DENTAL THERAPISTS:
THE MISSING LINK TO BETTER ORAL HEALTH CARE FOR CHILDREN IN
NEW MEXICO

By

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Abstract

New Mexico is ranked one of the worst states for access to dental care and for children and families living in rural communities throughout the state, these statistics are even more striking. Thirty-two out of New Mexico's 33 counties are all or in part federally designated as dental health professional shortage areas which, are in dire need of increased access to oral health services. In addition to dental treatment of acute issues, education and prevention are key components of adequate and timely oral health care, including proper nutrition, quality hygiene habits and knowledge of the culture and unique needs of New Mexico’s children.

Dental therapists have demonstrated this capability in a variety of settings. The dental therapist model brings together essential elements of public health practice and is a fitting solution for the deficiencies of the current system. Dental therapists are trained to provide basic dental services under the direction of a licensed dentist and have traditionally functioned in underserved areas (The University of Minnesota, [UMN], 2015). They are trained in much the same way as dental students with didactic and clinical instruction that typically last 2-3 years and are required to complete an additional post-graduate training and competency exam before entering the workforce (UMN, 2015). Dental therapy, although a relatively new practice in the United States, is not a novel treatment of children internationally. It has shown great promise as a complementary component of the dental team and could spearhead the effort of meeting the oral health needs of underserved children in New Mexico, a population that typically has one of the highest level of caries (Centers for Disease Control and Prevention [CDC], 2011).
New Mexico's oral health advocates’ push for dental therapy began in 2008 in an attempt to create the framework and licensing for these new specialists to practice in the state, and was most recently introduced as HB 349 in the 2015 legislative session. This year was the first this legislation was voted on by the NM House of Representatives. The bill passed the House with bipartisan support by a vote of 34-25, but the session ended before it made it through the Senate (New Mexico Legislature, 2015). The effort to pass dental therapist legislation in NM is not done and continues. In fact, the past year has brought about even greater support for it, as government supporters, community advocates, and other local leaders continue to work tirelessly to promote its benefits. The current elements of the bill provide a strong foundation for successful implementation and would allow for the integration of care between dental therapists, dentists and hygienists as part of the dental team. Dental therapists also allow for cohesive collaboration between primary care medical providers, doctors, nurses, nurse practitioners and physician assistants. Dental therapists are the link to primary care clinics and facilities creating a complete health home, uniting medical and dental together for communities throughout the state. Community health workers (CHW’S), a growing asset to rural residents everywhere, will also be a direct connection to dental therapists for timely and appropriate dental care and treatment. Dental therapy is not just about access to better dental care but is also an essential right for children.

Children with oral health problems experience pain, miss school and, therefore, do not perform well in academics leading to lower self-esteem and greatly reducing the chances they will grow to be their most promising selves. Dental therapists not only make a professional livable-wage that helps support their families, elders and children but they
can also act as role models for children that might one day choose to serve the community as well. Dental therapy is the right choice for all of New Mexico's children, especially those living in rural communities throughout the state that deserve to smile confidently, too.

**Introduction & Background**

*How does a dental therapist differ from a dentist?*

While dental therapists perform many of the same procedures that dentists do, they also differ in many ways. First, a licensed dentist must be competent in about 500 areas, while a dental therapist only requires proficiency in about 45 of these (Health Action New Mexico [HANM], 2015a). Secondly, there are two types of dental therapy programs that are being proposed in New Mexico. One is a hybrid dental therapy-dental hygiene tract that includes curriculum from both areas, and the other is an Accelerated Hygienist Pathway for already practicing hygienists, which requires up to an additional year and a half of training and education (HANM, 2014). Either program also includes an additional 400 hours of clinical practice under the indirect supervision of a licensed dentist, along with completion of a competency exam, regional board exam, jurisprudence assessment and fulfillment of all state licensing requirements. Upon completion of these, they are eligible to apply for licensure to the NM Board of Dental Health Care and once approved by the dental board, along with receipt of licensure, dental therapists are limited to working in the following locations.

- Federally Qualified Health Centers (FQHC),
- FQHC “look-alike” facilities,
- School-based health center or clinic,
• Indian Health Service (IHS) facility,
• 638 tribally operated facility,
• non-profit dental clinic,
• mobile clinic,
• a healthcare facility owned and operated by federal, state or local government,
• a dental practice that is a sole proprietorship that serves a patient population of which at least 25% is composed of Medicaid recipients, OR
• a county with a population of less than fifty thousand individuals as of the last decennial census (HANM, 2015b).

Dental therapists also play a large role in oral health education and traditionally participate in community outreach events and visit schools to address proper oral hygiene habits and healthy nutritional practices (Alaska Native Tribal Health Consortium [ANTHC], 2015). The role of a dental therapist is, therefore, multifaceted and has the power to change the behaviors that influence overall health status. In areas where a primary care practitioner with minimal oral health knowledge is the only option, prescription pain relieving medications or treatment in a hospital emergency room is not only costly, but often does not adequately take care of the underlying cause of the dental distress (The Pew Center on the States, 2012). Dental infections that reach emergency status can become life threatening when abscesses cause sepsis. In a study tracking emergency room visits in the US from 2000-2009, over 61,000 were due to dental issues and of those 66 patients died (Shah, Leong, Lee & Allareddy, 2013). The proximity to
adequate dental care is, therefore, not just about cost, but can be the difference between life and death for some individuals.

