



The Development and Implementation of Dental Health Aide Therapists in Alaska

RON J. NAGEL, DDS, MPH

ABSTRACT Alaska natives are disproportionately affected by oral disease in comparison to the general American population and have limited access to care. This paper discusses the development and implementation of the dental health aide therapist by the Alaska Native Tribal Health Consortium. This dental therapist can effectively extend the ability of dentists to provide for those not receiving care in the remote villages of rural Alaska, helping address oral health disparities existing among Alaska natives.

AUTHOR

Ron J. Nagel, DDS, MPH, retired from the United States Public Health Service Commission Corps after 21 years of service. In 2000, he helped develop and introduce dental therapists as one of four new oral health workforce models for rural Alaska.

The American Indian/Alaska native (AI/AN) population has the highest rate of dental caries of any population cohort in the United States, five times the U.S. average for children 2 to 4 years of age.¹ Seventy-nine percent of AI/AN children, age 2-5, have tooth decay, with 60 percent of these children having severe early childhood caries. Eighty-seven percent of these children, age 6-14, have a history of decay, twice the rate of dental caries experience for the general population. Ninety-one percent of AI/adolescents, age 15-19, have caries. Sixty-eight percent of AI/AN children have untreated dental caries. One-third of schoolchildren report missing school because of dental pain and 25 percent report avoiding laughing or smiling because of the appearance of their teeth. This prevalence of caries infection exists

in spite of the implementation of significant public health programs of decay prevention by the Indian Health Service (IHS) and tribes, including the fluoridation of water systems suitable for fluoridation; the use of topical fluorides and dental sealants; and educational programs for children and parents on oral health.

Lack of access to professional dental care is a significant contributor to the disparities in oral health that exist in the AI/AN population. Two major factors contribute to inadequate access to care: the relative geographic isolation of tribal populations, particularly in Alaska, and the inability to attract and retain dentists to practice in tribal health facilities in rural areas.²

Alaska offers a specific example of the geographic problem of providing access to care. There are 130,000

Alaska natives in the state, with approximately 85,000 of these individuals living in the 200 villages that make up rural Alaska. A majority of these villages are not connected to the rest of the state by roads, thus requiring travel by air or water. While village clinics provide essential medical care, in many instances, villagers must travel hundreds of miles by bush plane or boat to obtain dental care.

In spite of intense recruitment efforts and significant financial incentives, the IHS and the tribes continue to experience great difficulty in attracting dentists nationally. Approximately one-fourth of the dentist positions at 269 IHS and tribal health facilities were vacant in 2007.³ There is one dentist for every 2,800 individuals in the IHS and tribal health clinics compared with one dentist for every 1,500 individuals in the general U.S. population.¹ Historically, Alaska's tribal programs have had a 25 percent vacancy rate for dentists and a 30 percent average annual turnover rate.

Expanding the Dental Workforce

The potential to reach more AI/AN children with needed oral health care can be significantly improved by expanding the number of individuals capable of providing care. While physician's assistants and nurse practitioners are commonly employed physician-extenders, the only comparable dentist-extender is the dental hygienist, who deals primarily with issues of periodontal health for adults, and generally is able to work only under direct supervision of a dentist. There has been ongoing interest in increasing the number and expanding the scope of existing workforce models. An American Dental Association task force, in 1995, recommended a signifi-

cant expansion of the dental team in order to meet the emerging crisis in the workforce.⁴ The editor of the *Journal of the American Dental Association* called for an expansion of allied dental personnel and their duties as the preferable alternative to increasing the number of dentists being educated in our dental schools.⁵ Several leaders in dental practice and education have echoed his call.^{6,7} Adding a new model, such as dental therapists, could be particularly

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beneficial to increasing access to care for populations who currently do not have good access in the current system.

The New Zealand school dental nurse, now called a dental therapist, has served as a prototype for adding such a member to the dental team in many countries throughout the world. New Zealand's dental therapist curriculum model has been a two-year postsecondary training program of approximately 2,400 hours with more than 25 percent of the time devoted to the clinical care of children.^{8,9} School dental nurses have provided comprehensive primary care for children in the schools of New Zealand since 1921, and 52 countries document some variant of a dental therapist.¹⁰ The typical justification for developing and deploying dental

therapists in these countries has been an inadequacy of the dental workforce, adversely affecting access to oral health care.¹¹ Of particular relevance to workforce issues for Alaska's native population is the success of Health Canada caring for its "First Nation" people since 1972 utilizing the model of international dental therapist.¹²⁻¹⁴ An important lesson from the Canadian program is that the success of any new model depends on adequate funding, good policy, and support. The system of care requires at least as much attention as the workforce model deployed to work within it.¹⁵

There have been two previous attempts to introduce dental therapists into the United States. The first attempt occurred in 1949 when Massachusetts passed state legislation authorizing a two-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 U.S. 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 dental therapists into the workforce occurred in 1972. J.L. Ingle, then-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 model, to address the issue of untreated caries in school children.⁷⁻⁸ The then two California dental associations objected strongly to the proposal, which contributed to the U.S. Public Health Service's failure to fund the training grant, and the proposal did not move forward.

