

Iowa Needs Dental Therapists

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Visiting Scholars

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Executive Summary

Oral health surveys and dental utilization rates indicate that a large portion of Iowans do not sufficiently utilize dental care. Some develop severe dental conditions, preventable by routine care, and cannot access care in dental offices. They resort to seeking care from hospital emergency rooms (ERs), which are generally not equipped to provide comprehensive dental services.¹ These patients are typically given an antibiotic and pain medication and leave the ER with the same underlying problem they walked in with.²

On the surface, the cause of Iowa's oral health problem seems to be a shortage of dental care providers. According to the Department of Health and Human Services (HHS), there are 121 dental health professional shortage areas (HPSAs) in over 60 of Iowa's 99 counties.^{3,4}

While there may be a quantitative shortage of dental care providers, that paints a narrow picture of Iowa's oral health needs. Whether or not Iowans get care depends on whether they utilize available resources, as well as the type of providers available and how they are distributed across the state, not simply on the number of providers in the state. Iowans have diverse oral health needs and they need a diverse dental workforce to meet them.

Iowa's supply of dental providers is predominantly shaped and stifled by Iowa Administrative Code 650 and Iowa Code chapters 147, 153, and 272C. These regulations create an artificially low supply of dental providers, protect dentists' monopoly on critical procedures, and stifle delivery system innovation. The results are higher costs for care, lower access, and a stagnant delivery system for Iowans' dynamic oral health needs.

One promising regulatory reform to address these problems would be to license mid-level dental providers, also known as dental therapists. Dental therapists can assist dentists similarly to how nurse practitioners assist doctors—by performing common, low-level procedures so that dentists can focus more on complex cases. Dental therapists are trained in routine preventive and basic restorative services. They are typically authorized to practice under the general supervision of a dentist. Since general supervision does not require dentists to remain on the premises where dental therapists provide care, dental therapists can travel and treat underserved populations across the state.

Dental therapists may currently practice in seven states, and over a dozen states have considered dental therapy legislation.⁵ Alaska and Minnesota have the most experience with dental therapists, utilizing them since 2004 and 2011, respectively. Evaluations in Minnesota show that dental therapists have helped dental offices and clinics increase their number of patients on Medicaid, reduce the travel and appointment wait times for patients, and increase efficiency and

productivity while reducing operating costs.⁶ A study in Alaska shows that greater access to dental therapists' services resulted in more use of preventive dental services and fewer tooth extractions among kids and adults.⁷ While dental therapists are relatively new to the U.S., they appear to be practicing safely and improving access to dental care in the communities they serve.

Allowing dental therapists to practice in Iowa would increase dentists' ability to treat underserved populations, both inside and outside the office. Most importantly, Iowans would have better access to care. For Iowans underserved by the current dental workforce, dental therapists could be a pivotal option that enables them to receive routine care. All Iowans stand to benefit from more dental options, greater competition among providers, and delivery system innovation.

Introduction

Approximately 1,800 dentists and 2,200 dental hygienists have active licenses in Iowa.^{8,9} However, some areas of the state have difficulty attracting dental providers, leaving them underserved by this workforce. HHS has identified 121 dental HPSAs across the state, where the ratio of dental providers to people is critically low.¹⁰

Poor dental utilization trends indicate a lack of access to adequate dental care in Iowa. In 2017, half of Medicaid-enrolled children ages 0 to 12 did not visit a dentist.¹¹ Utilization rates were much lower for Medicaid-enrolled children ages 0 to 2, four out of five of whom did not visit a dentist in 2017.¹² Among adults, nearly 30 percent had not visited a dentist or dental clinic for over a year in 2016.¹³

Iowans visited emergency rooms 10,291 times in 2017 for oral health problems.¹⁴ While the number of ER visits does not provide a comprehensive view of preventable oral health issues in Iowa, given the data includes ER visits for unpreventable trauma-related oral health problems, IDPH affirms that the visits “tend to be for acute oral health problems and often represent a failure of the oral health care system.”¹⁵

Mid-level dental practitioners, also known as dental therapists, are one way to improve Iowans’ access to dental care. Dental therapy is relatively new to the U.S., but studies of its effects are overwhelmingly positive. Alaska was the first state to utilize dental therapists in 2004, followed by Minnesota, Maine, Vermont, Oregon, Washington, and Arizona. The results include increased dental utilization rates, shorter appointment wait times, high patient satisfaction, and preliminary indications of fewer dental-related ER visits where dental therapists practice.^{16,17}

Iowa took a similar approach to increase dental care access when it began permitting dental assistants and hygienists to perform limited expanded functions in 2015.^{18,19} Expanded function dental auxiliaries (EFDAs) may perform a short list of special procedures under the supervision of a dentist after completing requisite training. Iowa’s positive experience with EFDAs suggests similar, bolder reform—licensing dental therapists—can expand Iowa’s efforts to increase the availability of dental care through delivery system reform.

The usual response when an unmet need is identified is to call for the creation of yet another government entitlement program—create a new bureaucracy and throw taxpayer money at the problem. However, as years of experience have taught us, this is more likely to create a situation in which the bureaucrats “manage” the problem rather than actually try to solve it—their incentives are to perpetuate and grow their program, demanding ever more taxpayer funding. In this case, what we are proposing is to change the licensure laws for the dental profession in the state of Iowa to allow a new group of professionals to emerge into the market to address the problem without the expenditure of additional taxpayer funds.

This would be a “win” for the many people with unmet dental problems, particularly the poorer of Iowa’s citizenry and especially those who are on Medicaid. It would also be a “win” for the many new professional dental therapists who would now be able to make a living while helping those less fortunate. It would additionally be a “win” for the dentists who would employ and

supervise the new dental therapists and would receive a portion of their earnings for doing so. Finally, it would be a big “win” for the taxpayers of Iowa, especially in this time of tight budgets.

Adam Smith summarized this point well in his 1776 book *An Inquiry into the Nature and Causes of the Wealth of Nations*:

[E]very individual necessarily labours to render the annual revenue of the society as great as he can...[H]e intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention...By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.²⁰

Dental Therapy

Dental therapists are mid-level dental practitioners, comparable to physician assistants and nurse practitioners in primary care. They work alongside dental hygienists and dental assistants under the supervision of a dentist.

Education and training requirements for dental therapists vary from state to state. Minnesota requires applicants to have a baccalaureate or master’s degree from a dental therapy education program.²¹ Minnesota dental therapists may also obtain advanced dental therapy (ADT) certification if they graduate from a master’s program and complete 2,000 hours of supervised clinical practice.²² Compared to dental therapists, ADTs may perform additional services, such as oral evaluation and assessment, treatment plan formulation, and non-surgical extractions.

In Maine, applicants must have a bachelor’s degree in dental hygiene or dental therapy, with a minimum of four semesters in dental therapy instruction, and 2,000 hours of practice under direct supervision.²³ Certification in Alaska requires two years of post-high school education and completion of a 400-hour preceptorship with a supervising dentist.²⁴ The Alaska Native Tribal Health Consortium (ANTHC), a non-profit health organization, has trained and certified dental health aide therapists (DHATs), another name for dental therapists, since 2004. In 2016, ANTHC partnered with Ilisagvik College, Alaska’s only Tribal College, to launch an Associate’s of Applied Science Degree program for DHATs.²⁵

In 2013, the Commission on Dental Accreditation (CODA) developed standards for dental therapy education programs. The American Dental Association (ADA) formed CODA in 1975 to make accreditation decisions and advise policy for dental-related schools and programs. During the development process, CODA conducted stakeholder surveys, held open hearings, and distributed a draft of the proposed standards for review and comment.²⁶ The standards were approved in February 2015 and implemented in August 2015. They constitute a guide for colleges seeking to develop dental therapy programs.

