· POLICY BRIEF ·

Dental Therapists

A Solution to Wisconsin's Costly Dental Access Problem?

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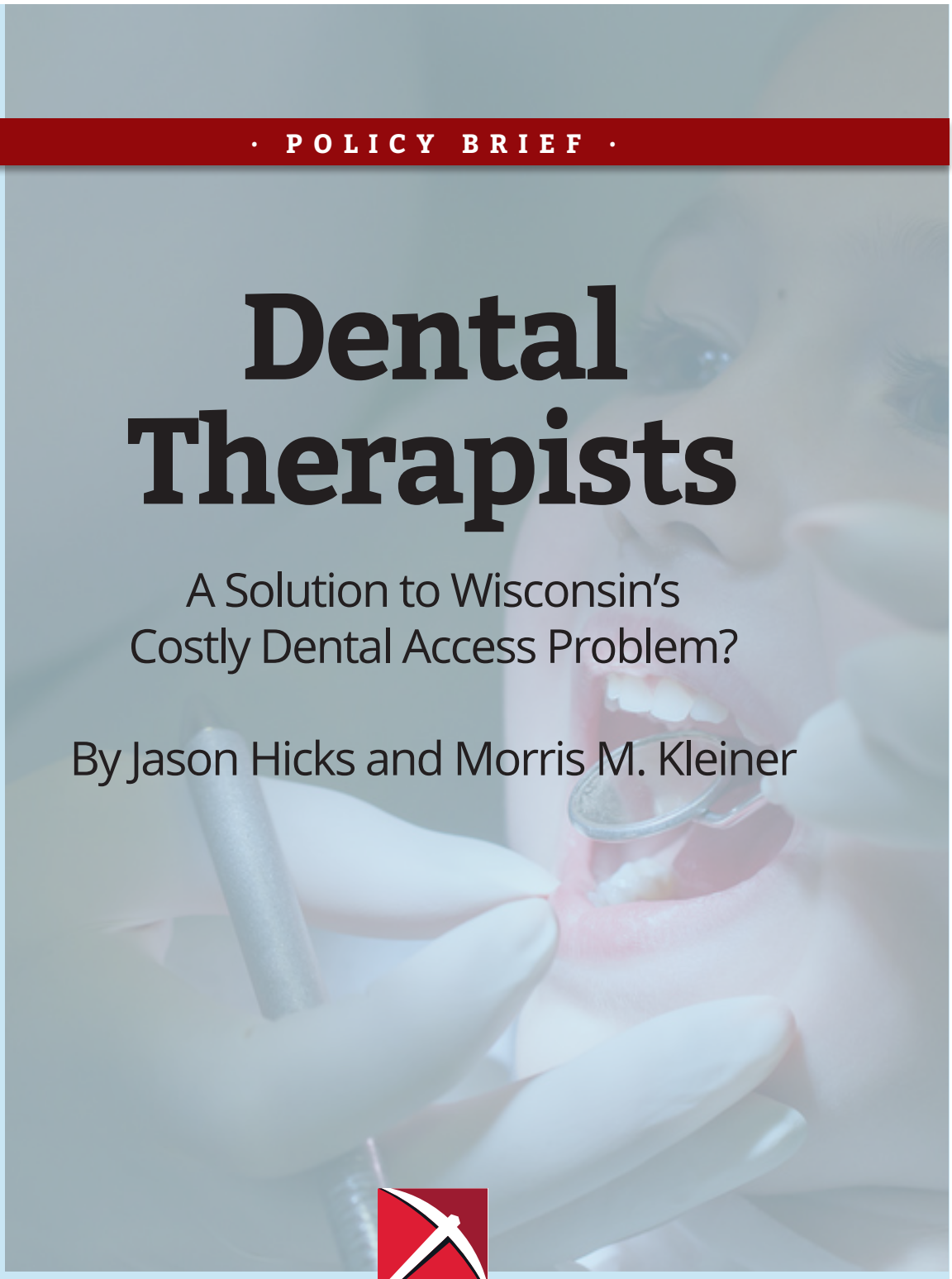

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Dental Therapists: A Solution to Wisconsin's Costly Dental Access Problem?

