Chronicling the dental therapist movement in the United States

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Abstract

There have been three attempts to introduce dental therapists (DTs) to the US dental workforce. This account will review early failed attempts to develop DTs, the recent successful Alaska initiative, the Minnesota legislature's authorization of DTs, state dental associations' deliberations on therapists in the workforce, and the efforts of national advocacy groups, foundations, and state legislatures to promote workforce innovation. It concludes with a discussion of the opposition to therapists from elements of organized dentistry.

Introduction

The US Surgeon General's Report, Oral Health in America, drew the attention of society and the dental profession to the silent epidemic of dental disease in the United States, and documented the significant disparities that exist in the oral health of poor and minority children (1). The inability of traditional oral health care models to provide treatment for this underserved population has resulted in the introduction of a new practitioner, the "dental therapist" (DTs), into the US dental workforce. DTs have been utilized to address access to care issues for children around the world in more than 50 countries (2). They provide primary preventive and restorative dental care for children. Their education typically consists of a post-secondary education training program of 2 years (3,4). The Community Dental Health Coordinator (CDHC) and the Advanced Dental Hygiene Practitioner (ADHP) have also been proposed as alternative workforce models.

This article will focus specifically on chronicling the movement to introduce dental therapists into the United States (Table 1). The paper provides a history of the ongoing development of DTs in the United States, including summaries of the Alaska initiative, the Minnesota legislature's authorization of DTs, state dental associations' deliberations on therapists in the workforce, and the efforts of national advocacy groups and state legislatures to promote workforce innovation. It concludes with a summary of the opposition to therapists from elements of organized dentistry.

Early attempts to introduce DTs

There have been three attempts to introduce DTs into the United States. The first attempt occurred in 1949 when Massachusetts passed state legislation authorizing a 2-year training program for non-dentists to prepare and restore teeth under the supervision of a dentist. The program was to have been funded by the US Children's Bureau to the Forsyth Dental Infirmary for Children. However, the American Dental Association's (ADA) House of Delegates passed a resolution opposing the program, and the Massachusetts governor rescinded the enabling legislation in July 1950 (5,6).

The second attempt to introduce DTs into the workforce occurred in 1972. J. I. Ingle, Dean of the School of Dentistry at the University of Southern California, and J. W. Friedman proposed the use of school dental nurses, based on the New Zealand (NZ) model, to address the issue of untreated dental caries in school children (7,8). The then two California Dental Associations objected strongly to the proposal, which contributed to the US Public Health Service's failure to fund

the training grant, and the second attempt to introduce DTs in the United States failed (9). This chronology does not review the effort to train dental hygienists in restorative care for children, such as at Forsyth in 1970 (10).

Among the several reasons these first two attempts to introduce DTs may have been unsuccessful were concerns voiced by organized dentistry about the quality of care that they were capable of providing. Additionally, advocacy groups outside of organized dentistry failed to take a vested interest in actively promoting children's oral health. The third and ultimately successful attempt to introduce DTs begins with the Alaska initiative. The Alaska initiative came at a time in which a heightened public awareness of children's oral health issues existed as a consequence of the 2000 Surgeon General's Report.

The Alaska initiative

In 2005, the first class of six Alaska Native DTs completed the New Zealand DT training program and began practicing in Alaska under federal authority. The story of how this group of DTs successfully began practicing in the United States originated at an Oral Health America conference on the Surgeon General's Report held in late 2000 (11). At that meeting, D. A. Nash (University of Kentucky), W. E. Mouradian (University of Washington), and D. P. DePaola (then president of the Forsyth Institute) privately discussed the potential of using the NZ therapist model to address access to care issues for children in the United States. They organized a subsequent meeting on the topic at the Forsyth Institute in Boston in early 2001. A decision was made to communicate with the Indian Health Service (IHS) and determine its interest in developing DTs. American Indian/Alaska Native (AI/AN) communities are under federal jurisdiction and, therefore, could bypass foreseen barriers in state dental practice acts. R. J. Nagel, the US Public Health Services dental consultant to the American Native Tribal Health Consortium (ANTHC), participated in the discussions between the IHS and the Forsyth group. Concurrently, ANTHC was examining the further development of dental auxiliaries to help alleviate access to care issues for AI/AN people. Subsequently, with the leadership of Nagel, the ANTHC added a new auxiliary, the dental health aide therapist (DHAT) modeled after the NZ style DT. The development and implementation of the DHAT in Alaska has been well-documented by Nash and Nagel in the *Journal of the American Public Health Association* (12).