The University of Minnesota is one of three dental therapy programs in the country. The program lasts 32 months, year round, and the curriculum includes classes on preventive pediatric dentistry, essential clinical care, and treatment planning.²⁷ Dental therapy students train

alongside dental students for procedures that fall in their shared scope of practice. Graduates earn a dual degree in dental hygiene and dental therapy, and are eligible to become ADTs once they complete 2,000 hours of clinical practice under direct supervision. The University of Minnesota's program is one of many possible models for educating dental therapists.

State licensure requirements on education and training can influence the supply and quality of dental therapists' services. If the requirements are too rigid, they could deter prospective dental professionals from becoming dental therapists. If the goal is to alleviate the shortage of care, which it should be, then policymakers should refrain from establishing strict licensure requirements that create burdensome professional entry barriers for dental therapists. For over a decade, the DHAT program in Alaska has shown that safe and effective dental therapists may be trained and certified in a short period of time.

Dental therapists' scope of practice effectively bridges the gap between dentists and traditional dental auxiliaries. They can usually perform up to 95 procedures, compared to dental assistants who perform 30, dental hygienists who perform 40, and dentists who can perform up to 600.^{28,29} However, their scope of practice varies slightly between states.

Dental therapists can be more effective if their scope of practice is broad and includes routine preventive and restorative procedures. Dentists can then delegate these routine procedures and focus on patients with more complex needs.

In the areas they practice, dental therapists work under the supervision of a licensed dentist. Dentists and dental therapists form supervision contracts, called cooperative management agreements (CMAs), which include any limitations on procedures a dental therapist can perform or practice settings, and the protocols for medical emergencies, record keeping, medication dispensing, quality assurance, and referrals when a patient needs care outside of the dental therapist's scope of practice. The supervising dentist is ultimately responsible for supervising and approving work done by a dental therapist, and providing timely communication and consultation. In other words, dentists retain full control of their practice when they hire dental therapists.

Dental therapists help create a more efficient and productive dental team. Dental therapists provide basic restorative care, which frees up dentists' time to treat more patients with more complex dental needs. Furthermore, when dental therapists practice under general supervision, supervising dentists are not required to be present when services are provided, so dental therapists can travel and treat underserved populations outside the dental office. Dental therapists can help bring care to patients who live in dental care shortage areas or in rural communities, or who cannot travel to a dental office.

Some states target specific underserved populations in their dental therapy legislation. Minnesota requires dental therapists to "primarily [practice] in settings that serve low-income, uninsured, and underserved patients or in a dental health professional shortage area."³⁰ In Oregon, Washington, and Alaska dental therapists can only practice in Native American communities.

Dental therapy is a tried-and-true method of delivering dental care, despite being relatively new to the U.S. Dental therapists have been practicing outside the U.S. since the 1920s and are currently utilized in over 50 countries and territories, including New Zealand, Australia, Canada, the United Kingdom, the Netherlands, Hong Kong, and Thailand.³¹ In 2012, the W.K. Kellogg Foundation published *A Review of the Global Literature on Dental Therapists*, which contains a global history of dental therapy, a catalog of various dental therapy models, and data supporting the positive outcomes of dental therapy.

Alaska was the first state to utilize dental therapists, in response to a severe dental care shortage among its Native American communities.³² The Alaskan DHAT program is a component of the Community Health Aide Program, federally authorized and funded since 1968.³³ The first cohort of Alaskan DHATs trained at the University of Otago in New Zealand and began practicing in Alaska's tribal areas in 2004. Since then, several studies have documented the Alaskan DHATs' positive impact on access to care and oral health outcomes. A 2010 survey shows that communities served by DHATs experienced shorter wait times and were "very satisfied" with the quality of care.³⁴ A more recent study by the University of Washington shows that communities serviced by dental therapists have significantly more use of preventive dental services and fewer tooth extractions than communities with few or no dental therapists.³⁵

After its success in Alaska, dental therapy spread to the Lower 48. In 2009, Minnesota authorized dental therapists to practice anywhere statewide, followed by Maine in 2014 and Vermont in 2016. Oregon approved a pilot dental therapy program on tribal lands in 2016. Washington authorized Medicaid payment for dental therapists practicing on tribal lands in 2017. In 2018, Arizona passed legislation allowing dental therapists to practice statewide. The dental therapy record in the U.S. has been very positive thus far, as it has been for over a century outside the U.S.

Dental Health in Iowa

Access to timely, affordable dental care is critical because oral health depends on sufficient preventive and treatment measures and lifelong healthy habits. Oral health is also a driving factor of general health. A 2000 Surgeon General report highlights studies that link oral infections to diabetes, heart disease, strokes, and adverse pregnancy outcomes.³⁶ In addition to the health risks, dental diseases are both painful and costly. Poor oral health is associated with school absence and poor school performance among children, as well as work absence and lower productivity among adults.^{37,38}

Iowa's diverse and widespread populations all have their own unique dental challenges, starting in early childhood. The Head Start program grants federal funds to non-profit agencies in Iowa, which are used to provide child development services for low-income families.³⁹ A Head Start survey from 2015 found that 43.3 percent of low-income children ages three to five had a history of tooth decay, up from 28.5 percent in 2009.⁴⁰ It also found that 17.2 percent of Head Start children had untreated tooth decay.⁴¹

Dental disease rates among third-graders are not much better. A 2016 survey found 53.6 percent of Iowa third-graders had a history of tooth decay, and 16 percent had untreated tooth decay.⁴²

Eighty-seven percent of them had a payment source for dental care, but as IDPH rightly asserts, “Having a way to help pay for dental care does not automatically translate into more access to services...”⁴³ Thirty percent of third-graders rely on Medicaid for dental coverage and 7 percent are covered by *hawk-i*. Higher percentages of these children had untreated tooth decay and a history of decay than children with private dental coverage or self-pay.⁴⁴

Among Iowa adults, oral health and dental utilization rates were associated with income, race, and education. The Center for Disease Control and Prevention (CDC) found that 38.6 percent of Iowa adults had a permanent tooth extracted due to tooth decay or gum disease in 2016.⁴⁵ Among low-income adults, those making less than \$15,000 annually, 58.7 percent had a tooth extracted, compared to 27.6 percent of adults making \$50,000 or more.⁴⁶ A higher percentage of adults who did not finish high school had at least one tooth extracted (62.3 percent) compared to adults with a high school diploma or GED (47.3%) or college graduates (22.7%).⁴⁷

The CDC also found that nearly 30 percent of Iowa adults had not visited a dentist in the past 12 months.⁴⁸ This percentage was higher among African-American (38 percent) and Asian adults (45 percent) than among Hispanic and white adults (both roughly 28 percent).⁴⁹ Only 47.5 percent of low-income adults had seen a dentist within a year, compared to 81.4 percent among adults earning \$50,000 or more annually.⁵⁰ Finally, 52.5 percent of adults without a high school diploma had visited a dentist within a year, compared to 65.8 percent of adults with a diploma or GED and 82.3 percent of college graduates.⁵¹

To understand barriers to care, a 2015 ADA survey asked Iowan adults who had not visited a dentist in the past 12 months why they do not visit the dentist more frequently. The top three reasons were cost (50 percent), fear of the dentist (21 percent), and inconvenient time or location (18 percent).⁵² Iowans can benefit from alternative dental care options that address these challenges.