POLICY BRIEF | February 2019

Executive Summary

Wisconsin has a dental access problem, especially among disadvantaged populations. The state has the lowest rate of dental care use among all states for the more than 550,000 children who receive dental benefits through Medicaid. More than 67 percent of those children — over 368,000 — received no dental care, according to the U.S. Department of Health and Human Services.

Poor dental care for children affects physical and mental health, raises economic costs for future treatments and lowers academic performance, which likely affects later economic and societal outcomes.

Access is a problem for adults as well, particularly for the disabled, the elderly and lower income populations. More than 90 percent of Wisconsin's 72 counties have at least one geographical area with too few dental providers per capita. Last year, over 1.2 million residents (more than 20% of the state's population) lived in areas designated by the federal government as dental care health provider shortage areas. Nearly two-thirds of Wisconsin dentists do not accept Medicaid.

Some argue that the solution is to more heavily subsidize dental care in the state through educational grant programs or higher Medicaid reimbursement rates for dentists. However, a better alternative would be the creation of the dental therapy profession in Wisconsin, which would increase access to and use of oral health care services, improve oral health outcomes for disadvantaged populations, and create jobs without foisting the burden on taxpayers.

Further, allowing dental therapists, who are midlevel dental care providers, to perform preventive and restorative procedures, such as fluoride application, cavity repair and extractions of diseased teeth, would likely reduce dental costs while maintaining high dental quality standards. Dental therapists, who are similar to physician assistants or nurse practitioners in the primary care medical field, work under the general on indirect supervision of dentists.

The dental therapy model is operating in more than 50 countries; tribal lands in Alaska, Oregon and Washington; and throughout Minnesota. Additionally, legislation was recently signed into law authorizing dental therapists in four other states: Michigan, Vermont, Maine and Arizona. The dental therapy program in Minnesota, which was enacted in 2009, has successfully increased access to and use of dental services. It serves as an important model for the potential improvement of dental care for disadvantaged populations in Wisconsin.

Based on the number of licensed dental therapists currently trained and practicing in Minnesota, creating the dental therapy profession in Wisconsin could reduce the shortage of dental care providers identified by the U.S. Department of Health and Human Services (HHS) and the size of the underserved population in the state by up to 42 percent.

Oral Health Care Crisis in Wisconsin

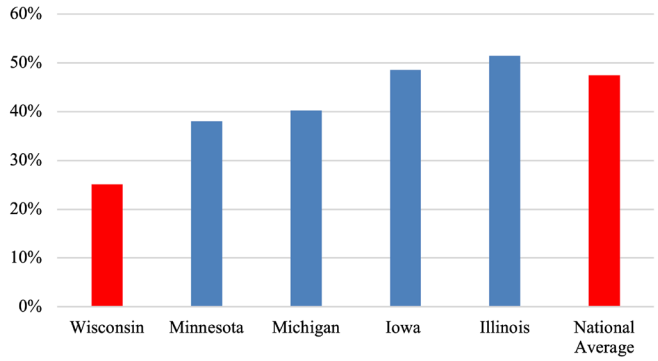
Use of Dental Services

- Children participating in Medicaid and the

Children's Health Insurance Program (CHIP) in Wisconsin in 2015 had the lowest rate of dental care use for both preventive care and dental treatment services among the same population across all states.[1]

- Twenty-five percent of Medicaid and CHIP eligible children received preventive dental care in Wisconsin in 2015, which is more than 22 percentage points lower than the national average and lower than all adjacent states (Figure 1). [2]

Figure 1: Share of Medicaid and CHIP eligible children receiving preventive dental care in Wisconsin and neighboring states in 2015