_Dental therapy- a solution for New Mexico_

Development of preventive oral hygiene habits and access to dental care early in life are critical to achieving a lifetime of optimal oral health. Proper education and access to dental services are therefore essential components of instilling these behaviors in children. In New Mexico, 37% of third-graders have untreated dental decay, and many of them live in areas with limited access to dental services (Health Systems Bureau and Office of Oral Health, 2006). In comparison to national statistics children age 2-5 and 6-19 have rates of untreated caries of 19.5% and 22.9% respectively (CDC, 2011). Ethnic and cultural background, socioeconomic status, education level, proximity to care and access to insurance coverage are all factors that significantly influence the higher rates found among New Mexico youth. The use of Indian Health Service (IHS) facilities, school-based health centers (SBHCs) and limited private practice clinics throughout rural and frontier areas is often not enough to lessen the burden of inadequate oral health care providers.

One such exemplary area is Union County. Located in the northeastern part of New Mexico, it is classified as a frontier area with just over 4,300 residents. Only about 47% report visiting the dentist at least once in the last year, which is most likely a result of no full-time dentist in their community (Union County Network, 2014). Union County is not alone. Many other communities across New Mexico share the same characteristics and could benefit from the increase in dental services and oral health education that having a dental therapist would bring. The hygiene, nutrition and treatment behaviors that
individuals establish when they are young tend to sustain into adulthood. Therefore, it is especially important to implement interventions in those facilities that are available in rural areas, and this is often in already established SBHCs. The use of SBHCs is one way in which the dental therapy model is cost efficient since it does not have to rely on building new infrastructure or facilities.

The city of Des Moines located in Union County uses a school-based dental home model overseen by the Union County Network, which is a coalition of healthcare providers, schools and public health workers. Hygienists provide cleanings once a week in the school setting. Kristen Christy, the Executive Director of the Union County Network, reported that there are approximately 90 students K-12 that utilize these services annually. Preventive treatment is the primary service provided, but for those needing restorative procedures, a private practice dentist housed about 80 miles away visits the clinic once a month (Christy, personal interview, August 26, 2015). Further, the school clinic is open to community members outside of school hours for the same services. Although their current system functions well within this preventive model, a dental therapist would be useful in establishing a more permanent solution for the treatment procedures that are currently only carried out once a month. Further, according to Christy, Union County has been actively trying to recruit a full-time dentist for many years but has been unsuccessful.

The use of a dental therapist could, therefore, be an excellent alternative, especially if this individual is already a member of the community and aware of the population's unique needs. Union County is a just snapshot of the barriers and challenges
that many of New Mexico's most remotely settled residents encounter and showcases how the work of a dental therapist could profoundly reduce these burdens.

**Literature Review**

*The origin of dental therapy*

The use of dental therapists began in the early 1900's in a few counties across England. At the time, they were titled ‘Dental Dressers' and their duties were seen as an extension of the hygienist and included filling small cavities and extracting temporary teeth in school-based clinics. Dentists who were called to service during the First World War created a shortage in the school system that was filled with these new types of workers. They remained in these positions until the passage of the Dental Act of 1921 whereby apprentice trained dentists were now able to become licensed and relieve the provider shortage (British Association of Dental Therapists [BADT], 2013). A need born out of extenuating circumstance was, therefore, the main catalyst in this case and started the movement towards a more comprehensive dental health model.

Meanwhile, in New Zealand the School Dental Service was being established, which trained so-called ‘Dental Nurses' to practice in rural communities and be the primary contact for patients, only referring patients to a dentist if necessary (BADT, 2013). The model established here would go on to be replicated in many other countries, especially those of a rural nature and would also become the basis for the amending of statutes similar to the U.K.'s 1956 Dental Act. The modification allowed for the training of Dental Auxiliaries who received referrals from dentists following school dental examinations. Fast-forward to 2013, and with a few adjustments along the way, the dental
therapy program has proven itself as an invaluable aspect of the dental field in the UK, showing the practice is so safe that it now no longer requires supervision by a dentist.

Dental therapists in international practice

In addition to England and New Zealand, the dental therapy model has been used throughout Canada, Australia, the Netherlands, Nepal and over 50 other countries and in a variety of settings for decades. (Nash et al., 2012). Many of these programs, although not restricted to any subset of the population in these countries are often geared towards treating children.

Also, a 2013 report by the Pew Charitable Trusts looked at over 1,000 studies done on the use of dental therapists internationally and found no discrepancies in quality of care in dental therapy practices. While children in the United States and New Zealand have complementary rates of dental decay in children, those in New Zealand have far fewer rates of untreated caries, and this is due in part to the use of the dental therapy model. Their system began with the use of dental nurses that could only perform particular procedures, much like that of current dental therapists. Their model, a fusion between dental hygiene and dental therapy serves children from birth to age 18 primarily in elementary schools and community-based settings (Pew, 2013). Comparing untreated tooth decay in 5-11-year-olds in the U.S. and New Zealand, 3% of those in New Zealand have untreated caries, whereas those in U.S. children were at nearly 20% (Pew, 2013). According to Pew, the system in New Zealand also works to include oral health care into the primary care visits that children attend from birth to age 5, further lessening the risk of poor oral health habits and caries at younger ages. The poorest of U.S. children are
therefore at greatest risk when it comes to untreated tooth decay because there are simply not enough dentists to serve this population.