Dental therapists can lower the cost of dental care to both consumers and payers in a number of ways. First they can help reduce Medicaid spending on hospital ER care for preventable dental conditions because more people would have access to routine care. Most dentists do not accept Medicaid patients, mainly due to low reimbursement rates. Dental therapists command lower salaries than dentists, and for practices that employ them, they lower the cost of delivering care to patients. This makes accepting Medicaid’s discounted payment rates more feasible for a dental practice.

Second, practices that employ dental therapists will have more of an incentive to join preferred provider organization (PPO) networks and charge less to network members than out-of-network members. Dentists that employ dental therapists are better positioned to join dental plan preferred provider networks, which most often offer a reimbursement rate that is lower than dentists’ fees, and require that dentists pass these lower fees onto their patients. Dental therapists lower labor costs for dental practices, which makes it more feasible for practices to accept discounted payment rates from plans.

Third, dental therapists can help community health centers provide more free or low-cost dental care to the low-income uninsured. Low-income adults without dental insurance often seek care

in federally-funded community health centers, where they can receive free or low-cost dental care. Dental therapists' salaries are substantially lower than that of dentists. Community health centers can use these labor cost savings to provide free or low-cost care to more low-income uninsured patients. In fact, a recent state evaluation of dental therapists in Minnesota found that nonprofit clinics employing dental therapists are doing this.⁵³

Finally, in regions where there are high numbers of dentists competing for market share, practices could hire dental therapists to lower the cost of providing care, and pass these savings onto consumers in the form of lower prices. Dentists running more efficient practices with lower-cost providers would face less pressure to hike fees.

As for alleviating Iowans' dental phobia, it is difficult to predict how impactful supply-side reform will be. Presumably, if someone is afraid of having a dentist poke around in their mouth, they will be equally uncomfortable with a dental therapist. However, CODA's accreditation standards for dental therapy education programs requires them to teach dental therapists "basic principles of culturally competent health care."⁵⁴ In other words, dental therapists must be aware of health care disparities and the special needs of underserved population, which might help them appeal to patients who are hesitant to seek dental care.

When dental therapists are allowed to practice primarily under general supervision, they help make dental appointments more convenient, especially for rural and underserved populations. They could bring care to patients who cannot access care in standard dental office or who have limited mobility and cannot travel. They do so by practicing at remote locations, such as patients' homes, satellite offices, long-term care centers, nursing homes, veterans' homes, schools, rural health clinics, and federally qualified health centers (FQHCs). All Iowans can benefit from travelling less and taking less time out of their busy schedules to receive dental care.

Dental Care in Iowa

The underlying cause of Iowa's dental care shortage is not simply a shortage of providers. In addition to the number of providers, the adequacy of the provider network, the distribution of providers across the state, and the limitations licensure regulations place on the provider network are the real barriers to care.

There are nearly 1,800 dentists in Iowa, about 57 dentists per 100,000 people.^{55,56} Between 1997 and 2013, the number of dentists in Iowa grew 8 percent, compared to a 21 percent national growth over the same period.⁵⁷ However, Iowa's population grew approximately 7 percent during this timeframe, proportionate to the growth of dentists.^{58,59,60}

While the number of Iowa dentists is growing, several studies indicate this growth may not keep up with the rising demand for dental care. The U.S. Department of Health and Human Services (HHS) projects that the supply of dentists will increase six percent nationally through 2025, but decrease 15 percent in Iowa over the same period.⁶¹ According to HHS's report, Iowa will have a shortage of approximately 155 dentists (measured in full-time equivalents) in 2025.

The University of Iowa Public Policy Center (PPC) conducted its own study of Iowa's dental workforce trends to explore potential factors influencing the supply of dental care and the likelihood of future shortages.⁶² PPC identifies several workforce challenges, including "a large number of dentists nearing retirement age and a growing trend of younger dentists and female dentists choosing to work part-time."⁶³ According to PPC, dentists under age 35 are more likely to work part-time and less likely to work in rural areas than older dentists.^{64,65} This may pose a problem as the older dentists begin to retire.

PPC also found that from 1997 to 2013, the proportion of dentists working in rural counties decreased from 49 percent to 36 percent.⁶⁶ Forty-one percent of Iowans live in rural areas.⁶⁷ Additionally, over one third of private practice dentists work in three major urban counties, Polk, Linn, and Scott, but only 27 percent of Iowans live in these three counties.⁶⁸ The PPC study does not offer any concrete projections, but these changing dentist demographics could contribute to a shortage of care in the near future.⁶⁹

The Health Resources and Services Administration (HRSA) developed a model to identify provider maldistribution, which designates dental health professional shortage areas (HPSAs) across the U.S. There are three types of HPSAs: geographic areas, populations, and facilities. To qualify as a dental HPSA, geographic areas must have 5,000 or more people per single dental provider, populations must have 4,000 or more people per single dental provider, and facilities must have 1,500 or more people per single dental provider.⁷⁰ HPSA populations tend to be low-income or Medicaid-eligible populations. HPSA facilities typically include federally qualified health centers (FQHCs), rural health clinics, Native American tribal facilities, and correction facilities.

There are currently 121 dental HPSAs in over 60 Iowa counties.^{71,72} Over 535,000 Iowans live in these dental HPSAs.⁷³ HRSA estimates that only 36 percent of the need in these areas is being met and that at least 92 dental practitioners are needed in these areas to remove their HPSA designations.⁷⁴

The quantity and distribution of traditional dental providers play a major role in the overall supply of dental care, but policy measures aimed at improving access to dental care often focus too heavily on these metrics and fail to address the adequacy of the provider network and the ability to form new provider options. The ADA published a report in June 2016 that predicts the per capita supply of dentists in the U.S. will increase through 2035.⁷⁵ However, the report aptly states,

Understanding how the total supply of dentists might evolve only partially contributes to the central policy question of whether or not there is likely to be a shortage of dentists in the United States. The issue of provider adequacy is far more complex and, even at the most aggregate level, requires some type of assessment of the demand for dentists. The future demand for dentists, in turn, will depend on the future demand for dental care among the population, the future evolution of productivity and efficiency of dentists, and potential changes in the workforce mix within dental care delivery models.⁷⁶

Solving the access to care problem is not as simple as increasing the number of dentists or their reimbursement schedules. Improving access requires thinking outside the traditional provider framework, and creating an environment in which dental professionals can innovate their delivery systems to meet the dynamic needs of Iowans. The more dental care options exist, the easier it will be for underserved Iowans to find a service that works for them.

Dental licensure regulations largely prevent or discourage dental professionals from creating these options. For example, the state only grants licenses to dentists, dental hygienists, and dental assistants. Therefore, the dental market is limited to offering these three provider types, which constrains the supply of dental care. Additionally, dental licensure laws grant dentists a monopoly on certain procedures, including basic restorative care. Dentists have an incentive to maintain their government-supported market power and lobby against changes to the status quo, even if the changes could improve access to care.

Broadening licensure regulations to allow competition in dentistry would give providers the freedom to experiment and patients the freedom to choose how they take care of their teeth. Generally, Iowa should be open to new care delivery systems and cede control of the dental care supply to those who actually have the relevant knowledge to make positive changes—patients and providers. While licensing dental therapists is not the only way to increase access, it is an important step in the right direction. Dental therapists will expand Iowa's provider network, both quantitatively and qualitatively, without creating a new government handout.