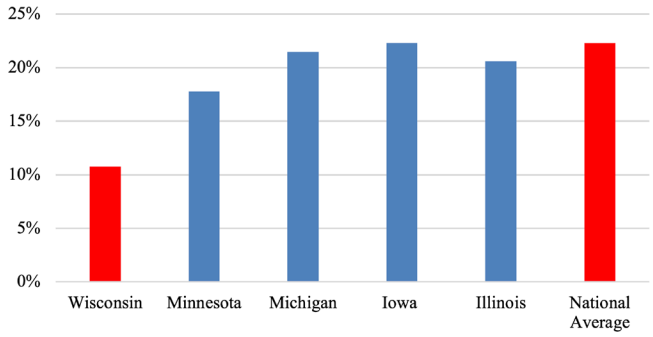
Data are from the Dental and Oral Health Services in Medicaid and CHIP report by the Centers for Medicare & Medicaid Services: Medicaid/CHIP – Health Care Quality Measures. National average is the state median.

- Eleven percent of eligible children received dental treatment (e.g., the filling of cavities) in Wisconsin in 2015, which is nearly 12 percentage points lower than the national average and lower than all of Wisconsin's neighbors (Figure 2).[3]
- Forty-eight percent of African-American adults and 38 percent of Hispanic adults in Wisconsin reported needing but not receiving dental care in 2015, compared with 18 percent of white adults.[4]

Oral Health Outcomes

- More than 20 percent of children ages 3 to 5 participating in Head Start in Wisconsin had untreated tooth decay and early childhood cavities, with African-American, Hispanic and Asian children having higher rates than white children in 2014.[5]
- African-Americans adults in Wisconsin were twice as likely to have untreated decay and need for dental care as white adults in 2015.[6]
- Adults in Wisconsin earning less than $25,000 a year had more than 2.5 times the untreated decay and need for dental care relative to those earning more than $25,000 a year in 2015.[7]
- Twelve and a half percent more adults with a disability in Wisconsin had untreated decay or need for dental care than adults without a disability in 2015.[8]
- Nearly 50 percent of adults over age 65 in Wisconsin nursing homes reported having natural teeth with unserved treatment needs, including tooth decay in 2016.[9]

Figure 2: Share of Medicaid and CHIP eligible children receiving dental treatment in Wisconsin and neighboring states in 2015



Data are from the Dental and Oral Health Services in Medicaid and CHIP report by the Centers for Medicare & Medicaid Services: Medicaid/CHIP – Health Care Quality Measures. National average is the state median.

Access to Dental Services

- Wisconsin adults with untreated dental problems cited unaffordable costs of care (68 percent), inadequate insurance coverage (26 percent) and a lack of access to care (23 percent) as the leading

barriers to receiving dental treatment.[10]

- Thirty-four percent of dentists in Wisconsin participated in Medicaid or the Children's Health Insurance Program in 2016, which is 5 percentage points below the national average of 39 percent.[11]
- The population-to-active dentist ratio in Wisconsin decreased by 2.52 percent from 2001-2015, and Wisconsin was one of only 10 states that experienced a decrease in the population-to-dentist ratio during this period. This decrease was the fourth largest among these states.[12]
- More than 90 percent of Wisconsin's 72 counties have a shortage of dentists in at least one area of the county, according to HHS.[13]
- Overall, Wisconsin has 129 Dental Care Health Provider Shortage Areas (HPSA), which contain 1,211,637 Wisconsinites. Within these Dental Care HPSAs, the current number of dentists is able to meet the needs of only 36 percent of the population. An additional 204 dentists are needed to eliminate all HPSAs in Wisconsin.[14]

Economic and Societal Costs of Poor Oral Health

High Costs of Dental Treatment in Emergency Rooms

Emergency room visits for preventable oral health conditions result in significant increases in health care costs, and in some rare cases, mortalities. Additionally, treatment that occurs in the ER frequently does not resolve the underlying dental problem, resulting in patients having multiple ER visits for a dental condition. In Wisconsin, there were more than 41,000 emergency department visits for preventable oral health conditions in 2015, with a preventable dental condition being the primary diagnosis in 33,133 of the visits.[15] These primary diagnosis visits cost $749 per visit in 2012,[16] which equates to nearly $27.5 million in total costs (in 2019 dollars). These findings highlight the significant economic and human costs associated with a lack of preventive dental care.

