l*	2	*l*
Direct	1			0					
No requirement for prior examination by a dentist	1	**1**		0		0		0	
Home Settings- Personal Residences									
Unsupervised	4	**4**	*m*						
Collaborative Practice Arrangements	3								
General	2					2	*m*		
Direct	1			0				0	
No requirement for prior examination by a dentist	1	**1**		0		0		0	
No Limits on Settings Allowed for Practice by Dental Hygienists	3	**3**	*n*	0		3		0	
Total Supervision Score		**47**		**2**		**21**		**14**	

continued…

Table C-1, WV to WY, continued…

Dental Hygienist Tasks Allowed in Legislation:				WV		WI		WY	
Prophylaxis - Physical Presence of Dentist Not Required	2	**2**	*o*	0	*o*	2		2	*o*
Fluoride Treatment - Physical Presence of Dentist Not Required	2	**2**	*p*	0	*p*	2		2	*p*
Sealant Application - Physical Presence of Dentist Not Required	2	**2**	*q*	0	*q*	2		0	*q*
X-Rays - Physical Presence of Dentist Not Required	2	**2**	*r*	0	*r*	2		2	*r*
Place Amalgam Restorations	2	**2**	*s*	0		0		2	*s*
Administer Local Anesthesia	2	**2**	*t*	0		2	*t*	2	*t*
Administer Nitrous Oxide	2	**2**	*u*	0		0		0	
Hygienist allowed to perform initial screening or assessment	2	**2**	*v*	2	*v*	2	*v*	2	*v*
Hygienist allowed to refer patient	2	**2**	*w*	0		0		0	
Hygienist may be self employed	2	**2**	*x*	0		0	*x*	0	*x*
Hygienist may supervise a dental assistant	2	**2**	*y*	0		0		0	
Hygienist may be supervised by a medical provider	2	**2**	*z*	0		0		0	
Expanded functions available in the state	4	**4**	*aa*	0		4	*aa*	4	*aa*
Total Tasks Score		**28**		**2**		**16**		**16**	

Reimbursement:				WV		WI		WY	
Medicaid Reimbursement Directly to Hygienists	10	**10**	*bb*	0		0		0	
Dental Hygienist may be paid directly for services provided	5	**5**	*cc*	0		0		0	
Total Reimbursement Score		**15**		**0**		**0**		**0**	

TOTAL SCORE		**100**		**10**		**44**		**34**	

FOOTNOTES

WEST VIRGINIA

a) 1 voting hygienist on 9 member Board. (Statutes, W.Va. Code 30-4-4 (b)(1)).

b) Licensure by credential in statute. (Statutes, W.Va. Code 30-4-11).

c) Scope of practice defined in statute (Statutes, W.Va. Code, 30-4-17) and regulations (Rules, 5-1-8 8.2).

e,o,p,q,r) Services by hygienists may be provided only under the direct supervision of a dentist. Rules, 5-1-8 8.1(a)).

v) Dental Hygienist can perform initial screening and assessment for interpretation by a dentist under the direct supervision of a dentist. (Rules, 5-1-8 8.3(j)).

WISCONSIN

a) 3 voting hygienists on 11 member Board. (Statutes, Chapter 15, 405 (6)(a) and (b)).

b) Licensure by credential in statute. (Statutes, Chapter 447.04(6)(b)).

c) Performance of educational, preventive or therapeutic dental services.(Statutes, 447.01 (3)).

e,f,g,h,i,j,k,l,m) Hygienist is allowed to practice in these setting under general supervision with a written or oral prescription. The patient must have been examined by the dentist within the previous 12 months and in a dental office, the patient must be the dentist's patient of record for at least six months. (Statutes, Chapter 447.06 (2) (c)).

t,aa) Board issues a certificate to administer local anesthesia when hygienist qualifies by education. (Statutes, Chapter 447.06(c and Chapter 447.065 (2)).

v) Hygienists are permitted to perform oral screening without prescription of a dentist. (Statutes, Chapter 447.01 (c) and Rules, DE 3.02 (2) (d)).

x) A hygienist may perform procedures only as an employee or independent contractor. (Statutes, Chapter 447.06(a)).

WYOMING

a) 1 voting hygienist with restricted voting privileges on 6 member Board (Statutes, 33-15-101 (a) and (c) and Rules, Chapter 1, Section 3).

b) Licensure by endorsement is only available for dentists. (Statutes, 13-15-122).

c) any service for patient consistent with what hygienists are trained to do. (Statutes, Title 33, Chapter 15-119)

ef,g,i,j,k,l) Hygienists are permitted to practice in the office of dentist or in any public or private institution under supervision of dentist. (Statutes, 33-15-119 and Rules Chapter VI, Section 2 (b)).

o,p,r) Permitted under general supervision (Rules, Chapter VI, Section 2 (i)).

q) Requires direct supervision of a dentist (Rules, Chapter VI, Section 2(ii)).

s,aa) placing amalgams in on a list of accepted expanded duties. (Rules, Chapter VI, Section 3, (d)(i)).

t,aa) administration of local anesthetic is considered an expanded function. (Rules, Chapter VI, Section 3(iii).

v) Hygienists are permitted to perform oral screenings in the list of permitted procedures under general supervision. (Rules, Chapter VI, Section 2 (e)(i)(E)).

x) any dentist authorized to practice dentistry in the state may employ hygienists. (Statutes, 33-15-119).

SOURCES

West Virginia
http://129.71.164.29/wvcode_chap/wvcode_chapfrm.htm
http://www.wvdentalboard.org/rules_word/SERIESI_W.doc
Wisconsin
http://folio.legis.state.wi.us/cgi-bin/om_isapi.dll?clientID=154605&infobase=stats.nfo&softpage=Browse_Frame_Pg
http://folio.legis.state.wi.us/cgi-bin/om_isapi.dll?clientID=154725&infobase=code.nfo&j1=DE%201&jump=DE%201&softpage=Browse_Frame_Pg
Wyoming
http://legisweb.state.wy.us/statutes/titles/title33/chapter15.htm
http://soswy.state.wy.us/RULES/216.pdf

Appendix D. Field Work Details

This chapter summarizes the fieldwork conducted as part of this study. It includes the following subsections:

- The Fieldwork Process
- Scope of Practice of Dental Hygienists
- Supervision by Dentists
- Current and Future Issues
- Access to Care
- Professional Concerns
- Professional Relationships
- Best Practices Which Promote Access
- Conclusions

The Fieldwork Process

In conjunction with the research being done on the scope of practice for dental hygienists in the fifty States and the District of Columbia, fieldwork was conducted to obtain the perspectives of stakeholders from a variety of States about differing aspects of practice for the profession. The Fieldwork was conducted in California in conjunction with the annual meeting of the American Dental Hygienist Association in June 2002. Group discussions were held independent of the association meetings. This venue was chosen because the conference attracts a large number of hygienists interested in and informed about workforce scope of practice issues from across the country, and meeting with hygienists from a large number of States in one location was much more efficient than traveling to many States. The conference situation was identified as an ideal opportunity to speak with involved professionals who were well informed about practice in a variety of settings with assorted populations.

Fieldwork Questions

Fieldwork discussion questions were composed to elicit comments about several areas of interest:

- The scope of practice for dental hygienists as defined in statute and regulation;
- The effects of supervision on hygienists providing oral health care to underserved populations;
- Critical future issues for the hygienist profession;
- Questions about professional practice circumstances and professional relationships with other oral health providers;
- Best practices in States that contribute to access to care for a variety of populations.

Participants

Hygienist participants were invited to attend discussions based on several criteria of the State in which they practice. States of particular interest fell into one of the following categories:

- States with expansive scope of practice for dental hygienists;

- States with a variety of dentist supervision requirements – some with direct supervision as a legal requirement, others with a variety of supervisory levels depending on setting and patient, and States that allow more liberal supervision by dentists in public health settings.
- States with special practice provisions for hygienists that permit or encourage provision of care in alternative settings to meet the oral health care needs of populations with limited access.
- States that represent geographic and/or demographic diversity.

Representatives from the following States were invited to attend a total of five discussion groups over a several day period:

- Arkansas
- California
- Colorado
- Connecticut
- Florida
- Georgia
- Kentucky
- Massachusetts
- Minnesota
- Missouri
- North Carolina
- Oregon
- Texas
- Washington
- West Virginia

Project staff also participated in other networking sessions as part of the conference schedule. Staff was able to obtain insights from a variety of informants not included in the formal discussion process.

Other professional hygienists from the following States offered comments on scope of practice for hygienists in several networking discussion groups at the conference:

- Alaska
- Hawaii
- Idaho
- Illinois
- Iowa
- Kansas
- Maine
- Maryland
- Montana
- Nevada
- New Mexico

- Rhode Island
- South Carolina
- Tennessee
- Virginia

The topics covered in fieldwork discussions varied depending on the nature of practice in the particular States in which informing hygienists practiced. In a discussion with hygienists from States with restrictive environments, for instance, the problems attendant on direct supervision were a major focus. In focus groups attended by hygienists practicing in States with more liberal supervisory requirements, reimbursement for hygienists' services was of concern. Generally, hygienists from States with like practice environments were invited to attend a single session. However, in several cases, the attending hygienists at a session were from a mixture of States with differing characteristics in practice conditions.

This remainder of this appendix summarizes the observations and comments of informants during the various discussion groups. The appendix is divided into several sections:

- Scope of Practice of Dental Hygienists
- Supervision by Dentists
- Current and Future Issues
- Access to Care
- Professional Concerns
- Professional Relationships
- Best Practices Which Promote Access

The last section is a summary of the discussion from the fieldwork.

Scope of Practice for Dental Hygienists

Tasks Permitted

The legally mandated scope of practice for dental hygienists varies across States. In all States, hygienists are allowed to provide preventive oral health services including oral prophylaxis and hygiene education services. In most States, hygienists are also permitted to take x-rays, perform fluoride treatments, and apply sealants although the conditions under which they are permitted to perform these services vary widely. In some States, these services may be performed by a hygienist unsupervised by a dentist in particular circumstances (example: In Nevada, sealants may be applied by hygienists in schools without supervision[123]) while in other States personal or direct supervision is mandated (examples: Arkansas' rules require personal supervision by a dentist for application of pit and fissure sealants[124] and Georgia requires direct supervision of a dentist when a hygienist takes x-rays[125]).

The tasks permitted to hygienists in statute and regulation affect the ability of the profession to provide preventive oral health services to patients. Sealant applications provide an example of the constraints inherent in restrictive scopes of practice. Pit and fissure sealants are important tools in the prevention of oral caries or in retarding the progression of already existing cavities. Application of sealants provides significant documented reduction in tooth decay and ensuing oral disease for patients. In some States, sealant application must be prescribed or supervised by a dentist. This requirement can result in a significant potential limitation for hygienists in settings where dentists are not usually present. In other States, application of sealants is permitted without permission from a dentist when the hygienist determines the service to be appropriate for the patient. South Carolina is a State where an extensive prophylaxis and sealant program in schools has been very successful in prevention efforts in the State. Hygienists may work in schools, and upon permission of parents and guardians, apply sealants to the teeth of children who are in need of the service.

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[123] Nevada Administrative Code: Dentistry and Dental Hygiene, NAC631.210 Duties delegable to dental hygienists, http://www.leg.state.nv.us/NAC/NAC-631.html#NAC631Sec210.

[124] Arkansas State Board of Dental Examiners, Rules and Regulations, Article XI Dental Hygienists Functions A.2.a., http://www.asbde.org/.

[125] Administrative Rules and Regulations of the State of Georgia, Chapter 150, Rules of Georgia Board of Dentistry, 150-5-.03 Supervision of Dental Hygienists. Amended, http://www.state.ga.us/rules/index.cgi? base=150/5/03.

In some States, hygienists are allowed to administer and/or monitor local anesthesia and/or nitrous oxide. Most States require subsequent education for these privileges even when courses in anesthesia have been included in the hygiene core curriculum of the approved hygiene education program. Hygienists comment that student hygienists are allowed to provide local anesthesia services as part of their education and training programs in some States, while licensed hygienists in the same States cannot provide this service in actual practice without further education and certification. States vary in the supervisory requirements for these services but most require direct supervision when administration and/or monitoring of anesthesia are permitted.

Hygienists view health promotion, risk assessment, and disease prevention as their most important contributions to oral health care. These areas of expertise are considered core competencies for hygienist who function as preventive oral health specialists. The "scope of practice" for hygienists, which include the tasks permitted to them, is variously restricted across States. Requirements for differing levels of supervision, continuing education or extended certification requirements, as well as limitations on actual services that can be provided affect practice for the profession. Scope of practice in States is sometimes perceived to be unduly limiting. These limitations are attributed to extensive, intricate political processes that make change for or advancement of the profession difficult. In fieldwork discussions, hygienist informants provided the following example as illustrative of the difficulties they encounter with scope of practice issues.

