Voices for Vermont's Children

VERMONT
Oral Health Care for All
COALITION

S. Beth Nolan
Outreach and Project Coordinator
Voices for Vermont's Children
Testimony to Senate Government Operations on S.35
January 16, 2014

- Good afternoon. My name is Beth Nolan and I am the Outreach and Project Coordinator for Voices for Vermont's Children.
- Thank you for the opportunity to testify today on behalf of the Vermont Oral Health Care for All - a statewide coalition of over 40 organizations representing thousands of Vermonters of all ages trying to increase access for affordable dental care.
- The evidence is clear. Too many Vermonters do not have access to affordable dental care. The main reasons are: high costs, lack of adequate coverage, geographic limitations, and the inability to find a dentist willing to treat you. To date, we have relied upon a cobbled together system of care that leaves thousands of people without access to the dental care they need. We are certain that the licensed dental practitioner will address Vermonters' access needs by providing safe, quality, and effective care where Vermonters live, work and attend school.

- What evidence do we have that the LDP is necessary? To start, the coalition has collected over 200 hundred stories across Vermont from people who cannot get the dental care they need. Dental care continues to be identified across the state as a top priority that must be addressed to improve health –this can be seen in the community needs assessments of hospitals and community-led conversations for example. We see long lines and waitlists at clinics and health centers across the state. The Green Mountain Care Board identified lack of access to dental care as a problem that deserves further attention.
    - Nearly 68,000 adults reported not getting needed dental care because they couldn't afford it in 2012.
    - Over 23,000 children with Medicaid/Dr.Dynasaur dental coverage still did not receive the dental care they needed in 2011.
    - Emergency Room visits for dental care increased nearly 42% between 2003 and 2011.

We also know that the dental workforce in Vermont does not currently have the capacity to treat the thousands of Vermonters who need dental care, or are unwilling. And as we transition to a new health insurance system more people will have dental coverage and the problem will only get worse. Without action now, we will continue to have thousands of people not getting the care they need or enough professionals willing to treat them.

- Expanding the dental workforce to include a Licensed Dental Practitioner –just as a nurse practitioner does in the medical field – can lengthen the reach of the dental team and make routine dental care available to more Vermonters. Midlevel dental providers have practiced for nearly 100 years, are utilized in more than 50 countries, have worked to increase access in the U.S. for nearly a decade and are proven to be safe, competent, and effective. In fact, study after study has shown that within their limited scope of practice, this midlevel practitioner provides high quality care and improves access. They are the most studied dental professionals in the dental field and every single piece of evidence shows that midlevel providers are safe in every procedure they perform. They provide routine preventive and restorative care to thousands of people in MN and AK and have increased access without incident. Since 2005 alone in AK, they have increased access to more than 40,000 people. In fact, they have already made a dent in the cavity rate among children and are practicing more preventive care and less restorative care. In MN, access has also expanded. In 2011-2012 alone, MN dental therapists provided care to more than 2,000 patients, of whom 84% were enrolled in Medicaid. Not only did these providers expand access in both states, but they also did so in a cost effective way. Midlevels cost their employers less than 30 cents for every dollar of revenue they generate. In addition, they have allowed for both private and public

health dental practices to expand access to patients at an affordable rate. More people are able to get affordable dental care because of midlevel providers.

- A Licensed Dental Practitioner will provide care where people work, live, and go to school. Imagine the barriers to access that could be overcome by having these practitioners provide care in schools, FQHCs, private dental offices, Clinics for the Uninsured, WIC Clinics, and more. Picture your hygienist, getting additional training to both prevent dental disease and help you keep your teeth with basic restorative work.
- The Licensed Dental Practitioner is the only model currently being proposed in Vermont that has capacity to be trained in the state, addresses many of the barriers, increases access in a cost-effective yet affordable way, and can provide real clinical treatment to Vermonters who desperately need it.
- Thank you and I welcome any questions you have.

Vermont Licensed Dental Practitioner

For it:

AARP
American Federation of Teachers/United Professions
Community of Vermont Elders
Copley Hospital United Nurses & Allied Professional, Local 5109
Disability Rights VT
ELNU Tribe of the Abenaki
Grèen Mountain Chapter Older Women's League
Green Mountain Self Advocates
Healthcare Ombudsman
Hunger Free VT
King Street Center
Long-Term Care Ombudsman
Mercy Connections
National Association of Social Workers, VT Chapter
People's Health & Wellness Clinic
Planned Parenthood of Northern New England
Valley Health Connections
VT Anti-Racism Action Team
VT Assembly of Home Health Agencies
VT Association of Adult Day Services
VT Association of Area Agencies on Aging
VT Center for Independent Living
VT Center on Disability and Community Inclusion, UVM
VT Citizens Campaign for Health
VT Coalition for Disability Rights
VT Coalition of Residential Providers
VT Coalition of Runaway & Homeless Youth
VT Developmental Disabilities Council
VT Family Network
Vermont Campaign for Health Care Security
VT Dental Hygienists' Association
VT Kin As Parents
VT Low Income Advocacy Council
VT Migrant Workers Coalition
VT National Education Association
VT Network Against Domestic & Sexual Violence
VT Nurse Practitioners Association
VT Public Interest Research Group
VT State Nurses' Association
Vermont Technical College
VT Workers' Center
Voices for Vermont's Children

Against it:

Vermont State Dental Society

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Vermont Oral Health Care for All Coalition Members

AARP
American Federation of Teachers/United Professions
Community of Vermont Elders
Copley Hospital United Nurses & Allied Professional, Local 5109
Disability Rights VT
ELNU Tribe of the Abenaki
Green Mountain Chapter Older Women's League
Green Mountain Self Advocates
Healthcare Ombudsman
Hunger Free VT
Kids Are Priority One Coalition
King Street Center
Long-Term Care Ombudsman
Mercy Connections
National Association of Social Workers, VT Chapter
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VT Center for Independent Living
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VT Coalition of Runaway & Homeless Youth
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VT Family Network
Vermont Campaign for Health Care Security Education Fund
VT Dental Hygienists' Association
VT Kin As Parents
VT Low Income Advocacy Council
VT Migrant Workers Coalition
VT National Education Association
VT Network Against Domestic & Sexual Violence
VT Nurse Practitioners Association
VT Public Interest Research Group
VT State Nurses' Association
VT Workers' Center
Voices for Vermont's Children

Vermont Oral Health Care for All Coalition

The Vermont Oral Health Care for All Coalition is working to build a statewide consumer voice and raise public awareness of the need for better access to affordable dental care.

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COALITION AGENDA

Dental coverage in VT's universal health plan

Oral health is important to overall health, yet it is often left out of health insurance plans. The coalition is dedicated to bringing the mouth back into line with the rest of our health needs, and will work to include dental coverage in any universal health plan considered in this state.

Expansion of programs serving low-income children and families

- Getting Public Health Hygienists into WIC Clinics
- Expanding the Tooth Tutor Program

Full dental coverage for all pregnant women on Dr. Dynasaur -ACCOMPLISHED

The coalition is advocating to give pregnant women on Dr. Dynasaur over the age of 18 the same benefits as pregnant women under 18 years so that all pregnant women and their children can begin early on the path to good oral health care.

Medicaid expansion

- Include dentures in adult Medicaid coverage
- Raise or remove the adult Medicaid dental cap of $495 per year

New dental practitioner to the dental team

The coalition is advocating increasing access to care in the state by adding a new dental practitioner to the team to expand the reach of the dentist. This practitioner model is based on two different current models, both of which are proven methods of increasing access while providing safe, competent, and effective preventive and restorative dental care.

Time and again, Vermont has been recognized as a national leader in health care reform. It is time for us to bring that same spirit of innovation and collaboration to providing accessible and affordable oral health care for all Vermonters. The Vermont Oral Health Care for All Coalition believes that by working towards the above-mentioned items, we can start to move towards giving Vermonters the care they need and deserve.

For more information please see our website at www.vtoralhealth4all.org.

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At a time when so many are struggling, we must continue to fight to ensure dental care is available for all people, regardless of income or ability to pay.

-Vermont Senator Bernie Sanders

It's Time for Action

For too long oral health has not been recognized as integral to overall health. Too many Vermonters do not have access to preventive and routine dental care.

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Oral Health Matters

Oral health is vital to overall health—the mouth reflects general health and well-being. Yet, nearly every American has been affected by oral disease?.[1]

Oral Health Throughout the Lifespan

Good oral health is important at every age, and tooth decay and other oral diseases are preventable through a combination of fluoride, dental sealants and access to preventive and restorative affordable dental care.

Pregnant Women , Infants, & Toddlers

A healthy mouth is important in all stages of life, but it is especially important to get an early start at good oral health.

During pregnancy, the stage is set for the future baby's health, and oral health is no exception. An infection caused by bacteria in the mouth can be passed from mom to fetus; and the body's response could interfere with having a healthy baby.

For infants and toddlers, good oral health becomes even more important. Untreated dental decay can impede proper nutrition and speech development, and set the stage for a lifetime of poor oral health.

Did you know?
Poor oral health can lead to low-weight, pre-term births.[2]

Children and Youth

For children and youth, having a healthy pain-free mouth makes learning and playing more enjoyable.

Since the permanent teeth begin to develop early in childhood, access to regular dental care will determine the likelihood of future oral health.

In addition, good oral health is essential to a child's social well-being. Children and youth with poor oral health often have a tougher time succeeding at school—both academically and socially.

Did you know?
In 2009, at least 24,000 Medicaid-enrolled children in Vermont did not receive dental care.[3]

Oral Health Care For All: Campaign 2012

Vermont needs a systemic approach to addressing the oral health care needs of Vermonters.

In 2012 the Coalition will advocate for:

- Dental coverage to be included in Vermont's Green Mountain Care plan,
- Full dental coverage for all pregnant women on Dr. Dynasaur, and
- Adding a new dental practitioner to the dental team who can provide preventive and routine dental care.

Join the **Vermont Oral Health Care For All Coalition and help us** increase access to affordable care for all Vermonters and move Vermont toward a system that integrates oral health care into overall health care.

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Adults

Adults today are more likely than ever before to maintain their natural teeth as they grow older. This means it's more important than ever to decrease the risk of damage to teeth and gums.

Poor oral health can contribute to a variety of problems, including restricted activity and missing work. Infections in the mouth have even been linked to other systemic illnesses such as stroke, heart attacks, and diabetes.[4]

Access to regular dental care can prevent extensive and costly treatment in later years.