In Minnesota, a relatively high frequency of ER visits in the state for dental-related problems and substantial associated costs was a significant driver in building support for the creation of the dental therapy profession in Minnesota. From 2004-2005 in seven Minneapolis-St. Paul metropolitan area hospitals, there were more than 10,000 ER visits for preventable oral health conditions with total costs of nearly $6.5 million (in 2019 dollars) that were mainly charged to public programs at a reimbursement rate of roughly 50 percent.[17] Additionally, nearly 20 percent of the patients who visited the ER went more than once.

Medicaid recipients are overrepresented among patients who visit the ER for dental problems. In a nine-year national study on hospitalizations for tooth abscesses, researchers found that 89 percent of the sample of 62,000 hospitalizations occurred on an emergency basis and 66 patients died in the hospital.[18] Medicaid paid the hospitalization costs for tooth abscesses for more than 25 percent of the patients, and uninsured patients accounted for nearly 20 percent of the hospitalizations.

The Effects of Poor Dental Care on Children

Poor dental care in children affects physical health, raises economic costs for future dental treatment, and lowers academic performance, which potentially influences economic and societal outcomes later in life. Researchers have found that children with early childhood cavities weigh less and are shorter than children with fewer cavities prior to dental treatment; however, after treatment, no weight differences were observed between groups.[19] Children with early childhood cavities are also

more likely to have cavities in the future relative to children without cavities,[20] including situations in which children with early childhood cavities receive comprehensive treatment under general anesthesia.[21]

The costs of children receiving treatment for preventable dental conditions under general anesthesia are substantial. In a one-year period in Louisiana, more than 2,000 children covered by Medicaid received dental treatment under general anesthesia, with a total cost exceeding $4.5 million (in 2019 dollars).[22] Students who need dental care, but for whom care is inaccessible, are more likely to miss school than students who have access to dental care.[23]

Further, students with poor dental health are more likely to have a low grade-point average.[24] Early childhood cavities may also hurt participation and performance of children in prekindergarten education programs, such as Head Start, that have been shown to have substantial long-term economic returns for disadvantaged children.[25] Reduced attendance and lower academic performance due to dental problems may diminish the long-term benefits from prekindergarten participation.

Dental Therapy in Minnesota

What Are Dental Therapists?

In 2009, Minnesota was the first state in the nation to pass legislation authorizing dental therapists (DTs) statewide and is the only state where DTs are currently practicing statewide. Dental therapists are midlevel oral health care providers who perform preventive, restorative and intermediate restorative procedures under the general or indirect supervision of dentists. Dental therapists are required to practice in locations that serve low-income and underserved populations, and they must work in clinics in which at least 50 percent of the patients are low-income or uninsured, have a chronic condition or are on public programs such as Medicaid.

Dental therapists in Minnesota are licensed by the Minnesota Board of Dentistry. A majority of board members are dentists (five of nine members), which allows dentists to have significant input into the DT licensure process. To acquire a license, dental therapists must pass the same clinical competency exam as dentists for the procedures and services they are authorized to provide. The Minnesota model served as a template for the DT education program national standards approved by the Commission on Dental Accreditation in 2015.[26] The commission operates under the auspices of the American Dental Association, which indicates support in the dental community for DTs and confidence among dentists that DTs can provide high-quality dental care to patients with the proper education and training.

