

North Dakota Legislative Management

Tribal and State Relations Committee

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Tribal State Dental Services

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Chairperson Johnson, Vice Chair Larsen, and committee members, I would like to thank you for the opportunity to address you regarding dental therapy. My name is Mary E. Williard. I am a dentist. I live and work in Alaska where I am the I.H.S. Alaska Area Dental Officer, the I.H.S. Alaska Area Prevention Officer, and Director of both the Department of Oral Health Promotion and the Dental Health Aide Therapist Educational Program for the Alaska Native Tribal Health Consortium (ANTHC). I am a principle investigator for grants aimed at workforce development in the Alaska Tribal Health System and helped developed the federal certification standards for Dental Health Aide Therapists (DHAT), a new type of provider in the US. During my career I have practiced on the Navajo Reservation in New Mexico and spent 9 years in the rural Southwest of Alaska where the majority of the population is Alaska Native Yupik Eskimo. I was able to work with and supervise DHAT in practice while practicing there.

In the public health practice settings where I have worked my entire career, I have seen the devastation that results from lack of access to basic oral health care. To be honest, I come from a different world than the patients I have cared for. I didn't know there were areas in the U.S. that had such severe dental disease and access to care problems. I was very disturbed by what I saw early in my career as I first encountered children with facial swellings, rotten teeth and dental pain. I hoped it was only a small problem. However, in my 20 years of practice, I have come to know that access to appropriate dental care is a real and pervasive problem in the U.S. I have seen wide spread problems in Alaska tribal communities, on the Navajo Reservation, in inner city Columbus, Ohio and Charlotte, North Carolina. Traveling the country talking about the challenges we faced in Alaska, I have heard similar stories from people in all parts of the country. These stories of pain and suffering from dental disease are heart wrenching and much too common. The reasons people give for difficulty in accessing care are multi-factorial, including cost, cultural barriers, geography, and lack of skilled providers. These common challenges led my predecessor at ANTHC, Dr. Ron Nagel, to integrate dental therapists into the health delivery system in Alaska. The first three cohorts of

DHAT student from Alaska attended the University of Otago, School of Dentistry in New Zealand. New Zealand started training mid-level dental providers in 1921. They continue educating and utilizing dental therapists in their country today. In 2006 the Alaska tribes received funding that enabled them to develop a DHAT Educational Program in Alaska. The program is run by the ANTHC and contracts with the University of Washington's School of Medicine's Physician Assistant MEDEX Northwest program for help with curriculum development and administrative support. Twenty nine students have now graduated from the Alaska program and have gone on to provide care in the Alaska Tribal Health System.

There have been several other attempts to develop new mid-level dental providers in the US, dating back to the 1940s. In every case these attempts were aggressively attacked and stopped by organized dentistry. In January 2006 the American Dental Association (ADA) and the Alaska Dental Society (ADS) along with several private practice dentists filed a lawsuit against the ANTHC and the practicing DHAT. The Alaska Superior Court ruled against the ADA and ADS and today there are 35 practicing DHAT and DHAT students in Alaska. Despite significant supportive evidence, organized dentistry's position has changed little in the past 70 years. Prior to the Alaska DHAT, the most significant change in the U.S. oral health workforce occurred back in 1908 with the advent of dental hygienists. Contrast this to the revolution of auxiliary and mid-level care providers in medicine during the past few decades which has led to improved access and helped defray the cost of medical care. The dental profession has a way to go to catch up to the medical profession's efficient use of an expanded workforce.

In 2008 Dr. Nagel collaborated on a paper that was published in the International Dental Journal that examined the practice of Dental Therapy in 52 countries. In every case these providers work under general supervision without the dentist present. Expanding access and creating a safety net by necessity calls for the establishment of more entry points into the oral health care system. To increase access, our DHAT are able to practice where there are no dentists, yet are part of a team of dental providers lead by a dentist. The scope of practice of DHAT is based on the needs of the population. The ability to address pain, infection and the function of teeth (fillings and extractions) is very important for patients who have experienced lack of access to dental care. Preventive programs must engage the patient to effectively support long term behavior changes, however in order to achieve this engagement you must first meet the immediate needs of the patients. Prevention alone will not address the existing treatment needs. Patients with toothaches don't want to see someone who can only teach them how to brush their teeth; they want to have the pain addressed. They deserve to have the pain addressed. DHAT can address the pain, work with the patient to resolve it and then develop patient centered care plans to prevent more dental disease.