*Dental therapy in the United States*

Even though dental therapy is nearing 100 years of service internationally, it is a relatively new practice in the United States. Alaska, Minnesota, and Maine have all authorized the practice while Vermont, New Mexico, Kansas, Ohio, and Washington State among a few others are still working through the legislative process (Jordan, 2015). Although there are only a few states currently pursuing the use of dental therapists, the benefits of such a position along with the need for oral health services has begun to foster the momentum on a national level.

The current dental health care system in the United States is designed to cater to those who can afford it, but is typically out of reach for those who cannot. The high cost of dental insurance and the separation between dental health and primary health care are two of the main contributing factors contributing to dental access disparities. An investment in dental therapy is, therefore, a more efficient option for those in rural, poor and disadvantaged backgrounds because it would allow for the practice of simple procedures and greater preventive measures supplied to those who cannot typically visit a dentist. Further, it initiates increased investment in community resources that can be used to improve oral health education measures, which are a vital part of preventing caries and other primary causes of dental disease.
Alaska

The need for novel ways to address oral health concerns in Alaska was evident for many years. The isolated arrangement of their communities along with the many tribal regions brought the need to the forefront. Their initiation of dental therapy began in 2005 when six Alaska Natives traveled to New Zealand to obtain training under the direction of the Alaska Native Tribal Health Consortium (Pew, 2013 & Commonwealth Fund, 2013). When they returned as dental health aide therapists (DHATs), it was only the beginning of Alaska's journey to better oral health care for its residents. These six original therapists along with 19 others continue to serve the most remote villages throughout the state today, including the children who need it most (Friedman & Mathu-Muju, 2014). According to Freidman and Mathu-Muju children in Alaska have rates of tooth decay double that of the national average, and this is primarily due to the remoteness of villages strewn across the state that are only accessible by boat or plane. The use of dental therapists combats this barrier, making oral care reachable to everyone.

Alaska has created a sustainable program through collaboration with the University Of Washington School Of Medicine and the implementation of a program called the Dental Health Aide Therapist Program (DENTEX) (Commonwealth Fund, 2010). According to the Commonwealth Fund, grants from the Indian Health Service and HRSA supply the financial resources needed to support the education of students, who are then required to work for four years under the tribal organization that sponsored them. In Alaska, within 12-18 months of employment, dental therapists generate enough revenue in serving additional patients that the dental therapists, or their education investors, can recoup the costs of their training (Kim, 2013). The success of this model in
Alaska is due to the recruitment and retention procedures, which allow dental therapists to live and work in their local communities. Further, indirect supervision, meaning a dentist is not onsite with the therapist, allows for greater flexibility in the geographic locations that dental therapists can work.

**Minnesota**

The introduction of the dental therapy program in Minnesota also began when leadership throughout the state recognized a shortage of oral health services in many of their rural communities and began to push for a new model of care. Much like the push back that New Mexico is currently facing, Minnesota dentists were strongly opposed to this design in the beginning. The program consists of two tracks and includes bachelor's and master's degrees options that exist within the University of Minnesota Dental School (Commonwealth Fund, 2013). Although these programs consist of a narrower scope than the Alaska program, they are supported by the Minnesota Board of Dentistry and American Dental Association and show very promising initial results. The importance of Minnesota's passage of the dental therapy bill opens up the playing field for other states that have similar access issues like New Mexico.

New Mexico continues to benefit from the lessons learned in Minnesota on how to pass dental therapist legislation, and how to best implement the legislation once passed. A 2014 Minnesota Department of Health evaluation performed in conjunction with the Minnesota Board of Dentistry assessed the primary impacts of the program, the current state of the dental therapy workforce and methods of patient reimbursement. The survey included 1,382 dental therapist patients, along with administrative staff. Data was pulled from clinic visits, oral health emergency room visits and dental therapist licensing.
data (Minnesota Department of Health [MNDOH], 2014). The Minnesota Department of Health report shows over 6,300 patients received services at participating clinic sites, and of those nearly 84% are enrolled in public health insurance programs.

The initial impacts of dental therapists indicate that since 2011, only four complaints exist against practicing dental therapists, none of which are related to patient safety issues and no disciplinary actions have been taken. Further, the report also shows that overall wait times for obtaining an appointment in urban and rural environments have declined, travel times have been reduced and trips to the ER for oral health issues have also dropped.

Overall, the use of dental therapists indicates that clinics can now serve more underserved patients from rural areas. Although Minnesota typically ranks high among health status, it is not immune to the disparities that tend to exist among residents of rural areas, minorities and those of lower socioeconomic status. Like New Mexico, Minnesota has a higher than average number of counties that are designated as Health Professional Shortage Areas (HPSAs) when it comes to oral health access and because of dental therapists, these areas can now more efficiently combat oral health issues.