Dental therapists in Minnesota and those operating on tribal lands in the western U.S. have different education requirements to become a practitioner and differ slightly in their scope of practice. In Alaska, potential practitioners must complete a two-year Alaska Dental Therapy DENTEX Educational Program through the University of Washington to become a dental health aide therapist (DHAT).[27] In Minnesota, potential practitioners must complete a master's degree in dental therapy, which requires a minimum of 16 months training in a full-time program.[28]

Regarding the scope of practice, DTs in Minnesota can perform additional tasks and duties relative to DHATs, including diagnosing within their scope of practice; dispensing analgesics, anti-inflammatories and antibiotics; performing emergency palliative treatment of dental pain; and providing triage and case coordination.[29] Dental health aide therapists and DTs are required to operate under the supervision of a dentist. Dental health aide

therapists operate solely under general supervision, while DTs operate under either general supervision or indirect supervision, depending on the task being performed.

Under general supervision, dentists must give consent to procedures but do not need to be physically present when DTs perform the procedures. Under indirect supervision, dentists must be present in the office when authorizing procedures and remain present when the procedures are performed. Indirect supervision is required for tasks such as cavity preparation, restoration of primary and permanent teeth, palliative treatment and extractions of primary teeth.[30]

Minnesota also has a second level of DTs, advanced dental therapists (ADTs). To receive certification as an ADT, licensed DTs must complete 2,000 hours of clinical practice and pass a certification exam, after which they can perform all tasks and duties under general supervision that are approved for DTs. Additionally, unlike DTs, ADTs can *provide,* as well as dispense, analgesics, anti-inflammatories and antibiotics; perform oral assessment and treatment planning; extract diseased permanent teeth; and conduct referrals to other health care professionals.[31]

Increased Access and Use of Dental Services

As of April 2018, 86 licensed DTs were providing dental care, with 55 percent of these DTs earning ADT certifications.[32] Using the number of DTs who are currently operating in Minnesota as a baseline, the addition of an equivalent number of DTs in Wisconsin to the dental workforce could reduce the shortage of dental care providers identified by HHS and the size of the underserved population in Wisconsin by 42 percent (authors' calculations).

Dental therapists are distributed across the urban and rural parts of Minnesota in proportion to the state's population, with 59 percent of DTs working in the Minneapolis-St. Paul metropolitan area, which contains 55 percent of the state's population, and 41 percent of dental therapists working outside the metro area.[33] Dental therapists in Minnesota practice in dental clinics, community-based nonprofit organizations, community health centers, federally qualified health centers, hospitals and schools. Dental therapists also provide services at more than 370 mobile dental sites in community and rural settings in Minnesota, including Veterans Affairs facilities, Head Start programs and nursing homes.[34]

A variety of studies have found that the vast majority of patients seen by DTs are enrolled in public insurance programs, such as Medicaid and CHIP, which suggests that DTs are expanding access to care for disadvantaged and underserved populations in Minnesota.[35, 36] Additionally, clinics have experienced an overall growth in the number of new patients with public insurance after hiring DTs, with DTs serving 422 new patients per clinic after being hired.[37] Further, DTs appear to be serving a relatively high proportion of children (approximately 60 percent of patients), particularly in rural areas.[38]

While analysis linking utilization with outcomes in Minnesota is limited, largely due to dental therapist being a relatively new occupation, research on dental health aide therapists in Alaska indicates that exposure to DHATs is associated with better dental outcomes. The number of treatment days by a DHAT in a native community was associated with fewer extractions for children under age 3, more preventive care treatment for children under age 18, and more preventive care visits and fewer extractions for adults.[39]

Importantly, DTs may be reducing the number of emergency room visits for dental treatment in Minnesota. Clinics have experienced a significant reduction in wait times for patients to get

appointments, which reduces emergency room visits, according to clinic personnel.[40] Additionally, some patients have experienced reductions in their travel times to appointments with a DT in comparison with previous appointments, particularly in rural areas. Lastly, patients who visited an emergency room in the previous two years were twice as likely to experience a reduction in travel times to their appointment with the DT relative to a previous appointment at a dental clinic and three times more likely than individuals who did not visit an ER in the previous two years to attempt to get an appointment at another dental clinic before securing the appointment with the DT.