Minnesota legislature authorizes DTs

In May 2009, during the 86th Legislative Session of Minnesota, the Governor signed into law the Omnibus Higher Education bill, which authorized two new dental practitioners: the DT and the advanced DT (ADT) (13). This legislation was supported by the Minnesota Dental Association. Minnesota is the only other state besides Alaska that now authorizes the practice of DTs.

The introduction of the Minnesota DT differs markedly from that of the Alaska DT (14). The issue began in late 2006 when the Minnesota Dental Association became aware of an initiative by a group of community clinics and dental hygiene advocates seeking to amend the Minnesota Dental Practice Act to create an "advanced dental hygiene practitioner" (ADHP). The Minnesota Dental Association was opposed to any legislative actions that would create an ADHP. However, the Safety Net Coalition (the Minnesota Dental Hygienist Association, a coalition of community clinics, Health Partners – a health maintenance organization, and the Minnesota State Colleges and University system) was formed to promote the ADHP movement. The Coalition generated considerable media attention and increasing support from legislators eager to address access to dental care in Minnesota. Nonetheless, the specific legislation that would have permitted the creation of the ADHP did not become law. However, the intense media spotlight on the need for dental care for the low income and underserved population, as well as the characterization of dentists engaged in a "turf battle" with dental hygienists, served to propel both the Minnesota Dental Association and the University of Minnesota School of Dentistry to actively examine and work toward implementing a "midlevel" practitioner to meet the needs of the people of Minnesota (14).

Although the ADHP legislation was defeated, the bill that did pass mandated that the Board of Dentistry and the Minnesota Department of Health create a workgroup to determine the educational and licensure requirements of a midlevel dental practitioner referred to as an "oral health practitioner"(OHP). In response to the passage of this law, the Minnesota Dental Association created its own OHP Task Force with representatives from community clinics, dental students, and practicing dentists to provide support for the two dentists appointed to the health department's workgroup (14).

Concurrently, the Dean of the University of Minnesota School of Dentistry headed groups that visited Canada, New Zealand, and England to learn more about their DT programs, and how to develop a DT curriculum. In 2008, the University of Minnesota announced its proposed DT program, in which DT students would be taught alongside dental students. Qualified high school graduates would be eligible to apply for the program (14). The legislation that passed also opened the door for licensed dental hygienists to enter the workforce as ADTs after being educated using the advanced dental hygiene practitioner model developed at Metropolitan State University (15).

The impact of the DT and ADT in Minnesota remains to be seen. The first class of DTs has yet to graduate and begin practice. A DT will need to complete 4 years of training and an

ADT will require 6 years of training. The DT will require the direct or indirect supervision of a dentist but the ADT may treat patients without a dentist on site. The ADT has a broader scope of practice including extraction of mobile permanent teeth and prescription of limited medications. There are restrictions on the practice of DTs in Minnesota that were put into place with the intention of helping to ensure that the problem of access to care for the underserved is addressed. At least 50% of the DT patient load must consist of those who are: enrolled in a health care program, have disabilities, do not have dental coverage, and have an income of ≤200% federal poverty level. DTs are to practice in settings that serve low income, uninsured, and underserved individuals; or are located in organizations that serve individuals in dental health professional shortage areas: Head Start programs, nonprofits, community clinics, school clinics, federally qualified health centers, educational institutions, and mobile dental units. A dentist must complete the initial diagnosis and treatment plan for the patients. DTs will have a "collaborative management agreement" (CMA), which is a written and signed document that outlines the mutually agreed upon functions the DT can provide. Any Minnesota dentist is limited to a maximum of five CMAs with a DT or ADT (14).

Kansas legislative activity

In February/March 2011, bills were introduced in the House and Senate of the Kansas state legislature that would have created a DT model in Kansas. However, the bills were not acted upon by the legislature and will remain in committee until the next legislative session. The legislation was supported by the Kansas Dental Project, an organization formed by three nonprofit agencies: the Kansas Action for Children (KAC), the Kansas Association for the Medically Underserved (KAMU), and the Kansas Health Consumer Coalition (KHCC) (16,17). The Kansas Dental Association opposed the DT model on the grounds that their "inadequate training and education puts the very patients they are intended to help at risk" (18).