California hygienists discussed their struggle with the Dental Board in the State over the placement of anti-microbials that do not have to be removed. The Dental Board agreed that hygienists were capable of performing the service but refused to provide them with the privilege. The rationale for the denial was a debate over the questionable safety of anti-microbial medication. Permission was denied to the hygienists on the grounds that patient safety was a priority. However, dentists continued to be allowed to place the anti-microbial medications for patients. Hygienists argued that if the service was being provided in the State and if it was agreed that hygienists were professionally qualified to perform the service, the efficacy of the medication shouldn't affect their permission to supply the service. If product effectiveness was really the issue, then the product should be banned. However, if placement was still permitted to dentists, hygienists should also be permitted to perform the task. After considerable discussion,

effective in 2002, hygienists in California were given permission by the Board to place locally delivered anti-microbials that do not require removal.

Extended Functions and Expanded Practice for Dental Hygienists

Expanded scope of practice and/or extended function categories for hygienists were seen as important tools for meeting the needs of populations with limited access to oral health services. A differentiated model of practice, one that permits different levels of care by hygienists in traditional or expanded roles, was discussed as a method for achieving increased access. In a medical paradigm, nurses practice in such a model. LPNs have different scopes of practice than RNs whose scope also differs from nurse practitioners. Extended functions and expanded roles might enable hygienists to work in a model similar to professional nursing practice.

Several States have enabled hygienists to perform in advanced practice roles providing extended functions as a means to increasing access to care:

- A Health Manpower Pilot Project in California led to the establishment of an extended function role for hygienists in the State. There were 17 hygienists in alternative practice who were licensed in the pilot in 1997, 13 of whom are still practicing. However for several years, there was no funding for the education of expanded function hygienists and the program was effectively defunct. Within the last year, funds were appropriated by the legislature in the State and made available beginning in January 2003 to support an educational program for the Registered Dental Hygienist in Alternative Practice. These hygienists are permitted to work unsupervised in a variety of settings under a patient specific prescription of a dentist, physician, or surgeon when providing oral health services for a client.
- The rules of the Oregon Board of Dentistry permit a limited access permit to be issued to a dental hygienist who qualifies with significant work experience. This permit allows the hygienist to perform several extended function services for patients who, due to "age or infirmity", are unable to access services in a dental office.[126] Permitted extended functions include relines of dentures, temporary restorations, and sealants.

[126] Oregon State Archives Administrative Rules, Oregon Board of Dentistry, Division 35, Dental Hygiene, 818-035-0010 to 818-035-0100, http://arcweb.sos.state.or.us/rules/OARS_800/OAR_818/818_035.html.

- Connecticut permits hygiene practice without a dentist's supervision in public health facilities such as community health centers, nursing homes, group homes and schools by a "public health dental hygienist" who qualifies by experience and education to perform services for needy patients.[127]

- Colorado statute provides for practicing "unsupervised dental hygiene" that includes prophylaxis, fluoride application and dental hygiene assessment.[128] When services are provided to Medicaid eligible children, direct reimbursement is mandated for the hygienist providing the service.[129]

- South Carolina Code provides for dental hygienists to apply fluorides and sealants under general supervision in a variety of settings such as schools, public health facilities, hospitals, nursing homes and rural clinics. In schools, the services are authorized by permission of the student's parent or guardian.[130] South Carolina has had significant success in reaching several thousand children through their programs.

Expanded Functions for Dental Assistants

Hygienists expressed concern about the expansion of scope of practice for dental assistants that is occurring in many States under the guise of increasing access to care. A number of States have legislated extended functions for dental assistants that include services usually provided by licensed hygienists.

- California has several categories of dental auxiliaries – dental assistant, registered dental assistant, registered dental assistant in extended functions, registered dental hygienist, registered dental hygienist in extended functions, and registered dental hygienists in alternative practice.[131] Each class of provider has a different scope of practice defined in

[127] Regulations of Connecticut State Agencies, Department of Social Services Concerning Requirements for Payment of Public Health Dental Hygienist Services, Section 17b-262-694 and Connecticut Statutes, Chapter 379a, Dental Hygienists, http://www.cga.state.ct.us/2001/pub/Chap379a.htm.
[128] Statutes, State of Colorado, Title 12 Professions and Occupations, Article 35 Dentists and Dental Hygienists, Section 122.5, http://www.dora.state.co.us/dental/dstatu.htm#statute.
[129] Colorado Revised Statutes, Title 26, Human Services Code, Article 4. Colorado Medical Assistance Act, Part 4. Administrative Procedures, http://198.187.128.12/colorado/lpext.dll?f=templates&fn=fs-main.htm&2.0.
[130] South Carolina Code of Laws Title 40, Professions and Occupations, Chapter 15, Dentists, Dental Hygienists and Dental Technicians, Section 40-15-80, http://www.lpitr.state.sc.us/code/t40c015.htm.
[131] California Business and Professions Code, Article 7 Dental Auxiliaries, Section 1742.

code. In California, a dental assistant can apply topical fluoride,[132] a registered dental assistant with appropriate education can perform coronal polishing[133] and a registered dental assistant in extended function can apply pit and fissure sealants,[134] all tasks within the scope of dental hygiene practice.

- Vermont rules provide for licensure as a dental hygienist, registration for expanded function dental assisting duties for dental hygienists, and registration as a traditional dental assistant, a certified dental assistant, or as an expanded function dental assistant. Each category of professional requires different preparation and education.[135] Each also has a particular scope of duties.
- Oklahoma statutes list dental hygienist, dental assistant, and dental nurse as qualified dental auxiliaries.[136] The rules of the State Board of Dentistry define expanded duty as "a procedure for which a dental assistant has received special training.." while an advanced procedure is " a procedure for which a dental hygienist has received special training.." [137] Dental assistants in the State have several expanded duties such as x-rays, coronal polishing, fluoride treatments and placement of sealants.[138] Hygienists may qualify to administer local anesthesia and nitrous oxide as advanced procedures.[139]

Hygienists continuously remark that they are highly educated in prophylaxis and that they spend more time in an educational curriculum that teaches those skills than even dental students. They are concerned that the quality of services provided by assistants trained by dentists or trained in abbreviated certificate programs is not the same as those provided by hygienists trained in accredited programs and certified by national and regional exams as having mastered hygiene competencies.

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[132] California Business and Professions Code, Article 7 Dental Auxiliaries, Section 1085(14).
[133] California Business and Professions Code, Chapter 3, Article 5, Section 1086 (15).
[134] California Business and Professions Code, Chapter 3, Article 5, Section 1087 (7). 16
[135] Vermont Board of Dental Examiners, Rules Relating to the Profession, Part 2. Information for Applicants, Section 2.7, 2.9,2.10, http://www.vtprofessionals.org/opr1/dentists/dentrule.html.
[136]Oklahoma Statutes, State Dental Act, 59-328.3(7) and (8), http://oklegal.onenet.net/oklegal-cgi/ifetch?Oklahoma_Statutes.99+2145936077242+F.
[137] Rules and Regulations, Board of Dentistry, State of Oklahoma, Chapter 15 Duties . . , 195.15-1-1.1.Definitions, http://www.dentist.state.ok.us/RULES.PDF.
[138] Rules and Regulations, Board of Dentistry, State of Oklahoma, 195:15-1-4, http://www.dentist.state.ok.us/RULES.PDF.
[139] Rules and Regulations, Board of Dentistry, State of Oklahoma, 195:15-1-6.1.

Some State efforts to increase access to care through increased scope of practice for assistants are seen as misguided. To increase the availability of preventive services, Kansas passed legislation that allows dental auxiliaries (dental assistants) to scale and polish teeth supragingivally (above the gum line), also called coronal polishing, after an approved course of instruction.[140] This is also permitted in California. However, significant gum disease can occur when subgingival (below the gum line) scaling is not performed on a regular basis. Hygienists express concern that patients who receive such superficial services are more likely to eventually develop gum disease. Other States now permit coronal polishing by assistants (Kentucky permits an assistant who has passed an approved course in the State to perform coronal polishing[141]). In order to accommodate, reimbursement for these services, the national dental association has changed the requirements of the reimbursement code for prophylaxis to allow for either complete prophylaxis, supragingival scaling or for coronal polishing. Although, there is no difference in the reimbursement rate for these services, hygienists indicate there is a difference in the quality and extent of the actual service. Complete prophylaxis is a much more substantial procedure than coronal polishing.

Permitting dental assistants to provide hygiene services, although promoted as a way of increasing access, is seen by many as an erroneous strategy or a slippery slope. Since assistants work directly with dentists and generally in private practice, patients without traditional access to dentists would not have access to the services of the dentist's assistant. Hygienists suggest that generally patients are not well served by allowing assistants to provide preventive and prophylactic services. Informants suggest that such a practice might compromise the quality of care that even patients with existing access receive.

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[140] Kansas Dental Board, Regulations, Article 6-Dental Auxiliaries, Section 71-6-1 and 71-6-4, http://www.accesskansas.org/kdb/regulations.html.

[141] Kentucky Revised Statutes, KRS Chapter 313, 313.435 Administrative regulations on practices that may be performed by dental assistant, http://www.lrc.state.ky.us/KRS/313-00/345.PDF.

Supervision By Dentists

Levels of Supervision

Perhaps no issue evokes more pervasive concern among hygienists than the degree of supervision required from dentists when hygienists are performing oral health procedures or services for patients. As indicated elsewhere in this report, supervision requirements vary in legislation and/or regulation on a continuum from personal supervision requiring both the immediate presence and direction of a dentist to no supervision required for particular hygiene services. The requirements for supervision differ across States and are described in law and regulation in a variety of terms.

Universally, hygienists suggest that the accredited hygiene education programs provide certified hygiene professionals with a substantial skill set that enables the profession to be expert providers of oral hygiene services and preventive hygiene education to patients. Professionals across States comment that certain basic services including oral prophylaxis, dental hygiene screening and assessment, and dental hygiene education should be permitted to the hygienist without direct oversight by dentists. Fluoride treatments and sealant application are also seen as fundamental tasks for the profession. These services frequently require layers of supervision, depending on the State, not incumbent on hygienists when providing other primary oral health preventive services. Level of supervision required for hygiene services is predicated on different circumstances or standards across States. Supervision is characterized variously:

- *The hygienist is supervised*. (Iowa requires that hygienists perform all authorized services under general supervision of a dentist.[142] North Dakota Code states that "the practice of dental hygiene is...supplemental and auxiliary to the practice of dentistry."[143] The dentist "exercises full responsibility" over procedures he delegates to a dental hygienist "under direct, indirect, general or modified general supervision."[144])
- *The level of supervision required is determined by the task that is performed*. (Ohio statutes provide specific detail about the tasks that are authorized under varying levels of

[142] Iowa Administrative Code, Dental Examiners (650), Title III Licensing, Chapter 10, General, 650-10.3(2), http://www.legis.state.ia.us/Rules/2002/iac/650iac/65010/65010.pdf.
[143] North Dakota Century Code, Title 43. Occupations and Professions, Chapter 43-20. Dental Hygienist, Section 43-20-11, Practice of dental hygiene. .. http://www.state.nd.us/lr/cencode/T43C20.pdf.
[144] North Dakota Century Code, 43-20-12.

supervision for hygiene services including non-delegable tasks and/or procedures,[145] procedures that may not be performed by a hygienist when a dentist is not physically present,[146] and a detailed list of each of the basic remediable intra-oral and extra-oral tasks that can be performed by a hygienist without the physical presence of a dentist.[147])

- *Level of supervision is determined by characteristics of the patient to whom services are provided*. (In California, registered dental hygienists in alternative practice provide services to patients on prescription from the patient's dentist, surgeon or physician.[148] In Pennsylvania, the level of supervision and the services allowed depend on the American Society of Anesthesiologists' (ASA) classification of the patient.[149]
- *The level of supervision is determined by the setting in which services are provided*. (In South Carolina, hygienists may apply topical fluoride under general supervision in schools, nursing homes, hospitals, and rural clinics and in several other listed settings.[150] However, South Carolina Code specifically states that general supervision is not permitted in private dental practice.[151]
- *The supervising dentist determines the level of supervision*. (Oklahoma rules governing hygienists specifically state that the level of supervision for a list of enumerated hygiene tasks is to be decided at the discretion of the supervising dentist.[152])

In most States, the level of supervision required is not straightforward. Rather, it is determined by a number of the above factors. This results in a matrix of supervisory requirements within a

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[145] Ohio Administrative Code, 4715-11-03 Non-delegable dental tasks and/or procedures, http://onlinedocs.andersonpublishing.com/oac/home3.cfm?GRStructure1=4715&GRStructure2=4715%2D11&GRStructure3=&TextField=%3CJD%3A%224715%2D11%22%3EChapter%204715%2D11%20Qualified%20Personnel.
[146] Ohio Administrative Code, 4715-9-05 Practice when the Dentist is not physically present, http://onlinedocs.andersonpublishing.com/oac/home3.cfm?GRStructure1=4715&GRStructure2=4715%2D9&GRStructure3=&TextField=%3CJD%3A%224715%2D9%22%3EChapter%204715%2D9%20Dental%20Hygienists.
[147] Ohio Administrative Code, 4715-3-01, Definitions. http://onlinedocs.andersonpublishing.com/oac/home3.cfm?GRStructure1=4715&GRStructure2=4715%2D3&GRStructure3=&TextField=%3CJD%3A%224715%2D3%22%3EChapter%204715%2D3%20Definitions.
[148] California Business and Professions Code, Section 1770(h), http://www.leginfo.ca.gov/cgi-bin/waisgate?WAISdocID=5817906736+0+0+0&WAISaction=retrieve.
[149] Pennsylvania Code, Title 49, 33.205(d), Practice as a dental hygienist -Supervision, http://www.pacode.com/secure/data/049/chapter33/s33.205.html.
[150] South Carolina Code of Laws, Title 40, Chapter 15, Dentists, Dental Hygienists, Section 40-15-80(B) and (C), http://www.lpitr.state.sc.us/code/t40c015.htm.
[151] South Carolina Code of Laws, Title 40, Chapter 15, Section 40-15-85(B)
[152] Oklahoma Board of Dentistry, Rules and Regulations, Chapter 15. Duties for Dental Assistants and the Rules Regulating the Practice of Dental Hygiene, http://dentistry.ouhsc.edu/board/RulesRegs/Chap15.html.