Did you know?
Among adults, oral diseases and conditions are linked to other serious health problems like heart disease, diabetes, respiratory infections, and osteoporosis.[5]

Seniors

As we age, we experience a natural wearing away of the teeth and gums, and in seniors, untreated dental disease can impede proper nutrition.

Nutrition is directly linked to good health. If you cannot eat properly due to dental pain, it results in limiting your food choices and can negatively impact your health. Just as for all ages, poor oral health can lead to tooth loss, facial pain and alterations in taste.

Seniors who are able to maintain good oral health have a better quality of life. With more people today keeping their natural teeth as they age, dental care becomes a key component of overall health.

People with Special Health Needs

Regular dental care is particularly important for people with special health needs, since people with chronic diseases such as osteoporosis, cancer, and diabetes are more prone to oral diseases.[6]

Also, developmental disabilities such as autism, cerebral palsy, and Down syndrome, may require special oral care to ensure health is maintained.

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1. U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, MD: National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.
2. Ibid.
3. Pew Center on the States, Cost of Delay Factsheet 2009.
4. U.S. Department of Health and Human Services, *Oral Health in America.*
5. Ibid.
6. National Institute of Dental and Craniofacial Research, National Institutes of Health. Oral Health: Special Needs. 25 March 2011. Web. 1 Nov. 2011. <http://www.nidcr.nih.gov/OralHealth/OralHealthInformation/SpecialNeeds>

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Oral Health Care For All: Campaign 2013

Vermont needs a systemic approach to addressing the oral health care needs of Vermonters.

In 2013 the Coalition will advocate for:

- Dental coverage to be included in Vermont's Green Mountain Care plan
- Adding coverage for dentures to Medicaid
- Establishing a new dental practitioner called the LDP, who can provide preventive and routine dental care

Did you know:

- Emergency room visits in Vermont for dental care increased nearly 42 percent between 2003 and 2011.[1]
- Despite the fact that Vermont provides dental coverage to all children enrolled in Dr. Dynasaur, over 23,000 children did not receive dental care in 2011.[2]
- Nearly 10,000 Vermont seniors and 58,000 adults under age 65 went without care in 2012, saying they couldn't afford it.[3]

Oral Health Matters

Oral health is vital to overall health—the mouth reflects general health and well-being. Yet, nearly every American has been affected by oral disease.[4]

Dental Workforce and Capacity in Vermont

Tens of thousands of Vermonters do not have access to preventive or routine dental care. The barriers people face in getting oral health care range from the cost of dental services to the inability to find a provider willing to take public insurance or care for people who are uninsured.

The result of this lack in capacity is a gap in care that leaves many Vermonters vulnerable to poor oral health.

Capacity of Dental Workforce

There is more need than available workforce to take care of the oral health of all Vermonters, and the problem is projected to get worse.

- Limited access to dentists is one reason many Vermonters do not get regular dental care.
  - o Many rural parts of the state have few options for dentists and people often have to drive long distances to get care.
  - o In more populated areas, finding a dentist can be difficult because of the limited number of dental offices that accept Medicaid or the uninsured.
- Almost half of Vermont's dentists are 55 or older; nearly a third are 60 or older, with more than half of them planning to retire in the next 5-10 years.[5]

Who makes up the dental team?

A dental team is the group of oral health providers that work together to deliver care.

- *Dentist:* A dentist is the head of the dental team. The dentist is responsible for all patient care and diagnosis.
- *Dental Hygienist:* A dental hygienist is part of the dental team and is the expert in prevention of oral diseases. The dental hygienist assesses patient's oral health and applies preventative agents such as fluoride to the teeth.
- *Dental Assistant:* A dental assistant assists other providers in the direct delivery of dental services. Expanded function dental auxiliaries/assistants have more responsibility, which varies by office and state.

The Licensed Dental Practitioner is modeled after a combination of the dental therapist and dental hygienist professions, both proven to increase access while providing safe, competent and effective preventive and restorative dental care.

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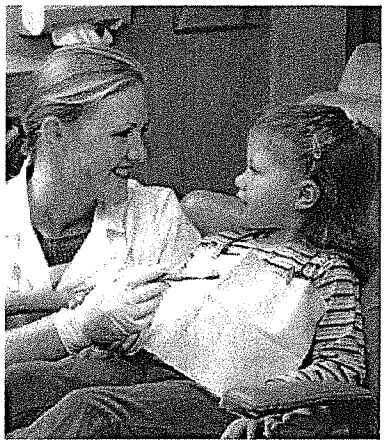
Addressing the Gap

Expanding the Dental Team

While no one solution will solve the problem in Vermont, one innovative approach is to expand the dental team to include a Licensed Dental Practioner (LDP). This provider, under the general supervision of a dentist, would be trained to provide basic preventive and restorative care in a cost-effective way.

Adding an LDP to the dental team will expand the reach of the dentists and allow more people who need care to be served. It would free up dentists to provide services like root canals and other complex procedures that only a dentist can perform.

The addition of the LDP to the dental team is a win-win for everyone—it will increase access to care for un-served and under-served Vermonters and expand the reach of Vermont dentist. The LDP is an innovative workforce solution that can help to increase access to affordable dental care for all Vermonters.



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1. Emergency Department Visits for Vermonters at Vermont Hospitals. Oral Health Division at Vermont Department of Health.
2. *In Search of Dental Care,* Pew Charitable Trusts, June 2013.
3. 2012 Vermont Household Health Insurance Survey, VT Department of Financial Regualtion.
4. U.S. Department of Health and Human Services, *Oral Health in America,* 2000.
5. Vermont Department of Health. 2009 Dentist Survey Statistical Report. 2010.

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Oral Health Story Collection: What Vermonters Are Telling Us About Access to Care

Over the past 4 years, our coalition has been collecting stories of Vermonters who lack access to affordable dental care. Not only have all of the member organizations of the Vermont Oral Health Care for All Coalition been contacted to assist in this effort, but we have done outreach to many of the Parent Child Centers, Federally Qualified Health Centers, Community Action Agencies, Voc. Rehab offices, Senior Centers, Councils on Aging, faith organizations, mental health agencies and food pantries around the state. Thousands of postcards have been distributed statewide.

A few of the themes we continue to hear include:

Many Vermonters have no dental insurance at all.

- VHAP, Catamount Health and Medicare offer no dental coverage at all, and many people on these health insurance plans report that dental care is simply unaffordable.
- People delay dental care, often for years, and even when in pain, because of the cost.

Many Vermonters with dental insurance coverage find it to be inadequate.

- The current VT adult Medicaid dental benefit ($495/year) is not enough to cover much of anything beyond cleanings and the occasional filling.
- In many parts of VT, dentists are not taking new patients on Medicaid

Access to affordable dental care for low income Vermonters depends on where you live.

- If you are on Medicaid and live near an FQHC dental clinic but cannot get transportation there, you cannot access dental care.
- People with incomes under 200% of poverty (including everyone on VHAP) living in one of the towns served by an FQHC dental clinic have access to their sliding scale and generally report it is affordable.
- People on VHAP living in all of the other VT towns not covered by the FQHC dental clinics have no access to sliding scale oral health care and generally say it is not affordable.

Oral health impacts overall health

- Many people report living with pain and infections because they cannot afford dental care.

Many Vermonters resort to dental care in emergency situations only

- GA (general assistance) vouchers help very few people and don't pay for fillings, crowns (or dentures after the extraction they do pay for).
- For those who report the inability to afford regular cleanings, often they do not get dental care until they are in pain.

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S.35
An act relating to establishing and regulating licensed dental practitioners

The scope of practice for this practitioner, called a licensed dental practitioner in the bill, includes both restorative and preventive care.

According to the bill, they will:

- work under general supervision,
- be licensed by the Board of Dental Examiners,
- have to pass a comprehensive competency-based clinical exam before practicing and have continuing education courses,
- work in public and private settings,
- supervise dental assistants and dental hygienists,
- attend a training program with clinical hours, and
- work under a collaborative agreement with their supervising dentist.
- be a graduate of a dental practitioner educational program that provides at a minimum a three-year accelerated bachelors degree, which requires at least 400 hours of clinical practice under the supervision of a licensed dentist.

*students with a dental hygiene degree will be required to complete a minimum of an accelerated one year training program rather than three years.

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S.35

Introduced by Senators White and Ayer

Referred to Committee on

Date:

Subject: Professions and occupations; dental practitioners

Statement of purpose of bill as introduced: This bill proposes to establish and regulate licensed dental practitioners.

An act relating to establishing and regulating licensed dental practitioners

It is hereby enacted by the General Assembly of the State of Vermont:

Sec. 1. 26 V.S.A. chapter 12 is amended to read:

CHAPTER 12. DENTISTS, DENTAL PRACTITIONERS, DENTAL HYGIENISTS, AND DENTAL ASSISTANTS

Subchapter 1. General Provisions

§ 561. DEFINITIONS

As used in this chapter:

(1) "Board" means the ~~board of dental examiners~~ Board of Dental Examiners.

(2) "Director" means the ~~director of the office of professional regulation~~ Director of the Office of Professional Regulation.

(3) "Practicing dentistry" means an activity in which a person:

(A) undertakes by any means or method to diagnose or profess to diagnose or to treat or profess to treat or to prescribe for or profess to prescribe for any lesions, diseases, disorders, for deficiencies of the human oral cavity, teeth, gingiva, maxilla, or mandible or adjacent associated structures;

(B) extracts human teeth or corrects malpositions of the teeth or jaws;

(C) furnishes, supplies, constructs, reproduces, or repairs prosthetic dentures, bridges, appliances, or other structures to be used or worn as substitutes for natural teeth or adjusts those structures, except on the written prescription of a duly licensed dentist and by the use of impressions or casts made by a duly licensed and practicing dentist;

(D) administers general dental anesthetics;

(E) administers local dental anesthetics, except dental hygienists as authorized by board rule; or

(F) engages in any of the practices included in the curricula of recognized dental colleges.

(4) "Dental practitioner" means an individual licensed to practice as a dental practitioner under this chapter.

(5) "Dental hygienist" means an individual licensed to practice as a dental hygienist under this chapter.

~~(5)~~(6) "Dental assistant" means an individual registered to practice as a dental assistant under this chapter.

~~(6)~~(7) "Direct supervision" means supervision by a licensed dentist who is readily available at the dental facility for consultation or intervention.

