

# THE REFORM THAT CAN INCREASE DENTAL ACCESS AND AFFORDABILITY IN ARIZONA

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# EXECUTIVE SUMMARY

**D**ental care is too often difficult to obtain in Arizona, especially in the state's vast rural areas and among those with the fewest financial resources. Of the state's 7 million residents, 2.4 million are living in areas designated as dental health professional shortage areas. A dental shortage area means that there one or fewer dentists per 5,000 people. One Arizona county has a single dentist serving the entire county.<sup>1</sup>

Today, almost a quarter (23 percent) of American children have untreated tooth decay, but in Arizona that number is dramatically higher: 40 percent of preschoolers in our state have untreated tooth decay and are in immediate need of dental care.<sup>2</sup> Even if a child has coverage through the state's AHCCCS program, which provides dental benefits for children in low income families, only one-third of dentists participate in the program, which is well-below the national participation average of 42 percent.<sup>3</sup> But the problem of access to dental care is most severe among the state's American Indian children. Among American Indian third graders in Arizona, 75 percent have a history of tooth decay.<sup>4</sup>

In response to a need for improved dental access and affordability, multiple states, as well as more than 50 countries around the world, license midlevel dental practitioners, called dental therapists, who can carry out routine dental procedures. In Arizona, a dentist is allowed, according to their license, to perform about 434 procedures. In Arizona, dental therapists would be able to perform approximately 80 procedures.<sup>5</sup>

The dental establishment has actively resisted this reform and usually cites unfounded concerns over patient safety. But the reality is that Arizonans cross the border in droves to obtain dental care that they either can't obtain in Arizona or cannot afford – care that is not subject to any Arizona regulation or patient protection. "Molar City" sits across the U.S.-Mexico border, near Yuma. The small town of Los Algodones is home to about 5,500 residents – and about 350 are dentists.



The safety and quality track record for dental therapists is long and well-documented. In addition to decades of experience in more than 50 countries around the world and in a growing number of states in the U.S., more than 1,000 studies and evaluations confirm that dental therapists provide safe and high quality care for dental patients.<sup>6</sup>

State scope of practice laws govern the activities that healthcare practitioners may engage in when caring for patients. These laws, when overly-restrictive as in the case of dental care, limit the availability of providers and services. Too often, those with low incomes or no dental insurance simply go without care. When dental pain becomes unbearable, these individuals seek treatment through hospital emergency rooms, where symptoms can be alleviated, but the underlying cause of the dental pain is not treated.

Limiting the supply of providers not only increases the cost of care services; it forces consumers and government payers to pay prices higher than they might otherwise. To increase dental access and affordability for Arizonans, lawmakers should allow for dental therapists.

# WHY ORAL HEALTH MATTERS

**A**ccording to a Harris Interactive Survey conducted on behalf of the American Dental Association in April 2013, almost half of lower-income Americans (48 percent) had not seen a dentist in the past year. Compare that to the 30 percent of middle- and higher-income Americans who had not seen one in the past year. Among adults earning less than \$30,000 per year, 30 percent report not having seen one in more than five years.<sup>7</sup>

Dental care is an important component of an individual's overall health. Evidence of links between oral health and specific diseases has appeared in the literature for years. There is a growing body of research supporting the contribution of poor oral health to the development and severity of multiple medical conditions and diseases.<sup>8</sup> For example:

- "Endocarditis is an infection of the inner lining of your heart (endocardium). Endocarditis typically occurs when bacteria or other germs from another part of your body, such as your mouth, spread through your bloodstream and attach to damaged areas in your heart.
- "Some research suggests that heart disease, clogged arteries, and stroke may be linked to the inflammation and infections that oral bacteria can cause.
- "Periodontitis in pregnant women has been linked to premature birth and low birth weight."<sup>9</sup>

One of the most tragic examples of the dangers of poor oral health is the story of Deamonte Driver. Then 12-years-old, Deamonte died from what would have otherwise been a simple toothache.

In 2007, Deamonte's mother and a social worker couldn't find an available Medicaid dentist to perform an \$80 tooth extraction. As a result of the infection from his abscessed tooth and delayed treatment, Deamonte developed an infection in his brain and underwent two

brain surgeries during several weeks spent in the hospital. Sadly, Deamonte died.<sup>10</sup>

Deamonte had a Medicaid card, but a card wasn't enough to obtain routine care. Arizona patients are at constant risk of facing similar obstacles to care. Too often, oral health services in Arizona are unattainable, unaffordable, or delayed.

## IS THERE A DENTAL CRISIS IN ARIZONA?

**N**ationally, 18 percent of lower-income Americans report that “they or a household member has sought treatment for dental pain in an emergency room at some point in their lives.” Compare that to the mere seven percent of middle- and higher-income Americans who say the same. Lower income Americans are also twice as likely (36 percent vs. 18 percent) to have lived with an untreated cavity.<sup>11</sup>

Unfortunately, Arizonans face an even wider dental divide. In 2014 alone, there were 27,000 visits to hospital emergency departments in Arizona for preventable dental conditions. Medicaid paid for 56 percent of these visits.<sup>12</sup> This is a costly burden on the system, and one that treats the pain and infection without addressing the underlying cause: tooth decay.