State dental associations deliberate on DTs in the workforce

The Boston group (2008-2010)

The leadership of the California, Oregon, and Washington state dental societies provided the support for the formation of the "Boston Group," named for the site of its meetings (19). Membership was initially composed of leaders from the dental associations of 10 states (California, Connecticut, Maine, Massachusetts, Minnesota, New Hampshire, Oregon, Rhode Island, Vermont, and Washington). The Boston Group is an information-sharing forum on workforce activities being discussed or developed by legislatures and groups outside of organized dentistry. The significance and impact of the Boston Group is that it represents a coalition of members from organized dentistry not necessarily opposed to alternative workforce models. Members were concerned whether the educational pathway and associated costs would allow a new clinician to render quality care to children comparable to a dentist at a lower cost. It was expressly stated that the group existed to share experiences and "lessons learned," and was not to be a policy-making group.

The first meeting of the Boston Group took place in September 2008 (19). The discussion included providing members an opportunity to share concerns about new workforce models being considered by groups external to the profession, and a reaffirmation of the group's purpose in seeking to educate members about these models. The meeting concluded with a decision to reconvene in 6 to 9 months for an update on progress in different states.

The second meeting took place in March 2009 (19). In addition to the original 10 states, representatives from New Mexico and Missouri also attended. The individual states reported on dental workforce activity. It was noted that initiatives were increasingly coming from health advocates and legislators outside of organized dentistry. The presenters at this meeting included S. Gehshan (Pew Foundation's Center on the States, D. Nash (University of Kentucky), L. Fiset (University of Washington), P. Lloyd (University of Minnesota School of Dentistry), M. Alfano (New York University), and J. Koebl (Western University), who variously described what a DT was, the type of curriculum involved, the impact on public health policy, outcomes for children, and credentialing for newly developed members of the oral health workforce. The group decided to reconvene again in 6-9 months.

The third and, to date, final meeting of the Boston Group took place in March 2010 (19). Members were updated on national workforce activities being proposed by health advocacy groups and legislators around the country. Three states – Minnesota, Connecticut, and Washington – had significant state activity to report on alternative workforce models. The California Dental Association presented preliminary findings on its oral health workforce research (20). At the conclusion of all the presentations, the members of the group asked that the California, Washington, and Oregon representatives contact the ADA with a formal request to convene a National Issues Conference. A letter signed by all 12 states' presidents was sent to the president of the ADA.

Washington workforce activity

In June 2009, the Washington State Dental Association (WSDA) Board of Directors approved a 5-year initiative for a "midlevel provider" model that would be dentist-supervised (19). The need for this type of practitioner was in response to