Licensure reform can also help alleviate one of the greatest barriers to care—cost. According to *Dental Economics*, the cost of dental services has increased 279 percent since 1985.⁷⁷ Recall that the number one reason Iowans choose not to seek dental care is cost.⁷⁸ Furthermore, the cost of dental insurance is on the rise. The ADA found that private dental benefit plan charges in Iowa increased 8.7 percent for children and 6.6 percent for adults from 2003 to 2013, one of the highest increases in the country over this period.⁷⁹

Inflated costs are a byproduct of distorted supply or demand. Licensure regulations constrain supply and force it to act in ways contrary to how it naturally acts in an unregulated market. In dentistry, they do so by granting dentists a monopoly on certain procedures, controlling the supply of providers, and outlawing certain delivery systems. Licensing dental therapists would alleviate these constraints, though not completely, and put downward pressure on dental care prices.

Iowa's Oral Health Efforts

Iowa has a wide array of government initiatives aimed at improving access to dental care. The problem with these programs is that they are costly to taxpayers and they distort the supply of dental care with government-designed, one-size-fits-all delivery systems. Too often, public dental programs provide benefits in the form of dental insurance, which does not always translate to care. Rather, increasing the number of Iowans with public dental insurance merely floods the dental market with artificial demand, exacerbating the care shortage.

Iowa's history of experimenting with dental programs has shown that supply-side reforms, which ease licensure regulations and promote innovation among providers, show the most promise for improving access to care. However, the effectiveness of these programs remains limited to the degree the state maintains its control of dentistry.

Iowa Medicaid

All Medicaid-enrolled children, ages 20 and younger, receive dental benefits through the Early Periodic Screening, Diagnosis, and Treatment (EPSDT) program, which covers regular dental checkups.⁸⁰

The majority of adults traditionally eligible for Medicaid receive health insurance through a managed care program called the Iowa Health Link.⁸¹ Approximately 426,000 people are enrolled in this program.⁸² However, Iowa Health Link members “do not receive their dental coverage from their [Managed Care Organizations].”⁸³ They receive dental benefits through Iowa's Dental Wellness Program.

The Dental Wellness Program was implemented on May 1, 2014 through a Section 1115 demonstration waiver.⁸⁴ It is a fee-for-service dental plan administered by Delta Dental of Iowa and MCNA, two large not-for-profit dental and vision insurance providers.^{85,86} Iowa's Medicaid agency, the Iowa Medicaid Enterprise, makes capitated payments to Delta Dental and MCNA in exchange for their administration.

All Dental Wellness Program enrollees receive full dental benefits in their first year of eligibility, during which they are encouraged to complete state-designated healthy behaviors.⁸⁷ Full dental benefits include diagnostic and preventive dental services, fillings, gum treatment, root canals, dentures, crowns, and extractions.⁸⁸ If enrollees fail to complete the healthy behaviors, an oral health risk self-assessment and preventive care appointment, then they will be charged a premium in their subsequent year of eligibility.⁸⁹ Failure to pay the premium results in a reduction of dental benefits, limited to emergency care and those services required to fulfill the healthy behavior requirement. Some recipients are exempt from the premium requirement, such as pregnant women and medically frail individuals, and enrollees may gain exemption by self-attesting to financial hardship.⁹⁰

Iowa expanded Medicaid to cover low-income adults under the Affordable Care Act (ACA) in 2014.⁹¹ The state currently covers adults, ages 19 and older, with income up to 133 percent of the federal poverty level (FPL) through a Section 1115 demonstration waiver, the “Iowa Wellness Plan” (IWP). There were 142,922 total IWP enrollees in FY 2017.⁹² All IWP enrollees receive dental benefits through the Dental Wellness Program, and are subject to the same healthy behavior incentives described above.⁹³

The Dental Wellness Plan served an average of 157,684 individuals in FY 2018.⁹⁴ The program cost \$28.5 million in 2017.⁹⁵ Beginning September 1, 2018, the Dental Wellness Plan has had an annual benefit maximum of \$1000 per member per fiscal year.⁹⁶

Hawk-i (CHIP)

Iowa's version of the Children's Health Insurance Program (CHIP) is called the Healthy and Well Kids in Iowa (*hawk-i*) program. It covers low-income children under 19 who are ineligible for Medicaid and have no other health insurance.⁹⁷ Enrollees can choose between full coverage, which includes medical and dental, or dental-only coverage. A 2018 IDHS report shows that 51,323 children were enrolled in full-coverage *hawk-i*, and 3,816 were enrolled in dental-only *hawk-i*.⁹⁸ The total annual cost per member for *hawk-i* children enrolled with the health plan is \$1,885, and \$345 for children with dental-only coverage.⁹⁹ Delta Dental of Iowa administers the program and receives payments from IDHS.¹⁰⁰

IDPH predicts that the CHIP program will cover 74,026 children in FY 2019 and cost a total of \$143.7 million.¹⁰¹ In FY 2018, \$136.9 million was spent on benefits and \$6.4 million was spent on administration costs, \$278,690 of which was spent on outreach.¹⁰²

Federally Qualified Health Centers (FQHCs)

Federally Qualified Health Centers (FQHCs) are health care facilities that receive federal grants under Section 330 of the Public Health Service (PHS) Act. Only public or private nonprofit entities qualify to receive Section 330 grants, such as Community Health Centers, Migrant Health Centers, Health Care for the Homeless programs, and Public Housing Primary Care programs. To qualify and remain eligible for Section 330 grants, FQHCs must provide preventive dental care directly, or arrange for patients to receive preventive dental care through another provider.¹⁰³

There were 14 FQHCs in Iowa as of 2013: 13 community health centers and one migrant health center.¹⁰⁴ In 2012, 58,551 dental services were provided at FQHCs, only 10.8 percent of total FQHC encounters that year.¹⁰⁵ The average dental cost for FQHC patients was \$137 per visit, and the total charges for dental services provided by Iowa's FQHCs exceeded \$18 million in 2011.¹⁰⁶

FQHC patient demographics reflect how socioeconomic factors influence access to care. For example, over 70 percent of Iowa's FQHC patients are at or below 100 percent FPL, and 94 percent are at or below 200 percent FPL.^{107,108} Thirty-five percent of FQHC patients are uninsured and 38 percent are enrolled in Medicaid.¹⁰⁹ Fifty-four percent of them live in rural areas of the state.¹¹⁰ Twenty-one percent are Hispanic, 12 percent are African-American, and 11 percent speak languages other than English.¹¹¹

Approximately one third of FQHC patients are children ages 0 to 17.¹¹² In 2010, preventive dental procedures such as check-ups, cleanings, and fluoride treatments were the most common dental procedures provided at Iowa's FQHCs.¹¹³

The majority of FQHC funding comes from government grants. In 2010, 36 percent of Iowa's FQHC funding came from Medicaid and approximately 31 percent came from federal grants.¹¹⁴ Iowa's FQHC revenue totaled over \$100 million in 2011, \$62.6 million of which was patient-related and \$37.7 million of which was not patient-related.¹¹⁵ Of the patient-related revenue, \$37 million came from Medicaid, \$5.9 million came from Medicare, and \$600,000 came from other

public sources.¹¹⁶ Of the non-patient-related revenue, \$20 million came from Bureau of Primary Health Care (BPHC) grants, \$11.5 million came from federal grants, and \$5.3 million came from nonfederal grants and contracts.¹¹⁷

It is worth noting that the ACA had a significant impact on how FQHCs are funded and regulated. It made FQHCs eligible to receive grants for implementing training programs for “alternative dental health care providers,” such as Community Dental Health Coordinators (CDHCs), advanced practice dental hygienists, and dental therapists.¹¹⁸ The grant program encourages the use of alternative delivery systems to combat shortages of dental care.