State depending on setting, task, and patient. A State may require different levels of supervision depending on the services being offered, the setting in which they are provided, and the characteristics of the patient being served. As a result, supervision by dentists is quite various across States and in many cases, rather complicated to decipher and understand.

Supervision and Access

Supervision is seen as a critical factor in limiting or enabling access to care. When a State requires direct supervision for hygienists, services may be provided only when dentists are present and immediately available. This requirement effectively deters the provision of preventive oral health services in settings other than in private dental offices where dentists largely practice. Strict supervision requirements also effectively limit access to oral health preventive services to patients who are able to employ the services of a private dentist. In most cases, those patients would be privately insured or capable of self-payment.

Some examples of how the level of required supervision in a State affects access to care were provided in the following illustrations:

- In Arkansas, there is a requirement for direct supervision of hygienists by dentists. There is an exception in prisons where general supervision is permitted. The services that may be provided in correctional facilities are restricted to those contained in the written directions of the supervising dentist and to prophylaxis, sealants and other standard hygienist functions. Access initiatives in Arkansas are limited by this requirement for direct supervision. According to informants, access is also further constrained by low reimbursement rates from State Medicaid programs that discourage dentists from participating. If dentists do not contract with Medicaid, hygienists are unable, under direct supervision, to provide hygiene services to Medicaid eligible patients.
- Supervision in Hawaii is similarly restrictive. The regulations require direct supervision in private practice and the employing dentist must be present in the office even during brushing and flossing. Some expansion of privilege is permitted in charitable clinics,

schools, welfare centers and in governmental facilities in the State where general supervision is allowed.[153]

- In Colorado, hygienists may provide oral health services unsupervised when services are provided to children on State Medicaid. In fact, under those circumstances, the hygienist may even be reimbursed directly for those services. This enables access for children who might not otherwise receive preventive services.
- Tennessee permits a hygienist to work under general supervision without the presence of a dentist for no more than 15 consecutive days. Although limited in scope, this loosening of the supervision requirement does permit the hygienist some autonomy in practice.
- Maryland requires indirect supervision in private settings but relaxes those requirements in alternative settings such as nursing homes, prisons, and for volunteer endeavors by allowing general supervision in those settings. This permits expanded access for compromised populations.
- Georgia is another example of a State that has dual scope of practice legislation, that is, differing supervision requirements depending on the setting in which services are provided. In dental offices, the direct supervision of a dentist is required. However in certain county, State and Federal dental facilities, this direct supervision requirement is waived to permit more ready access to preventive services. Again, this facilitates increased access by populations who might otherwise not receive preventive oral health services.
- Connecticut hygienists usually work under general supervision in private and public settings. However, there are provisions that permit qualified dental hygienists to work in public health settings unsupervised by dentists. These public health dental hygienists are required by law to refer patients for further dental care if the hygienist makes that determination at the time hygiene services are provided. There are provisions in State statute and regulation that permit direct reimbursement to dental hygienists for the

[153] Hawaii Code Annotated, Division 2. Business, Title 25. Professions and Occupations, Chapter 447. Dental Hygienists, Section 447-3. Employment of and practice by dental hygienists, http://www.capitol.hawaii.gov/hrscurrent/vol10_ch0436-0471/hrs0447/hrs_0447-0003.htm.

services provided to patients in chronic and convalescent homes[154] or in a number of other settings including schools, group homes, and community settings.[155] Connecticut was a leader in providing care to school age children by creating this special class of public health hygienist.

Requirements for levels of restrictive supervision for hygienists are seen as creating obvious barriers to access for some populations. Equally perplexing to hygienists, however, is the rationale that supports a variety of supervisory levels depending on the settings in which services are provided. Hygienists suggest that these variations in State law and regulation are really counter-intuitive.

Many States relax the requirements for supervision in public health settings, in schools, in clinics, and in nursing homes to permit hygienists to work without direct supervision by dentists and thus, increase access. Hygienists remark that patients in these alternative settings are often highly medically compromised and vulnerable. Yet, hygienists are allowed to treat them with more independence than is permitted to them in private practice. Generally, patients who present for hygiene services in private office settings have better overall oral health status and often require only very routine services. Hygienists question why the profession is considered competent to provide services more autonomously to patients who are the most compromised when they are not considered equally qualified to provide the same services with the same autonomy to private clients in optimal oral and medical health. Informants suggest that this is indicative of a dual standard of care.

Supervision requirements in most States are motivated by the need to protect patients. The level of required supervision should also be appropriate to the training and the competence of the professional who is providing services. However, some legislated mandates pertaining to level of supervision by dentists over services provided by hygienists are perceived to be overly protective and in some cases, endangering of appropriate patient access. Hygienists are professional providers who are trained in preventive oral health services in a curriculum that has a strong

[154] Connecticut Statutes, Chapter 379a. Dental Hygiene, Section 20-126s. Payment for dental hygiene care … http://www.dph.state.ct.us/Licensure/apps/dent_hyg_stats.pdf.
[155] Regulations of Connecticut State Agencies, Department of Social Services, Concerning Requirements for Payment of Public Health Dental Hygienist Services, Section 17b-262-697 (5).

clinical foundation. The profession feels that their skills should be respected enough to permit some autonomy in practice with prophylaxis, prevention education, and hygiene assessment.

Although the goal for the hygiene profession might be considered to be unsupervised practice for hygiene services provided competently to patients within the scope of education and training for hygienists (i.e. oral health education and prophylaxis), one hygienist suggested that the issue should be framed differently. A main objective in provision of hygiene services should be appropriate patient access. Direct access to preventive oral health services without restrictive levels of supervision is a reasonable goal for the patient, the professional, and the community.

Another comment of informants regarding supervision is that professional practice is generally viewed vertically, as a hierarchy, with a dentist supervising services by those under his direction and in his employ. Hygienists suggest that a better view of practice would be in a horizontal configuration. Services provided by hygienists such as risk assessment, oral health promotion and disease prevention services would be located on one end of the lateral spectrum. Preventive services, at the beginning of this range, could be provided by hygienists with little oversight from dentist professionals whose talents are better used in the provision of more complex restorative care, tasks located further along on the continuum. This would maximize the use of the limited available oral health resources.

Hygienists are limited in their access to patients in the same way that patient access to hygiene services is limited. The conduit for the patient to the hygienist and for the hygienist to the patient is usually a dentist who is the intermediary as the doctor of record and the employer of the hygienist. Elimination of restrictive supervision requirements and creation of direct reimbursement mechanisms for hygienists would permit direct access for patients to preventive oral health services and direct access for hygienists to patients in need of their services.

Preventive care should also be viewed as an entry point to other oral health services. Patients may be referred to dentists who would not necessarily seek restorative dental services without first having an assessment performed by the hygienist. Regular oral hygiene services for those without routine access would also generate cost reductions for expensive restorative care.

Hygienists comment that the most liberal supervision laws are Federal. Hygiene services are provided under generous supervision standards in Federal institutions while State standards for supervision are generally more restrictive. In most States, a hygienist changing jobs from a

Federal employer to a private dentist in the same location would encounter limiting changes in the supervision requirements when supplying similar services to patients in a private dental practice.

Supervision and Patient of Record Requirements

Another variation in law and regulation that affects access is the need for the patient to be the patient of record of the supervising dentist. Patient of record is defined in Oklahoma regulations as "an individual who has given a medical history, and has been examined and accepted for dental care by a dentist."[156] The requirement that a hygienist only see a patient of record of the supervising dentist further limits access to preventive services to patients who have an established professional relationship with a dentist provider.

- In Texas, a dentist must have a doctor/patient relationship with any patient to whom a hygienist supervised by that dentist provides services.
- In California, the conditions for practice by a Registered Dental Hygienist in Alternative Practice (RDHAP) require only that a patient must have a referring dentist, physician or surgeon. A RDHAP provides services to a patient as authorized by that patient's dentist or physician for up to eighteen months.[157] The hygienist must have a documented relationship with a dentist to whom a patient could be referred for needed care but that may not be the dentist of record for the particular patient. This permits the hygienist to treat a patient independent of a supervising dentist's relationship with that client and promotes access for a variety of populations.
- Florida statutes state that "each patient shall have a dentist of record" who is responsible for any dental treatment provided by the dentist or by a hygienist or assistant under the dentist's direction. The statute further states the intent of the legislation is to "assign primary responsibility to the dentist for treatment rendered by a dental hygienist or assistant under her or his supervision."[158] All applicable levels of supervision in the State

[156] Oklahoma Board of Dentistry, Rules and Regulations, Chapter 15. Duties for Dental Assistants and the Rules Regulating the Practice of Dental Hygiene, Section 195:15-1-1.1, Definitions, http://dentistry.ouhsc.edu/board/RulesRegs/Chap15.html.
[157] California Business and Professions Code, Article 7 Dental Auxiliaries, Section 1770(h), http://www.leginfo.ca.gov/cgi-bin/displaycode?section=bpc&group=01001-02000&file=1740-1775.
[158] The 2002 Florida Statutes, Title 32 Regulation of Professions and Occupations, Chapter 466 Dentistry, Dental Hygiene, and Dental Laboratories, Section 466.018 Dentist of record,

require that services performed by hygienists receive prior authorization from the supervising dentist. These conditions for practice limit the hygienist in a dentist's employ to his/or her patients of record.

- Missouri Dental Board Rules permit direct, indirect or general supervision of the hygienist. All levels of supervision require that hygiene services be provided only to a patient of record of the supervising dentist. This is defined in rule as a person from whom a patient history has been taken and who has been evaluated and examined by the dentist.[159]

Hygienists offered the perspective that the California provisions are ideal. Supervision of the patient should be the goal rather than supervision of the professional who is providing the services. If achievement of oral health is a primary objective, the needs of the patient must be primary in creating the conditions surrounding provision of services.

Another variation that is considered effective is regulation of the level of supervision according to the complexity of the service that is to be provided. Laws regarding supervision of hygiene services in Colorado focus on supervision of the procedures performed by the hygienist. A hygienist may provide preventive services such as prophylaxis, dental hygiene assessment, and fluoride treatments without supervision in the State while local anesthesia, which is more risky to the patient, requires direct supervision.[160] Fieldwork informants emphasize that it is important to focus on supervisory conditions that make sense. Permitting a hygienist to work as autonomously as possible within the scope of his/her training to provide optimal care for patients is consistent with this focus.

Hygienists comment that patients may have more frequent interface with their hygienist than with their dentist. Patients receiving proper preventive care are seen every six months by the hygienist. In some States, a dentist is required to examine the patient and approve the work of the hygienist but the length of the dentist's visit is frequently shorter than the visit with the hygienist.

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http://www.flsenate.gov/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0466/SEC018.HTM&Title=->2002->Ch0466->Section%20018.

[159] Rules of Economic Development, Division 110 Missouri Dental Board, Chapter 2 General Rules, 4 CSR 110-2.001 Definitions, http://www.sos.state.mo.us/adrules/csr/current/4csr/4c110-2.pdf.

[160] Colorado Revised Statutes, Title 12 Professions and Occupations: Health Care, Article 35 Dentists and Dental Hygienists, Section 12-35-122.5 What Constitutes Practicing Unsupervised Dental Hygiene, http://198.187.128.12/colorado/lpext.dll?f=templates&fn=fs-main.htm&2.0.

This is especially true for patients who have minimal need for restorative care. The patient may, therefore, be better known to the hygienist provider than to their dentist.

Supervision by Medical Providers

Several informant groups discussed the requirement in most statutes that supervision of a hygienist occur through a licensed dentist. Hygienists expressed strong opinions that provision of oral health care should be limited to those with appropriate education and training such as dentists and hygienists. Supervision by dentists seems most appropriate when supervision is warranted.

However, informants suggest that there might be certain patients and/or settings for whom and in which medical supervision would be advantageous. For instance, dentists do not often see very young children. Baby bottle tooth decay is an example of a condition that manifests at an early age. Permitting a dental hygienist to be employed and supervised by a pediatrician might be an effective mechanism for reaching children who are developing or at risk for developing oral disease. This would permit early remediation as signs of poor oral health become evident in an infant or toddler.