(8) "General supervision" means the direct or indirect oversight of a dental practitioner by a dentist, which need not be on-site.

§ 562. PROHIBITIONS

(a) No person may use in connection with a name any words, including "Doctor of Dental Surgery" or "Doctor of Dental Medicine," or any letters, signs, or figures, including the letters "D.D.S." or "D.M.D.," which imply that a person is a licensed dentist when not authorized under this chapter.

(b) No person may practice as a dentist, dental practitioner, or dental hygienist unless currently licensed to do so under the provisions of this chapter.

(c) No person may practice as a dental assistant unless currently registered under the provisions of this chapter.

(d) A person who violates this section shall be subject to the penalties provided in 3 V.S.A. § 127.

* * *

§ 565. DISPLAY OF LICENSE OR REGISTRATION

Every dentist, dental practitioner, dental hygienist, and dental assistant shall display a copy of his or her current license or registration at each place of practice and in such a manner so as to be easily seen and read.

* * *

Subchapter 2. Board of Dental Examiners

* * *

§ 584. UNPROFESSIONAL CONDUCT

The ~~board~~ Board may refuse to give an examination or issue a license to practice dentistry, to practice as a dental practitioner, or to practice dental hygiene or to register an applicant to be a dental assistant and may suspend or revoke any such license or registration or otherwise discipline an applicant, licensee, or registrant for unprofessional conduct. Unprofessional conduct means the following conduct and the conduct set forth in 3 V.S.A. § 129a by an applicant or person licensed or registered under this chapter:

* * *

Subchapter 3A. Dental Practitioners

§ 611. LICENSE BY EXAMINATION

(a) Qualifications for examination.

(1) To be eligible for examination for licensure as a dental practitioner, an applicant shall:

(A) have attained the age of majority;

(B) be a graduate of a dental practitioner educational program that provides at a minimum a three-year accelerated bachelor's degree which includes at least 400 hours of dental practitioner clinical practice under the

general supervision of a licensed dentist and which is administered by an institution accredited to train dentists, dental hygienists, or dental assistants; and

(C) pay the application fee set forth in section 662 of this chapter and an examination fee established by the Board by rule.

(2) A dental hygienist may fulfill the education requirements of subdivision (1)(B) of this subsection by completing at least one year of dental practitioner education and training established by the Board by rule.

(b) Completion of examination.

(1) An applicant for licensure meeting the qualifications for examination set forth in subsection (a) of this section shall pass a comprehensive, competency-based clinical examination approved by the Board and administered independently of an institution providing dental practitioner education. An applicant shall also pass an examination testing the applicant's knowledge of the Vermont laws and rules relating to the practice of dentistry approved by the Board.

(2) An applicant who has failed the clinical examination twice is ineligible to retake the clinical examination until further education and training are obtained as established by the Board by rule.

(c) The Board may grant a license to an applicant who has met the requirements of this section.

§ 612. PRACTICE; SCOPE OF PRACTICE

(a) A person who provides oral health care services, including prevention, evaluation and assessment, education, palliative therapy, and restoration under the general supervision of a dentist within the parameters of a collaborative agreement as provided under section 613 of this chapter shall be regarded as practicing as a dental practitioner within the meaning of this chapter.

(b) In addition to services permitted by the Board by rule, a licensed dental practitioner may perform the following oral health care services:

(1) oral health instruction and disease prevention education, including nutritional counseling and dietary analysis;

(2) partial periodontal charting, including periodontal screening exam, but the dental practitioner shall not perform a full periodontal charting;

(3) radiographing;

(4) dental prophylaxis, including removal of visible calculus;

(5) prescribing, dispensing, and administering analgesics, anti-inflammatories, and antibiotics;

(6) applying topical preventive or prophylactic agents, including fluoride varnishes, antimicrobial agents, and pit and fissure sealants;

(7) pulp vitality testing;

(8) applying desensitizing medication or resin;

(9) fabricating athletic mouthguards;

(10) placement of temporary restorations;

(11) fabricating soft occlusal guards;

(12) tissue conditioning and soft reline;

(13) interim therapeutic restorations;

(14) changing periodontal dressings;

(15) tooth reimplantation and stabilization;

(16) administering local anesthetic;

(17) administering nitrous oxide;

(18) oral evaluation and assessment of dental disease;

(19) formulating an individualized treatment plan, including services within the dental practitioner's scope of practice and referral for services outside the dental practitioner's scope of practice;

(20) extractions of primary teeth;

(21) nonsurgical extractions of permanent teeth;

(22) emergency palliative treatment of dental pain;

(23) placement and removal of space maintainers;

(24) cavity preparation;

(25) restoring primary and permanent teeth, not including permanent tooth crowns, bridges, or denture fabrication;

(26) placement of temporary crowns;

(27) preparation and placement of preformed crowns;

(28) pulpotomies on primary teeth;

(29) indirect and direct pulp capping on primary and permanent teeth;

(30) suture removal;

(31) brush biopsies;

(32) repairing defective prosthetic devices;

(33) recementing permanent crowns; and

(34) mechanical polishing.

(c) A dental practitioner may only provide dental hygiene services under subsection (a) of this section if, in addition to completing a qualified dental practitioner education program, the dental practitioner has completed one year of dental hygiene education and training from an accredited dental hygiene educational program as determined by the Board by rule.

§ 613. COLLABORATIVE AGREEMENT

(a) Prior to performing any of the services authorized under this chapter, a dental practitioner must enter into a written collaborative agreement with a dentist. A supervising dentist is limited to entering into a collaborative agreement with no more than two dental practitioners at any one time. The agreement shall include:

(1) practice settings where services may be provided and the populations to be served;

(2) any limitations on the services that may be provided by the dental practitioner, including the level of supervision required by the supervising dentist;

(3) age and procedure-specific practice protocols, including case selection criteria, assessment guidelines, and imaging frequency;

(4) a procedure for creating and maintaining dental records for the patients that are treated by the dental practitioner;

(5) a plan to manage medical emergencies in each practice setting where the dental practitioner provides care;

(6) a quality assurance plan for monitoring care provided by the dental practitioner, including patient care review, referral follow-up, and a quality assurance chart review;

(7) protocols for prescribing, administering, and dispensing medications, including the specific conditions and circumstances under which these medications may be dispensed and administered;

(8) criteria relating to the provision of care to patients with specific medical conditions or complex medication histories, including requirements for consultation prior to the initiation of care;

(9) supervision criteria of dental assistants and dental hygienists; and

(10) a plan for the provision of clinical resources and referrals in situations that are beyond the capabilities of the dental practitioner.

(b) The supervising dentist shall accept responsibility for all services authorized and performed by the dental practitioner pursuant to the collaborative agreement. A supervising dentist must be licensed and practicing in Vermont. Any licensed dentist who permits a dental practitioner to perform a dental service other than those authorized pursuant to this chapter or by the Board by rule or any dental practitioner who performs an unauthorized service shall be in violation of section 584 of this chapter.

(c) A collaborative agreement must be signed and maintained by the supervising dentist and the dental practitioner. Agreements must be reviewed, updated, and submitted to the Board on an annual basis or as soon as a change is made to the agreement.

§ 614. APPLICATION OF OTHER LAWS

A licensed dental practitioner authorized to practice under this chapter shall not be in violation of section 562 of this chapter as it relates to the unauthorized practice of dentistry if the practice is authorized under this chapter and under the collaborative agreement.

§ 615. USE OF DENTAL HYGIENISTS AND DENTAL ASSISTANTS

A licensed dental practitioner may supervise dental assistants and dental hygienists to the extent permitted in the collaborative agreement. A licensed dental practitioner is limited to supervising no more than a total of three dental assistants and two dental hygienists at any one practice setting.

§ 616. REFERRALS

(a) The supervising dentist is responsible for arranging for another dentist or specialist to provide any necessary services needed by a patient which are beyond the scope of practice of the dental practitioner and which the dentist is unable to provide.

(b) A dental practitioner, in accordance with the collaborative agreement, shall refer patients to another qualified dental or health care professional to receive any needed services that exceed the scope of practice of the dental practitioner.

* * *

Subchapter 6. Renewals, Continuing Education, and Fees

§ 661. RENEWAL OF LICENSE

(a) Licenses and registrations shall be renewed every two years on a schedule determined by the ~~office of professional regulation~~ Office of Professional Regulation.

(b) No continuing education reporting is required at the first biennial license renewal date following licensure.

(c) The ~~board~~ Board may waive continuing education requirements for licensees who are on active duty in the ~~armed forces~~ Armed Forces of the United States.

(d) Dentists.

* * *

(e) Dental practitioners. To renew a license, a dental practitioner shall meet active practice requirements established by the Board by rule and document completion of no fewer than 20 hours of Board-approved continuing professional education which shall include an emergency office procedures course during the two-year licensing period preceding renewal.

(f) Dental hygienists. To renew a license, a dental hygienist shall meet active practice requirements established by the ~~board~~ Board by rule and document completion of no fewer than 18 hours of ~~board-approved~~ Board-approved continuing professional education which shall include an emergency office procedures course during the two-year licensing period preceding renewal.

~~(f)~~(g) Dental assistants. To renew a registration, a dental assistant shall meet the requirements established by the ~~board~~ Board by rule.

§ 662. FEES

(a) Applicants and persons regulated under this chapter shall pay the following fees:

(1) Application	
(A) Dentist	$ 225.00
(B) Dental practitioner	$ 185.00
(C) Dental hygienist	$ 150.00

~~(C)~~(D) Dental assistant	$ 60.00
(2) Biennial renewal	
(A) Dentist	$ 355.00
(B) Dental practitioner	$ 225.00
(C) Dental hygienist	$ 125.00
~~(C)~~(D) Dental assistant	$ 75.00

(b) The licensing fee for a dentist, dental practitioner, or dental hygienist or the registration fee for a dental assistant who is otherwise eligible for licensure or registration and whose practice in this ~~state~~ State will be limited to providing pro bono services at a free or reduced-fee clinic or similar setting approved by the ~~board~~ Board shall be waived.

* * *

Sec. 2. EFFECTIVE DATE

This act shall take effect on passage.