Table 1 Time Line of Dental Therapist (DT) Movement in the United States

1949	• Massachusetts passed state legislation authorizing 2-year training program of personnel to prepare and restore teeth under supervision of a dentist
1950	• ADA House of Delegates passes resolutions opposing proposed MA training program • Massachusetts governor signed bill to rescind enabling legislation
1972	• Ingle and Friedman propose 2-year "dental nurse" training program
1973	• California Dental Associations report that public would not accept a "dental nurse" • Ensuing controversy ends attempt to fund the training program
2000	• US Surgeon General's Report on Oral Health released • Oral Health America Conference: Nash, Mouradian, DePaola privately discuss potential for DT model to address access to care for children. Discussions lead to meeting at Forsyth in Boston
2001	• Forsyth Institute in Boston meeting: decision to focus on advocating for DTs working with American Indian Alaska Natives (AI/AN) • Communication between Forsyth and Indian Health Service resulted in initiative by ANTHC to send AI/AN for DT training in NZ
2003	• Six AN students begin DT training in New Zealand • "National Call to Action to Promote Oral Health" released by US Surgeon General
2004	• ADA unsuccessfully attempts to amend Indian Health Care Improvement Act to "ensure no dental health aide is certified to perform treatment of dental caries . . ." in closing days of 108th US Congress
2005	• First six AN DTs begin practice in Alaska • ADA and Alaska Dental Society launch lawsuit against them for "illegal practice of dentistry" • Kellogg funds National Congress of American Indians $250,000 to explore expanding DTs beyond Alaska
2006	• APHA and AAPHD endorse practice of DTs in Alaska
2007	• Alaska Attorney General states that therapists certified under federal law • ADA drops lawsuit • Seven AN students enroll in new 2-year dental therapy program in Anchorage, Alaska
2008	JULY • Academy of General Dentistry (AGD)releases White Paper opposing DTs • Kellogg, and others, fund RTI International $1.6 million to evaluate implementation of DTs in Alaska. Study results to be released in August 2010 SEPTEMBER • Boston Group holds first meeting
2009	FEBRUARY • Kellogg funds Center for Cross Cultural Health (MN) $100,000 to study DT model • Institute of Medicine hosts workshop: "The US Oral Health Workforce in the Coming Decade" MARCH • Boston Group holds second meeting MAY • Pew releases monograph "Help Wanted: A Policy Maker's Guide to New Dental Providers" JUNE • Washington State Dental Association Board of Directors approve 5-year initiative model for a "mid level provider." • Kellogg funds Con Alma $100,000 grant to study use of DTs in New Mexico SEPTEMBER • Institute of Medicine (IOM) launch 24 month "Study on Oral Health Access to Services"
2009	MAY • Minnesota legislature amends Minnesota Dental Practice Act to include "DT" and "advanced DT," Supported by MDA NOVEMBER • Connecticut State Dental Association resolution supports 2-year DT pilot project • AGD asks Connecticut members to oppose resolution DECEMBER • Kellogg releases monograph "Training New Dental Health Providers in the U.S." • Kellogg President and CEO supports DT model
2010	JANUARY • Kellogg funds $1.6 million grant to Community Catalyst of Boston, to improve oral health of children by promoting change in state policies to allow DT to practice • Kellogg-Macy fund $165,00 AAPHD planning panel for developing 2-year DT curriculum • President of ADA opposes provisions in Health Care Reform legislation that permit workforce pilot programs

Table 1 *Continued*

	FEBRUARY
	• Government Accountability Office begins study that includes examining use of alternative providers to improve access for children's oral health care as part of CHIP reauthorization
	• Pew Foundation's Center on the States, DentaQuest, and Kellogg release "The Cost of Delay," which used benchmarks including authorization of new providers to evaluate states' management of children's oral health
	• AGD responds to PEW report favorably with exception of benchmark "authorization of new provider"
	MARCH
	• Letter signed by ADA, AAPD, AGD, AAO, AAP sent to Speaker of House opposing health care reform bill for reasons including opposition to "workforce pilot programs"
	• Congress passes health care reform bill that authorizes workforce development grants to study new dental providers
	• APHA, AAPHD, AADR, ADEA, ASTDD, Pew, Kellogg, Children's Dental Health Project, and others, applaud passage of health care reform legislation
	• First meeting of IOM "Study on Oral Health Access to Services"
	• Third meeting of Boston Group
	• Austin Group forms and meets to discuss strategies to oppose DTs
	APRIL
	• ADA news release opposes health care reform bill allowing workforce pilot programs
	JULY
	• Georgia Dental Association releases White Paper opposing DTs
	• Kellogg provides supplemental funds to AAPHD to support previously awarded curriculum grant to further examine use of DTs
	• ADA holds National Issues Conference to review dental workforce activities across the country
	OCTOBER
	• RTI International releases "Evaluation of the Dental Health Aide Therapist Workforce Model in Alaska" report funded by Kellogg, Rasmuson, and Bethel Community Services Foundations
	• ADA House of Delegates adopt workforce resolutions that oppose non-dentists performing surgical/irreversible procedures
	• AAPD news release states the newly released RTI report is a "flawed evaluation"
	• ADA news release states the RTI report does not provide sufficient data on which to make health policy decisions
	NOVEMBER
	• Kellogg Foundation announces funding $16 million dollar Dental Therapist Project to introduce DTs with focus on the states of New Mexico, Vermont, Ohio, Washington and Kansas
	• ADA news release states that inadequate research available to support Dental Therapist Project
	• GAO office releases "Oral Health: Efforts Under Way to Improve Children's Access to Dental Services, but Sustained Attention Needed to Address Ongoing Concerns"
2011	FEBRUARY
	• Commonwealth Fund releases "The Commonwealth Fund State Scorecard on Child Health System Performance, 2011" which positively reviews the Alaska DT model
	• Kansas legislature does not authorize House of Representatives bill to introduce DTs; bill opposed by Kansas Dental Association
	• Washington legislature does not authorize House of Representative bill to introduce DTs; bill opposed by Washington State Dental Association
	• ADA releases "Breaking Down Barriers to Oral Health for All Americans: The Role of Workforce", which opposes the DT model
	MARCH
	• Journal of the American Dental Association releases "Clinical technical performance of DTs in Alaska" which concludes therapists provided acceptable restorative care for patients under indirect supervision