North Carolina began training medical providers including nurses and physician assistants to apply fluoride varnishes on the teeth of infants and toddlers beginning at age 9 months until 3 years. The State is committed to expanding access through this prevention program. Special law was enacted enabling payment for services provided by medical professionals. Several other States have funded medical personnel to be trained in the fluoride program in North Carolina so that similar services could be provided in their home States.

Dental hygienists in the State are concerned that medical professionals are being utilized in the program rather than primarily oral health professionals. Concern was expressed that this is indicative of erosion to the legal scope of practice for hygienists. Fluoride application is traditionally a hygiene service that is now being permitted to medical providers. Informants question the need to train other providers when a professional group is already expert at the task.

In Oregon, pediatricians are being trained to screen young children for oral health disease. This is driven by a concern in the State about a shortage of dentists. One informant suggested

however that physicians might find it burdensome having another task like oral health screenings added to their existing substantial obligations for patient care.

Enabling medical providers to perform oral health screenings also introduces the problem of quality of services. Medical doctors are not trained in depth in oral health. Informants expressed concern that a parent might substitute the screening done by a pediatrician for a check-up at the dentist mistaking the screening as equivalent to the more thorough and necessary examination by a dentist. The problem of reimbursement to the physician for the dental screening is also an issue. Professionals generally expect to be paid for the services they perform. Reimbursement is an important incentive to provision of care.

Current and Future Issues

Self Regulation

Much of the legislation regulating dental hygiene across States is reflective of the professions positioning in relation to dentistry. The North Dakota Dental Hygiene Act clearly states that the "the practice of dental hygiene is hereby declared to be supplemental and auxiliary to the practice of dentistry."[161] This subordination to the dental profession is reflected in the legislation that regulates the profession.

States address practice by hygienists most frequently in the Dental Practice Act. In some States, the standards dealing with practice by hygienists are embedded in the dental statutes; in others a separate chapter of a statute on professions and occupations addresses the practice of dental hygiene. The actual regulation of dental hygiene occurs almost universally through Boards of Dentistry or Boards of Dental Examiners. A very small number of States have created separate Dental Hygiene Committees that are autonomous.

An important goal for the dental hygiene profession is self-regulation. Across the country, at the local, State, and national organization level, self-regulation is a priority. Although other scope of practice issues trouble hygienists, the absence of professional control is considered restrictive for the profession and limiting to individual hygienists. Self-governance would allow the profession to manage educational standards and quality, to establish uniform professional practice

[161] North Dakota Century Code, Chapter 42.20 Dental Hygienists, 43-2-11. Practice of dental hygiene supplemental to practice of dentistry, http://www.nddentalboard.org/law/Hyg-43-20.pdf.

standards, and would provide the profession with some control over scope of practice. It would also permit the profession to move from a defensive mode to a more proactive position.

The hygienist profession remains in a defensive mode because of the continuing fear that the exclusive scope of practice permitted to them by regulating dental boards might be altered at any time. Hygienists profess to feeling continuous pressure to retain existing scope and a need to demonstrate, on an ongoing basis, the efficacy of their services. They suggest that self-regulation would provide the profession with some professional security, would permit a measure of professional standardization, and would ensure quality in consistent educational standards required of those providing hygiene services.

Hygienists express concern that both educational standards and legal scope of practice for the profession are gradually being eroded in some States by the regulating professional boards. Hygienists are effectively disenfranchised by the composition of dental boards. Although there is hygiene representation on many dental boards, the numbers of seats are minimal and the effect on voting, when permitted, is small. Hygienists indicate that reduction in the exclusive scope of practice for the profession is traceable to regulation by dental boards that determine the extent of allowable services permitted to them and to dental assistants.

Increased scopes of practice for dental assistants have been legislated in a number of States. Dental assistants are variously trained – some in accredited education programs that are formally regulated, some in abbreviated courses, and others by the dentists who hire them. The chairside training of assistants to perform hygiene services, which is permitted in some States, was provided as an illustration of allowable practices that undermine the professional scope of hygiene services. The alternative educational process now allowable in Alabama was also cited as an example of this erosion. Alabama permits dental assistants with a certain level of experience to be trained by a dentist while attending an abbreviated educational program. Once the assistant completes the requirements of the alternative program, the assistant can then be licensed as a hygienist.[162]

[162] Alabama Administrative Code, Board of Dental Examiners of Alabama, Chapter 270-X-3-.04, Alabama Dental Hygiene Program Requirements, http://www.alabamaadministrativecode.state.al.us/.

Configuration of Regulatory Boards

Although several State hygienist groups have advocated the creation of independent Dental Hygiene Boards, the profession has been mostly unsuccessful in lobbying efforts to attain self-regulation in States. However, the California legislature recently passed a bill that indicates an intention to create an independent Board of Dental Hygiene to govern the profession in the State. This configuration for governing the profession is a result of a sunset review of the Dental Board in the State that determined that a separate board for hygiene was appropriate. The California Dental Board was placed under sunset review when the board was cited as having an inability to deal with dental hygiene issues in a way that protected consumers in the State. Implementation of this legislation is expected to require about two years.[163] Informants indicate that financial support for an independent board would probably come from existing revenues and from a potential increase in licensing fees for the profession in California.

Washington State is unique among States in that dentistry and dental hygiene are regulated in separate practice acts. Dentists are regulated by the Dental Quality Assurance Commission that has only licensed dentists and a public representative as members. A Dental Hygiene Examining Committee composed of only hygienists and a public member regulates hygienists.[164] Although the hygiene committee was originally established to supervise examination and licensure for hygienists, committee responsibilities have evolved to making recommendations about practice regulations for dental hygienists to the Department of Health.[165] The board functions independently of the dental commission.

Several States have Dental Hygiene Committees which function as part of the State Dental Board. The mandates for these boards differ across States, as does their power to influence regulation.

- Iowa has a dental hygiene committee with power to effect hygiene issues. The statute creating the committee empowers it to make recommendations to the Iowa Board of Dental Examiners about practice for dental hygienists. The Board of Dental Examiners must ratify committee recommendations unless there is a justifiable impediment. Passage

[163] Legislation and Regulation 2002-2003, California Dental Hygienists Association, http://www.cdha.org/lesis/legupdate.htm.
[164] Annotated Revised Code of Washington, RCW, Title 18: Businesses and Professions, Chapter 18.29, http://www.leg.wa.gov/RCW/index.cfm?fuseaction=chapterdigest&chapter=18.29.
[165] Dental Hygiene Participation in Regulation, American Dental Hygiene Association, May 2002.

of a committee recommendation is mandatory unless the record does not support it, unless there is a financial barrier that makes it imprudent or impossible, or unless the recommendation is outside the jurisdiction of the board.[166] The committee is supported through the budget of the Dental Board.

- New Mexico has a New Mexico Board of Dental Health Care that includes two dental hygienist members. Additionally, there is a New Mexico Dental Hygienists Committee that includes five hygienists from representative districts in the State. This committee shares decision-making power on issues related to dental hygiene including examination, licensure and practice.[167]
- Since 1992, during a sunset review of the Dental Board, legislators in Maryland mandated the formation of a Hygiene Committee in the State. There is a large board of Dental Examiners that includes three dental hygienists who also sit on the Dental Hygiene Committee of the Board. The committee reviews all matters pertaining to dental hygiene but not all of the committee's recommendations are passed by the board. The committee still lacks leverage in the State.[168]
- Texas has a Dental Hygiene Advisory Committee with three hygienists, one dentist and two public members that advises the board on matters relating to dental hygiene.[169] However, the State Board of Dental Examiners retains ultimate power to regulate the professional practice of hygienists.[170]
- Florida statutes create a Board of Dentistry that includes two members who are dental hygienists. The statute also mandates a Council on Dental Hygiene and a Council on Dental Assisting to advise the board.[171] Florida hygienists cite their frustration with

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[166] Iowa Code, 153.33A Dental hygiene committee, http://www.legis.state.ia.us/cgi-bin/IACODE/Code2001SUPPLEMENT.pl.
[167] Statutory Chapters in New Mexico Statutes Annotated 1978: Chapter 61: Professional and Occupational Licenses: Article 5A: Dental Health Care, http://www.michie.com/newmexico/lpext.dll?f=templates&fn=fs-main.htm&2.0.
[168] Maryland Statutes, Subtitle 2. State Board of Dental Examiners, #4-205 Miscellaneous powers and duties, http://mlis.state.md.us/cgi-win/web_statutes.exe.
[169] Texas Occupations Code – Chapter 262, Regulation of Dental Hygienists, Subchapter B. Dental Hygiene Advisory Committee, 262.053, http://www.capitol.state.tx.us/statutes/oc/oc0026200.html#oc004.262.051.
[170] Texas Occupations Code, 262.101, Powers and Duties of Board Relating to Dental Hygienists.
[171] 2002 Florida Statutes, Title XXXII Regulation of Professions and Occupations, Chapter 466, Dentistry, Dental Hygiene, and Dental Laboratories, Section 004 Board of Dentistry,

efforts to implement the dental hygiene council. Although the Board of Dentistry appointed the committee, it has not been convened in over three years. This example was provided to illustrate that even when hygiene advisory committees are legally established, they may in practice be ineffectual.

Access To Care

Factors Affecting Access to Preventive Oral Health Services

Access to preventive oral health services is a concern for the profession. There is strong feeling that as a profession, hygienists have little control over increasing access for "dentally indigent patients".[172] Preventive oral health services are mostly provided in private dental practices for several reasons:

- Most States have legal requirements that dentists must supervise hygienists. In some States, hygienists can only practice with direct dental supervision limiting them to the settings and the patient population of their supervising dentists.
- Hygienists are limited in some States to providing services to the patient of record of their employing dentist.
- Dentists practice mostly in traditional models of care (that is in solo or small group practices). Practice in alternative settings is rare.
- Hygienists cannot receive direct reimbursement for hygiene services in most States. In some States, they are specifically prohibited from billing directly for their services.
- Hygienists do not generally procure patients and, in many States, are not permitted to own or establish hygiene practices.[173] [174]

These circumstances limit opportunities to provide care for compromised populations not traditionally able to access services in conventional settings like dentists' private offices.

http://www.flsenate.gov/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0466/SEC004.HTM&Title=->2002->Ch0466->Section%20004.

[172] Kansas Statutes, Chapter 65 Public Health, Article 14 Regulation of Dentists and Dental Hygienists, Section 1466, http://www.accesskansas.org/kdb/statutes.html#ch65.

[173] Rules and Regulations, Board of Dentistry, State of Oklahoma, 195:15-1-6(e), http://www.dentist.state.ok.us/RULES.PDF.

[174] Administrative Rules of the Iowa Board of Dental Examiners, Dental Examiners Board (650), Chapter 10.3(3), http://www.legis.state.ia.us/Rules/2002/iac/gnac/gnac2798/gna2799.pdf.

Hygienists could certainly provide services more frequently in other settings if regulations permitted practice.

One hygienist suggested that when access is discussed, there is a need to reflect on the provision of oral health services as an allocation of resources. Broader scope of practice for hygienists would allow for a better allocation of existing resources and would create more avenues for access by needy populations. In permitting hygienists some control over providing preventive services, dentists could then focus on restorative services for a broader patient population.

There is also a need to create multiple entry points to the system that provides oral health care. More autonomy for hygiene professionals should generate more opportunity to interface with patients in a variety of settings and circumstances. It would enable alternative access that would enhance patient care.

Hygienist informants question why there are legal constraints on their provision of prophylactic services to needy populations when dentists have not demonstrated significant interest in meeting the needs of the underserved. Medicaid plans in numerous States have difficulty enrolling participating dentists because the economic incentives are so limited. Reimbursement rates for Medicaid insured patients are typically one-half to one-third of the usual and customary charges in private dental offices.[175] This results in very little competition for Medicaid eligible patients and is an example of how economic factors affect access.

Hygienists suggest that the delivery of oral health services occurs in a topsy-turvy manner. Unlike medicine where nurses are the frontline workers performing patient triage, dental hygienists are often allowed to see new patients only after a dentist has evaluated and diagnosed them. Hygienists remark that they are educated in programs with substantial clinical subject matter and the curriculum is the equivalent of three years of a college education even though associate degrees are awarded. A high percentage of hygienists do complete bachelor's education. This positions hygienists at the same educational level as nurses. However, they are not permitted the same freedom to interface initially with patients as are nurses in a variety of medical settings.

[175] State of the States, Overview of 1999 State Legislation on Access to Oral Health, Center for Policy Alternatives, p.5, http://www.cfpa.org/cpa/publications/pdf/legbrief.pdf.

Provision of Services in Non-Traditional Settings

Informants suggest that there is a need to think in other than conventional patterns about access to care. Oral health providers work in a practice paradigm in which patients traditionally come to them to receive professional services. However, it is possible for providers to go to patients. This can be an effective strategy with populations who have limited or no access.