Cost Savings and Economic Viability

The monopoly of dental care services results in significant economic costs. Limiting the tasks and duties dental hygienists and dental therapists can perform and restricting their ability to practice independently results in $640 million to $780 million in economic loss yearly in the U.S.[41] In Wisconsin, this represents approximately $11.4 million to $13.9 million in economic loss each year (authors' calculations). The creation of DTs would likely significantly reduce these economic costs.

The addition of DTs to the dental workforce in Minnesota has resulted in cost savings for dental clinics. Importantly, practices that serve a large percentage of patients who are covered by public insurance, which pays lower reimbursement rates for dental services, experienced positive financial returns from hiring DTs. A survey of dental clinics in Minnesota found that two-thirds of clinics reported significant personnel cost savings by hiring a dental therapist instead of a dentist.42 The average cost of a dental therapist is roughly half that of a dentist, with yearly personnel savings from hiring a dental therapist ranging from $35,000 to $62,000 when including other cost differentials, such as malpractice insurance. However, dental therapists also serve as complements to dentists, not competitors. After DTs join a practice, dentists take on more complex and higher-fee dental procedures, such as oral surgeries, which can increase efficiency and overall revenue for a dental practice.43 For example, a case study of a dental practice in Minnesota found that the addition of a DT more than doubled monthly revenue, adding more than $10,000 per month.44 Dentists in Minnesota are increasingly recognizing that hiring DTs increases overall financial returns for their practices by allowing DTs to treat patients, who otherwise would not receive care, at lower costs, thereby allowing dentists to focus on performing higher-fee procedures.[45]

Quality of Care Provided by Dental Therapists

Extensive research, both globally and within the U.S, clearly shows that DTs provide patients with high-quality dental care. A review of 23 studies from developed countries found that all but two of the studies concluded that DTs provided satisfactory care.46 Further, all studies that directly compared care provided by dentists and DTs found that DTs performed at least as well as dentists. In Minnesota, nearly all clinics that participated in an evaluation of DTs reported lower malpractice premiums for DTs than for dentists, which suggests that allowing DTs to provide dental care does not reduce patient safety.

Research has found that dental health aide therapists in Alaska perform at an acceptable level and their restorative outcomes for patients were comparable to those of dentists. In Minnesota, no DT has been disciplined by the Minnesota Board of Dentistry or required corrective action since the first DT was licensed in 2011.[47] Additionally, several studies in Minnesota have found high patient satisfaction with the quality of care provided by DTs.[48, 49] Further, researchers have found that the

overwhelming majority of services provided by DTs are restorative and that dentists are delegating the full range of procedures allowed, which indicates that dentists generally accept and trust the quality of care provided by DTs.[50] For ADTs, dentists have removed most restrictions on their ability to practice under general supervision, after determining that they are qualified to provide safe, high-quality dental care under general supervision.[51]

Dentists in Minnesota are also becoming increasing supportive of the DT model. A 2014 survey of dental school faculty at the University of Minnesota, which was a follow-up to a survey immediately after the creation of dental therapists in Minnesota 2009, found increased acceptance to the dental therapy model.[52] A majority of those surveyed reported that they would be comfortable having a DT perform care for their patients and thought that delegating work to DTs would improve job satisfaction for dentists.

Conclusion

Wisconsin has among the worst access and use rates of dental care for disadvantaged and underserved populations in the U.S., as well as disproportionately poor outcomes for disadvantaged populations. Research from Minnesota indicates that creation of DTs in Wisconsin could improve access, use and outcomes, while reducing economic costs associated with the dental care monopoly and unnecessary ER visits for dental treatment. These improvements in Wisconsin's oral health care system would occur without reductions in the quality of care provided to patients and could increase financial returns to dental practices.

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