Resource Materials

Date	Document Title	Category	Description
5/2003	Oral Health Risk Assessment Timing and Establishment of the Dental Home	Dental care	American Academy of Pediatrics policy statement on dental homes as a way to improve to oral health care
3/2009	Increasing Access to Dental Care in Medicaid	Access	report prepared for National Academy for State Health Policy
2/2005	Cost Effectiveness of Preventitive Dental Services	Midlevels	Children's Dental Health Project policy brief
5/2009	Help Wanted: A Policy Makers Guide to New Dental Providers	Midlevels	conducted by PEW & gives info on proposed & current oral health care providers
11/2009	Adding Dental Therapists to the Health Care Team to Improve Access to Oral Health Care for Children	Midlevels	Article published in Academic Pediatrics supporting Dental therapists
11/2009	Addressing Children's Oral Health in the New Millennuim Trends in the Dental Workforce	Access and Midlevels	Article published in Academic Pediatrics regarding issues of access & workforce trends
	Learning from the International Experience: Dental & Oral Health Therapists in Australia	Midlevels	gives history of dental therapist
4/2003	The Profession of Dental Therapy	Midlevels	describes dental therapists and their history and future
5/2007	Dental Therapists: A Global Perspective	Midlevels	description of dental therapists around the world
10/2008	Potential for DHAT Expansion	Access and Midlevels	report by National Congress of American Indians (NCAI) on DHAT expansion in AK
12/2009	Executive Summary: Training New Dental Health Providers in the US	Midlevels	good summary of dental therapists (all aspects)

Resource Materials

Date	Document Title	Category	Description
12/2009	Full Report: Training New Dental Health Providers in the US	Midlevels and Training	detailed and comprehensive look at midlevel professionals, including, education, scope, comparison to other dental providers, success, etc
12/2009	Policy Brief: Training New Dental Health Providers in the US	Midlevels and Training	describes policy issues around a new midlevel professional
3/2010	ADA Glossary of Dental Terms	Definitions	Gives definition of technical dental terms
10/2009	VT Ronald McDonald Care Mobile (a dental van)	Oral health Initiatives	VSDS memo to members on dental van initiative in VT
2008	Minnesota Legislation for OHP	Legislation	legislation introduced in MN on new oral health practitioner (OHP)
7/2008	What are you smiling at?	News Articles	article in Reason Magazine on ADA opposition to health care reform
1/2007	Rural Dental Training Program Opens in AK	News Articles	Anchorage News article on dental therapist program and opposition
2/2010	VSDS 2010 Access to Oral Health and Oral Health Care Position Statement	Opposition Information	includes info on nutrition, access, medicaid, dental workforce, etc.
	ADA Position on Dental Health Aide Program in AK	Opposition Information	position against DHATs ability to perform irreversable procedures
12/2009	ADA Responds to Kellogg Foundation report on workforce innovations	Opposition Information	position on opposition to surgical procedures by those other than dentists
11/2009	VT DOH Tooth Tutor Program	Oral Health Initiatives	description of tooth tutor program in VT conducted by dental hygienists & goes into schools
	Summary of the Minnesota Dental Therapy Bill	Legislation	explains bill in MN that establishes a dental therapists
10/2009	Improving Access through mid-level oral health practitioners	Oral Health Initiatives	MN presentation at DC Conference about the history of the dental therapy campaign that unfolded there

Resource Materials

Date	Document Title	Category	Description
	Midlevels Compared:WSDA Dental Therapist Proposal v. Advanced Dental Hygienist Practitioner	Other Midlevel models	chart comparison of Washington State Dental Associations therapist and hygienist models
11/2009	ADA Launches Community Dental Health Coordinator Pilot Program at Temple University	other oral health professions	press release from American Dental Association on their version of a midlevel professional
2/2009	Center for Technology, Essex Graduates Seven from Advanced Training Dental Assisting Program	other oral health professions	press release on EFDA program
	Standards for Clinical Dental Hygiene Practice	other oral health professions	describes in detail the practice of dental hygiene, from education and scope to standards of care
3/2008	Competencies for the Advanced Dental Hygiene Practitioner	other oral health professions	American Dental Hygienist Association report on their proposed version of a midlevel professional
2009	Dental Hygiene Practice Act Overview:Permitted Functions & Supervision Levels by State	other oral health professions	chart comparison of hygienist responsibilities by state
1/2010	VT Board of Dental Examiners Administrative Rules	other oral health professions	VT state rules regulating oral health professionals
2010	Vermont Statute on Dentists & Dental Hygienists	other oral health professions	defines professions, who regulates them, etc.
2009	VT Expanded Function Dental Assistants (EFDAs) Requirments	other oral health professions	by Dental Assisting National Board, Inc. describes scope of practice
12/2009	ADHA Press Release in Support of Dental Therapists	Other Org Positions	press release that applauds Kellogg's report supporting DHAT & DT-H providers
10/2009	Analysis & Policy Recommendations Concerning Mid-level Dental Providers	Other Org Positions	American Academy of Pediatric Dentistry opposition to midlevels

Resource Materials

Date	Document Title	Category	Description
11/2009	Connecticut State Dental Association Resolution on Dental Therapist Pilot Program	Other Org Positions	establishes a 2 year pilot program in CT
	Research Literature Review on Mid-level Oral Health Practitioners	research-based evidence	lit review on various research based papers that describe the effectiveness of dental therapists
	A Quality Evaluation of Specific Dental Services Provided by Canadian Dental Therapists	research-based evidence	quantitative analysis on the effectiveness of dental therapists
	A Quality Evaluation of Specific Dental Services Provided by the Saskatchewan Dental Plan	research-based evidence	quantitative analysis on the effectiveness of dental therapists
3/2010	FQHC Sites with Dental	Statistics/Info on Dentists	describes who the FQHC sites with dental care are and the sliding scale
3/2010	The Cost of Delay: State Dental Policies Fail 1 in 5 Children	Vermont Reports/Data	PEW Report: grades VT on addressing oral health care needs
1/2010	FQHC Sites in VT	Vermont Reports/Data	Fact sheet on VT FQHC locations
3/2008	The Health Status of Vermonters	Vermont Reports/Data	VT DOH brings together data from various sources to present picture of the health of Vters
3/2010	2008 VT Health care expenditure analysis & forcast	Vermont Reports/Data	report by BISHCA for VT General Assembly
1/2010	2009 VT Household health insurance survey	Vermont Reports/Data	BISCHA report for health committees in House & Senate, includes dental statistics
2012	2012 VT Household health insurance survey	Vermont Reports/Data	VHHIS report for health committees in House and Senate, includes dental statistics
10/2004	Case Study: VT's Campaign to Improve Children's Oral Health	Vermont Reports/Data	Center for Health Care Strategies funded report pointing out disparities in oral health care
2002-2003	Keep Smiling Vermont: Oral Health Survey	Vermont Reports/Data	identifies health priorities & measures where VT is and where we want to be

Resource Materials

Date	Document Title	Category	Description
2005	Vermont Oral Health Plan	Vermont Reports/Data	gives history and current (meaning 2005) data on oral health in VT and describles goals & strategies
	No. 35. An act relating to the regulation of professions and occupations	Vermont Reports/Data	describes regulation of dentists and hygienists in VT
2007	Dentist Survey Summary Report	Vermont Reports/Data	gives overview, key findings, survey question analysis and comparison w/ previous surveys in graph form on dentists in VT
2009	Dentist Survey Summary Report	Vermont Reports/Data	gives overview, key findings, survey question analysis and comparison w/ previous surveys in graph form on dentists in VT
2011	Dentist Survey Summary Report	Vermont Reports/Data	gives overview, key findings, survey question analysis and comparison w/ previous surveys in graph form on dentists in VT
01/2007	Dental Dozen Initiative	Vermont Reports/Data	description of program (no longer funded)
2005	The National Survey of Children's Health: Vermont	Vermont Reports/Data	stats on Vermont preventive visit and teeth conditions for kids
2007	VT DOH 2007 Dentist Survey: Statistical Report	Vermont Reports/Data	detailed description of landscape of Vermont dentists
3/2010	Scope of Practice terms	Voices Materials	developed as notes by voices on different scopes of practice for oral health providers
	HHS Agency Gives Alaskan Dental Health Aide Program High Marks	News Articles	HHS completed a survey and concluded that DHATs are effective and of high quality
2008	Assessment of Treatment Provided by DHATs in AK: A Pilot Study	research-based evidence	The author conducted this pilot study to determine if treatments provided by DHATs differ significantly from those provided by dentists, and found it was not

Resource Materials

Date	Document Title	Category	Description
	The U.S. Experience: Developing Dental Midlevel Providers	Midlevels	history of attempts to get dental therapists in U.S.
2008	On the Pediatric Oral Health Therapist: Lessons from Canada	Midlevels	reviews the development of dental therapy in Canada
4/28/08	Dental Clinics, Meeting a Need with No Dentist	News Articles	NY Times articles on AK dental therapists
10/2009	Patient satisfaction with care by dental therapists	research-based evidence	gives evidence of a difference in patient satisfaction with care given by DT, compared to Dentists & finds patients prefer care given by DTs
2011	VT FQHC/clinic Map	Voices Materials	a map of where the FQHCs and free clinics with dental programs are in VT
2011	Oral health in VT	Voices Materials	PPT on oral health status in VT
2011	Institute of Medicine Oral health report	Dental care	report on importance of oral health to overall health
2011	VT Story Collection	Voices Materials	analysis of the 200 stories collected from Vters on dental care
2011	Oral health fact sheet	Voices Materials	fact sheet on oral health status in VT
2003-2009	VT ER data	Vermont Reports/Data	ER use for dental care in VT hospitals
2008	Voices of the VT Healthcare Crisis	Vermont Reports/Data	report on health care in VT, including dental
2010	Use of ER for conditions related to poor oral health	Vermont Reports/Data	study done on VT to look at ER use for dental care
2010	Health Disparaties Report	Vermont Reports/Data	data on access to dental care in VT
2005	National Survey of Children's Health (VT)	Vermont Reports/Data	data on preventive visits and teeth condition for VT children
2000	Surgeon General's Report on oral health in America	Dental care	report on importance of oral health to overall health
2003	National Call to Action	Dental care	recommended steps to improving oral health in the U.S.