Providing oral health services in other than established office settings creates challenges. Although mobile equipment can be somewhat expensive, it is available and does serve a need. Hygienists working in home settings, for instance, use portable units as do volunteer hygienist teams who work in screening clinics.

Dental equipment can also be installed in other than dental offices. A volunteer hygienist commented that the nursing home where she provides services had established a dedicated dental suite to accommodate her and her collaborating dentist in the nursing home setting. Mobile dental vans serve populations by bringing the providers to the patient while providing adequate equipment to perform most preventive and restorative procedures. Some complex surgical procedures need to be performed in more fixed settings, but many preventive and restorative services can be provided with portable units. For those services requiring more extensive equipment, mobile vans that are equipped with fixed apparatus generally meet both provider and patient need.

Teledentistry was cited as an innovation in the practice environment that will permit increased access. It is also a circumstance that may result in the need for changing supervision requirements for dental hygienists across States. The implementation of teledentistry programs will demand some modifications in the supervision requirements for dental hygienists performing hygiene services using electronic media at a distance from the dentist. Demonstration projects include such practices as having a hygienist with the patient taking diagnostic x-rays in one location with a dentist in another location receiving them for diagnosis. These physical circumstances will challenge the legal conditions for practice in several States where direct supervision is required, that is the requirement of the physical presence of the dentist when any service is provided.

Barriers to Access to Dental Services

Geographic barriers to care were of concern. Hygienists from Hawaii commented that the geography of their State created some significant challenges. The State's population lives on many islands not all of which have an adequate supply of providers. Additionally the requirement for hygienists to work under direct supervision causes some artificial barriers to access since dentists for whom they work are not always conveniently or strategically located to those in need of services.

Rural populations often encounter difficulty with access due to geographic barriers. Patients in rural areas may not have dentists and therefore, probably also have no access to hygienists. Mobile dental vans are an effective strategy for meeting the needs of geographically scattered patients. There are a variety of private and public programs in States that offer mobile oral health programs which contribute to access. However, hygienists indicate there are not enough programs in operation to adequately meet need. Additionally, funding for such programs is often limited to restorative services because programs do not have the needed van space or the required funding to also provide preventive care.

There are also cultural barriers to care which were of concern to hygienists. Professionals from Alaska, for instance, discussed the Eskimo and Native American populations in their State. Hygienists encounter obvious language barriers and also comment on additional cultural barriers to provision of services. Hygienists suggest there is a general apathy about health care among certain groups that is fostered by the culture. One hygienist offered the example of seeing a child who needed full mouth rehabilitation because of significant decay. Health and social services professionals in Alaska followed the case and provided the mother with extensive education about prevention. However, there were four subsequent children born to the same family all of whom developed the same condition, each requiring extensive oral rehabilitation.

Professional Concerns

Education

Educational programs for dental hygienists are accredited by the Commission on Dental Accreditation that functions "under the auspices of the American Dental Association."[176] Presently there are 261 accredited programs for dental hygiene education awarding certificates, associate's, bachelor's or master's degrees. The vast majority (231) of these programs grant associate degrees.[177]

Hygienists recognize that there is some environmental push to elevate the educational level required for the profession. Discussion has occurred in organizational groups about advancement to entry-level bachelor's education to increase the professional stature of hygienists. Canada will require baccalaureate degree education as the entry-level credential for dental hygienists beginning in 2005.[178]

However, as with many clinical professions, hygienists struggle with the concept of adding general education requirements to advance the degree awarded when the additional academic courses will not enhance the clinical expertise of the graduate. Presently programs require 90 credit hours of clinical and practical education. There are additional concerns that advancement to bachelor's level would increase the cost of a hygiene education without a commensurate increase in starting salaries. The clinical skill level of a newly graduated hygienist would remain the same although the educational attainment would be advanced. Many hygienists already complete bachelor's education. 49 percent of hygienists have completed baccalaureate education while 44 percent have an associate degree. 7 percent of practicing hygienists indicate a certificate program as their most advanced education.[179]

There is some concern among professional hygienists that a proliferation of educational programs encouraged by dentistry as a strategy to increase supply will actually result in an

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[176] What Is Accreditation?, American Dental Association, http://www.ada.org/prof/ed/accred/whatis/define.html.
[177] Accredited Dental Hygiene Programs, American Dental Hygienists Association, http://www.adha.org/careerinfo/schools.htm.
[178] Policy Framework for Dental Hygiene Education in Canada 2005, The Canadian Dental Hygienists Association, http://www.cdha.ca/content/newsroom/pdf/PolicyFramework2005.pdf.
[179] Taking Dental Hygiene to the Next Level: Advanced Degrees in Dental Hygiene, Presentation ADHA Annual Session, C. Amyot, M. Darby, and R. Wilder, from Bureau of Labor Statistics, Bureau of The Census 2000, Current Population Survey-Basic Monthly.

oversupply of hygienists in some areas. Hygienists from Illinois and North Carolina comment that there has been a proliferation of programs in their States that has affected employment opportunities and salary levels. In general, hygienists feel that dental control over education programs is another strategy that strengthens the hygiene profession's subordination to dentistry, reinforcing the control of one profession over the other.

Hygienists also express concern that some States are permitting licensure after completion of abbreviated educational programs accompanied by chairside training by dentists. Professionals believe that these alternative programs will reduce the level of competency of the profession through a watering down of the education process. Skill will be diminished and dependence of the hygienists on dentists for direction and supervision will also be increased. A similar concern is that some States, such as North Carolina, do not require graduation from an accredited hygiene education program for certification as a hygienist in the State.

Reimbursement

Unlike medical care, where there is some subsidy built into public reimbursement for care to provide for indigent services, private dental insurance provides no subsidy or offsets for uninsured patients in need of dental services. And unlike medical care, where mid-level providers such as nurse practitioners, physical and occupational therapists, etc. are permitted to bill insurances directly for services, hygienists are generally prohibited from billing directly for their services. In a handful of States, hygienists are permitted to file for direct Medicaid reimbursement. However, this is the exception rather than the rule.

Although several States have no actual stated prohibition in law to hygienists billing directly, payers are perceived to be generally unwilling to offer direct reimbursement for hygiene services to the profession. This may be a function of a strong dentist lobby that encourages reimbursement to dentists for all services provided in dentists' offices. These established reimbursement mechanisms require the hygienist's employment by or contract with a dentist when providing services to patients.

Salaries

Several economic factors are cited as contributing negatively to the relationship between hygienists and dentists, particularly in private practice. Dentistry is still configured mainly in

solo practice with the dentist as the employer of the hygienist. Hygienists are also not permitted to receive direct reimbursement for services in most States. Hygienists must therefore be in the employ of a dentist or independently contracted to a dentist in order to be paid for their services. Many States actually require in legislation that hygienists be employed by dentists in order to provide services to patients. Some States also permit public or governmental institutions to employ a hygienist as long as there is supervision from a dentist available within the organization.

As employees of dentists, hygienists require benefits such as health insurance and retirement contributions. Some dentists are cited as being reluctant to provide those benefits to workers who are largely part time. Employing dentists will utilize the strategy of hiring several rather than one hygienist to staff their practices. This allows them to circumvent the need to provide benefits by reducing the number of hours that a hygienist works in the practice thus eliminating any legal responsibility for extending benefits. Hygienists suggest that some dentists will complain that there is a shortage of hygienists when, in fact, the dentist has a retention problem because of a refusal to support the professionals with adequate compensation. Hygiene is unusual in that there is little upward movement in salary available to professionals. The salary level at which a new hygienist enters the profession remains relatively stable throughout a hygiene career.

Compensation levels vary depending on demand. Hygienists from a variety of States offered the following as examples of salaries within States:

- In Massachusetts, a hygienist working in the Boston area might make about $35.00 per hour. A hygienist working in the Berkshire Hills in the western part of the State might only earn about $25.00 per hour. Temporary hygienists work for agencies in the State for about $33.00 per hour. A variety of salary and commission arrangements are also possible when contracting with a dentist for employment.
- California hygienists report that in large metropolitan areas a hygienist can make about $350 per day with a statewide average of about $280 per day.
- Georgia hygienists report that in metropolitan areas a hygienist can earn between $30 and $35 per hour. However, in rural areas, a hygienist may make from $14 to $17 per hour.

- Arkansas hygienists report that the opposite is true in their State. Providers in rural areas make more money than those in urban areas because the demand for providers is so high in more remote areas of the State.
- Rhode Island reports a unique circumstance in that the State borders several other States (Massachusetts and Connecticut) so hygienists can easily leave the State and work in neighboring communities for more competitive salaries than might be available in Rhode Island.
- Salaries in North Carolina were also cited in a range. New graduates might earn $225 per day while a hygienist in a metropolitan area like Charlotte would earn about $320 a day. Salary range was cited as about $40,000 in some more rural locations to about $62,000 in Chapel Hill and about $72,000 in Raleigh for a four-day week. Public health hygienists in the State would earn in a range of $37,000 to $42,000 for full time work.

Professional Relationships

The quality of relationships between dentists and dental hygienists was explored in a number of fieldwork discussions. Although hygienists suggest that at the individual level practice with dentists who appreciate their skills is generally rewarding, tension between professional dental and dental hygiene groups is apparent. As with medical professions, this animosity is most obvious at the organizational level. Hygienists identify the antagonism as ingrained and institutionalized.

There is a demonstrated, adversarial relationship in organized professional circles between dental professionals and hygiene professionals. Although informants to this research seemed to understand many of the reasons for this tension, the professions seem unable to effect any change in the existing relationships. Hygienists continue to encounter difficulties in their attempts to work cooperatively with dental professional organizations to achieve alterations in legal conditions for practice that would benefit the hygiene profession and those to whom they provide care. Hygienists from a wide variety of States recount resistance from State dental associations and State dental regulating boards when seeking expanded privileges or reduction in legislated levels of supervision. This antagonism seems to permeate national, State, and even local organizations for the professions.

Relationships between dentists and hygienists in the public health arena seem less strained than the relationships between professionals practicing in private settings. Contributions to care for a variety of populations are valued differently in public health environments than in private practice. Resources in public health settings are also more limited and the hygienists' contributions are essential to the efficiencies required. The economic incentives for public and private providers also vary depending on settings and on the patient to whom services are provided. These variations in circumstance may contribute to the observed reduction in tension between the professions in public organizations.

As an indicator of the institutional nature of the adversarial relationship between the professions, one hygienist educator commented she had observed that in her experience, over several years of teaching dental students, this attitude was learned. She commented that initially dental students are receptive to the hygiene profession. As the dental students progress through the educational process they adopt the attitude of the dental faculty which is often less favorable to hygienists.

There is significant political tension between constituent professional organizations in States. The State of Illinois provides an example. After repeated attempts at lobbying for a change in the supervision requirements for hygiene services in the State were unsuccessful, the Illinois Dental Hygienists' Association recently affiliated with the Illinois Federation of Teachers.[180] Organizationally, the federation will provide management services as well as political advocacy and lobbying services for the hygienist association. The hygiene association hopes that the level of required supervision might be changed from direct to general in the State. This would then permit practice in alternative settings not presently accessible to hygienists. The American Federation of Teachers has had some success in other States lobbying for change for other healthcare professionals. In the State of New York, the federation effectively advocated for professional regulation of psychologists after their affiliation with the New York State Psychological Association. Hygienists hope that the union's efforts will have positive results for Illinois hygienists.

[180] Illinois State Dental Society, News and Notes, Hygienists Seek to Boost Political Clout from the Chicago Tribune 10/09/02, http://www.isds.org/News-1102_1f.htm.

Best Practices Which Promote Access

State Initiatives

Many States have initiated Oral Health Task Forces and other initiatives to promote access to oral health services for populations who have limited opportunities to receive dental services. Hygienists credit interest in these initiatives to a greater awareness of oral health issues prompted by the Surgeon General's Report on Oral Health in America.

Informants from a variety of locales provided the following examples of access initiatives occurring in their home States:

- Nevada has developed an oral health plan for the State that includes a needs evaluation, a resource assessment, and an action plan. Hygienists are involved in both the conceptual stage and in the implementation process. The plan reviews the needs of vulnerable populations like children and the elderly and suggests that one emphasis should be on oral health education.[181]
- Arkansas has a program called AR Kids First that is administered through the State CHIP program. There is some problem with dentist participation in the program since reimbursement for services is so low. Arkansas has developed an outreach program called Smiles AR US. Arkansas also did an oral health needs assessment in 2000 to investigate the oral health status of Arkansas' children.[182]
- In Massachusetts, the governor authorized the formation of a Commission on Oral Health in the Commonwealth resulting in a report on oral health in the State.[183] .
- The Montana Migrant Health Program of the Montana Primary Care Association has a mobile van staffed by dentists and hygienists that provides oral health services to migrant populations and to residents of Native American reservations in the State.

[181] An Oral Health Plan for Nevada, health2k.state.nv.us/oral/class/Plan.pdf.
[182] Arkansas Year 2000 Statewide Oral Health Needs Assessment Survey, http://www.healthyarkansas.com/Oral_Health/pdf/needs.pdf.
[183] The Oral Health Crisis in Massachusetts: Report of the Special legislative Commission on Oral Health, February 2000, http://www.oralhealthcommission.homestead.com/.