I-Smile

I-Smile is a statewide program that offers dental services to children ages 0 to 12. It launched in response to the Iowa Legislature’s 2005 mandate that all Medicaid-enrolled children must “have a designated dental home and shall be provided with the dental screenings and preventive care identified in the oral health standards under the Early and Periodic Screening, Diagnosis and Treatment program.”¹¹⁹

I-Smile is managed by IDPH in collaboration with the Department of Human Services and is funded under Iowa’s Title V maternal and child health program.¹²⁰ Title V is a federal block grant program intended to promote health services for low-income children and pregnant women. IDPH allocates Title V funds to child health (CH) contract agencies, who develop local service delivery systems within their respective CH service areas.¹²¹ I-Smile cost Iowa \$2.3 million in FY 2018.¹²²

Each participating CH agency must designate an I-Smile coordinator to manage the program in its service area. I-Smile coordinators must be Iowa-licensed dental hygienists, work at least 20 hours per week, and must complete quarterly IDPH trainings.¹²³ IDPH recommends that dental hygienists, employed by CH agencies, perform I-Smile direct care oral services. However, some CH agencies may allow their employed or contracted registered nurses, nurse practitioners, and physician assistants to provide these services. In 2017, 33,362 Medicaid-enrolled children, ages 0 to 12, received dental services from an I-Smile dental hygienist or nurse in a public health setting.¹²⁴

The I-Smile program utilizes mid-level practitioners to partially fill the unmet need for dental services among low-income children. Thousands of I-Smile children have received high-quality dental care from mid-level practitioners since 2006, and the program recently expanded to include a trial program for older adults in 10 Iowa counties.¹²⁵ I-Smile exemplifies the power of mid-level practitioners to improve access to dental care. Despite the program’s success, it is far from solving Iowa’s care shortage. IDPH’s 2017 report claims that “Helping children younger than 3 receive care from dentists remains difficult,” and acknowledges declining Medicaid participation rates among Iowa dentists.¹²⁶

Expanded Function Dental Auxiliaries (EFDAs)

In 2015, Iowa legislators and dental professionals anticipated a growing dental care shortage after the ACA expansion.¹²⁷ In response to this concern, the Iowa Dental Board (IDB) created the Expanded Functions Dental Auxiliary (EFDA) task force, to investigate the effect of utilizing EFDAs on dental workforce capacity. To assist the EFDA taskforce, several University of Iowa faculty members conducted a survey, which measured Iowa dentists' willingness to delegate certain restorative procedures to EFDAs. The proposed restorative procedures were placing and shaping composite restorations (resin fillings), placing and shaping amalgam restorations (metal fillings), and fitting and cementing stainless steel crowns.

The survey showed that 37 percent of Iowa dentists and 68 percent of pediatric dentists would delegate at least one of the proposed restorative procedures to an EFDA.¹²⁸ Thirty-seven percent of pediatric dentists said they would accept more Medicaid patients if they could employ an EFDA who could perform restorative procedures.¹²⁹ Fifty-four percent of dentists agreed that EFDAs have a positive impact on the overall quality of dental care.¹³⁰

Iowa currently offers expanded function provider certification to registered dental assistants and dental hygienists. There are two levels of expanded function certification for each provider. Table 1 shows the scope of practice for dental assistants and hygienists, as well as their respective expanded functions.

Table 1. Scope of practice and expanded functions for Iowa dental assistants and hygienists

	Dental Assistants	Dental Hygienists
Scope of Practice	<ul style="list-style-type: none"> • Extraoral services including infection control • Use of hazardous materials • Basic intraoral services including intraoral suctioning • Use of a curing light and intraoral camera • Dental radiography with the proper permit 	<p>Educational</p> <ul style="list-style-type: none"> • Assessing the need for, planning, implementing, and evaluating oral health education programs • Conducting workshops and in-service training sessions on dental health for nurses, school personnel, institution staff, community groups, and other agencies providing consultation and technical assistance for promotional, preventive, and educational services <p>Therapeutic</p> <ul style="list-style-type: none"> • Identifying and evaluating factors which indicate the need for and performing oral prophylaxis, including supragingival and subgingival debridement of plaque, and detection and removal of calculus

		<ul style="list-style-type: none"> • Periodontal scaling and root planning • Removing and polishing hardened excess restorative material • Administering local anesthesia with the proper permit • Administering nitrous oxide inhalation analgesia with the proper permit • Applying or administering medicaments prescribed by a dentist • Removal of adhesives <p>Preventive</p> <ul style="list-style-type: none"> • Applying pit and fissure sealants and other medications or methods for caries and periodontal disease control • Organizing and administering fluoride rinse or sealant programs <p>Diagnostic</p> <ul style="list-style-type: none"> • Reviewing medical and dental health histories • Performing oral inspection • Indexing dental and periodontal disease • Preliminary charting of existing dental restorations and teeth • Making occlusal registrations for mounting study casts • Testing pulp vitality • Analyzing dietary surveys
<p>Expanded Functions</p>	<p>Level 1</p> <ul style="list-style-type: none"> • Taking occlusal registrations • Placement and removal of gingival retraction • Fabrication and removal of provisional restorations • Applying cavity liners and bases, desensitizing agents, and bonding systems 	<p>Level 1</p> <ul style="list-style-type: none"> • Taking occlusal registrations for purposes other than mounting study casts • Placement and removal of gingival retraction • Fabrication and removal of provisional restorations

	<ul style="list-style-type: none"> • Placement and removal of dry socket medication • Placement of periodontal dressings • Testing pulp vitality • Monitoring of nitrous oxide inhalation analgesia • Taking final impressions • Removal of adhesives (hand instrumentation only) • Preliminary charting of existing dental restorations and teeth <p>Level 2</p> <ul style="list-style-type: none"> • Placement and shaping of amalgam following preparation of a tooth by a dentist • Placement and shaping of composite following preparation of a tooth by a dentist • Forming and placement of stainless steel crowns • Taking records for the fabrication of dentures and partial dentures • Tissue conditioning (soft relines only) 	<ul style="list-style-type: none"> • Applying cavity liners and bases and bonding systems for restorative purposes • Taking final impressions <p>Level 2</p> <ul style="list-style-type: none"> • Placement and shaping of amalgam following preparation of a tooth by a dentist • Placement and shaping of composite following preparation of a tooth by a dentist • Forming and placement of stainless steel crowns • Taking records for the fabrication of dentures and partial dentures • Tissue conditioning (soft relines only)
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Source: Iowa Administrative Code^{131,132,133}

Level 1 training qualifies a registered dental assistant to expand their scope of practice by 11 procedures, and Level 2 training qualifies them to perform an additional five procedures.¹³⁴ Registered dental assistants may only perform expanded function procedures under direct supervision, with a dentist present in the treatment facility.

Level 1 training qualifies dental hygienists to expand their scope of practice by five procedures, and Level 2 training qualifies them to perform an additional five.¹³⁵ Expanded functions for hygienists include several restorative procedures, including cavity fillings and stainless steel crown placements. Dental hygienists may take occlusal registrations, for purposes other than mounting study casts, under general supervision, but all other expanded function procedures must be performed under direct supervision.