Early National Discussions and the Alaska Native Tribal Health Consortium

In 1999, the dental director of the Southeast Alaska Regional Health Consortium developed a white paper delineating the crisis in access to oral health care in the Alaska tribal system. The Alaska Native Tribal Health Consortium (ANTHC) responded by applying for, and winning, an IHS Support Center grant.¹⁶ In November 2000, the author was selected to be the director of this new IHS Support Center with the main focus to be on the development of a unique oral health workforce to meet the needs of Alaska natives.

In early 2001, the IHS was approached by a small group of individuals working with the Forsyth Institute in Boston regarding the IHS' interest in working collaboratively to develop a new oral health care worker modeled after the school dental nurse/therapist of New Zealand.¹⁷ The Forsyth Group was concerned about the ability to develop a therapist in the United States due to restrictive state dental practice acts. However, the tribes and their reservations are sovereign, thus having the ability to pursue the development of such a clinician. Initial inquiries by Forsyth concerning foundation funding for such an initiative were unsuccessful.¹⁸

Concurrent with these discussions, the ANTHC was beginning the development of dental health aides, under the provisions of the congressionally authorized Alaska Community Health Aide Program (CHAP). The program has existed for more than 40 years and there are more than 550 community aides working in 180 villages, providing culturally sensitive care to fellow villagers. Initially, the dental aide program called for development of a primary dental health aide (PDHA) and an expanded-function dental health aide (EFDHA). The PDHA would function as a community dental educator but also provide preven-

tive services under the general supervision of a dentist. The EFDHA would work under the direct supervision of a dentist and serve as an expanded-function dental assistant. As a result of the discussions with the group from Forsyth, a third level of dental health aide also was conceptualized, the dental health aide therapist (DHAT), that is, a dental therapist following the international model.

This author was the person responsible for working with the ANTHC in

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Alaska to develop the dental health aide program. He was also involved in the conversations between the leadership of the IHS and the Forsyth Group. Absent foundation funding sought by Forsyth, discussions proceeded within the ANTHC regarding the training of DHATs, and sources of funding for such. The School of Dentistry at the University of Otago in New Zealand agreed to accept Alaska native students into their dental therapy training program. Funding to support training and travel was obtained from the Rasmuson Foundation. In February 2003, six Alaska native students traveled to New Zealand to participate in a two academic year curriculum to be trained as dental therapists. Additional cohorts were sent to study in New Zealand in February 2004 and February 2005.

American Dental Association Challenges the ANTHC Initiative

The American Dental Association was informed of the Alaska native students studying to become therapists in New Zealand and the intention for them to return to tribal villages to practice. At its October 2003 Annual Session, the ADA House of Delegates passed a resolution calling for a task force to "explore options for delivering high-quality oral health care to Alaska natives."¹⁹ The Alaska Native Oral Health Access Task Force submitted its report to the ADA Board of Trustees in August 2004. Based on the task force's recommendations the board advanced to the House of Delegates at the ADA's October 2004 annual session, a resolution with 14 elements to address access to oral health care for Alaska natives, with two dealing specifically with the advanced-level DHAT: (1) "the ADA work with the ADS [Alaska Dental Society] and tribal leaders to seek federal funding with the goal of placing a dental health aide (i.e., a PDHA) trained to provide oral health education, preventive services and palliative services (except irreversible procedures such as tooth extractions, cavity and stainless-steel crown preparations and pulpotomies) in every Alaska native village that requests an aide" (emphasis added); and (2) "The ADA is opposed to nondentists making diagnoses or performing irreversible procedures." The resolution passed the House of Delegates overwhelmingly on a voice vote.²⁰

In November and December 2004, the ADA attempted to amend the Indian Health Care Improvement Act, which was in the process of being reauthorized by the Congress in the closing days of the 108th Congress. This act authorized the development and operation of the Community Health Aide Program, which included dental health aides. House Bill

HR 2440 was amended at mark-up to read, “ensure that no dental health aide is certified under the program to perform treatment of dental caries, pulpotomies, or extractions of teeth.”²¹ However, the ADA’s proposed amendment was not successful.