the issue of access to care for the indigent and working poor. Originally, the proposal called for the new DT to receive 2 years of training in a community college to be eligible for licensure to practice. However, a different model was proposed for a DT program in response the WSDA membership, which was not comfortable with a 2-year training program, and wanted to build on an expanded function hygienist model. The new proposal described a dental hygienist/therapist: a 3-year program – 1 year of DT training following dental hygiene school. Dental hygienists/therapists would have no restrictions placed on their patient pool, but would be expected to target the low-income and populations with public insurance. House Bill 1310, the bill to introduce the DT model, was not voted on by the House Health Committee in February 2011; and as a consequence, the bill is dead until the 2012 legislative session when it will be automatically reintroduced, unless it is withdrawn by the sponsoring state representative. The WSDA official position is now one of opposition to House Bill 1310 due to concerns that DTs would be inadequately educated and supervised and that collaborative agreements potentially increased the liability risk for dentists (19).

Connecticut workforce activity

The Connecticut State Dental Association House of Delegates considered a resolution to support a 2-year DT pilot project to increase access to oral health care in Connecticut in November 2009. The resolution ultimately passed and there has been no further significant activity in Connecticut as of March 2011 (21).

National advocacy groups, foundations, and federal government initiatives to promote workforce innovation

As previously mentioned, a potential contributing factor to the failure of the first two attempts to introduce DTs may have been the lack of participation from public and national healthcare advocacy groups. The Surgeon General's Report, Oral Health in America, was released on May 25, 2000 (1). It was the first major report to document the issues of disparities in oral health, and the problem of access to care for low-income and minority populations, especially children. For the first time, the issue of access to care and the value of oral health achieved national prominence. The Report called for action to promote access to care for all Americans, especially disadvantaged and minority children found to be at the greatest risk of adverse outcomes from serious oral health conditions.

These words were sadly proven to be true by the death of Deamonte Driver, a 12-year-old African-American boy who died from a dental infection in February 2007 (22). The tragedy attracted national attention and brought about a Congressional investigation. National advocacy groups and legislators began to investigate the issue of access to care for America's poor and uninsured population.

In 2009, a series of landmark reports and studies on access to care were released by national advocacy groups and governmental agencies. A recurring theme was the need to examine alternative workforce models as one of several potential solutions to address the access to care problem. The first major report was released in May 2009 by the Children's Dental Program of the Pew Center on the States in partnership with the W. K. Kellogg Foundation and the National Academy for State Health Policy. It was entitled "Help Wanted: A Policy Maker's Guide to New Dental Providers" (23). The Report concluded that the persistent shortage of dentists in low-income areas, the projected decrease in the dental workforce by 2014, the limited capacity of community clinics, and the inadequacy of expanding public dental coverage alone as means of addressing access, underscored the need for a new dental care practitioner to help ensure primary oral health care was available to all. The Report described alternative workforce models and highlighted the success of the Alaska DTs in providing care to thousands of residents in Alaskan villages who otherwise might never have received treatment.

The Institute of Medicine (IOM) hosted a workshop in February 2009, entitled "The US Oral Health Workforce in the Coming Decade," which considered the issues of the current status of oral health services, workforce strategies for improving access, and the role of various interest groups in improving access (24). In September 2009, the National Research Council and the IOM announced it would be conducting a "Study on Oral Health Access to Services" funded by the Health Resources and Services Administration (HRSA). The first meeting took place in March 2010 and was attended by representatives from organized dentistry, the Centers for Disease Control and Prevention, and federally qualified health centers. Two subsequent meetings were held in June and July of 2010, but study conclusions by the panel have yet to be released (25).