If a dental hygienist or registered dental assistant does not want to become a fully certified Level 1 or 2 provider, they may perform select Level 1 procedures for which they have been trained, under the delegation and direct supervision of a dentist.^{136,137}

For both providers, Level 1 training must be provided through a “program accredited by the Commission on Dental Accreditation of the American Dental Association (ADA) or another

program, which may include on-the-job training offered by a dentist licensed in Iowa.”^{138,139} The requirements are nearly identical for Level 2 training, except the University of Iowa College of Dentistry offers a formal Expanded Functions Level 2 program.¹⁴⁰ This program could serve as a model for future mid-level education and training programs.

The EFDA model shows that Iowa is already utilizing supply-side reforms in the dental industry. The EFDA delivery system seems to have had a positive effect in Iowa, but there is still an unmet need for dental care. More can be done to utilize mid-level practitioners, such as licensing dental therapists.

Public Health Supervision

In 2004, the IDB approved “public health supervision” rules for dental hygienists.¹⁴¹ Under public health supervision, a dentist may delegate certain hygiene services to hygienists in public health settings, without examining the patient prior to the provision of the services. Furthermore, the supervising dentist is not required to provide future treatment to the patient treated by a hygienist in a public health setting. Public health settings include schools, Head Start programs, Early Childhood Iowa programs, childcare centers (excluding home-based childcare centers), FQHCs, public health dental vans, free clinics, nonprofit community health centers, nursing facilities, and federal, state, or local public health programs.¹⁴²

The supervising dentist and the hygienist practicing under public health supervision must enter a written supervision agreement, which details each parties’ responsibilities.¹⁴³ Table 2 lists the required responsibilities for each respective licensee.

Table 2. Dentists’ and hygienists’ responsibilities under public health supervision

Dentist’s Responsibilities	Dental Hygienist’s Responsibilities
<ul style="list-style-type: none"> • Be available to provide communication and consultation with the dental hygienist • Have age- and procedure-specific standing orders for the performance of dental hygiene services, including consideration for medically compromised patients and medical conditions for which a dental evaluation must occur prior to the provision of dental hygiene services • Specify a period of time in which an examination by a dentist must occur prior to providing further hygiene services; requirement does not apply to educational services, assessments, screenings, and fluoride if specified in the supervision agreement 	<ul style="list-style-type: none"> • Maintain contact and communication with the dentist providing public health supervision • Practice according to age- and procedure-specific standing orders as directed by the supervising dentist, unless otherwise directed by the dentist for a specific patient • Provide to the patient, parent, or guardian a written plan for referral to a dentist and assessment of further dental treatment needs • Have each patient sign a consent form that notifies the patient that the services that will be received do not take the place of regular dental checkups at a dental office and are meant for people who

<ul style="list-style-type: none"> Specify the location or locations where the hygiene services will be provided under public health supervision 	<p>otherwise would not have access to services</p> <ul style="list-style-type: none"> Specify a procedure for creating and maintaining dental records for the patients that are treated by the dental hygienist, including where these records are to be located
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Source: Iowa Administrative Code¹⁴⁴

Only hygienists with three or more years of clinical practice experience may practice under public health supervision.¹⁴⁵ They may provide assessments, screenings, data collection, educational services, therapeutic, preventive, and diagnostic services. However, they may not administer local anesthesia or nitrous oxide inhalation analgesia.

In 2013, 110 dental hygienists had public health supervision agreements with at least 64 dentists.¹⁴⁶ On average, these dental hygienists had been working in the field for 14 years, and 26 percent had worked for 20 or more years.¹⁴⁷ For patients ages 0 to 20, they provided almost 40,000 dentist referrals for regular care and almost 7,000 referrals for urgent care in 2013.¹⁴⁸ For clients 21 years and older, they provided 1,306 referrals for regular care and 411 referrals for urgent care.¹⁴⁹ They provided 78,522 assessments and screenings, 50,408 fluoride varnishes, 33,905 sealants, and 43,500 educational services.¹⁵⁰

In 2015, the IDB created public health supervision rules for dental assistants.¹⁵¹ Iowa dentists can delegate certain services to dental assistants in public and private schools, public health agencies (programs operated by federal, state, or local public health departments), hospitals, and the armed forces.¹⁵² These services are limited to extraoral duties, dental radiography, intraoral suctioning, and the use of a curing light or intraoral camera. Dental assistants must have written supervision agreements with their supervising dentists, similar to hygienists practicing under public health supervision.

Public health supervision enables hygienists and dental assistants to accommodate Iowans who struggle to access dental care. It does so by granting them features that are built-in to the dental therapy model. If allowed to practice under general supervision, dental therapists could travel outside their supervising dentists' office and treat people who might otherwise not receive care. A key difference is that dental therapists have a wider scope of practice than public health supervision providers. The success of public health supervision in Iowa should motivate the introduction of dental therapy, which shares all its beneficial features and expands on them.

Public Funding vs. Deregulation

Iowa's efforts to expand access to dental care fall along two categories: publically funded programs overseen by the government and deregulation. Medicaid, *hawk-i*, FQHCs, and I-Smile fall into the first category, while EFDAs and public health supervision fall into the second. Public programs may seem like effective solutions, at least in the short run, but they increase state spending, drive away dental providers, and decrease access to care by distorting the dentistry market.

Iowa's public dental programs cost taxpayers millions. The Dental Wellness Plan cost \$28.5 million in 2017, Iowa's CHIP program cost approximately \$143.3 million in FY 2018, FQHCs cost at least \$75 million in public funds in 2012, and the I-Smile program cost \$2.3 million in 2018.^{153,154,155,156} Expenditures for dental-related fee-for-service Medicaid claims were unavailable, but they surely add to the bill. These price tags do not include the cost of administration, outreach, or costs imposed on providers who participate in public programs.

Participating in government dental programs is very costly for dental providers. Iowa's fee-for-service Medicaid reimbursements only cover 40.8 percent of dental charges for child services, and 40.4 percent for adult services.¹⁵⁷ In other words, treating Medicaid patients generates less than half the revenue that treating privately insured patients does. For this reason, Medicaid-participation remains low among Iowa dentists. A 2017 PPC study shows that the proportion of dentists participating in the Dental Wellness Program (42 percent) has remained unchanged since 2015.¹⁵⁸ However, the proportion of dentists who discontinued their previous participation has increased from 8 percent to 12 percent. When asked why they do not participate, 75 percent of dentists cited low reimbursement rates, 32 percent cited the insufficient scope of services covered by the program, and 28 percent cited "other" and left an open-ended comment. The majority of these comments related to "the amount of time spent on paperwork and confusion regarding earned benefits and covered services."¹⁵⁹

Despite the enormous costs associated with public dental programs, utilization rates remain low among recipients. Only 28.7 percent of Dental Wellness Plan enrollees completed their healthy behaviors in FY 2018, an oral health assessment and one preventive dental service.^{160,161} CMS data shows that 50 percent of Medicaid-eligible children and 64 percent of *hawk-i*-eligible children in Iowa received any dental services in 2017.^{162,163} Only 10.8 percent of FQHC encounters in Iowa were for dental services in 2012.¹⁶⁴

Iowa does not need another public dental program to improve access to dental care. The ones that currently exist do not effectively meet Iowans' needs, and they harm taxpayers and dental providers. Iowa's licensure regulations prevent safe and capable mid-level providers from treating underserved patients. If state lawmakers want a cost-effective solution to the dental care shortage, they should make room for dental therapists and other innovative delivery systems through licensure reform.

Dental Licensure Reform

Market-based licensure reforms only require administration costs and generate revenue to the state through application fees. More importantly, they empower dental providers to fill unmet demand instead of subsidizing Iowans' dental care.