Maine

Lastly, in 2014 Maine became the 3rd state to add dental therapists to the oral health team (Hartkemeyer, 2014). Their model, Dental Hygiene Therapists, will function much like the programs in Alaska and Minnesota. Bipartisan support led to the passage of the bill in this state that also has high numbers of DHPSAs and is also facing the issue of losing dentists to retirement. Although new doctors are entering the field, it is not enough to combat the 40% of currently practicing dentists only working part time or nearing
retirement age (Pew, 2014). The victory in Maine is also important to low-income
children, 62% of who do not have access to dental care (Pew, 2014). Maine is another
excellent example of state officials putting community needs first to lessen the barriers
that hinder better oral health outcomes for all their residents.

Although the populations of Alaska, Minnesota, and Maine may seem like
differing examples of the need dental therapy, they all share the common characteristics
that also exist in New Mexico. The rural nature and remoteness of communities, the
number of children disproportionately affected by a lack of dental care and the inability
and unwillingness of private practice dentists to reach out to these smaller populations
and serve Medicaid patients makes it harder to lessen these burdens. Dentists, especially
those in private practice, tend to reside in more urban areas, and this creates greater
challenges for rural residents trying to seek out the services needed for prevention and
treatment.

Barriers to dental care are geographic and economic. Less than half of New
Mexico's licensed dentists take Medicaid patients, and only have to serve one patient to
be a considered a Medicaid provider. Therefore, children and adults covered by
Medicaid might live next to a dentist, but if this type of insurance is not accepted,
proximity does not matter. Many New Mexicans experience these burdens. They are not
immune to the travel restrictions and financial limitations that make it virtually
impossible to obtain care. The role of a dental therapist is, therefore, a unique solution to
a common problem that exists not just in a few states, but many communities throughout
the country.
Private practice vs. public health perspective

One of the greatest debates that persists concerning the use of dental therapists is the influence they could have on the current model of care. While viable arguments come from both sides of the table, what endures within the current system are thousands of untreated individuals that go without adequate access to oral health care every year and of these, children are disproportionally affected. The present dental workforce is not designed to treat the sheer number of individuals or children that need care. Four-thousand-nine-hundred DHPSAs exist in the U.S., meaning the ratio of dentist to population is at 1:5,000 (Human Resources and Services Administration [HRSA], 2014). HRSA statistics suggest that it would take an additional 7,300 dentists to relieve the shortage nationwide.

Further, an aging population of dentists and the small number of doctors that practice in rural areas means the underserved are far from obtaining the adequate care needed. Further exacerbating the issue is the minimal oral health education and experience dental school students receive in the treatment of children. Recent estimates suggest that only 33% obtain clinical experience in procedures most commonly performed on children (Nash, 2012, Seale & Casamassimo, 2002). Therefore, the use of a dental therapist targeting the care of children would significantly reduce existing gaps in coverage.

The private practice sector has numerous arguments against the use of dental therapists. One primary area of contention is that of safety. They argue that fewer years of training in the dental therapy program translate to a substandard ability to perform the procedures needed for populations with higher than average oral health needs. The
legislation proposed in New Mexico would require that dental therapy education programs in NM must be accredited by The Commission on Dental Accreditation (CODA) and would require previously certified dental hygienists to complete an additional 12-18 months of training. For those not trained in the dental field, a 3-year commitment involving more comprehensive didactic and clinical instruction is necessary. Following completion of the program, each student will also participate in a mandatory residency period of 6 months under the direct supervision of a dentist. (Rayburn, 2014).

Further, some dentists, namely those most instrumental in the New Mexico Dental Association (NMDA), believe that New Mexico does not have a dental shortage problem, but rather, a distribution problem. While this is true, with the majority of practicing providers situated within Albuquerque, Santa Fe, and Las Cruces, these dentists do not have any intention or real reason to move into more rural areas to help combat the problem (Rayburn, 2014). According to Robert Gherardi, an Albuquerque dentist, Medicaid reimbursement does not make it advantageous for many private practice dentists to treat Medicaid-covered patients because the procedures are not profitable (Gherardi, 2014). In other words, dentists opposed to dental therapists argue that if Medicaid paid better then they would serve this population. The reality is that NM’s Medicaid rates are higher than the national average and are not at all likely to increase.

On the other hand, public health providers of dental care are proponents of what dental therapy could do for treatment planning and patient care models. The use of dental therapists in New Mexico accentuates the missing piece of the current dental health crisis, prevention. Many individuals in rural and frontier communities go without routine oral exams because they cannot afford to see a private practice dentist without insurance, or
they do not have the means to travel to the public health providers that are available in nearby areas (Rhoads, 2014). Native American communities are also disproportionately affected because their only option is often Indian Health Service facilities that are continuously understaffed. Much like the demographics in Alaska, New Mexicans can benefit greatly from the services that a dental therapist could provide through faster and more convenient appointment times and less time traveling to clinics in other towns, cities, or across state or country borders.