- The Oregon Health Plan (Oregon Medicaid) Project: Prevention is focusing efforts on the prevention of cavities in young children. The Early Childhood Cavities Prevention Coalition is working on early intervention in children from birth to 24 months.
- The Department of Health and Welfare in the State of Idaho convened an Oral Health Summit to address concerns about access to oral health care particularly for low-income populations.[184]
- In Colorado, the Governor convened a Commission on Children's Dental Health. The group recommended that dental hygienists be utilized in provision of preventive oral health services. The recommendations of the commission also included a suggestion that hygienists be allowed to bill State Medicaid for provision of services.[185] Reimbursement for hygienists was subsequently formalized in law.

Public and Private Collaborations

Several fieldwork informants noted the importance of embracing opportunities to create public and private collaborations to meet the oral health care needs of assorted populations. Some examples of successful collaborations were offered:

- The United Methodist Health Ministry Fund (UMHMF) provided funds for the State of Kansas to study access to dental services for Medicaid populations and to develop and implement programs to increase access. The UM Health Ministry Fund was the beneficiary of the dissolution of a not for profit health provider, Wesley Health Systems, and the resulting endowment is being used to fund oral health initiatives in the State. UMHMF has sponsored sealant grants as well as the education of some of Kansas's medical providers in the North Carolina fluoride varnish program to increase access to fluoride services for infants and toddlers in Kansas.
- Kentucky hygienists have been involved in some private initiatives to increase access to care which are sponsored by Ronald McDonald Charities and the University of Kentucky. The Ronald McDonald Charities donated a mobile dental unit that has been used in a sealant program for children in the State. Presently, Ronald McDonald House

[184] Oral Health Summit Seeks to Better Idaho's Smile, State of Idaho, Department of Health and Welfare, http://www2.state.id.us/dhw/news/2001/01nov02_oral_health.htm.
[185] Addressing the Crisis of Oral Health Access for Colorado's Children, Colorado Commission on Children's Dental Health, December 2000, http://www.cdphe.state.co.us/pp/oralhealth/cccdhrpt.pdf.

Charities funds eight mobile units that provide both pediatric and dental care in Massachusetts, Pennsylvania, North Carolina, Texas, California, and Montana.[186]

- The Elks Club in Missouri funds a van used by the University of Missouri for a dentist and an assistant to travel to any area of the State where there is a need for oral health services. There is presently only sufficient funding for restorative care with no preventive services being offered. The Elks Club has funded the van since 1967 and has also provided funding for the services offered by the program.[187]
- The Massachusetts Coalition for Health funded a sealant program at multiple sites that used volunteer hygienists and hygiene students to provide services. Project Stretch is a Massachusetts' dental initiative that has extended program services both nationally and internationally. The program provided children in Berkshire County with fluoride treatments and oral hygiene education.[188] Another program in which hygienists have been involved in the State is the Child Ident Program. This is an identification program funded by the Free Masons and the State Dental Association that involves creating a bite impression, a saliva swab and a video of the child.
- Kids in Need of Dentistry (KIND) is a not for profit agency in Colorado[189] providing oral health care to children who are ineligible for insurance. The program operates in fixed clinic sites. The organization also operates a mobile van program called Miles for Smiles that services the rural areas in the western part of the State. Services provided include both prophylactic and restorative care.
- Crest Toothpaste is collaborating with the American Dental Association, the Boys and Girls Clubs of America and the American Academy of Pediatric Dentistry in educational efforts across the United States to teach children about oral health.[190]
- The Children's Aid Society of New York is working with Columbia University School of Dental and Oral Surgery to provide oral health services to children in schools, day care

[186] Ronald McDonald House Charities, News & Events, http://www.rmhc.com/news/news_recent_4/index.html.
[187] Improving Oral Health Care Systems in California, Chapter 4, Dental Safety Net in California, p. 4-14, http://www.futurehealth.ucsf.edu/pdf_files/CDAP/CDAP%20Ch4.pdf.
[188] Project Stretch, http://www.sanjuandelsur.org.ni/community/stretch.html.
[189] Kids In Need of Dentistry, http://www.kindsmiles.org/.
[190] Crest Dental Resource Net, http://www.dentalcare.com/.

and head start programs in the metropolitan area of New York City through a mobile van equipped for dental services.[191]

Volunteer Services

Hygienists in various fieldwork discussions indicated that there are a number of active volunteer efforts across States that have been organized to increase access to care. These programs are coordinated by individual hygienists and by professional organizational affiliates in collaboration with a variety of interested private and public community funders. These programs provide services such as oral health screening, hygiene education, and in some cases, sealant and/or fluoride application.

Volunteer services provided by hygienists were discussed in the fieldwork as an important contribution to the oral health of certain populations with limited access, especially for the very young and the elderly. Volunteer services are perceived to be important enough to efforts to increase access that some States actually legislate the conditions under which volunteer services may be provided:

- Maryland's statutes detail the conditions for a retired volunteer's license to practice dental hygiene. [192] This license permits a hygienist who is not actively employed in a dental practice to provide hygiene services to poor, elderly or handicapped patients in certain facilities administered by government or charitable organizations. The hygienist must agree to provide at least 100 hours of free services in order to be issued a volunteer license.
- The Code of Virginia provides for restricted volunteer licenses for dental hygienists who are willing to provide services in public health or community settings without remuneration and under the direction of a licensed dentist for patients who have been screened and are eligible for treatment.[193]

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[191] Mobile Dental Van, The Children's Aid Society, http://www.childrensaidsociety.org/locations_services/servicesindex/healthservices/dentalvan/.
[192] Maryland Statutes, Article – Health Occupations, 4-308 Scope of License, 4-308 (f), http://mlis.state.md.us/cgi-win/web_statutes.exe.
[193] Code of Virginia, Chapter 27. Dentistry, 5.1-2726.1. Restricted volunteer license for certain dental hygienists, http://leg1.state.va.us/000/lst/LH804817.HTM.

- Ohio provides for a volunteer certificate that can be issued to a dentist or a dental hygienist to provide oral health services to indigent or uninsured patients in a non-profit shelter or health care facility without remuneration.[194]

Volunteers in Health Care, an organization funded by the Robert Wood Johnson foundation cites volunteers as an important resource when considering expanding access. Their publication, "Volunteer Recruitment: Dental Providers", provides the insight that there are significantly more volunteer programs to provide medical care than dental care despite the fact that there are three times as many people without dental insurance in the United States as there are without medical insurance.[195]

Conclusions

In summary, discussion with informants suggests that several changes in conditions of practice could potentially increase access to preventive oral health services for those populations with compromised access:

1) Self-regulation would provide hygienists with needed professional control while still ensuring the quality of preventive and prophylactic hygiene services.
2) Levels of supervision required by States should be examined and evaluated in light of not only patient safety issues but also goals for reasonable access.
3) Hygienists should be permitted direct reimbursement from both public payers and private insurers. This will be critical to providing appropriate avenues for access to preventive services.
4) Expanded functions should be encouraged for hygiene professionals who are seeking professional growth and/or new opportunities to interface with a variety of patient populations.

[194] Ohio Revised Code, Title 47 Occupations – Professions, Chapter 4715, 4715.42 Volunteer's Certificate, http://onlinedocs.andersonpublishing.com/revisedcode/home3.cfm?GRDescription1=revised%20code&GRDescription2=title%2047&GRDescription3=&TextField=%3CJD%3A%224715%22%3ECHAPTER%204715%3A%20DENTISTS%3B%20DENTAL%20HYGIENISTS&GRStructure1=4715&GRStructure2=.

[195] Volunteer Retention and Recruitment: Dental Providers, Volunteers in Health Care, http://www.volunteersinhealthcare.org/Manuals/ddsrecruit.manual.pdf.

5) Public initiatives, private/public collaborations, and volunteer efforts to provide preventive oral health services should be encouraged. These resources contribute to increased access for a variety of groups who might not otherwise receive prevention services.

6) Oral health services should be offered in other than the traditional paradigm. It is possible to provide services in many settings other than private dental offices.

7) Oral health should be recognized as an issue of significant concern for public health and integrated into future policy initiatives that address the health care needs of Americans.

Appendix E. Background Charts and Tables

The following charts and tables are source documents for the charts and tables presented in Chapter 6 of this report.

Chart E-1. Required Supervision of Dental Hygienists in Five Settings by State, 1993, 1998, 2000

State	Dental Office	LTC Facility	Schools	Home Bound	State Institutions
Alabama					
1993	Direct	Direct	Direct	Direct	Direct
1998	Direct	Direct	Direct	Direct	Direct
2000	Direct	Direct	Direct	Direct	Direct
Alaska					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
Arizona					
1993	Direct/Indirect/General	General		General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
Arkansas					
1993	Direct/General	Indirect			Indirect
1998	Indirect	Indirect			Indirect
2000	Indirect	Indirect			Indirect
California					
1993	Direct	Direct	Direct	Direct	Direct
1998	Direct/General	Direct/General	Direct/General	Direct/General	Direct/General
2000	Direct/Indirect/General	Indirect	Indirect	Indirect	Indirect
Colorado					
1993	No Supervision	No Supervision	No Supervision	No Supervision	No Supervision
1998	No Supervision	No Supervision	No Supervision	No Supervision	Direct
2000	No Supervision	No Supervision	No Supervision	No Supervision	Direct
Connecticut					
1993	General	General	General	General	General
1998	General	General			
2000	General	General	General/No Supervision	General	General
Delaware					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	General	General	General		General
District of Columbia					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
Florida					
1993	General	General	General	General	General
1998	Direct	Direct	General	General	Direct
2000	Direct	Direct	General	General	Direct

continued

Chart E-1. Required Supervision of Dental Hygienists in Five Settings by State, 1993, 1998, 2000, continued

State	Dental Office	LTC Facility	Schools	Home Bound	State Institutions
Georgia					
1993	Direct	Direct		Direct	
1998	Direct	Direct	Direct	Direct	Direct
2000	Direct				
Hawaii					
1993	Direct	General	General	General	General
1998	Direct	Direct/General	Direct/General	Direct/General	Direct/General
2000	Direct	General	General	General	General
Idaho					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
Illinois					
1993	Direct	Direct/General	Direct	Direct/General	Direct/General
1998	Direct	Indirect	Direct	Indirect	Direct
2000	Direct	General	Direct	Direct	Direct
Indiana					
1993	Direct	Direct	No Supervision	Direct	Direct
1998	Direct	Direct	No Supervision	Direct	Direct
2000	Direct	Direct	No Supervision	Direct	Direct
Iowa					
1993	General	General		General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
Kansas					
1993	Direct	Direct	Direct	Direct	Direct
1998	Direct	Direct	Direct	Direct	Direct
2000	Direct	Direct	Direct	Direct	Direct
Kentucky					
1993	Indirect	Indirect	Indirect	Indirect	Indirect
1998	Indirect	Indirect	Indirect	Indirect	Indirect
2000	Direct	Direct	Direct	Direct	Direct
Louisiana					
1993	Direct				General
1998	Direct	Direct	Direct	Direct	Direct
2000	Direct	Direct	Direct	Direct	General
Maine					
1993	Direct	Undefined	No Supervision	Undefined	Undefined
1998	General	General	General	General	General
2000	General	General	General	General	General

continued

Chart E-1. Required Supervision of Dental Hygienists in Five Settings by State, 1993, 1998, 2000, continued

State	Dental Office	LTC Facility	Schools	Home Bound	State Institutions
Maryland					
1993	Indirect	Indirect	Indirect	Indirect	Indirect
1998	Indirect	General	Indirect	Indirect	General
2000	Direct	Direct	General	Direct	General
Massachusetts					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	Direct	Direct	Direct	Direct	Direct
Michigan					
1993	General	General	General	General	General
1998	General	General			
2000	General	General	General	General	General
Minnesota					
1993	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General
1998					
2000	Direct/Indirect/General				
Mississippi					
1993	Direct	Indirect	Indirect	Indirect	Indirect
1998	Direct	Direct	Direct	Direct	Direct
2000	Direct	Direct	Direct	Direct	Direct
Missouri					
1993	General	General	General	General	General
1998	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General
2000	General	General	General	General	General
Montana					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
Nebraska					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
Nevada					
1993	Direct	General	General	General	Undefined
1998	General	General	General	General	General
2000	General	General	General	General	General
New Hampshire					
1993	General	General	General	General	General
1998	Direct/Indirect/General	General	General		General
2000	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General

continued

Chart E-1. Required Supervision of Dental Hygienists in Five Settings by State, 1993, 1998, 2000, continued