The IDB regulates all licensed dental practitioners in the state of Iowa. In doing so, it provides a base standard for the safe practice of dentistry, but it also posits a limited set of care-delivery options. Because Iowa dental students must fit the state's licensure model, they have few career options with radically different levels of training and salary prospects. They can become dental assistants or hygienists, with a small scope of practice and strict supervision requirements, or

they can pay for four years of dental school and become dentists. The disparity between these options is enormous, with no happy mediums.

Dental hygienists currently have the highest level of training below dentists in Iowa. However, they do not have enough training to meet Iowa's dental needs and they are overburdened by regulations. For example, a dental hygienist can only perform educational, therapeutic, preventive, and diagnostic procedures.¹⁶⁵ The majority of these procedures must be performed under direct supervision. Educational services, assessments, screenings, and patient data collection may be performed under general or public health supervision. With additional training, hygienists may acquire permits to administer local anesthesia and nitrous oxide inhalation analgesic under direct supervision.

In addition to hygiene services, dental therapists typically provide palliative and restorative care, including extractions and fillings. They can also administer local anesthesia and nitrous oxide inhalation analgesic under general supervision. They may dispense and administer certain drugs, including analgesics, anti-inflammatories, and antibiotics. Some dental therapists can even supervise dental assistants, if authorized in their collaborative management agreements.¹⁶⁶

While the majority of hygienists' services require direct supervision, dental therapists primarily practice under general supervision. If an Iowa hygienist wants to travel outside the office and treat patients in underserved areas, they must have three years of clinical experience.¹⁶⁷ Even then, hygienists may only practice in public health settings. Dental therapists have more geographic flexibility. Offering dental therapy licenses could give non-dentist practitioners, including hygienists, an option to obtain more geographic flexibility in addition to more training.

Unfortunately, dental providers can only deliver care in ways that are explicitly authorized in Iowa's licensure laws. Even if the laws do not explicitly prohibit a method of treatment, the method is illegal so long as it is not explicitly allowed. Since Iowa's dental licensure laws are silent on the topic of dental therapists, they cannot pursue a license or practice in the state. Nor can a licensed dentist choose to utilize a dental therapist to expand their practice.

Effective licensure reform should loosen these bureaucratic controls and make it easier for care providers to try new things. Licensure laws can and should create an environment in which providers feel comfortable innovating and adapting to patients' needs, instead of boxing them into a rigid and static punitive framework. Dental therapy is one of many promising developments possible in such an environment.

Effects of Dental Therapists

In 2011, the American Dental Association (ADA) released a statement opposing mid-level dental providers, asserting that "The ADA does not believe a non-dentist should perform surgical/irreversible procedures."¹⁶⁸ The ADA bases its opposition on a concern for public safety, arguing that mid-level providers are not suitably trained to perform certain procedures. However, numerous studies on mid-level providers present evidence to the contrary.

In 2010, RTI International conducted an initial evaluation of Alaska's DHAT program, which began in 2004. The evaluation focused on patient satisfaction, oral health status, DHAT performance, clinical facilities, and implementation of community-based preventive programs. The patients surveyed were "generally very satisfied with the care they received from the therapists."¹⁶⁹ They reported experiencing shorter wait times, and their survey results indicated they felt access to care had improved since the implementation of the DHAT program. A trained observer "blindly" assessed restorations done by DHATs and dentists, without knowing which professional had performed each restoration. Only a few deficiencies were observed, and the rate and type of deficiencies were similar between DHATs and dentists.¹⁷⁰

RTI used 91 metrics to evaluate the clinic facilities, policies, and personnel, most of which were satisfactory across all DHAT sites. The report also found that preventive care measures were "well integrated into some but not all practice sites."¹⁷¹ However, a more recent study indicates that Alaska's DHAT program has corrected this shortfall.¹⁷² RTI International's study only reflects the short-term, initial operation of Alaska's DHAT program, but it shows that DHATs operated safely within their scope of practice, that the quality of their restorations were comparable to dentists', and that patients were highly satisfied with the care they received.

Dental therapists have been practicing in Minnesota since 2011. In February 2014, the Minnesota Department of Health (MDH) and the Minnesota Board of Dentistry (MBD) issued a report to the state legislature titled *Early Impacts of Dental Therapists in Minnesota*. There were 32 dental therapists practicing in Minnesota during the study, six of whom were certified advanced dental therapists. The dental therapists who participated in the study—seven full-time equivalents (FTEs) observed from August 2011 to July 2013—had served 6,338 new patients in their first two years of operation.¹⁷³

MDH and MBD's report included a survey of patients served by dental therapists. Almost one-third of respondents experienced a reduction in wait times, and some experienced a reduction in travel time. Both impacts were more pronounced in rural areas.¹⁷⁴ Data provided by the study clinics showed that 84 percent of patients served by dental therapists were enrolled in public health insurance programs.

Finally, the study clinics employing dental therapists reported overall cost-savings, increased dental team productivity, improved patient satisfaction, and lower appointment failure rates. The MDH and MBD study concluded that "Dental therapists appear to be practicing safely, and clinics report improved quality and high patient satisfaction with dental therapist services."¹⁷⁵ While MDH and MBD's report is only an initial assessment, its findings are enough to justify optimism about the statewide impacts of dental therapy.

In August 2017, Dr. Donald L. Chi, an associate professor at the University of Washington, published the first long-term study of dental therapist utilization in Alaska's Yukon Kuskokwim (YK) Delta. There were 13 dental therapists and 9,012 days of treatment during the study period.¹⁷⁶ The study found that increasing the number of dental therapist treatment days was significantly associated with more children and adults receiving preventive care, fewer children under three with front tooth extractions, and fewer adults with permanent tooth extractions.

Dr. Chi's study compared communities with the highest number of dental therapist treatment days to those with no dental therapist treatment days. Preventive care rates were higher and treatment rates were lower in the communities with the highest number of dental therapist treatment days.¹⁷⁷ The study concludes, "There appear to be clinically meaningful differences between communities with no Dental Therapists and communities with the highest number of Dental Therapist treatment days, with the latter communities exhibiting utilization patterns consistent with improved outcomes (e.g., more preventive care, fewer extractions, less general anesthesia)."¹⁷⁸

Dental therapy may be new to the U.S., but it is important to remember that dental therapists have been practicing outside the U.S. since the early 1900s.¹⁷⁹ Over 50 countries and territories currently utilize mid-level dental providers, including New Zealand, Australia, Canada, and the United Kingdom. The W.K. Kellogg Foundation's publication *A Review of the Global Literature on Dental Therapists* provides a comprehensive history and analysis of mid-level dental provider models across the globe. It also concludes: "Dental therapists have a record of providing oral health care safely."¹⁸⁰

Despite growing evidence that dental therapists practice safely and improve access to care, the ADA continues its opposition to legislative efforts, mainly through its state affiliates. When the Maine Legislature considered dental therapy, the *Washington Post* reported that members of the Maine Dental Association "flooded the statehouse," driving policymakers to put "Dental Free Zone" signs on their office doors.¹⁸¹ In 2015, five separate members of the Texas Dental Association testified against a bill that would have allowed dental therapists in Texas.¹⁸² The bill was defeated. In Washington, Native American tribal leaders supported dental therapy legislation with the expectation it would help them improve oral health in their underserved communities. They attributed defeat of the legislation to opposition from "the powerful dental lobby."¹⁸³ Washington tribal leaders feared the Washington State Dental Association or the ADA would sue them for utilizing dental therapists.