*Children in New Mexico*

New Mexico's children are also disproportionately influenced by rural restrictions and face family economic challenges that inhibit the ability to combat barriers to development, proper health care, and nutrition. About 30% of New Mexico's children 18 and under are living in poverty compared to the national average of 22.2% for the same age group (New Mexico Department of Health [NMDOH], 2015). Further, 25% of New Mexico's children in 2009-2013 lived in areas of concentrated poverty, and this means an even greater exposure to health and educational disparities (Kids Count Data Center, 2015). Children from families of lower socioeconomic status are far more likely to go without the treatment they need and, therefore, have untreated tooth decay at much higher rates. According to the NMDOH Oral Health Survey, 64.4% of the states second and third graders have experienced dental caries and 37% of those are untreated (Blea, 2013). Economic status is significant to the overall healthy development of children, the ability to access proper health care and the adequate nutrition that ultimately gives children the greatest chance of success in life.
Oral health care in school-based health centers

School-based health centers (SBHCs) build the foundation for some of these positive health outcomes in children and serve as a medical home in small communities where health care services are scarce. New Mexico has approximately 70 SBHCs that operate throughout the state in rural and urban areas alike (New Mexico Alliance for School-Based Health Centers [NMASBHC], 2015). According to the NMASBHC, their services focus on standard care such as cold and asthma treatment and playground injuries, but some also provide dental care.

A 2014 survey conducted by the National Network for Oral Health Access sought to locate information about oral health services dispensed through school-based health centers (National Network for Oral Health Access [NNOHA], 2014). A total of 62 health centers located in 29 states participated along with another ten large school-based oral health programs. States with currently practicing dental therapists like Alaska, Minnesota, did not participate in the study, nor did any SBHCs in New Mexico, but the findings give an indication of success using this type of model. The average number of students treated per year varied tremendously among the participating centers but was due mostly to the size of the facility and the community in which it operates.

Around 30% of clinics treated 1,000 or fewer students per year, while two centers provided services to over 9,000 students per year, with all others falling somewhere in between. The majority of students cared for were elementary school-aged (K-5) and facilities using portable equipment or having a fixed clinic were the most common (NNOHA, 2014). The majority of programs operate five days a week during regular business hours in conjunction with the school year, while others also saw patients in the
evenings or weekends and during summer vacation. Most sites provide exams, x-rays and preventive services including sealants and cleanings and a small number also have the capability to treat cavities and perform root canals. If a service is unavailable at an individual site, a referral is made, but treatment is typically not tracked after that point. Medicaid and CHIP are the primary payers of services at 82.4%, with 8-9% covered by grants or private insurers, 3% self-pay and 5% other. According to the National Network of Oral Health Access, staff also varied, with the most common dental team consisting of one dentist, one hygienist and one assistant (NNOHA, 2013). Although this may seem like an inadequate number for many settings, it showcases the powerful changes that can be made with just a few extra providers.

The treatment of children in SBHCs is one of the most viable options when it comes to dental care because it allows for already existing health center funding to be available without having to invest in the high upfront costs of creating a permanent dental facility. Moreover, that is one of many reasons the New Mexico Alliance for School-Based Health Centers supports dental therapy legislation in the state (HANM, 2015b). Currently, only about 5% of dentists nationwide practice in SBHCs or community clinics, but with the use of dental therapists, far more children could be reached (Edelstein, 2011). The quality of care and cost is also more efficient within schools where portable dental equipment is used, and the fear associated with visiting the dentist is mitigated by the school environment (NNOHA, 2013 & Wetterhall, Bader, Burrus, Lee & Shugars, 2010). The utilization of best practices, in this case, ensures that economically disadvantaged and minority student populations that are most in need of comprehensive care are receiving it.
Therefore, a dental therapist could play a significant role in how this type of system operates by providing more treatment options, especially in those clinics that do not have the ability to staff a dentist either at full or part-time status. It would also relieve some of the financial barriers by reducing the upfront costs and increasing the amount of Medicaid reimbursable procedures that are performed by this type of a mid-level provider.

**Influencing Healthy Behaviors**

The prevention of caries and impacting positive oral health practices in children is not just about hygiene and treatment, but is also tied to eating habits and nutrition. The consumption of cavity causing or cariogenic foods, such as soft drinks, juices, candy and many processed varieties of snacks are major contributing factors too, but there is also the misconception that because a food is healthy it is non-cariogenic. Many parents, especially those of young children put milk or juice in bottles before nap or bedtime, and this initiates the process of bacterial growth in the mouth that can lead to tooth decay. In combination with poor oral hygiene, such as inadequate tooth brushing and minimal visits to the dentist, poor nutrition can result in a lifetime of dental distress. Thus, dental therapists can also play a fundamental role in supplying parents with the necessary information to make more favorable dietary decisions for their children.

Furthermore, the social and physical determinants of health including socioeconomic status, access to dental care, oral health education and the ability to obtain fresh and nutritious meals are all contributing factors (Tinanoff & Palmer, 2000). The communities where there are a multitude of factors influencing poor nutrition and healthy behaviors need dental therapists the most. Not only can their influence combat treatment
of dental decay and awareness of better nutrition, but also healthy hygiene habits that can lead to permanent behavioral modifications.

*School performance and oral health*

One more important aspect of oral health, especially in children, is the connection between school performance and status of dental wellbeing. A 2011 analysis used data from a 2008 Child Health Assessment and Monitoring Program in North Carolina to conduct a parental survey analyzing child-health-related issues in 218 participants (Jackson, Vann, Kotch, Pahel, & Lee, 2011). The study concentrated on parents' perception of the oral health of their children, including school performance, absences related to oral health issues, along with the overall condition of their child's teeth and other questions related to socioeconomic characteristics.