In December 2009, the W. K. Kellogg Foundation released a report authored by B. L. Edelstein, president of the Children's Dental Health Project, entitled "Training New Dental Health Providers in the U.S." (26). The Report documented the value of the Alaska DT program in helping children in remote Alaska Native villages receive badly needed dental care. The Report also recommended that US policy makers seriously examine utilizing alternative workforce members, such as DTs, to increase the availability of dental care for underserved populations.

The upsurge in interest in DTs continued and in January 2010, the American Association of Public Health Dentistry (AAPHD) announced the establishment of a planning panel for a 2-year DT curriculum that could be adopted by university dental schools and community colleges (27). The panel was funded by the W. K. Kellogg and Josiah Macy Jr. Foundations. The model curriculum had not been released as of March 2011. In July 2010, the AAPHD received supplemental funds from Kellogg for three additional projects: a) a research paper on accreditation of DT programs and licensure of graduates; b) a case study on the general supervision relationship between the Alaska DT and dentists; and c) a symposium at Columbia University that will explore the impact of DTs on practice (28).

In January 2010, the W. K. Kellogg Foundation funded a $1.6 million grant to Community Catalyst, a national nonprofit advocacy organization in Boston that promotes quality affordable healthcare for all citizens, to examine how to increase access to care and improve the oral health of children by changing state policies in order to allow DTs to practice as part of the dental workforce (29).

In February 2010, The Pew Center on the States, the DentaQuest Foundation, and the W. K. Kellogg Foundation released a report entitled "The Cost of Delay: State Dental Policies Fail One in Five Children." The Report reviewed the

negative consequences on low-income and minority children unable to access dental care. It included eight "policy benchmarks" to grade the states, of which Policy Benchmark Seven was "state has authorized a new primary dental care provider" (30).

Also in February 2010, the Government Accountability Office (GAO) began a study examining children's access to dental services, including the use of DTs, to increase access to care. This was a Congressional mandate that was included in the CHIP Reauthorization Act of 2009 (31). Finally and most significantly, in March 2010, Congress passed the Patient Protection and Affordable Care Act, that included expanded Medicaid coverage, extended the Children's Health Insurance Program for 5 years, and authorized funding for workforce pilot programs to study options for new dental care providers (32).

An independent assessment by RTI International of the Alaska DHAT program, "Evaluation of the Dental Health Aide Therapist Workforce Model in Alaska," was funded by the W. K. Kellogg, Rasmuson, and the Bethel Community Services Foundations and released in October 2010. The report focused on five key areas: a) patient satisfaction; b) oral health status; c) clinical technical performance; d) record-based process measures and evaluation of clinical facilities; and e) implementation of community based prevention programs. The study concluded that DHATs were "performing well and operating safely and appropriately within their defined scope of practice." Furthermore, the data indicated that the DHATs were "technically competent to perform these procedures within their scope of practice" and also that patients were "very satisfied" with the care received from DTs (33).

In addition to the aforementioned grants, the W. K. Kellogg Foundation has also funded three other projects to examine the impact of DTs on access to care: the National Congress of American Indians ($250,000 in 2005) (34); the Center for Cross Cultural Health ($100,000 in 2009) (35); and the Con Alma Foundation ($100,000 in 2009) (36). In November 2010, more than 16 million dollars of funding over a 5-year period was committed by Kellogg to the Dental Therapist Project to promote the initiative in partnership with community led support, with efforts focused on the states of New Mexico, Kansas, Vermont, Ohio, and Washington (37,38). The support of the W. K. Kellogg Foundation for the DT movement is reflected in the words of its President and CEO, Sterling K. Speirn: "Training and placing new DTs under the general supervision of a dentist in underserved areas could help ensure that more families, particularly those who are most vulnerable, can access quality, affordable dental care. Oral health is essential to overall health, yet too many Americans go without needed dental care. The dental therapy model, which has been successful internationally and here at home in Alaska, can help us address this glaring gap and increase racial equity in dental care" (39). It is anticipated that more funding from the W. K. Kellogg Foundation will be forthcoming.