Resource Materials

Date	Document Title	Category	Description
2010	Evaluation of the DHAT Program in AK	Midlevels	evaluation of the program in AK that has dental therapists
2013	U.S. Senate Committee on Finance – Joint Staff Report on the Corporate Practice of Dentistry in the Medicaid Program	Access and Midlevels	focuses on dental management companies organized as a corporation or limited liability company that works with dentists in multiple state and reccommends dental therapists be reimbursed by Medicaid and used to improve access
2013	Economic Viability of Dental Therapists	Midlevels	assesses the work of dental therapists in AK and MN and details the percentage of time spent on different categories of procedures, the characteristics of the population base they serve, and the overall cost to the practice of employing dental therapists.
2012	Expanding the Dental Safety Net: A First Look at How Dental Therapists Can Help	Access and Midlevels	a report on access and how dental therapists can help in FQHC settings
2012	A Costly Dental Destination	Access and Midlevels	a look at ER costs and how dental therapists can help
2013	A Review of the Global Literature on Dental Therapists	Access and Midlevels	a review of the research on how dental therapists provide quality care and improve access
2010	Oral Health: Efforts Under Way to Improve Children's Access to Dental Services	Access and Midlevels	GAO report on access to dental care for children and how midlevels can be used
2011	Accreditation of Emerging Oral Health Professions: Options for dental therapy education programs	Midlevels and Training	explores options for accreditation of educational programs for dental therapists

Resource Materials

Date	Document Title	Category	Description
2013	Can Midlevel Dental Providers Be a Benefit to the American Public?	Access and Midlevels	reviews midlevels and concludes dental therapists suggest potential practice and public health benefits
2011	The principles, competencies, and curriculum for educating dental therapists: a report of the American Association of Public Health Dentistry Panel	Midlevels and Training	reviews accreditation for midlevel providers
2011	Dentists Provide Effective supervision of Alaska's dental health aide therapists in a variety of settings	Midlevels and Training	This article profiles three DHATs and their supervising dentists, and offers observations on how dentists supervise and work in a team format with DHATs.
2013	Proposed CODA requirements for Dental Therapy Standards	Midlevels and Training	CODA's proposed standards for dental therapy. The document is a draft and is open for public review.

Economic Viability of Dental Therapists

May 2013

Prepared by: Frances M. Kim, DDS, DrPH
for Community Catalyst

COMMUNITY CATALYST

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Foreword

Oral health is essential to overall health. Yet, millions of Americans go without care because they do not have access to providers or affordable care in their own communities. Our most vulnerable people—those who have low incomes, children, racial and ethnic minorities, older adults and residents of rural communities—have the most difficult time accessing routine and preventive dental care.

Since the landmark Surgeon General's report on Oral Health[1] was issued in 2000, progress has been made in making preventive care more available, especially with regard to sealants, but the steps forward have been small. The silent epidemic of tooth decay still persists—people still suffer excruciating pain and cannot get the care they need. Dental disease is the number one chronic illness affecting children, and it is more common than asthma. In fact, 60 percent of children ages 5 to 17 have cavities. The numbers are much higher for minority children. Seventy-two percent of American Indian and Alaska Native children ages six to eight have untreated cavities—more than twice the rate of the general population. Thirty-seven percent of non-Hispanic black children and 41 percent of Hispanic children have untreated tooth decay, compared with 25 percent of white children.

Low-income children face significant barriers accessing oral health care. In 2011, more than 51 percent of children enrolled in Medicaid did not receive dental care.[2] In 2010, the Government Accountability Office reported that the most frequent barrier children enrolled in Medicaid faced in obtaining dental care was finding a dentist who would accept Medicaid payment.[3] A study published by the American Academy of Pediatrics showed that children enrolled in Medicaid were 18 times less likely to receive a dental appointment than children with private insurance.[4]

According to the Pew Center on The States[5], in 2009 there were more than 830,000 visits to emergency rooms across the country for

1. US Department of Health and Human Services (2000). Oral health in America: A report of the surgeon general. Rockville, MD: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health.
2. United States. Dept. of Health and Human Services. & Centers for Medicare and Medicaid Services. (2012). Annual EPSDT Participation Report, Form CMS-416 (State) Fiscal Year: 2011, April, 2012.
3. United States Government. Government Accountability Office. *ORAL HEALTH Efforts Under Way to Improve Children's Access to Dental Services, but Sustained Attention Needed to Address Ongoing Concerns.* Washington, D.C.: , 2010. Print.
4. Bisgaier, J, DB Cutts, BL Edelstein, and KV Rhodes. "Disparities in child access to emergency care for acute oral injury." Pediatrics. 127.6 (2011): e1428-35. Print.
5. Pew Children's Dental Campaign (2012). A costly dental destination: Hospital care means states pay dearly. Washington, DC: Pew Center on the States.

Inside

preventable dental conditions—a 16 percent increase since 2006. Overall, dental related trips to the emergency room cost tens of millions of dollars each year in every state. In Florida alone in 2010 there were more than 115,000 hospital ER visits for dental problems, resulting in more than $88 million in charges.

As the Institute of Medicine's (IOM) most recent report on oral health care so eloquently stated: the current dental delivery system is broken and does not meet the needs of roughly a third of the country's inhabitants. The report, *Improving Access to Oral Health Care for Vulnerable and Underserved Populations*[6], recommends that states explore all avenues to expand access to care, including amending state practice laws to enable new providers.

As a clinical provider who has worked on the ground with mid-level dental providers, I can tell you the IOM is right in its recommendations and every state should enable mid-level dental providers, such as dental therapists, to practice. The findings included in this report offer concrete evidence as to why it makes sense to train and deploy dental therapists. They are cost effective, they enable dental practices to expand the number of people they serve, they allow the dentist time to provide more complicated care, and they focus on providing routine, preventive care. Dental disease is preventable if people have access to routine care.

In the U.S., dental therapists are currently practicing in Alaska and Minnesota. In Alaska, dental therapists were added to the dental team as part of a tribal-led approach to solving their community's oral health crisis. The Alaska Native Tribal Health Consortium implemented a rigorous training program and then deployed dental therapists to tribes and communities struggling with access to dental care. In Minnesota, the state legislature changed scope of practice laws to enable dental therapists to practice, citing significant unmet oral health needs and dental provider shortages. Dental therapists are now employed in a variety of practice settings—private practice, Federally Qualified Community Health Centers, hospitals and non-profit dental service organizations.

Dental therapists are well-established in more than 50 countries. Numerous studies—most recently, *A Review of the Global Literature on Dental Therapists*[7]—have documented the high quality of care they provide. This report shows that here in the U.S. they are reaching the people most in need, providing preventive services, and enabling practices to see more patients because they are cost-effective to employ.

The report assesses the work of dental therapists in both Alaska and Minnesota and details the percentage of time spent on different categories of procedures, the characteristics of the population base they serve, and the overall cost to the practice of employing dental therapists.

The findings confirm my own 20 years' experience with dental therapists in Canada. They are treating underserved populations that are not being served by the traditional dental delivery system in the U.S. The report shows dental therapists have increased access to care for 40,000 Alaska Natives. In Minnesota, 78 percent of the patients being treated by dental therapists are enrolled in Medicaid.

The report also shows the majority of care dental therapists provide is preventive and routine. Restorative care, such as fillings, represents a quarter of their work. Dental

6. Institute of Medicine (2011). Improving access to oral health care for vulnerable and underserved populations. Washington, DC: The National Academies Press.

7. Nash, D.A., Friedman, J.W., Kavita, M.R., & Robinson, P.G. (2012). A review of the global literature on dental therapists. Battle Creek, MI: W.K. Kellogg Foundation.

therapists are cost-effective and their salaries account for less than 30 percent of the revenue they generate.

Dental therapists are showing great promise in the U.S. and this research is a crucial early step in understanding their impact in a real-life setting, in real time. Moving forward, it would be wise for states to consider all possible solutions and to continue to evaluate dental therapists' work so that millions do not have to continue to go without needed dental care.

Todd Hartsfield, DDS

Section I. Background

Introduction

Limited data is available regarding the economic viability of including new dental team members. Currently two states, Alaska and Minnesota, employ dental therapists in dental clinics. In order to address the oral health needs in Alaska's Native population, the Alaska Native Tribal Health Consortium (ANTHC), along with partner tribal health organizations, developed the Alaska Dental Health Aide Initiative. Part of the initiative included the use of Dental Health Aide Therapists (DHAT) with two years of post-high school education in a limited scope of care. The scope of practice for these DHATs is set by federal regulations which delineate the types of procedures that may be carried out under the supervision of a dentist. Minnesota became the first state to establish an avenue to license dental therapists (DT) and advanced dental therapists (ADT) in 2009. DTs and ADTs work as part of the dental team and under the supervision of a dentist. Practice settings include community and public health clinics serving low-income, uninsured and underserved populations; in dental health professional shortage areas; Head Start programs; nursing homes; rural communities; and a private dental group. DTs complete a three to four year Bachelor's dental therapy degree plus a demonstration of competency and licensure exams. ADTs are licensed DTs who have completed a Master's advanced dental therapy program, 2,000 hours of clinical practice under direct and indirect supervision of a dentist, and have passed the Minnesota Board of Dentistry certification exam. The primary difference between DTs and ADTs is the scope of practice and the level of supervision under which they can perform procedures. The first class of Minnesota dental therapists graduated in 2011.

Aim

The aim of this report is:

1. to provide an overview of the types of procedures carried out and revenue (total net reimbursement) generated by DHATs, DTs and ADTs

2. to examine the economic viability of DHATs, DTs and ADTs as part of the dental team

Methodology

Data regarding productivity of DHATs, DTs and ADTs was obtained from four employers in Alaska and Minnesota. The data request included the amount of time employed as well as full-time equivalent (FTE) status, average salary for provider, clinical setting where providers practiced (e.g. urban, rural, other), information on the procedures and amount of revenue generated by each procedure, and the age group of and payor types (e.g. Medicaid, private insurance, other) for patients seen by the therapists. The DHATs, DTs and ADTs are employed by non-profit organizations as well as a private dental group that serves a wide range of patients. The clinical settings in which they practice are in urban areas designated as Dental Health Professional Shortage areas and urban and rural areas in low-income communities. The majority of patients seen by DHATs, DTs and ADTs were publically insured and were generally children less than 21 years old.