The results suggest that school absences from preventive dental appointments do not directly correlate with negative performance in school, while those related to dental emergencies showed significant impact (Jackson et al., 2011). Half a day was the average amount missed because of dental care and of those absences, 17% was due to dental pain and infection. In general, this implies that children are not necessarily missing school when dental pain occurs, but they may not be able to concentrate while there, and this inevitably influences school performance. Therefore, positive oral health impacts sleep habits, the ability to focus while at school, appetite, the propensity to make friends, as well as self-esteem. Although these may seem like minor elements of influence when children are young, they have the ability to turn into the significant determinants of later success in life and overall health status as adults.
Barriers and Resistance to Dental Therapy

Many issues are being raised as to the functionality of a dental therapy program and efficacy of dental therapists addressing access to care in the underserved communities of New Mexico. The obstacles are financial, logistical and concerned with the safety of the populations these professionals will be serving.

Financial

Initially, there is the cost, allocation of resources and development of a curriculum to start a dental therapy program is expensive and requires the support of dental professionals who would be willing to aid in this creation. Although New Mexico does not have a dental school, a dental therapy program could be easily retrofitted into already existing dental assisting or dental hygiene programs, but will also require more dentist faculty, and this can be costly. Moreover, the recruitment of dental faculty might be difficult with the majority of options coming from retired, part-time or full-time private practice dentists, many of whom oppose the use of dental therapists. Further, these programs must help graduating students find employment in areas where their services are most needed. Although there are many employment opportunities for a dental therapist, finding the right fit might not be easy for individuals needing to move to new communities where the most underserved populations need treatment. Therefore, careful consideration must be given to the strengths of each student and their propensity for treating either children or adults in these communities.

Fortunately, with the Affordable Care Act and New Mexico's decision to expand Medicaid there are increased numbers of children throughout the state that have dental insurance coverage through Medicaid and CHIP. The influx of new pediatric patients
now able to use dental services creates greater opportunities for compensation from this formally untapped revenue source. Therefore, this added source of income can be a selling point when deciding how to allocate existing funds or getting the public to raise taxes. A concrete method showing how this plan will be sustainable over a short period and intensify the treatment of children through Medicaid is beneficial to providers, allowing higher reimbursement for the low-cost preventive services they need most.

Lastly, the communities themselves must realize the role they can play in obtaining more viable dental services in their area. It must become a priority, whereby the leadership seeks out funding and other resources from public and private sources. Requests for funding from general fund can be made quickly through state senators, as long as the amount does not exceed $25,000 (D. Mira, personal interview, September 8, 2015). Although this sum may not be enough to cover all of the upfront costs needed for employing a dental therapist, it can go a long way in helping to obtain equipment, space, and supplies, while the treatment of Medicaid patients would help sustain the overall cost of the program over time. Overall, investment increases the likelihood of recruiting and retaining a dental therapist who will stay in the community, creating a stake in the oral health of their residents.

(Logistical)

Next, is overcoming the resistance from the existing dental community. The opposition to dental therapy on the basis that a truncated curriculum will leave dental therapists with an insufficient skill set is unproven and based on scarce evidence. The curriculum must be broad enough to give students a wide base to begin their careers, but still extremely specialized with a substantial focus on clinical experience and training
taking into consideration that students will be expected to perform their job soon after graduation. Therefore, a focus on the clinical skills most necessary to treating the populations in rural and underserved areas is vital to immediate success in these areas.

Further, the dental community in New Mexico also argues that the current curriculum set for dental therapists is not enough to put practitioners out into communities to work safely with minimal supervision, but programs in Minnesota, Alaska and overseas point to the contrary. Hence, CODA was asked to adopt standards for dental therapy programs that will ultimately strengthen the view of dental therapy in the public's eye and increase the support needed to pass the bill and put the plan in motion (Federal Trade Commission, 2014). As of August 2015 CODA determined that all criteria have been met to move forward with the dental therapy education accreditation process and voted to implement the dental therapist education standards (American Dental Hygienists' Association [ADHA], 2015a). The certification includes program standards that require three full years of instruction, supervision standards by a licensed and practicing dentist and the scope by which a dental therapist can practice (ADHA, 2015a). Further, creating national standards for dental therapy education may help bring providers that may not be New Mexico residents the flexibility needed to transfer to the state's underserved areas.

In addition, the existing dental community has made it difficult for those not covered by private insurance to get timely and affordable oral health treatment. In the 1980's the New Mexico Dental Board began imposing limitations on licensure for dentists that held certifications from other states whereby limiting the number of new graduates that could practice in the state (J. Harrison, personal interview, September 1,
Barriers associated with number of years practicing, to the type of board exam an individual took, along with the sheer cost of a background check, application fee and in some cases paying to take another board exam are enough to deter many from taking on the challenge. The deficiency in dentists that emerged after that has thus created a 15-year shortage and those living in rural and frontier communities are the most affected. Lack of providers in combination with the aging dental force throughout the state and not enough Medicaid accepting providers creates an even greater burden.