In November 2010, the US GAO released the results of its study on children's access to dental services in a report entitled "Oral Health: Efforts Under Way to Improve Children's Access to Dental Services, but Sustained Attention Needed to Address Ongoing Concerns" (40). The report did not make specific recommendations regarding the use of DTs to address the issue of access for care for underserved children. However, it did reiterate the positive findings of the October 2010 RTI International evaluation of the Alaskan dental therapy program. Overall, the GAO found that "obtaining dental care for children in Medicaid and CHIP remains a challenge, as many states reported that most dentists in their state treat few or no Medicaid or CHIP patients" (40).

The Commonwealth Fund released "Securing A Healthy Future: The Commonwealth Fund State Scorecard on Child Health System Performance, 2011" in February 2011 (41). The report favorably reviewed the success of the Alaska DT program in addressing the high unmet needs of the rural Alaskan Native population by stating, "The successful program has since served as a model of how greater use of midlevel dental providers can improve children's access to dental services and the quality of care" (41).

Opposition to therapists from elements of organized dentistry

Dental workforce diversification and the development of new providers is supported by virtually every major health advocacy and public health organization in the United States including: the American Public Health Association, the American Association of Public Health Dentistry, the W. K. Kellogg Foundation, the American Association for Community Dental Programs, the American Association for Dental Research, the American Dental Education Association, the Association of State and Territorial Dental Directors, the National Rural Health Association, Oral Health America, First Focus Campaign for Children, the Pew Children's Dental Campaign, the Children's Dental Health Project, Community Catalyst, and additional organizations too numerous to list (42,43).

On the other hand, in March 2010, a consortium of dental associations sent a letter to the Speaker of the US House of Representatives, opposing the Health Care Reform Bill for reasons including adult Medicaid dental services being inadequately funded and opposition to "workforce pilot programs" because of concerns over a "lower tier of care, provided by non-dentists without appropriate training." The letter was signed by the Academy of General Dentistry, the American Academy of Pediatric Dentistry, the American Academy of Periodontology, the American Association of

Oral and Maxillofacial Surgeons, the American Association of Orthodontists, the American College of Prosthodontists, and the American Dental Association (44).

Every advance in the DT movement has precipitated the release of statements and passing of resolutions by dental associations challenging its value. In November 2009, the Academy of General Dentistry (AGD) sent a letter to its Connecticut members asking them to oppose the Connecticut State Dental Association's resolution to support a 2-year DT pilot project to increase access to oral health care (45). The January 2010 issue of ADA News urged ADA members to voice strong opposition to emerging health care reform legislation on the basis that it "could promote the use of midlevel dental providers to perform surgical dental procedures" (46). The AGD responded to the February 2010 Pew Report by stating that including the benchmark of authorizing a new primary care dental provider was "unfortunate" and described the concept as an "impediment" that had the "potential to endanger patients' health" (47). At the first meeting of the IOM's "Study on Oral Health Access to Services" in March of 2010, ADA president Ron Tankersley criticized the IOM's failure to include private practitioners on the oral health panel. He expressed concern about ignoring the need for a "public-private" partnership and stated that "no significant impact on access to care, regardless of delivery system" would be possible without collaborating with the private practice community (48). The April 2010 issue of ADA News listed opposition to "workforce pilot programs that may lead to non-dentists performing surgical procedures" as one of the reasons that the ADA did not support the new healthcare reform legislation (49). A new group called the "Austin Group" with representatives from 15 states (Alabama, Delaware, Georgia, Illinois, Indiana, Kansas, Louisiana, Mississippi, New Jersey, North Carolina, Pennsylvania, South Carolina, Texas, and Utah) met for the first time in March 2010 (50). The Austin Group's intention is to maintain ADA policy as it exists with regard to DTs. The Georgia Dental Association released a "White Paper" in July 2010 that refers to DTs as "under-educated individuals" whose introduction into the workforce could be "a problem that will adversely impact the oral health of future generations" (51). The Georgia Dental Association's White Paper was inspired by the Academy of General Dentistry's White Paper of July 2008 that claimed that introducing an independent midlevel provider "threatens not only to create a two-tiered system of delivery, providing poorer quality of care for poor and medically needy populations" but also "puts patients at risk of receiving inappropriate and possibly unsafe care" (52). A National Issues Conference was held in July 2010 by the ADA as a result of letters from the Boston Group and the ADA Organization of State Executives. Every state dental association sent at least one representative, which underscored the level of concern and interest in this issue. The president of the ADA opened the conference by expressing his opinion that "We consider these midlevel provider discussions an unfortunate distraction that delays implementation of proven solutions like proper funding of safety net programs, oral health literacy initiatives and preventive services" (53). The July 2010 issue of ADA news reported that "driving this issue are several foundations that have dedicated their efforts toward solving the access problem through the creation of a midlevel provider" and proceeded to describe initiatives launched by the Kellogg Foundation and Pew Charitable Trusts (53).