The ADA and the Alaska Dental Society, along with several private practitioners, filed a lawsuit in January 2006 naming the Alaska tribes and eight of the dental therapists returning from New Zealand, seeking to prohibit the therapists from practicing.²² In June 2007, Alaska’s Superior Court ruled against the plaintiffs and a subsequent settlement agreement was reached.²³ The ADA gave the ANTHC Foundation \$537,000, with a stipulation that it would not be used for the DHAT program, and gave the State of Alaska \$75,000.

Dental Health Aide Therapists Training Launched in Alaska

In September 2006, the Kellogg Foundation awarded the ANTHC a grant to provide DHAT training in Alaska.²⁴ To develop this new education program, ANTHC partnered with the University of Washington MEDEX Northwest program. MEDEX is a regional program that began in 1968 to educate physician assistants as part of the University of Washington School of Medicine. ANTHC and MEDEX created the DENTEX Program that brings an interdisciplinary approach to oral health education and a unique opportunity to develop dental therapists who are equipped to fill a distinct public health role. The curriculum is of two academic years, followed by a directly supervised clinical preceptorship.

The new DENTEX curriculum emphasizes competency in oral disease management, behavioral management, and community oral health promotion skills.

Patients are motivated to change behavior via interactions they have with their therapist over time.^{25,26} To accomplish this, an emphasis is placed on educating therapists who will go on to develop effective relationships.²⁷ DHATs are recruited from villages where they will return to serve to ensure community and cultural acceptance. The new paradigm places a great emphasis on the students’ predicted ability to return to their home region and contribute to the oral health of their com-

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munities. The first two cohorts of DENTEX educated dental health aide therapists graduated in December 2008 and December 2009, respectively. Two more cohorts are currently in training. As the program matures, it is expected that students will pay tuition, and the training program will be sustainable as a viable health career. Medicaid reimbursement for DHAT services enables tribes to continue to place DHAT where they are needed most.

The federal CHAP Certification Board certifies DHATs in Alaska. This process is a competency-based certification and differs in important ways from licensure. DHAT skills are evaluated over time, it is not a single-event test. Supervising dentists directly supervise a specified number of services provided by the DHAT during the course of patient treatment. This typically takes place during

the 400-hour clinical preceptorship. Once these skills have been demonstrated consistently to the satisfaction of the supervising dentist, the DHAT may apply for certification. This process is repeated every two years to ensure continuing competency and account for any changes in a therapist’s skill level.²⁸ This ongoing skills evaluation yields good predictive validity so that supervising dentists have a clear working knowledge of the skills of each therapist. In addition to certification, each therapist operates under a set of individualized standing orders that are developed by the supervising dentist to delineate the scope of the therapist’s practice. Standing orders allow the supervising dentist to control the scope of practice of each therapist and account for variation between skill levels from one therapist to another. Continuing education can then be planned for each DHAT to build on any skill set. Each therapist must participate in a minimum of 24 hours of appropriate continuing education every two years. The system provides supervising dentists with the administrative controls to ensure a high quality delivery model and the flexibility to deploy therapists in a variety of settings.

DHATs operate in a “dependent practice.” This means that they are part of a system of supervised care. The goal is to ensure that each patient receives a singular high standard of services, regardless of who provides the care. To accomplish this, supervising dentists must provide clinical guidance, and the therapist must obtain appropriate patient consultations and referrals. Policies defining this process can be developed to fit the needs of any particular health system.²⁹

Fiset evaluated the Alaskan dental therapists in September 2005 and commented, “I have evaluated the clinical

performance of four dental therapists who have been providing primary care for Alaska natives since the beginning of 2005. Their patient management skills surpass the standard of care. They know the limits of their scope of practice and at no time demonstrated any willingness to exceed them. I believe that the program deserves not only to continue but to expand.” He concluded that they were “competent providers.”³⁰ In August 2006, Bolin reviewed the records of 640 dental procedures performed for 406 patients. No significant evidence was found to indicate that irreversible dental treatment provided by DHATs differs from similar treatment provided by dentists.³¹ Since there was a limited sample size available to review at the time, Bolin recommended further studies to determine long-term effects of the use of DHATs as part of a dental team.

RTI International was awarded a \$1.6 million-dollar contract in July 2008 by the W.K. Kellogg Foundation, in partnership with others, to conduct a two-year evaluation of the implementation of the DHAT program. Results from this study are now available.³²

Conclusion

The Alaska Tribal Health Consortium, with the cooperation of the IHS, and supported by a number of philanthropic foundations, has provided leadership for demonstrating that the international model of developing and deploying dental therapists can be utilized in the United States to improve access to care for native Alaskans, and, as a consequence, has had a significant impact on reducing oral health disparities and improving oral health. The effort offers a model for incorporating dental therapists as members of the dental team in other states and settings. ■■■■

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