Also, many families go without primary dental care because the prospect of removing their child from school and taking time from work is not an option, and this becomes amplified when the travel time to clinics is extensive. Further, although treatment in a SBHC is an excellent option for students living in rural communities, parents must also be involved and aware of their child's oral health status. One of the main challenges associated with care in the school-based setting is obtaining consent. Only 25-50% of all eligible students can utilize these services because consent is not on file (NNOHA, 2013). Overall, children living in dental health professional shortage areas are victims of the lack of adequate providers and need the help of dental therapists placed in schools, along with preventive education to instill a change in oral health habits that lead to optimal oral and overall health.

Safety Concerns

As previously mentioned, insufficient curriculum and not enough clinical training have been arguments made against dental therapy practice, though the evidence worldwide shows otherwise. The rural areas most in need of a dental therapist are those also devoid of dentists, raising the question of how this in person supervision would
function to increase access to patients in areas where there are not dentists. The concept of telemedicine, whereby a dentist is "on-call" at an off-site location via an internet or telephone connection for case consultations may not be feasible in all areas where access is unreliable or non-existent (W.K. Kellogg Foundation, 2015). Instilling confidence in the public that the use of dental therapists is not only safe but also cost-effective and a valuable asset to communities is vital to their success and sustainability in practice.

Overall, the use of dental therapists gives communities that are lacking in preventive care the services they need, while dentists are free to practice at the top of their scope, remaining focused on the treatment planning and diagnosis. Dentists themselves can now see more complex cases because a dental therapist can handle routine care. The competitive nature of the dental field brings the financial aspect of dental procedures into the forefront and further accentuates the disparities that have emerged because of a lack of public health focus in the practice. Too many dentists have neglected New Mexico's rural and underserved populations and opted for offices in more urban areas, and while the small number of children living in rural communities does not seem very substantial, in total they make up a large portion of those left out of the current dental treatment model.

**Advantages and Disadvantages of Dental Therapy**

The initiation of any new program comes with resistance, some from fear of unknown ramifications of implementation and others from an unwillingness to accept change into the current system. Both are practical concerns, but in the case of dental therapy do not take into consideration the overwhelming benefits of what this type of model could do for the people of New Mexico.
Dental therapy can change the way New Mexico's rural communities utilize dental services and how oral health care is viewed among these populations. It could help make dental health a preventive priority instead of what is commonly a treatment-only service in small communities. Also, because therapists will be treating routine cases, children and those needing less invasive procedures will benefit most from their skill sets. Children view dental therapists as less intimidating and will, therefore, be more comfortable obtaining treatment from them compared to a dentist in a neighboring community (Wetterhall et al., 2010). Further, because dental therapists will be able to perform procedures only previously carried out by dentists, doctors will now be free to refer less complicated cases to dental therapists and practice at the top of their scope. The dynamic that will develop from the specialization of a dental therapist and this new type of collaborative referral system will bring the quality of dental work to a greater level and increase the preventive focus in rural communities.

On the other hand, while there are many advantages to dental therapists practicing in New Mexico, there may be a few potential barriers. First, the financial incentives of employing a dental therapist may not be the same for everyone. Public health clinics and those who accept Medicaid patients will benefit most from the type of patients and scope of services that a dental therapist covers. Next, as the private practice dentists have adamantly voiced throughout the legislative process, safety concerns may hinder the public from buying into the use of dental therapists. The concept that a dental therapist could take the place of a dentist in many instances and with less training is not an easy idea to grasp, especially when more complicated procedures are concerned. Therefore, including private practice dentists in the training of these new practitioners is essential to
the sustainability of the program, but that might not be feasible if they continue to treat
dental therapy as a threat to the profession.

Further, communities must have the ability to invest space and resources for a
dental therapist to work, ensuring that the individual is well-equipped and supported to
function in their job. Some communities will not be able to supply everything that is
needed and may require privately funded, federal, state or local financing in the form of
grants or other options, which might not be available to every community that needs it.
Cooperation from the dental community as a whole, the state, and smaller communities
need to work together to improve and maintain the oral health throughout the state.

**Leadership & Advocacy**

Leadership in public health is one of the most significant forces in how equitable
services are advocated for and attained by all who need them. The push for dental
therapists in Minnesota is an excellent example of this and showcases the partnership
building and compromises that are necessary throughout the legislative process. The
promotion of dental therapists in Minnesota was initiated between 2006 and 2008 when
the Safety Net Coalition (SNC), a group of stakeholders who advocate for health care in
under-represented populations, began expressing the need for a change to the Minnesota
Dental Practice Act. They sought to add what was known as Oral Health Practitioner
(OHP) legislation and established a working group aimed at fitting this new model into
the existing dental framework (Glasrud, Embertson, Day, & Diercks, 2009, American
Dental Association [ADHA], 2015b & Minnesota Safety Net Coalition, 2008). The
workgroup had bipartisan support and included members of the ADHA, the Minnesota
Dental Association (MDA), the SNC and the University of Minnesota School of Dentistry (MNSOD) (ADHA, 2015b).

While the MDA was supportive of many aspects of the OHP bill, it saw a need for better legislation focusing on the training of these new practitioners and would require modifications to their scope of practice. They introduced a new bill requiring the training of dental therapists to occur within the MNSOD (ADHA, 2015b). Over the next year, the groups supporting each form of legislation worked to develop a bill with dual provisions. A compromise was finally reached in March of 2009. This process, although not without controversy and resistance, led to the Dental Therapist and Advanced Dental Therapist (ADHA, 2015b & Glasrud et al., 2009). Both forms of practitioner have identical scopes of practice, but the Advanced Dental Therapist receives Master's level training and does not require onsite supervision by a dentist (ADHA, 2015b & Glasrud et al., 2009).