The results of a study by the California Dental Association presented at the third meeting of the Boston Group in March 2010, found that very few dentists accept that a problem of access to care exists, and are largely unaware of workforce initiatives (20). In fact, private practitioners are of the opinion that there is actually a surplus of dentists, and therefore do not see a need for workforce expansion. The study findings noted that, lacking awareness of broader social issues, dentists tend to turn inward and think about how workforce proposals would affect their practices. Another study found that pediatric dentists do not know what DTs are, how they are trained, or what type of services they can provide; yet despite their lack of knowledge, the majority is adamantly opposed to the concept (54).

At the October 2010 Annual Session of the ADA, the House of Delegates amended Resolution 92H-2010 to state that "if a pilot program involves a new member of the dental team, the new team member must be supervised by a dentist." The resolution also stated that the ADA will not support pilot programs that allow "a non-dentist to diagnose, treatment plan or perform irreversible/surgical procedures" (55).

The American Academy of Pediatric Dentistry (AAPD) responded to the Kellogg study of the Alaska DHAT program in late October 2010, with the statement that "the AAPD views this as a flawed evaluation," and that the "AAPD questions whether the report's findings that DTs with 2 years of intensive training provide safe, competent, and appropriate dental care" (56). The ADA also issued a response in October 2010 to the same Kellogg study by saying that it does not "deliver the kind of data on which major health policy decisions should be made." The president of the ADA also reiterated the organization's position on DTs "performing surgery" with the words ". . . and we stand firmly against it" (57).

The ADA responded in November 2010 to the W. K. Kellogg Foundation's announcement of the Dental Therapist Project with a statement released by ADA president, which noted that the Foundation's efforts to address access to care issues were limited by a ". . . focus exclusively on expanding a single provider model, the controversial Alaska Dental Health Aide Therapist" (58). The ADA president also stated that "The limited research evaluation conducted by Kellogg did not

provide the robust examination or projectable metrics on which to base such important policy and public health decisions" (58). The November 2011 issue of ADA news also included statements from members of the state dental associations of Kansas, Vermont, Washington, and New Mexico that were not supportive of introducing DTs as a potential solution to address access issues in their states (59). The December 2010 issue of the Ohio Dental Association news quotes the Association's president as saying ". . . we oppose permitting these under-trained therapists to perform irreversible surgical procedures" (60). The ADA then published "Breaking Down Barriers to Oral Health for All Americans: The Role of Workforce" in February 2011, which again repeated the ADA's unequivocal opposition to allowing non-dentists to perform surgical procedures (61). The AAPD released a news brief in February 2011 that praised the efforts of pediatric dentists who testified against the passage of DT legislation in Kansas and Washington states. The final sentence in the news release was ". . . proponents in targeted states continue to publicize and promote the DT option as a solution to access, so the battle is far from over" (62). The March 2011 issue of the *Journal of the American Dental Association* published an article by the authors of the RTI International evaluation of the Alaskan DTs that concluded that therapists provide technically competent treatment under indirect supervision and future studies should focus on the effectiveness of the program in improving the targeted population's oral health (63). Nonetheless, a commentary at the end of the article by members of the ADA Subcommittee on Workforce issues stated that "shortcomings of the study limited its value" and reiterates the ADA's position that the focus on a new dental workforce member is "creating an unacceptable, lower tier of dental care for the poor and underserved" (63).

Conclusion

The impetus for the DT movement derives from the failure of the existing oral health workforce and delivery system to provide care for poor and underserved populations. It can be concluded there will continue to be significant opposition to the addition of DTs to the dental team in the United States. However, recent events suggest that momentum for significant changes in the dental workforce, specifically the introduction of DTs, will continue to grow until the issue of access to care for economically disadvantaged members of society is adequately addressed.

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