State Institutions	Dental Office	LTC Facility	Schools	Home Bound	State Institutions
New Jersey					
1993	Direct	General	General	Direct	General
1998	Direct	General	Direct	Direct	General
2000	Direct	Direct	Direct	Direct	Direct
New Mexico					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
New York					
1993	Direct/General	Direct/General	General		
1998	Direct/General	Direct/General	Direct/General	Direct/General	Direct/General
2000	Direct/Indirect/General	Direct/Indirect/General	Direct/Indirect/General	General	Direct/Indirect/General
North Carolina					
1993	Indirect	Indirect	Indirect	Indirect	Indirect
1998	Indirect	Indirect	General	Indirect	Indirect
2000	Indirect	Indirect	General	Indirect	Indirect
North Dakota					
1993	Direct/General	General	Direct/General	Direct/General	General
1998	General	General	General	General	General
2000	No Supervision	No Supervision	No Supervision	No Supervision	No Supervision
Ohio					
1993	Indirect	Undefined	General	Undefined	Undefined
1998	Direct	Indirect	Indirect	Indirect	Indirect
2000	Direct	Indirect	Indirect	Indirect	Indirect
Oklahoma					
1993	Direct	Direct	Direct	Direct	Direct
1998	General	General	General	General	General
2000	General				
Oregon					
1993	General	General	General	General	General
1998	General	General			
2000	General	General			
Pennsylvania					
1993	Direct	General	General	General	General
1998	No Supervision	General	General		General
2000	No Supervision	General	General		General
Rhode Island					
1993	Indirect	Indirect	Indirect	Indirect	Indirect
1998	General	General	General	General	General
2000	General	General	General	General	General

continued

Chart E-1. Required Supervision of Dental Hygienists in Five Settings by State, 1993, 1998, 2000, continued

State	Dental Office	LTC Facility	Schools	Home Bound	State Institutions
South Carolina					
1993	Direct	Indirect/General	General	Indirect/General	Indirect
1998	Direct	Direct	General	Undefined	Direct
2000		General	General	General	General
South Dakota					
1993	Direct/Indirect/General	Direct/Indirect/General			Direct/Indirect/General
1998	Undefined	Undefined	Undefined	Undefined	Undefined
2000	General	General	General	General	General
Tennessee					
1993					
1998	Indirect	General	General		Indirect
2000	Indirect	General	General		Indirect
Texas					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
Utah					
1993	General	General	Undefined	General	General
1998	General	General	General	General	General
2000	General	General	General	General	General
Vermont					
1993	General	General	General	General	General
1998	General	General	General	General	General
2000	Direct/General	General	General	General	Direct/General
Virginia					
1993	Direct	Direct	Direct	Direct	Direct
1998	Direct	Direct	Direct	Direct	Direct
2000	Direct	Direct	Direct	Direct	Direct
Washington					
1993	Direct/General	No Supervision	Undefined	Undefined	No Supervision
1998	Direct/General	No Supervision	Direct/General	No Supervision	No Supervision
2000	General	No Supervision	General	No Supervision	No Supervision
West Virginia					
1993	Direct	Direct	Direct	Direct	Direct
1998	Direct	Direct	Direct	Direct	Direct
2000	Direct	Direct	Direct	Direct	Direct
Wisconsin					
1993	General	General	No Supervision	General	General
1998	General	General	No Supervision	General	General
2000	General	General		General	General

continued

Chart E-1. Required Supervision of Dental Hygienists in Five Settings by State, 1993, 1998, 2000, continued

State	Dental Office	LTC Facility	Schools	Home Bound	State Institutions
Wyoming					
1993	General	General	Undefined	Undefined	Undefined
1998	General	General	General	General	General
2000	General	General	General	General	General

Resources

ADA, 1993. Legal Provisions for Delegating Functions to Dental Assistants and Dental Hygienists
ADA, 1998. Survey of Legal Provisions for Delegating Expanded Functions to Chairside Assistants and Dental Hygienists
ADA, 2000. Survey of Legal Provisions for Delegating Intraoral Functions to Chairside Assistants and Dental Hygienists

Chart E-2. Tasks Permitted and Mandated Supervision of Dental Hygienists by State, 1993, 1998, and 2000

STATE	X-rays	Coronal Polishing	Application of Fluoride	Application of Sealants	Placing Periodontal Dressings	Removal of Sutures	Monitor N_2O	Administer N_2O	Administer Block Local	Place Amalgam	Subgingival Scaling
Alabama											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Direct	Direct
1998	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	N/A	Direct
2000	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Direct
Alaska											
1993	General	General	General	General	N/A	Permitted	Not Permit	Not Permit	Direct	Not Permit	General
1998	General	General	General	General	General	General	N/A	N/A	Indirect	N/A	General
2000	None	General	General	General	General	N/A	Direct	Direct	Direct	Not Permit	General
Arizona											
1993	General	General	General	General	Direct	Not Permit	Direct	Direct	Direct	Not Permit	General
1998	General	General	General	General	General	General	Indirect	Indirect	Indirect	Direct	General
2000	General	General	General	General	Indirect	Indirect	Indirect	Indirect	Indirect	Direct	General
Arkansas											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Direct
1998	Indirect	Indirect	Indirect	Direct	Indirect	Indirect	Indirect	Indirect	Direct	N/A	Indirect
2000	Indirect	Indirect	Indirect	Direct	Indirect	Indirect	Indirect	Indirect	Direct	N/A	Indirect
California											
1993	Direct	General	Direct	General	General	General	Direct	Direct	Direct	Not Permit	Direct
1998	General	General	General	General	General	General	Direct	Direct	Direct	N/A	General
2000	None	General	Permitted	General	General	General	Indirect	Direct	Direct	Not Permit	General
Colorado											
1993	General	None	None	None	General	General	Direct	Not Permit	Direct	General	None
1998	General	None	None	None	General	General	Direct	Direct	Direct	General	None
2000	General	None	None	None	General	General	Direct	Direct	Direct	General	None
Connecticut											
1993	General	General	General	General	Not Permit	General	Not Permit	Not Permit	Not Permit	Not Permit	General
1998	General	General	General	General	N/A	General	N/A	Not Permit	Not Permit	N/A	General
2000	General	General	General	General	N/A	Not Permit	Not Permit	Not Permit	Not Permit	Not Permit	General
Delaware											
1993	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	Not Permit	General
1998	General	General	General	General	General	Not Permit	Not Permit	Not Permit	Not Permit	Not Permit	General
2000	General	General	General	General	General	General	General	General	General	General	General
District of Columbia											
1993	General	General	General	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	General
1998	General	General	General	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	General
2000	General	General	General	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	General

continued

Chart E-2. Tasks Permitted and Mandated Supervision of Dental Hygienists by State, 1993, 1998, and 2000, continued

STATE	X-rays	Coronal Polishing	Application of Fluoride	Application of Sealants	Placing Periodontal Dressings	Removal of Sutures	Monitor N_2O	Administer N_2O	Administer Block Local	Place Amalgam	Subgingival Scaling
Florida											
1993	General	Direct	General	Direct	General	General	Direct	Not Permit	Not Permit	Not Permit	General
1998	Direct	N/A	General	Direct	Direct	General	Direct	N/A	N/A	N/A	N/R
2000	Direct	N/A	General	Direct	Direct	General	Direct	N/A	N/A	Direct	N/R
Georgia											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	Direct
1998	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	Direct
2000	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Direct
Hawaii											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Permitted	Not Permit	Not Permit	Not Permit	Direct
1998	Direct	N/A	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Direct
2000	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Direct	Direct	Direct
Idaho											
1993	General	General	General	General	General	General	Indirect	Indirect	Indirect	Not Permit	General
1998	General	General	General	General	General	General	Indirect	Indirect	Indirect	Not Permit	General
2000	General	General	General	General	Indirect	General	General	General	Indirect	Not Permit	General
Illinois											
1993	Direct	Direct	Direct	Direct	Not Permit	Direct	Not Permit	Not Permit	Not Permit	Not Permit	Direct
1998	Indirect	Direct	Indirect	Indirect	Indirect	Indirect	Direct	Not Permit	Not Permit	Direct	Direct
2000	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Direct
Indiana											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Direct
1998	Direct	Direct	Direct	N/A	N/A	N/A	Not Permit	Not Permit	Not Permit	N/A	Direct
2000	Direct	Direct	Direct	N/A	N/A	N/A	Not Permit	Not Permit	Not Permit	N/A	Direct
Iowa											
1993	General	General	General	General	General	Not Permit	General	Not Permit	Not Permit	Not Permit	Indirect
1998	General	General	General	General	N/A	N/A	N/A	N/A	Direct	N/A	General
2000	General	General	General	General	N/A	N/A	N/A	N/A	Direct	N/A	General
Kansas											
1993	Direct	Direct	Direct	Direct	Direct	Permitted	Direct	Direct	Direct	N/A	Direct
1998	N/A	Direct	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2000	N/A	Direct	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kentucky											
1993	Direct	Indirect	Indirect	Indirect	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Indirect
1998	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	Not Permit	Not Permit	Indirect	Indirect
2000	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Direct

continued

Chart E-2. Tasks Permitted and Mandated Supervision of Dental Hygienists by State, 1993, 1998, and 2000, continued

STATE	X-rays	Coronal Polishing	Application of Fluoride	Application of Sealants	Placing Periodontal Dressings	Removal of Sutures	Monitor N_2O	Administer N_2O	Administer Block Local	Place Amalgam	Subgingival Scaling
Louisiana											
1993	Indirect	Direct	Indirect	Indirect	Direct	Indirect	Not Permit	Not Permit	Not Permit	Not Permit	Direct
1998	Direct	Direct	Direct	Direct	Direct	Direct	Permitted	Not Permit	Direct	Not Permit	Direct
2000	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Direct	Not Permit	Direct
Maine											
1993	General	General	General	General	Direct	General	General	Not Permit	Not Permit	Direct	General
1998	General	General	General	General	Indirect	General	Indirect	Indirect	Indirect	Not Permit	General
2000	General	General	General	General	Indirect	General	Indirect	Indirect	Indirect	Not Permit	General
Maryland											
1993	Indirect	Indirect	Not Permitted	Permitted	Indirect	Direct	Not Permit	Not Permit	Not Permit	Not Permit	Indirect
1998	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	Not Permit	Not Permit	Not Permit	Not Permit	Indirect
2000	Direct	Indirect	Indirect	Indirect	Indirect	Indirect	Not Permit	Not Permit	Not Permit	Not Permit	Indirect
Massachusetts											
1993	General	General	General	General	General	General	Direct	Not Permit	Not Permit	Direct	General
1998	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	Direct	General
2000	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	Direct	General
Michigan											
1993	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	Not Permit	Indirect
1998	General	General	General	General	General	Not Permit	Direct	Not Permit	Not Permit	Not Permit	General
2000	General	General	General	General	General	General	N/A	Not Permit	Not Permit	N/A	General
Minnesota											
1993	General	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	General
1998	General	General	General	General	General	General	Indirect	Indirect	Indirect	N/A	General
2000	General	General	General	General	General	General	General	Direct	Direct	Not Permit	General
Mississippi											
1993	Permitted	Permitted	Direct	Direct	N/A	N/A	Direct	Not Permit	Not Permit	Not Permit	Permitted
1998	Direct	Direct	Direct	Direct	Direct	Direct	Direct	N/A	Not Permit	N/A	Direct
2000	Direct	Direct	Direct	Direct	Direct	Direct	Direct	N/A	Not Permit	N/A	Direct
Missouri											
1993	Indirect	Indirect	Indirect	Indirect	Direct	Indirect	Direct	Direct	Not Permit	Not Permit	Indirect
1998	General	General	General	General	Direct	Direct	Direct	Direct	Not Permit	Direct	General
2000	N/A	Permitted	N/A	N/A	Direct	Permitted	Permitted	Permitted	Permitted	Direct	N/R
Montana											
1993	General	General	General	General	General	General	Direct	Not Permit	Direct	N/A	General
1998	General	General	General	General	General	General	General	General	Indirect	General	General
2000	General	General	General	General	General	General	General	General	Indirect	General	General

continued

Chart E-2. Tasks Permitted and Mandated Supervision of Dental Hygienists by State, 1993, 1998, and 2000, continued