The literature is clear and it is confirmed by my own first-hand experience working with these providers in Alaska that mid-levels are able to fill and extract teeth under general supervision safely and effectively. Some parts of organized dentistry refer to fillings and extractions as “irreversible surgical procedures.” This characterization sounds scary and is simply a tactic to sensationalize their concerns and distracts from meaningful discussions about the development of new providers.

Everyone in the healthcare system should be concerned with quality and safety. The only way to monitor these elements is through an ongoing quality assurance program that evaluates both dentists and the mid-level over time. In Alaska, our DHAT have been working for as much as ten years. There has never been a supported claim of malpractice while thousands of services have been provided to patients who otherwise would not have appropriate access to this type of care. The Alaska DHAT are the most scrutinized providers in the U.S. today, their practice has been reviewed by dentists from all over the country. If there was a problem of safety or competency, believe me, you would have heard about it by now. The prestigious Research Triangle Institute (RTI) completed a comprehensive study of the implementation of the DHAT program in Alaska. They found that DHAT were providing safe, appropriate and competent care. Opponents of dental therapy try to discredit this study as too small, but the truth is that it looked at about 25% of the certified DHAT practicing at the time. It looked at their clinical practice from multiple angles. Patients were interviewed for their opinions of the care they received and 95% were very satisfied. There was nothing in the study to cause alarm or concern. In isolation this study cannot be used to prove without a doubt the safety and effectiveness of adding a mid-level to the dental team, however when you look at this study and compare it to all the other studies that have been conducted in the nearly 100 years of mid-level dental practice, it's findings are consistent with those other studies. I have yet to see any evidence based study which supports the concerns of the ADA in opposition to DHAT. I have also never seen a study of private practice dentistry in the U.S. which takes as in depth a look at dentists as the RTI study did looking at DHAT practice. In April 2012, Dr. David Nash et.al through the support of the W.K. Kellogg Foundation published a monograph titled, “A Review of the Global Literature on Dental Therapists, In the Context of the Movement to Add Dental Therapists to the Oral Health Workforce in the United States.” This review included over 1000 articles written in the U.S. and abroad on the practice of dental therapists. Not one article could be found that would support the concerns voiced by the ADA. The review found overwhelming evidence that using dental therapists as part of the dental workforce decreased the cost of care, and improved access to care. It further showed that the public values the role of the dental therapist and that the universal tradition has been a two year educational program for dental therapists.

In the Alaska program there is a continual competency evaluation process in which the DHAT practitioners are supervised and their skills directly observed at regular intervals throughout their careers. This is an effective way to implement a quality assurance program for any provider. To limit their scope of practice unnecessarily, require the presence of a dentist in their practice setting, or require longer training than necessary does not address quality, it only hinders effectiveness and efficiency.

The development of the Alaska based program has not created a two tiered system or a lower quality of care. DHATs are evaluated in the program based on the same standards as dentists. The DHAT educational program is competency based. Students progress in the program by demonstrating competency in specified skills. This methodology addresses concerns about the adequacy of the new training program and ensures that once they matriculate they provide high quality care. In the few short years since DHAT has been introduced to the Alaska tribal health system, over 40 thousand Alaskans now live in communities served by DHAT.

The cost effectiveness of including DHAT in the dental team is easy to demonstrate. We have shown that our DHAT can produce as many billable services as a dentist yet they are paid at about half the salary of a dentist. They require only two years of training compared to 8 years for most dentists. While the prospective dental student is still waiting to get into dental school, the DHAT can be out practicing and generating billable services. It just makes sense that DHAT will be a way to provide care at a lower cost.

In summary, the available evaluations and evidence suggests that the mid-level dental providers like the Alaska DHAT deliver safe, competent and appropriate oral health care. There simply is no evidence to the contrary. The ability to practice under general supervision is critical to increase access. Equally important is the ability to provide critical services that will address pain, infection, oral function, and meet the basic needs of patients.

I cannot understand how large numbers of people lack access to dental care in this country; we have the means to do better. In Alaska, we have taken action to improve access to care for those that suffer significant inequities in access to dental care. I am proud to be part of the innovative DHAT program in Alaska. I believe other parts of the U.S., including North Dakota, would benefit from a similar dental team approach.