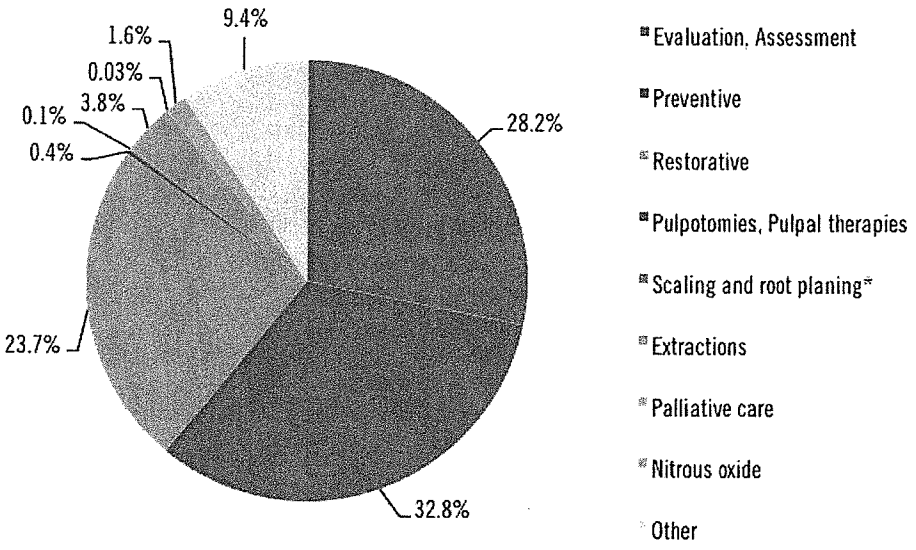
Data were available from August 2011 through December 2012 for eight DHATS, one of whom is a registered dental hygienist (8.0 FTEs); and two ADTs and four DTs (5.3 FTEs), two of whom are dually licensed dental hygienists/DTs who completed a Master's degree program and are currently working towards their ADT license. The dental procedures and services carried out by the DHATs, DTs and ADTs, as well as the amount of revenue generated, were combined to look at distributions of procedures and services.

The economic viability of DHATs, DTs and ADTs as part of the dental team was assessed separately. DHATs, DTs and ADTs were considered to be economically viable if the total net revenues from their practice exceeded the total cost of providing care. The FTE status, average hourly wage, and the amount of time employed for the DTs, ADTs and the DHATs were used to estimate the salaries for all of the providers (referred to as combined salaries). The percent that the combined salaries made up out of all the revenue generated was an indication of the economic viability of DHATs, DTs and ADTs. Since data on overhead costs were not available, an assumption was made that after salaries were paid to DHATs, DTs, and ADTs, the remaining revenue would include costs such as benefits paid to DHATs, DTs and ADTs, salaries and benefits for other clinic and office staff, and dentist's time for supervision of DHATs, DTs and ADTs. Additional expenses incurred by non-profit organizations, such as administrative costs, program-related costs, fundraising or lobbying would also be covered by the remaining revenue.

Section II of the reports presents the distribution of various dental services the DHATs, DTs and ADTs performed as well as the revenue generated from these services. Section III examines the economic viability of the DHATs, DTs and ADTs. Section IV highlights the main points of the report.

Section II. Distribution of dental procedures performed by Dental Therapists, Advanced Dental Therapists, and Dental Health Aide Therapists

Figure 1a. Distribution of types of procedures (N=38,476)



The distribution of the types of procedures performed by DHATs, DTs and ADTs are shown in Figure 1a. The majority of the total procedures performed by DHATs, DTs and ADTs were related to prevention[8] (32.8 percent), evaluation and assessment[9] (28.2 percent). Restorative care was 23.7 percent of all dental procedures. This suggests DHATs, DTs and ADTs not only provide definitive treatment (restorations) but also provide access to evaluation of oral health needs, early intervention and prevention. Other procedures included extractions (3.8 percent); pulpotomies and pulpal therapies (0.4 percent); nitrous oxide administration (1.6 percent); and palliative care[10] (0.03 percent). Scaling and root planing (0.1 percent) procedures are under the scope of practice for DHATs and DTs who are dually licensed hygienists. Other procedures (9.4 percent) included those that generated revenue and those procedures that did not generate revenue[11].

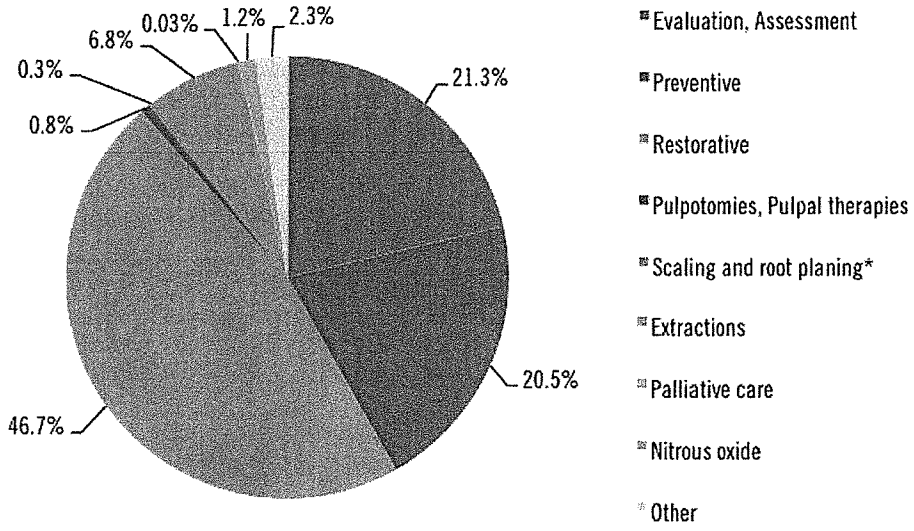
8. Preventive procedures: fluoride treatments for children and adults, fluoride varnish application, sealants, prophylaxis (DTs who are dually licensed hygienists and DHATs), placement and removal of space maintainers, preventive resin restorations, and education

9. Evaluation and assessment procedures: clinical oral examinations, radiographs, and pulp vitality tests

10. Palliative care: care provided to alleviate pain from a dental condition until definitive treatment can be rendered

11. Revenue-generating procedures, such as local anesthesia not in conjunction with operative or surgical procedures, medicaments, behavior management, and application of desensitizing resin on root surface, were 3.9 percent of all other procedures; non-revenue generating procedures, such as local anesthesia in conjunction with operative or surgical procedures, referrals, and Head Start exams, were 5.5 percent of all other procedures

Figure 1b. Distribution of revenue generated for dental procedures (N=$3,066,253)



The distribution for the revenue generated for procedures performed by DHATs, DTs and ADTs are shown in Figure 1b. The majority, approximately 89 percent, of revenue generated was from preventive procedures (20.5 percent), evaluation and assessment (21.3 percent), and restorations (46.7 percent). Remaining revenue came from extractions (6.8 percent); pulpotomies and pulpal therapies (0.8 percent); nitrous oxide administration (1.2 percent); palliative care (0.03 percent); and scaling and root planing (0.3 percent). Scaling and root planing is under the scope of practice for DHATs and DTs who are dually licensed hygienists. The other category (2.3 percent) included procedures that generated revenue.

Figure 2a. Distribution of evaluation and assessment procedures (N=10,835)

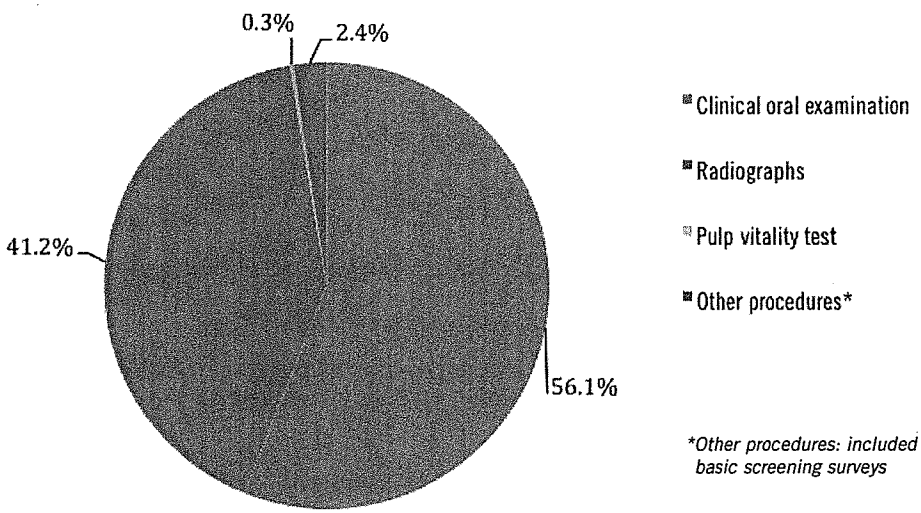


Figure 2a shows the percentages for various procedures related to evaluation and assessment performed by DHATs, DTs and ADTs. Approximately 56 percent of these were clinical oral examinations. Radiographs (41.2 percent), pulp vitality testing (0.3 percent)

and other procedures (2.4 percent) contributed to the remainder of evaluation and assessment procedures. Other procedures were those related to basic screening surveys and did not generate revenue (see Figure 2b).

Figure 2b. Distribution of revenue generated for diagnostic procedures (N=$653,634)

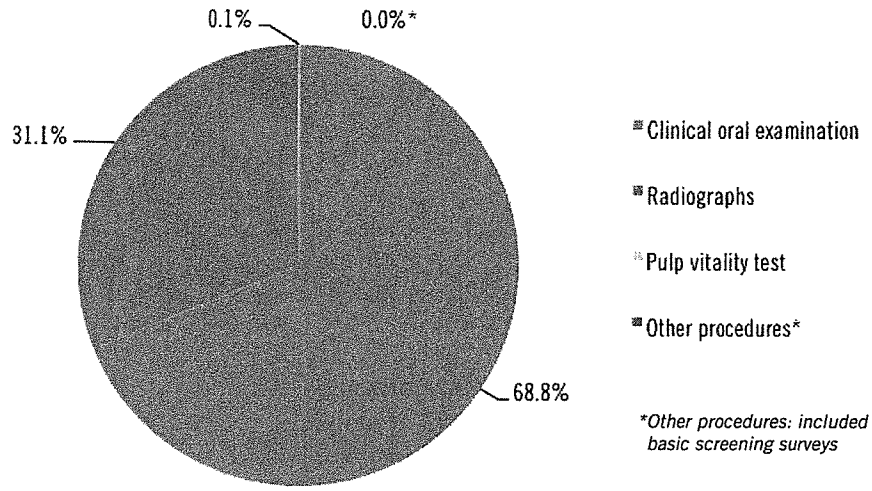


Figure 2b shows the distribution of revenue generated for various evaluation and assessment procedures performed by DHATs, DTs and ADTs. The majority of revenue was generated by clinical oral examinations (68.8 percent). Radiographs (31.1 percent) and pulp vitality tests (0.1 percent) contributed to the remaining revenue. Other procedures were those related to basic screening surveys and did not generate revenue.