STATE	X-rays	Coronal Polishing	Application of Fluoride	Application of Sealants	Placing Periodontal Dressings	Removal of Sutures	Monitor N_2O	Administer N_2O	Administer Block Local	Place Amalgam	Subgingival Scaling
Nebraska											
1993	General	General	General	General	General	General	Direct	Not Permit	Not Permit	Not Permit	General
1998	General	General	General	General	General	General	Indirect	Not Permit	Indirect	Direct	General
2000	Permitted	Permitted	Permitted	Permitted	Permittted	General	Permitted	Not Permit	Permitted	Permitted	N/R
Nevada											
1993	Direct	Direct	Indirect	Direct	Direct	Indirect	Direct	Direct	Direct	Not Permit	Direct
1998	General	General	General	General	General	General	Direct	Direct	Direct	N/A	General
2000	General	General	General	General	General	General	Direct	Direct	Direct	N/A	General
New Hampshire											
1993	General	General	General	Indirect	Not Permit	General	Not Permit	Not Permit	Not Permit	Not Permit	General
1998	Direct	General	General	General	Direct	General	Not Permit	N/A	N/A	Not Permit	General
2000	General	General	General	General	Direct	General	Not Permit	Not Permit	Not Permit	Not Permit	General
New Jersey											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	Direct	Direct
1998	Permitted	Permitted	Permitted	Permitted	Permitted	Permitted	Permitted	Not Permit	Not Permit	Permitted	N/R
2000	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	Direct	Direct
New Mexico											
1993	General	General	General	General	Not Permit	Direct	Direct	Not Permit	Direct	Not Permit	General
1998	General	General	General	General	None Spec.	None Spec.	Direct	Indirect	Indirect	N/A	General
2000	General	General	General	General	None Spec.	None Spec.	Direct	Indirect	Indirect	N/A	General
New York											
1993	General	General	General	General	Direct	Direct	N/A	N/A	N/A	N/A	General
1998	General	General	General	General	Not Permit	Direct	Not Permit	Not Permit	Not Permit	Not Permit	General
2000	General	General	General	General	Not Permit	Direct	Not Permit	Not Permit	Not Permit	Not Permit	General
North Carolina											
1993	Indirect	Indirect	Indirect	Direct	Not Permit	Indirect	Indirect	Not Permit	Not Permit	Not Permit	Indirect
1998	Indirect	Indirect	Indirect	Indirect	Not Permit	Indirect	Indirect	Not Permit	Not Permit	Indirect	Indirect
2000	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	Not Permit	Not Permit	Indirect	Indirect
North Dakota											
1993	General	General	General	General	General	General	General	Not Permit	Not Permit	N/A	General
1998	General	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	General
2000	General	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	General
Ohio											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Direct
1998	Indirect	Indirect	Indirect	Indirect	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Indirect
2000	Indirect	Indirect	Indirect	Indirect	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Indirect

continued

Chart E-2. Tasks Permitted and Mandated Supervision of Dental Hygienists by State, 1993, 1998, and 2000, continued

STATE	X-rays	Coronal Polishing	Application of Fluoride	Application of Sealants	Placing Periodontal Dressings	Removal of Sutures	Monitor N_2O	Administer N_2O	Administer Block Local	Place Amalgam	Subgingival Scaling
Oklahoma											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Direct
1998	General	General	General	General	General	General	Direct	Direct	Direct	Not Permit	General
2000	Permitted	Permitted	Permitted	Permitted	Permitted	General	Permitted	Permitted	Permitted	Not Permit	N/R
Oregon											
1993	General	General	General	General	General	General	Direct	Indirect	General	Not Permit	General
1998	General	General	General	General	General	General	General	Indirect	General	N/A	General
2000	General	General	General	General	General	General	General	Indirect	General	N/A	General
Pennsylvania											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	Direct	Direct
1998	General	General	General	General	Direct	Direct	Not Permit	Not Permit	Not Permit	Direct	General
2000	General	General	General	General	Direct	Direct	Not Permit	Not Permit	Not Permit	Direct	General
Rhode Island											
1993	Indirect	Indirect	Indirect	Indirect	Indirect	Direct	Not Permit	Not Permit	Not Permit	Direct	Indirect
1998	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	Not Permit	General
2000	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	Not Permit	General
South Carolina											
1993	Indirect	Indirect	Indirect	General	Indirect	Direct	Not Permit	Not Permit	Not Permit	Not Permit	Indirect
1998	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	Direct
2000			Permitted	Permitted	Direct	N/R	Permitted	N/R	N/R	N/R	N/R
South Dakota											
1993	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	Direct	Direct	Direct	Not Permit	Indirect
1998	Indirect	Indirect	None	Indirect	General	General	None Spec.	Permitted	Permitted	Not Permit	Indirect
2000	Indirect	Indirect	None	Indirect	General	General	None Spec.	Permitted	Permitted	Not Permit	Indirect
Tennessee											
1993	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
1998	Indirect	Indirect	Indirect	Indirect	Not Permit	Indirect	Direct	Not Permit	Not Permit	Indirect	Indirect
2000	Indirect	Indirect	Indirect	Indirect	Not Permit	Indirect	Direct	Not Permit	Not Permit	Indirect	Indirect
Texas											
1993	General	General	General	General	General	General	Direct	Not Permit	Not Permit	Not Permit	General
1998	General	General	General	General	General	General	Direct	Not Permit	Not Permit	Direct	General
2000	General	General	General	General	General	General	Direct	Direct	Not Permit	Not Permit	General
Utah											
1993	General	General	General	General	General	General	Direct	Direct	Permitted	Not Permit	General
1998	General	General	N/A	N/A	N/A	N/A	Indirect	Indirect	Indirect	Not Permit	General
2000	General	General	General	General	General	General	General	Indirect	Indirect	Not Permit	General

continued

Chart E-2. Tasks Permitted and Mandated Supervision of Dental Hygienists by State, 1993, 1998, and 2000, continued

STATE	X-rays	Coronal Polishing	Application of Fluoride	Application of Sealants	Placing Periodontal Dressings	Removal of Sutures	Monitor N_2O	Administer N_2O	Administer Block Local	Place Amalgam	Subgingival Scaling
Vermont											
1993	General	General	General	General	General	General	Not Permit	Not Permit	Not Permit	Direct	General
1998	N/A	N/A	N/A	N/A	N/A	N/A	Direct	Not Permit	Direct	N/A	N/A
2000	General	General	General	General	General	General	Direct	Not Permit	Direct	Direct	General
Virginia											
1993	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Direct	Direct
1998	Direct	Direct	Direct	Direct	Direct	Direct	N/A	Not Permit	Not Permit	N/A	Direct
2000	Direct	Direct	N/A	N/A	N/A	N/A	Not Permit	Not Permit	N/A	Not Permit	Direct
Washington											
1993	General	General	General	General	Direct	Direct	Direct	Direct	Direct	Direct	General
1998	General	General	General	General	Direct	N/A	Direct	Direct	Direct	Direct	General
2000	None	General	General	General	Direct	N/A	Direct	Direct	Direct	Direct	General
West Virginia											
1993	Direct	Direct	Direct	Direct	Not Permit	Direct	Not Permit	Not Permit	Not Permit	Not Permit	Direct
1998	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	Not Permit	Direct
2000	Direct	Direct	Direct	Direct	Direct	Direct	Not Permit	Not Permit	Not Permit	Not Permit	Direct
Wisconsin											
1993	General	General	General	General	Direct	General	Direct	Not Permit	Not Permit	Not Permit	General
1998	General	General	General	General	Direct	General	General	Not Permit	Not Permit	Not Permit	General
2000	General	General	General	General	Direct	General	General	Not Permit	Direct	Not Permit	General
Wyoming											
1993	General	General	General	Direct	Direct	General	N/A	Not Permit	Indirect	Direct	General
1998	Indirect	Indirect	General	Direct	Direct	N/A	N/A	N/A	Direct	Direct	Indirect
2000	Indirect	Indirect	General	Direct	Direct	N/A	N/A	N/A	Direct	Direct	Indirect

Resources

American Dental Association, 1993 Legal Provisions for Delegating Functions to Dental Assistants and Dental Hygienists, Chicago, IL.
American Dental Association, 1998 Survey of Legal Provisions for Delegating Expanded Functions to Chairside Assistants and Dental Hygienists, Chicago, IL
American Dental Association, 2000 Survey of Legal Provisions for Delegating Intraoral Functions to Chairside Assistants and Dental Hygienists, Chicago, IL

Glossary

N/R = Non Response

N/A = Function not Addressed

Permitted = Supervision Requirement Unknown

Table E-3. Number of States Permitting Selected Services by DHs

Task	1993	1998	2000
Placing and Condensing Amalgam	6	8	7
Carving Amalgam	6	8	8
Placing Amalgam Restorations	13	17	18
Administration of Nitrous Oxide	13	17	19
Pulp Vitality Testing	19	23	23
Adminstration of Block Local	15	21	25
Removing Temporary Restorations	29	29	30
Fabrication of Temporary Restorations	18	34	32
Placing Temporary Restorations	36	36	34
Monitoring Nitrous Oxide Analgesia	34	36	34
Removing Sutures	46	40	40
Placing Periodontal Dressings	42	42	44
X-Rays	50	50	46
Removing Periodontal Dressings	48	46	46
Application of Topical Agents	49	49	47
Application of Pit and Fissure Sealants	49	48	47
Supragingival Scaling	49	50	48
Subgingival Scaling	49	49	48
Coronal Polishing	50	49	49

Source: ADA Survey of Legal Provisions 1993, 1998, 2000

Chart E-4. Expanded Functions For DHs By State, 1993, 1998, 2000, 2001

1993	1998	2000	2001
Alaska			
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
Arizona			
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Certificate in Expanded Functions	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
	Certificate for Interrupted Sutures	Certificate for Interrupted Sutures	Certificate for Interrupted Sutures
Arkansas			
	Expanded Functions Available	Expanded Functions Available	Certificate for Local Anesthesia
California			
Registered DHs in Expanded Functions	Registered DHs in Expanded Functions	Registered DHs in Expanded Functions	Registered DHs in Expanded Functions
		Registered DHs in Alternative Practice	Registered DHs in Alternative Practice
		Certificate for Local Anesthesia	Certificate for Local Anesthesia
		Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
Colorado			
	Unsupervised Practice in Public Health Settings	Unsupervised Practice in Public Health Settings	Unsupervised Practice in Public Health Settings
	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
Connecticut			
		Unsupervised Practice for Public Health DHs	Unsupervised Practice for Public Health DHs
Hawaii			
		Certificate for Local Anesthesia	Certificate for Local Anesthesia
Idaho			
		Admin. of Local Anesthesia and N_2O in hospitals	Admin. of Local Anesthesia and N_2O in hospitals
Illinois			
			Certificate for Local Anesthesia
			Certificate for Nitrous Oxide
Iowa			
		Certificate for Local Anesthesia	Certificate for Local Anesthesia
		Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
Kansas			
			Certificate for Local Anesthesia
			Certificate for Nitrous Oxide

continued

Chart E-4. Expanded Functions For DHs By State, 1993, 1998, 2000, 2001

1993	1998	2000	2001
Louisiana			
	Infiltration & Block Anesth Permit	Infiltration & Block Anesth Permit	Infiltration & Block Anesth Permit
Maine			
		PH Supervision	PH Supervision
	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Michigan			
			PH Supervision
Minnesota			
	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
Missouri			
			Unsup. Practice in PH Settings
	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Montana			
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Nebraska			
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Nevada			
			Public Health DH
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
New Hampshire			
	PH Supervision	PH Supervision	PH Supervision
New Jersey			
		Special Provisions in PH Settings	Special Provisions in PH Settings
New Mexico			
		Collaborative Practice for DHs	Collaborative Practice for DHs
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Application of Pit and Fissure Sealants	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
New York			
			Certificate for Local Anesthesia
			Certificate for Nitrous Oxide

continued

Chart E-4. Expanded Functions For DHs By State, 1993, 1998, 2000, 2001

1993	1998	2000	2001
North Carolina			
		Special Provisions in PH Settings.	Special Provisions in PH Settings.
Ohio			
		Expanded Function Dental Auxiliary	Expanded Function Dental Auxiliary
Oklahoma			
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
Oregon			
	Limited Access Permit with No Supervision	Limited Access Permit with No Supervision	Limited Access Permit with No Supervision
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
Pennsylvania			
		Expanded Function Dental Asst to Provide Restorative Services	Expanded Function Dental Asst to Provide Restorative Services
South Carolina			
		Special Provisions in PH Settings	Special Provisions in PH Settings
	Certificate for Local Anesthesia (Infiltration)	Certificate for Local Anesthesia (Infiltration)	Certificate for Local Anesthesia (Infiltration)
South Dakota			
		Certificate for Local Anesthesia	Certificate for Local Anesthesia
		Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
Utah			
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide
Vermont			
Exp. Function Dental Asst Certificate Available to DH	Exp. Function Dental Asst Certificate Available to DH	Exp. Function Dental Asst Certificate Available to DH	Exp. Function Dental Asst Certificate Available to DH
	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Washington			
	Unsupervised Practice Permitted	Unsupervised Practice Permitted	Unsupervised Practice Permitted
			School Sealant DH
Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia	Certificate for Local Anesthesia
Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide	Certificate for Nitrous Oxide

continued

Chart E-4. Expanded Functions For DHs By State, 1993, 1998, 2000, 2001

1993	1998	2000	2001
Wisconsin			
		Certificate for Local Anesthesia	Certificate for Local Anesthesia
Wyoming			
Expanded Functions	Exp Functions: Local Anesth, Placing & carving amalgam restor's, & placing composites.	Exp Functions: Local Anesth, Placing & carving amalgam restor's, & placing composites.	Exp Functions: Local Anesth, Placing & carving amalgam restor's, & placing composites.

Sources:

ADA, 1993. Legal Provisions for Delegating Functions to Dental Assistants and DHs, Chicago, IL
ADA, 1998. Survey of Legal Provisions for Delegating Expanded Functions to Chairside Assistants and DHs, Chicago, IL
ADA, 2000. Survey of Legal Provisions for Delegating Intraoral Functions to Chairside Assistants and DHs
Center for Health Workforce Studies, University at Albany School of PH, Scope of Practice for DHs. 2001.

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