Thank you for the opportunity to share my experience working with, supervising and educating DHAT.

In case you would like to review some of the literature on Mid-level dental providers I have included the following references:

## **Research Literature Review on Mid-level Oral Health Practitioners**

Mid-level practitioners have been well studied and researched in many other countries that have long-standing mid-level practitioner programs and in the United States in pilot programs conducted in the 70's and more recent research in Alaska. Research studies have consistently shown that mid-level oral health practitioners improve access, reduce costs, provide excellent quality of care, and do not put patients at risk. The following is a list of some of the major research studies on mid-level oral health practitioners.

### **Literature review**

David A. Nash, Jay W. Friedman, Kavita R. Mathu-Muju, Peter G. Robinson, Julie Satur, Susan Moffat, Rosemary Kardos, Edward C.M. Lo, Anthony H.H. Wong, Nasruddin Jaafar, Jos van den Heuvel, Prathip Phantumvanit, Eu Oy Chu, Rahul Naidu, Lesley Naidoo, Irving McKenzie and Eshani Fernando "A Review of the Global Literature on Dental Therapists, In the Context of the Movement to Add Dental Therapists to the Oral Health Workforce in the United States." April 2012 This project was made possible with support from the W.K. Kellogg Foundation. <http://www.wkkf.org/news-and-media/article/2012/04/nash-report-is-evidence-that-dental-therapists-expand-access>

### **Evaluations of clinical competency**

P.E. Hammons, H.C. Jamison, L.L. Wilson. "Quality of service provided by dental therapists in an experimental program at the University of Alabama." *Journal of the American Dental Association*. 1971; 82:1060-1066

- A comparison study between dentists in private practice and dental therapists at the University of Alabama School of Dentistry found that the quality of service was equally competent for six clinical procedures, including inserting amalgam restorations, inserting silicate cement restorations, finishing amalgam fillings, finishing silicate fillings, inserting temporary fillings, and placing matrix bands for amalgam fillings. More specifically, for the both of the unfinished and finished restoration procedures, none of the differences in proportions of excellent ratings was statistically significant. In certain cases, the minor differences tended to favor the dental therapists for seven of the 12 aspects evaluated for unfinished restoration procedures. When evaluating temporary procedures that include fillings, the differences in ratings of excellence between the dentists and dental therapists were statistically significant, favoring the therapists.

L.J. Brearley, FN Rosenblum. "Two-year evaluation of auxiliaries trained in expanded duties." *Journal of the American Dental Association*. 1972; 84:600-610.

- A two-year evaluation of the performance of expanded duty dental assistants compared to those of senior dental students indicated that the expanded duty dental assistants' quality of procedures performed was consistently as good as the performance shown by the senior dental students. Furthermore, in certain procedures, the expanded duty dental assistants tended to be significantly superior to dental students in the performance of prophylaxes, matrix removal, and placement of Class I amalgam restorations.

J. Abramowitz, L.E. Berg. "A four-year study of the utilization of dental assistants with expanded functions." *Journal of the American Dental Association*. 1973; 87:623-635.

- A four-year study of the effectiveness of expanded duty dental assistants (dental auxiliaries) found that the participating dental auxiliaries were able to provide delegated procedures of

acceptable quality, including Class II amalgam and Class III silicate restorations and no significant differences were found for the “acceptable” rating between dentists and auxiliaries for both procedures.

E.R. Abrose, A.B. Hord, W.J. Simpson. *A Quality Evaluation of Specific Dental Services Provided by the Saskatchewan Dental Plan*. (Regina, Canada: Province of Saskatchewan Department of Health, 1976).

- A treatment quality evaluation of the Saskatchewan Dental Plan, which includes a dental nurse training program modeled after the New Zealand program, focused on the procedures of amalgam restorations, stainless steel crowns, and diagnostic radiographs. Comparing the quality of amalgam restorations performed by dentists to those of dental nurses, just over 20 percent of restorations performed by dentists tended towards a rating of unsatisfactory and 15 percent towards a rating of superior whereas dental nurses were rated at just 3 to 6 percent unsatisfactory and 45 to 50 percent approaching superior standards. In regards to stainless steel crowns, the dentists and dental nurses appeared to function at the same standard of quality

Ralph Lobene and Alix Kerr, *The Forsyth Experiment: An Alternative System for Dental Care* (Cambridge, MA: Harvard University Press, 1979).