Figure 3a. Distribution of preventive procedures (N=12,637)

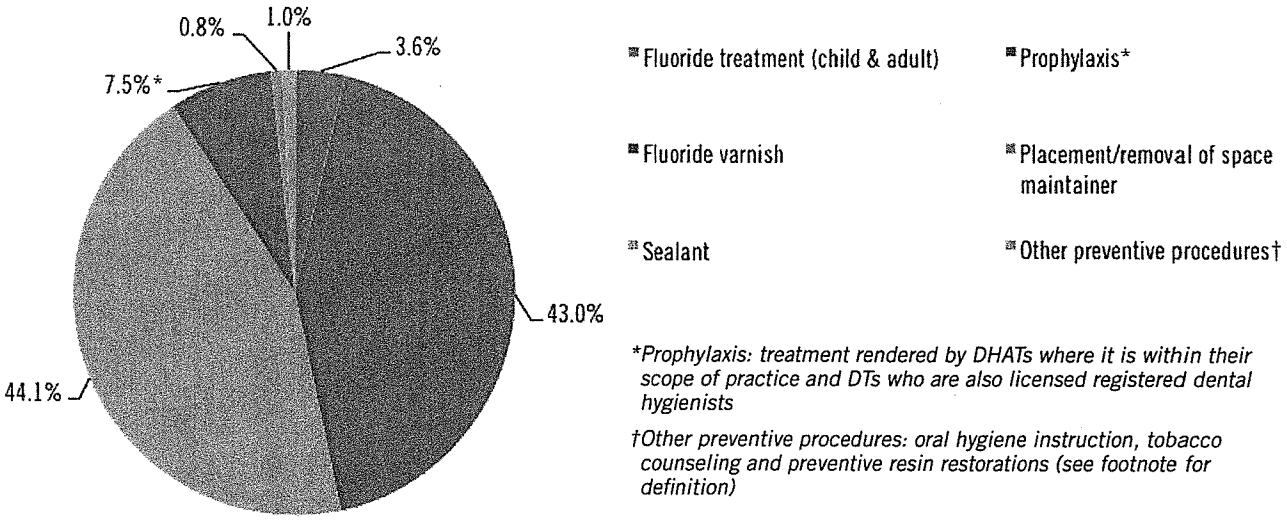
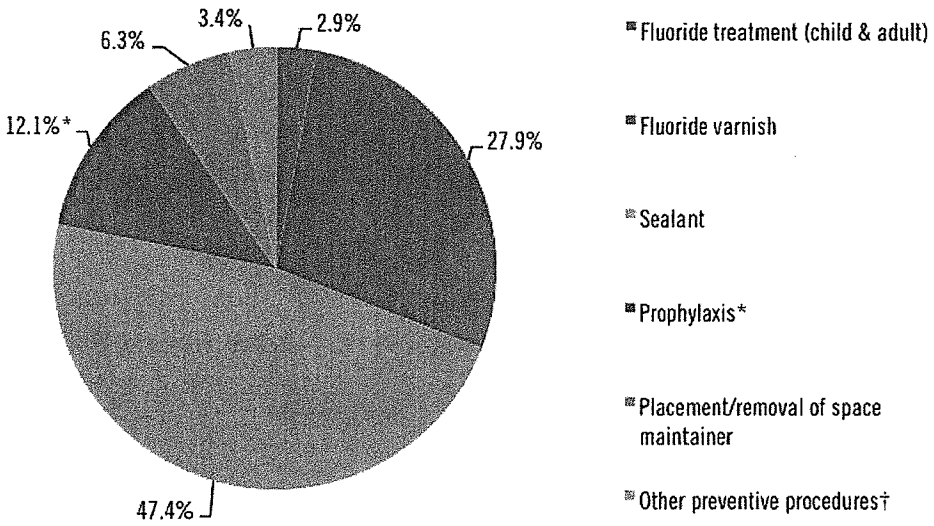


Figure 3a shows the distribution of preventive procedures performed by DHATs, DTs and ADTs. Fluoride therapies (topical fluoride and fluoride varnish) comprised approximately 47 percent of all preventive procedures. Other preventive procedures included sealants

(44.1 percent), and placement and removal of space maintainers (0.8 percent). Prophylaxis procedures (7.5%) were carried out by DTs who are also licensed registered dental hygienist and DHATs, where prophylaxis is part of the scope of practice. Other preventive procedures (1.0 percent) included oral hygiene instruction, tobacco counseling and preventive resin restorations in moderate to high caries risk patients[12].

Figure 3b. Distribution of revenue generated for preventive procedures (N=$627,976)



**Prophylaxis: treatment rendered by DHATs where it is within their scope of practice and DTs who are also licensed registered dental hygienists*

†Other preventive procedures: oral hygiene instruction, tobacco counseling and preventive resin restorations (see footnote for definition)

Figure 3b shows distribution of revenue generated for preventive procedures performed by DHATs, DTs and ADTs. Sealants generated the greatest percentage of revenue for all preventive procedures (47.4 percent), followed by fluoride varnishes (27.9 percent), and placement and removal of space maintainers (6.3 percent), fluoride treatments (2.9 percent). Prophylaxis procedures (12.1 percent) were carried out by DTs who are also licensed registered dental hygienist and DHATs, where prophylaxis is part of the scope of practice. Other procedures which included oral hygiene instruction, tobacco counseling and preventive resin restorations[13] were 3.4 percent of revenue generated for prevention.

12. Preventive resin restorations (PRR) are placed in permanent teeth. It is a conservative restoration of active cavitated lesion in pit or fissure that does not extend into dentin and includes the placement of sealant in any radiating non-carious fissure or pits

13. Preventive resin restorations (PRR) are placed in permanent teeth. It is a conservative restoration of active cavitated lesion in pit or fissure that does not extend into dentin and includes the placement of sealant in any radiating non-carious fissure or pits

Figure 4a.
Distribution of restorative procedures (N=9,122)

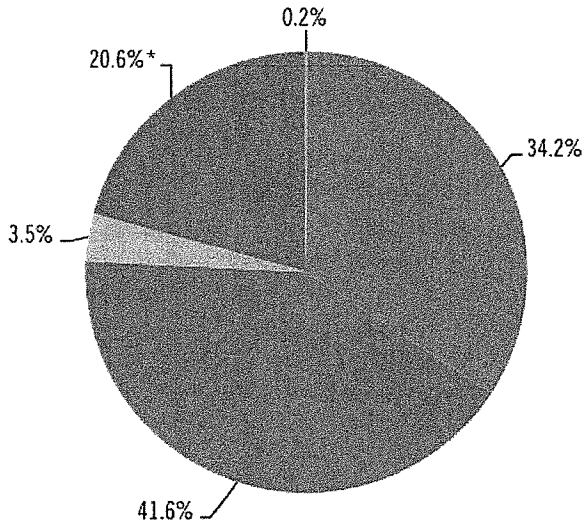
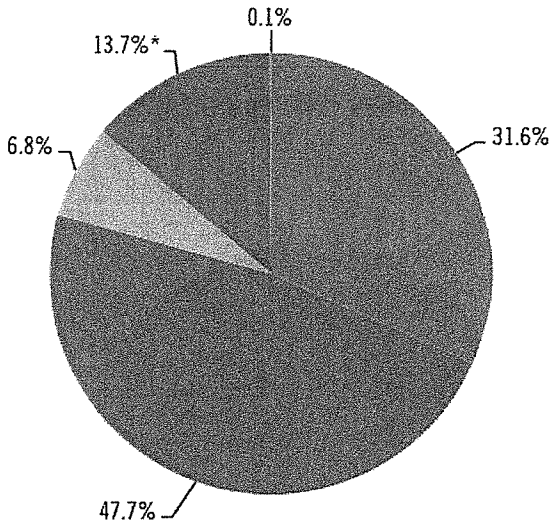


Figure 4b.
Distribution of revenue generated for restorative procedures (N=$1,431,985)



Amalgam restorations
Compostie restorations
Prefabriacated stainless steel crown
Protective restoration*
Recement crown

**Protective restorations: (formerly sedative filling) direct placement of a temporary restorative material to protect tooth and/or tissue form. This procedure may be used to relieve pain, promote healing, or prevent further deterioration. Not to be used for endodontic access closure, or as a base or liner under a restoration.*

Figure 4a shows the distribution for various restorative procedures performed by DHATs, DTs and ADTs. The majority of restorations placed were amalgam and composite restorations (34.5 percent and 41.1 percent respectively). The remaining restorative procedures were protective restorations[14] (20.6 percent), stainless steel crowns on primary and permanent teeth (3.5 percent) and recementing of crowns (0.2 percent).

Figure 4b shows the revenue generated from restorative procedures. Revenue generated from composite restorations was 47.7 percent. Amalgam restorations generated 31.6 percent of all revenue for restorative procedures. Protective restorations[15] (13.7 percent), prefabricated stainless steel crowns (6.8 percent), and recementing of crowns (0.1 percent) made up the remaining revenue from restorations.

14. Protective restorations: (formerly sedative filling) direct placement of a temporary restorative material to protect tooth and/or tissue form. This procedure may be used to relieve pain, promote healing, or prevent further deterioration. Not to be used for endodontic access closure, or as a base or liner under a restoration.

15. Protective restorations: (formerly sedative filling) direct placement of a temporary restorative material to protect tooth and/or tissue form. This procedure may be used to relieve pain, promote healing, or prevent further deterioration. Not to be used for endodontic access closure, or as a base or liner under a restoration.