Minnesota's dental therapy bill is designed to bring care to the most underserved and rural residents throughout the state, much like the legislation aims to do in New Mexico.

Although the push for dental therapy in New Mexico began in 2008, the bill made its initial appearance in the legislature in 2011 (Shendo, 2015). Over the course of the many years that followed advocacy groups like Health Action New Mexico in partnership with other community organizations have spearheaded the effort. While it is hard to determine if the bill would have passed in 2015 if time had permitted, there remains a small group of opposed officials backing the resistance from local private practice dentists and the New Mexico Dental Association. 2015 was not without success though and did provide the passage of a Memorial that establishes a dental therapy task force. The group consists of legislators, dentists, hygienists, and informally a community
representative and has hopes of being helpful in furthering the progress of the bill in upcoming sessions (New Mexico Legislature, 2015). Within the last year, stronger and more promising partnerships have also been created between community supporters and the government officials that understand the need for dental therapy.

The leadership in New Mexico has a significant role to play in the implementation of dental therapists and the improvement of and access to quality and economically available dental services to all. First, small and rural communities have a responsibility to empower their residents to have an interest in the use of dental therapists and utilize it as a means to create more jobs within these smaller populations of people. For example, many rural communities have access to unused or abandoned storefronts or buildings that could be used to house a dental therapy clinic. Further, the acquiring and installation of the equipment needed could be a good starting point for those in the community that might be interested in contributing in an administrative or logistical fashion. Databases that give access to used dental equipment are also readily available and are accessible at little to no cost in most cases (D. Mira, personal interview, September 8, 2015). The upfront cost for some of the equipment might be difficult for some communities, but with the help of partnerships should bring the necessities into reach.

The idea that communities can act as advocates to their unique needs is an important part of restoring community involvement in the change that is needed. The partnerships among those organizations that play a role in dental health must work together to meet the gaps that perpetuate the social determinants of health. The passage of the dental therapy bill in New Mexico is the last step in the long line of leadership actions that need to take place. Bipartisan support from private practice dentists and those
working in the public health environment must come together to realize the importance of increasing access to dental health care, education and access to economically adequate services. Educational institutions, including the University of New Mexico dental hygiene school, other dental hygienist and dental assistant programs along with community organizations, health care facilities and the medical and dental community as a whole, must come together to be leaders in New Mexico's dental crisis.

**Recommendations & Conclusions**

The resistance towards dental therapy in New Mexico is grounded in many inadequate and misleading assumptions. Just like the passage of the Affordable Care Act, this new method of care is going to be faced with some significant opposition and will inevitably experience some growing pains. It is clear that children in the state are most in need of the services that dental therapists provide and could be the link that is missing in creating better oral health. Much like the program in Alaska, a dental therapist, can be a fundamental part of the dental team of dentists and hygienists that carries out more of the outreach centered education that is vital to the long-term use of dental services and improved oral health habits. Further, most of the opposition from the current dental community comes from care given to the adult community, but concentrating the dental therapist position to aid in the oral health of children at first could be a good compromise. Medicaid/CHIP reimbursement makes it more feasible for already existing clinics to incorporate the dental therapy model and obtain the funding that is needed to be sustainable. Further, the use of school-based health centers as a home base for oral health treatment is and has been a successfully proven representation for decades in other
countries and with a few minor modifications could be easily replicated in the United States.

The success of dental therapy in New Mexico requires bipartisan support. Private practice dentists, the New Mexico Dental Association, along with community organizations and the dental therapy Task Force Committee are the major advocates for this new model in the state. Using dental therapy to move dental health into the medical home model is imperative to melding primary health care with dental treatment and prevention. Collaboration is essential to creating improved access and more educational opportunities for improved oral health in the most underserved populations. The dental therapy bill proposed in New Mexico is designed to give these health centers and clinics across the state access to this new cohesion of care and create greater community involvement in how individuals access dental health care.

New Mexico is one of the largest and most rural states, necessitating traveling long distances for anything from groceries to health care and financial barriers often restricts families, especially when it comes to preventive health care. As the current oral health care system is structured, there is little support to carry out the significant changes needed to combat the dental practitioner shortage. Further, lack of state a dental school means our born and raised residents are given no choice other than to attend school in another state. Unfortunately, this often means these students do not return to their home communities or find themselves in more urban areas where the pay and lifestyle is more comparable to what is needed to pay off significant student loan debts. Also, many of the individuals growing up in rural communities may never even consider attending dental school because the prospect of moving far away is not feasible or appealing. With that
being said, the next best option is a dental therapy program folded into already existing oral hygiene and dental assisting programs. Not only could this encourage more of New Mexico's rural residents to explore the profession, but it would also promote their practice in these communities that need it most. Children in New Mexico deserve the right to adequate oral health care. A healthy smile is not only an indicator of proper prevention and treatment, but is also the basis for positive systemic health and a future free of dental distress. Dental therapy creates the connection that can bring healthier smiles to New Mexico's children.
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