- Based on blind evaluations, the advanced skills hygienists were found to perform restorative dentistry equal in quality to that done by practicing dentists. For example, the group mean score for all cavity preparations was 10.2 quality points for the hygienists versus 10.0 quality points for the dentists. Comparing multisurface cavity preparations, those completed by the hygienists had a higher mean quality score that was statistically significant at the 5 percent confidence level. The hygienists also achieved a slightly superior group mean score for single-surface restorations with 10.7 quality points versus 10.5 quality points for the dentist-performed fillings (p. 82).

Stanley Lotzkar, Donald W. Johnson, Mary B. Thompson. “Experimental program in expanded functions for dental assistants: Phase 3 experiment with dental teams.” *Journal of the American Dental Association*. 1971; 82:1067-1081.

- In phase three of a three-phase study on the feasibility of delegating additional duties to chairside dental auxiliaries, dentists, who worked as heads of dental teams with varying numbers of assistants, delegated about two fifths of their work to these auxiliaries. The overall rating of the work performed by the assistants during this phase found that 82% of the procedures were assessed as meeting the required quality standards, compared to 81% of the dentists’ work that was assessed as acceptable.

Gordon Trueblood. *A Quality Evaluation of Specific Dental Services Provided by Canadian Dental Therapists* (Ottawa, Ontario, Canada: Epidemiology and Community Health Specialties, Health and Welfare Canada, 1992).

- A study to observe the quality of care provided by dental therapists compared with the level and quality of care provided by dental practitioners statistically concluded that on the basis of six clinical restorative procedures, the quality of restorations placed by the dental therapists was equal and more often better than that of those placed by dentists.
- In addition, the data show a steadily increasing trend that is the result of a steady decrease in the number of required extractions over time relative to restorations, which suggests that dental therapists are being successful in treating dental emergencies and in reducing them through regular on-going care. The steadily increasing trend is the first important line of evidence of the overall effectiveness of the dental therapists in improving dental health in the communities in which they work.

David A. Nash, Jay W. Friedman, Thomas B. Kardos, Rosemary L. Kardos, Eli Schwarz, Julie Satur, Darren G. Berg, Jaafar Nasruddin, Elifuraha G. Davenport, Ron Nagel. "Dental therapists: a global perspective." *International Dental Journal*. 2008; 58:61-70.

- Since their introduction in New Zealand, dental nurses/therapists have improved access to oral health care in increasing numbers of countries. Multiple studies have documented that dental therapists provide quality care comparable to that of a dentist, within the confines of their scope of practice. Acceptance and satisfaction with the care provided by dental therapists is evidenced by widespread public participation. Through providing basic, primary care, a dental therapist permits the dentist to devote more time to complex therapy that only a dentist is trained and qualified to provide.

Kenneth A. Bolin. *Quality Assessment of Dental Treatment Provided by Dental Health Aide Therapists in Alaska*. Paper presented at the National Oral Health Conference; 2007 May 1.

- Charts of patients treated by Dental Health Aide Therapists (DHATs) and dentists in three Alaskan health corporations were audited to assess quality of care and the incidence of adverse events

### **Assessments of how well they care for particular populations**

David A. Nash and Ron J. Nagel, "Confronting oral health disparities among American Indian/Alaska Native children: The pediatric oral health therapist." *American Journal of Public Health*. 2005; 95, no.8: 1325-1329.

- The use of dental therapists in Canada on First Nation reserves has indicated that the ratio of extractions to restorations has dropped significantly, from over 50 extractions per 100 restorations in 1974 to fewer than 10 extractions per 100 restorations in 1986.

David A. Nash, Jay W. Friedman, Thomas B. Kardos, Rosemary L. Kardos, Eli Schwarz, Julie Satur, Darren G. Berg, Jaafar Nasruddin, Elifuraha G. Davenport, Ron Nagel. "Dental therapists: a global perspective." *International Dental Journal*. 2008; 58:61-70.