Figure 5a.
Distribution other dental procedures (N=5,882)

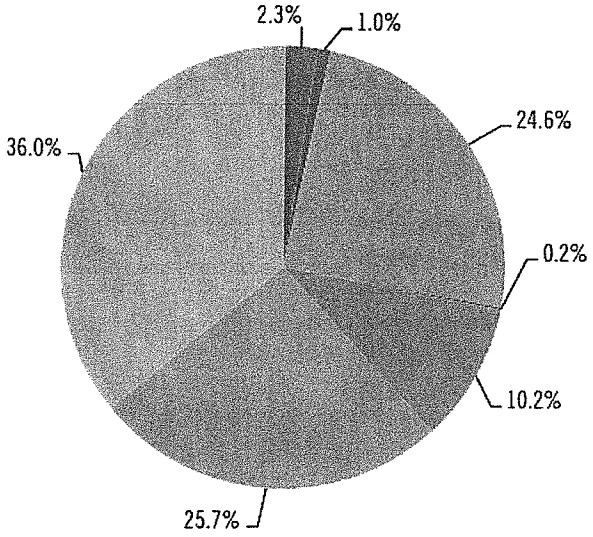
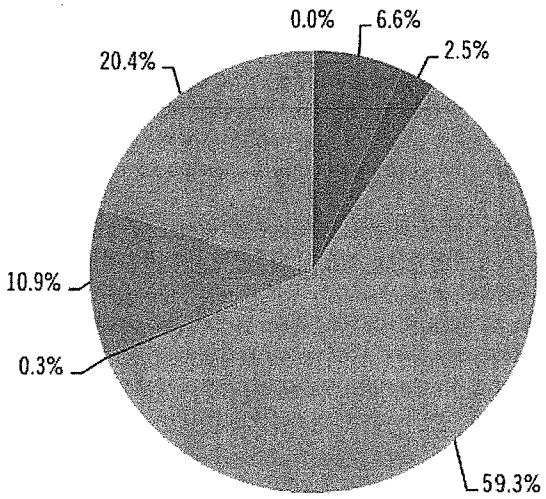


Figure 5b.
Distribution of revenue generated for other dental procedures ($352,658)



- Pulpotomies and pulpal therapies
- Extractions
- Nitrous oxide
- Other procedure (non-revenue generating)
- Scaling and root planing*
- Palliative care
- Other procedure (revenue generating)

**Scaling and root planing: treatment rendered by DHATs where it is within their scope of practice and DTs who are also licensed registered dental hygienists.*

Figure 5a shows the distribution for other dental procedures performed by DHATs, DTs and ADTs. These included extractions (24.6 percent); pulpotomies and pulpal therapies (2.3 percent); palliative care[16] (0.2 percent); nitrous oxide administration (10.2 percent); and scaling and root planing (1.0 percent). Scaling and root planing are carried out by DTs who are also licensed registered dental hygienist and DHATs, where it is part of the scope of practice. Other procedures included other dental duties for DHATs, DTs and ADTs.

Figure 5b shows the distribution of revenue generated for other dental procedures performed by DHATs, DTs and ADTs. Revenue generated from extractions was 59.3 percent of all other dental procedures. The remaining revenue was from pulpotomies and pulpal therapies (6.6 percent), nitrous oxide (10.9 percent), palliative care[17] (0.3 percent); and scaling and root planing (2.5 percent) carried out by DTs who are also licensed registered dental hygienist, thus practicing under their hygiene license and DHATs. Other procedures delegated to DHATs, DTs and ADTs generated 20.4 percent of revenue for all other dental procedures within the scope of practice.

16. Palliative care: care provided to alleviate pain from a dental condition until definitive treatment can be rendered

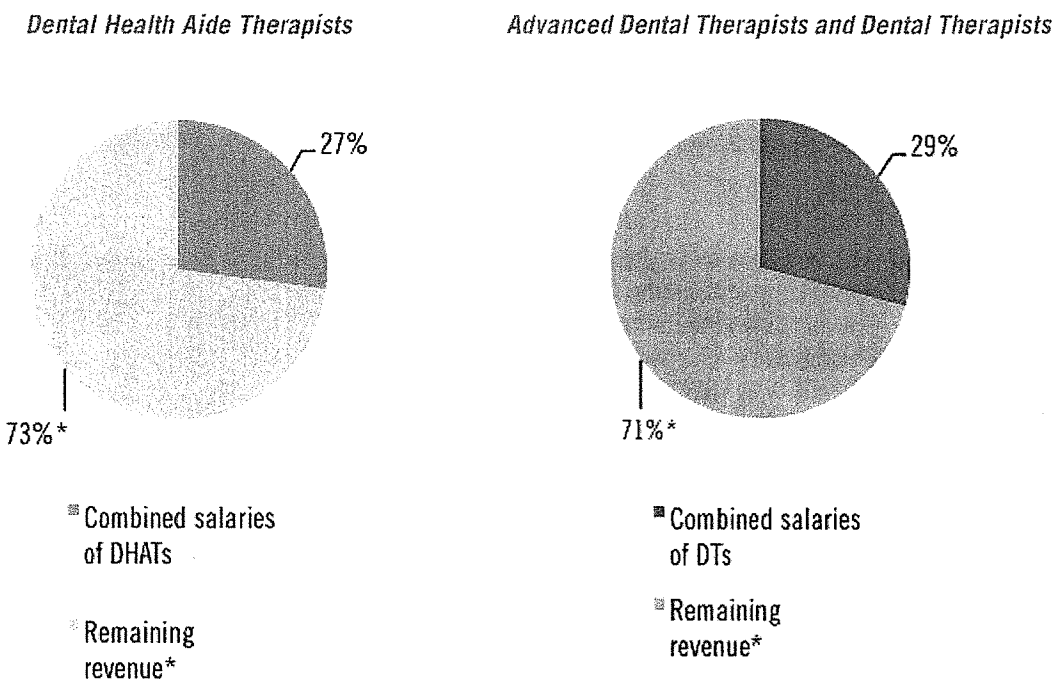
17. Palliative care: care provided to alleviate pain from a dental condition until definitive treatment can be rendered

Section III. Assessment of Economic Viability

To assess the economic viability, i.e. the total net revenue exceeding the total cost of providing care, the time of employment, full-time equivalent (FTE) and estimated hourly wage were taken into account to estimate the combined salaries of DHATs, DTs and ADTs. Additional costs were assumed to include benefits paid to DHATs, DTs and ADTs , salaries and benefits for other clinic and office staff, and dentist's time for supervision of DHATs, DTs and ADTs and other expenses such as administrative costs, program-related costs, fundraising or lobbying generally incurred by non-profit organizations.

For the DHATs, the combined salaries were 27 percent of the total revenue they generated and for the DTs and ADTs salaries were 29 percent of the total revenue generated, strongly suggesting economic viability for practices that employ them (Figure 6). Although data on overhead and additional costs were not available, even if it was assumed that these costs were 60 percent[18] [19] of the production generated by DHATs and DTs there would be 13 percent and 11 percent of revenue remaining, respectively.

Figure 6. Total Revenue Generated by Dental Health Aide Therapists, Advanced Dental Therapists and Dental Therapists



18. Costs above the salaries of DTs, ADTs, and DHATs were estimated to be 60 percent based on discussions with several of the participating practices.

19. Levin R. Part 2, 2009 Dental Economics/Levin Group Practice Survey. Dent Econ. 2009 Nov;99(11):38-43.

Section IV. Summary

- The table below shows the distribution of procedures and revenue generated by dental therapists (DTs) and dental health aide therapists (DHATs). More than 50 percent of the total number of procedures performed by DHATs, DTs and ADTs were preventive and evaluative in nature. This suggests that these providers not only provide definitive treatment (restorations) but also provide access to evaluation of oral health needs, early intervention and prevention.

	Percent of total number of procedures	Percent of total amount of revenue generated
Exams, Radiographs, Pulp test	28.2%	21.3%
Preventive	32.8%	20.5%
Restorative	23.7%	46.7%
Pulpotomies, Pulpal therapies	0.4%	0.8%
Scaling and root planing*	0.1%	0.3%
Extractions	3.8%	6.8%
Palliative care	0.03%	0.03%
Nitrous oxide	1.6%	1.2%
Other revenue generating	3.9%	2.3%
Other non-revenue generating†	5.5%	0.0%
Total	**100%**	**100%**

**Scaling and root planing: treatment rendered by DHATs, where it is within their scope of practice, and DTs who are also licensed registered dental hygienists.*

- The combined salaries for the Alaska DHATs was 27 percent of the total revenue they generated strongly suggesting economic viability. Approximately, 66 percent of patients seen by DHATs were less than 21 years old. The patient population served by practicing DHATs is American Indian and Alaska Native people living in mostly isolated villages. This population has many barriers to accessing care including geography, harsh weather and lack of providers. With the addition of DHAT to the dental team, more than 40,000 people who previously only had intermittent dental care now have improved access to care from a DHAT living in their area.[20]

- The combined salaries for the Minnesota DT and ADT was 29 percent of the total revenue they generated strongly suggesting economic viability for practices that employ them. Approximately two-thirds (67 percent) of patients seen by DTs were less than 21 years old. Additionally, the majority (78 percent) of the patients had public insurance. It is noteworthy that even though the practices are serving a large majority of patients who are covered under public insurance, which pays relatively lower rates, the practices are experiencing positive financial performance.

- The practice of DTs and ADTs in Minnesota is relatively new and should continue to be assessed as their practice matures. As stated in the legislation, the Minnesota Board of Dentistry will be evaluating the impact of therapists on delivery of dental services and access to care.

20. Mary Williard, personal communication

- Future studies to further assess cost-effectiveness of dental therapists (DTs, ADTs, and DHATS) could include examining a practice's production before and after the addition of therapists to the dental team. Additionally, the distribution of procedures among dental therapists and dentists could be evaluated.
- Given that DHATs, DTs, and ADTs are productive in the various clinic settings, there is the potential that they can be cost-effective members of dental teams and improve access to care, especially for traditionally hard to reach and underserved populations.

Author Bio:

Frances Kim

Background and Experience

Frances Kim, DDS, DrPH, received her BA from Bryn Mawr College in 1993 and her dental degree from Baltimore College of Dental Surgery Dental School, University of Maryland in 2000. After a one-year General Practice Residency at the Brigham and Women's Hospital, she received her Masters in Public Health with a concentration in Family and Community Health (2002) and Doctorate in Public Health in Epidemiology (2007) from the Harvard School of Public Health. Dr. Kim completed a dental public health residency at Harvard School of Dental Medicine in 2007. She is a Diplomate of the American Board of Dental Public Health.

During her residency, Dr. Kim practiced general dentistry for Everett Board of Health and Cambridge Health Alliance and organized and conducted various oral health needs assessments in school-aged children.

After the completion of her training, Dr. Kim spent some time at the National Institute of Dental and Cranionfacial Research in the Center for Clinical Research and worked as a research assistant for the Remediation Monitor for Medicaid Reform in Massachusetts. Currently, she involved in fluoride and osteosarcoma research.

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