Dental therapists have a short record within the U.S., but mid-level providers have a long history of conflict with medical associations. In the early 1960s, the first nurse practitioner education program began at the University of Colorado. Nurse practitioners are mid-level medical providers; just as dental therapists are mid-level dental providers. Introducing nurse practitioners was a direct response to the shortage of primary care following WWII.¹⁸⁴ Medical associations, such as the National League of Nursing, strongly opposed the utilization of nurse practitioners, claiming they were undertrained and disruptive to the traditional nursing profession—a conflict analogous to the one between dental therapists and the ADA today.

Today, nurse practitioners are fully integrated members of the American medical team. Not only did they demonstrate that well-trained mid-level providers were safe, they proved an effective way to alleviate care shortages. Studies of dental therapists (see above) suggest they can have a similarly positive impact on Iowa's shortage of dental care.

Attitudes Toward Dental Therapy

While the ADA opposes dental therapy, CODA and the Federal Trade Commission (FTC) are standing up for mid-level providers. When the ADA opposed CODA's development of dental therapy education standards in 2013, the FTC released a statement supporting CODA's efforts. The statement acknowledged, "Expanding the supply of dental therapists ... is likely to increase the output of basic dental services, enhance competition, reduce costs, and expand access to dental care."¹⁸⁵

Dentists' concern for the public safety is rooted in a fundamental misunderstanding of how dental therapists operate. In states that utilize them, dental therapists only practice under the supervision of a licensed dentist, and only under the authority of a collaborative management agreement (CMA). Through their CMAs, dentists are free to define the role of dental therapists in their practice as they see fit. When dental therapists practice outside the office under general supervision, they must maintain communication with their supervising dentist. If a dentist is dissatisfied with the quality of care delivered by a dental therapist, they are free to discontinue their service. The dental therapy model does not threaten dentists' autonomy or productivity.

Dentists stand to benefit from working with dental therapists. A 2014 case study by the Pew Charitable Trusts examined an FQHC in Minnesota and a tribally owned nonprofit clinic in Alaska, both employing dental therapists. The Minnesota dental therapist conducted 1,756 patient visits during the study year and generated enough Medicaid revenue to exceed her costs of employment by more than \$30,000.¹⁸⁶ Her clinic used the extra revenue to hire another dental therapist. The Alaska clinic hired two dental therapists, who provided care to 1,352 patients and exceeded their costs of employment by \$216,000 combined.

Pew's study includes a testimony from one dental director at the Minnesota FQHC. At first, he was hesitant about working with a dental therapist, but found it to be a "great help."¹⁸⁷ Delegating basic preventive and restorative procedures to the dental therapist allowed him to "concentrate on more complex procedures" and see more patients.¹⁸⁸

Dentists dreading dental therapists' professional debut must understand that licensure legislation does not require any dentist to employ a dental therapist. It simply grants them a new option for managing their practices and treating patients.

Fortunately, there is growing support for dental therapists among dental professionals. A 2014 PPC survey found that 30 percent of Iowa hygienists would like to be dental therapists in the future.¹⁸⁹ Fifty-five percent of U.S. dental school deans agree that "The future of dental practice should include some sort of 'mid-level' practitioner or 'dental therapist,'" and 74 percent agree that dental therapists will improve access to dental care.¹⁹⁰ While no study has directly explored Iowa dentists' willingness to work with dental therapists, the 2015 EFDA survey (mentioned above) showed that nearly 40 percent of respondents were willing to employ EFDAs who can perform restorative functions, a model similar to dental therapy.¹⁹¹

What Should Iowa Do to Improve Access to Dental Care?

The more Iowa's licensure regulations grant freedom to dental providers, the better chance it has of combating care shortages. Iowa should reform its dental licensure laws to make room for new

provider models, care delivery systems, and technologies. Furthermore, the laws should create an environment that supports competition and grants patients and providers primary decision-making authority.

Licensing dental therapists is a bold step Iowa can take to empower dental providers, encourage innovation, and demonstrate the benefits of market-based licensure reform. The less restrictive the requirements, the easier it will be for dental teams to improve access to care with dental therapists. For example, if the law requires dental therapists to complete a high level of education and training, it could make becoming a dental therapist prohibitively costly without necessarily ensuring efficient standards.

Dental therapists can bring a wider range of treatment to a larger number of people if they have broad scopes of practice and can perform primarily under general supervision. Similarly, keeping collaborative management agreements unburdened by regulations will allow Iowa dentists to remain in control of their practices and enable them to determine their relationships with dental therapists.

If Iowa decides to utilize dental therapists, there are plenty of resources to inform the policy process. CODA's dental therapy education standards are designed to assist dental schools and other education institutions that want to develop dental therapy programs. Iowa can also reference dental therapy legislation and programs in Minnesota, Maine, Vermont, Alaska, Oregon, Washington, or Arizona. Variation among these states demonstrates the flexibility available to Iowa policymakers—they can craft a dental therapy model that best meets the needs of Iowans.

Licensure regimes should adapt to dental delivery systems, not vice versa. Providers are in a better position than regulators to identify unmet demand for dental care, and they have the requisite expertise and incentives to find cost-effective solutions. As delivery systems change to improve access to care, so should the relevant regulations. Licensure reforms that enable providers and promote competition can significantly decrease the cost of care and improve access in Iowa.

Conclusion

Despite Iowa's efforts to improve oral health, there are still shortfalls in access and dental utilization rates. Furthermore, PPC and HHS project that Iowa's dental care shortage will worsen over the next few years. Iowa needs a self-sustaining, cost-effective solution that will alleviate access to care challenges and promote lifelong healthy habits. Market-based licensure reform, including licensing dental therapists, can do both without creating an additional tax burden.

Iowa's current licensure regime is insufficient for meeting patient and provider needs. Its prohibition of mid-level providers prevents delivery system innovation, props up dentists' monopoly on routine procedures, and drives up the cost of dental care. Licensure reform that increases the number and type of dental providers will generate competition and improve access to dental care, in a way that respects patients' and providers' liberty.

Iowa has already taken steps toward creating mid-level dental providers, which makes it a perfect fit for dental therapy. The I-Smile program gives hygienists expanded responsibilities, hygienists and dental assistants can expand their scope of practice through EFDA permits, and public health supervision gives them greater mobility. The dental therapy model combines these benefits, expands on them, and sustains them without government funds.

It is not often that a public policy presents itself with so many positives and so few (if any) negatives. Changing the dental licensure laws in Iowa to allow the creation of dental therapists is one such policy. It would be a huge win for the many Iowans who are experiencing pain and suffering because they cannot get a dental appointment. It would also be a huge win for those individuals who would be able to enter a new career field that both allows them to help others in need and be at the forefront of dental care innovation. It would certainly be a win for the taxpayers of Iowa who would see a reduction in money wasted on treating the symptoms, but not actually addressing the cause, of dental pain in emergency rooms.

Licensing dental therapists would even be a win for the dentists who make up the Iowa Dental Association, which opposes the policy. Once they learn that dental therapists must practice under the direction of a dentist, and that utilizing dental therapists will allow them to practice at the top of their education and training, they will discover why Minnesota dentists hire dental therapists. That is, their practices are more productive, generate more revenue, and can treat more patients, especially those who are underserved.

Dental therapists may not be the single, final solution to Iowa's dental care shortage, but they can clearly play a large role in combatting it. If state legislators want to improve Iowans' oral health, dental therapy should be part of the solution.

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