- New Zealand's School Dental Service, which is staffed by school dental therapists under the general (indirect) supervision of district public health dentists, currently have over 97% of children under the age of 13 and 56% of preschoolers participating, with virtual elimination of permanent tooth loss.
- In Malaysia, practicing dental nurses now number around 2,090 and have operated in schools since 1985. The program has been very successful, with 96% of elementary and 67% of secondary school children participating and resulting in a sharp decline of decayed teeth and a corresponding increase in restored teeth.

Christine E. Miller, "Access to care for people with special needs: Role of alternative providers and practice settings." *Journal of the California Dental Association*. 2005; 33, no.9:715-721.

- Dental hygienists, with focus on community health and preventive care, are suggested as being the oral health professionals most prepared to address issues of access.

Elizabeth Mertz, Gena Anderson, Kevin Grumbach, Edward O'Neil, "Evaluation Strategies to Recruit Oral Health Care Providers to Underserved Areas of California." (San Francisco, CA: Center for California Health Workforce Studies, 2004).

- The Registered Dental Hygienist in Alternative Practice category was first created in the 1980s as a California Health Manpower Pilot Project to allow hygienists to practice in alternative

settings. Each cohort of 17 RDHAP graduates from the West Los Angeles program is estimated to add 34,000 patient visits per year for the underserved.

### **Attitude of dentists**

Brearley LJ, Rosenblum FN. Two-year evaluation of auxiliaries trained in expanded duties. *Journal of the American Dental Association*. 1972; 84:600-610.

- Dental students (91.3%) were favorably oriented towards expanding duties of dental assistants to help alleviate the dental manpower shortage. Most of the dental students favored the delegation of certain procedures to suitably trained assistants, including manipulation of rubber dam, matrixes, and wedges. There was also a significant attitudinal change by the end of the study to being in favor of the condensation of amalgam and adaptation and cementation of stainless steel crowns by suitably trained assistants.

Louis Fiset. *A Report on Quality Assessment of Primary Care Provided by Dental Therapists to Alaska Natives* (Seattle, WA: University of Washington School of Dentistry, 2005).

- The author completed a four-day site visit to the Yukon-Kuskokwim Corporation dental clinic in Bethel, Alaska and to two remote village dental clinics in Buckland and Shungnak, which are administered by the Maniilaq Corporation dental clinic in Kotzebue. At the Bethel site, he found that each dentist he spoke with was eager to discuss the dental therapists, all positive in their comments. One dentist admitted that the dental therapists' clinical training in pediatric dentistry surpassed her own. Among the dentists practicing at the facility, all expressed no reservation about the dental therapists being sent to sub-regional clinics to provide primary care in the absence of direct supervision by their preceptors.

- Each dental therapist was equipped not only to provide essential preventive services but simple treatments involving irreversible dental procedures such as fillings and extractions. Their patient management skills surpassed the standard of care. They knew the limits of their scope of practice and at no time demonstrated any willingness to exceed them.

### **Cost-effectiveness and productivity**

Abramowitz J, Berg LE. A four-year study of the utilization of dental assistants with expanded functions. *Journal of the American Dental Association*. 1973; 87:623-635.

- A four-year study to determine the feasibility of dental practices using expanded function dental assistants in relation to quality and economic considerations demonstrated that the efficient utilization of these types of auxiliaries resulted in decreased fees, increased net income for the dentists, or a combination of both. More specifically, as more auxiliaries were added to the dental team, the relative costs per unit of time worked decreased from \$2.54 to \$2.26 and the net income for the dentist increased over \$10,000, from \$28,030 to \$39,147.

Ralph Lobene and Alix Kerr, *The Forsyth Experiment: An Alternative System for Dental Care* (Cambridge, MA: Harvard University Press, 1979).

- Results from the Forsyth Experiment indicated that a solo practice dentist using hygienist-assistant teams to provide restorative care could charge lower fees and increase his net income. All patients in the study actually received free treatment, so therefore the income that could have been generated was calculated using the dollar charges for specific dental procedures listed in the 1974 Massachusetts welfare fee schedule and the 1972 schedule of usual fees for New England dentists.

Stanley Lotzkar, Donald W. Johnson, Mary B. Thompson, "Experimental program in expanded functions for dental assistants: Phase 3 experiment with dental teams." *Journal of the American Dental Association*. 1971; 82:1067-1081.

- With dentists heading dental teams with four assistants performing expanded functions, dentists were able to increase their productivity over their base-line performance by 110% to 133%.

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