More than half of the state's children in kindergarten have a history of tooth decay and more than one-quarter have untreated tooth decay.<sup>13</sup> Even if a child has coverage through the state's AHCCCS program, which provides dental benefits for low income children, only one-third of Arizona dentists participate in the program, and only 25% of Arizona dentists bill the state over \$10,000 per year—a common benchmark for dentists who serve a significant Medicaid population.<sup>14</sup> But the problem of access to dental care is most severe among the state's American Indian children; 75 percent of American Indian third graders in Arizona have a history of tooth decay.<sup>15</sup>

According to data from the U.S. Department of Health and Human Services, every county in Arizona has areas designated as Health Professional Shortage Areas (HPSA) for dental providers.<sup>16</sup> In fact, five of Arizona's 15 counties are entirely designated as a dental HPSA.

This shortage of dental care professionals encompasses almost 70 percent of the state (see Table 1). Only 31 percent of the state has one dental provider for every 5,000 residents (or one provider for every 4,000 residents in high-need communities).<sup>17</sup> To meet the current dental provider shortage across the state, Arizona would immediately need more than 400 providers.<sup>18</sup> (See Table 2).

**TABLE 1. DENTAL CARE HEALTH PROFESSIONAL SHORTAGE AREAS (HPSA) IN 2017**

US OR STATE	PERCENT OF NEED MET
US	38.4
Arizona	31.0
California	35.6
Nevada	42.4
New Mexico	33.4
Utah	59.9

Source: Bureau of Clinician Recruitment and Service, Health Resources and Services Administration (HRSA), U.S. Department of Health & Human Services, HRSA Data Warehouse: Designated Health Professional Shortage Areas Statistics, as of January 1, 2017, at <https://datawarehouse.hrsa.gov/topics/shortageAreas.aspx>.

**TABLE 2. DENTAL HEALTH PRACTITIONERS NEEDED TO REMOVE HPSA DESIGNATION BY COUNTY IN 2017**

Apache County: . . . . . 31	Greenlee County: . . . . . 4	Pima County: . . . . . 52
Cochise County: . . . . . 29	La Paz County: . . . . . 12	Pinal County: . . . . . 54
Coconino County: . . . . . 41	Maricopa County: . . . . . 88	Santa Cruz County: . . . . . 8
Gila County: . . . . . 18	Mohave County: . . . . . 12	Yavapai County: . . . . . 26
Graham County: . . . . . 18	Navajo County: . . . . . 42	Yuma County: . . . . . 22

Source: Bureau of Clinician Recruitment and Service, Health Resources and Services Administration (HRSA), U.S. Department of Health & Human Services, HRSA Data Warehouse: Designated Health Professional Shortage Areas Statistics, as of January 1, 2017, at <https://datawarehouse.hrsa.gov/topics/shortageAreas.aspx>.

# CROSSING THE BORDER FOR CARE

**M**edical tourism, when Americans travel to foreign countries to obtain less expensive healthcare, is rapidly growing. Estimates vary widely, but the U.S. Bureau of Economic Analysis estimates that it grew from \$500 million in 2006 to \$1.8 billion in 2015.<sup>19</sup>

While the dental establishment has actively resisted adding a dental therapy license, often citing unsubstantiated concerns over patient safety, the reality is that Arizonans cross the border in droves to obtain dental care that they can't obtain or cannot afford in Arizona. The care they get in Mexico is not subject to any Arizona regulation or patient protection, but for many Arizonans it's the only access to care that they have.<sup>20</sup>

"Molar City" sits just across the border, near Yuma. The small town of Los Algodones is home to about 5,500 residents – and about 350 of them are dentists, a far higher share than most communities in Arizona.<sup>21</sup> Nogales Mexico, south of Tucson, is also a rising dental tourism destination.<sup>22</sup> While hard data on medical tourism along the Arizona-Mexico border is scant, the fact is that patients will, for a variety of reasons, seek care across the border, where it is available and affordable.

And not just in Arizona. An in-depth survey of health care for Coachella Valley, California<sup>23</sup> found that almost 20 percent of uninsured respondents sought treatment in Mexico compared to only 8 percent of the insured.<sup>24</sup> That is the equivalent of one in ten adults in that area, or about 36,000 people.<sup>25</sup>

Furthermore, the survey found that those with the lowest levels of education and income, as well as Hispanics, reported the highest levels of seeking treatment in Mexico.

About half of the respondents who were uninsured cited cost as the reason for not having a dental cleaning in the past year compared to one-quarter of insured respondents.<sup>26</sup> A recent study in *Health Affairs* confirms that, over a wide range of health services, financial barriers

are highest for dental care. The cost burden holds true across age and insurance type,<sup>27</sup> and is exacerbated by the lack of available providers.

In Coachella Valley, four percent of uninsured reported never having had a dental cleaning compared to one percent of those insured.<sup>28</sup> In other words, the uninsured were four times more likely to have never seen a dental provider.



## WHY NOT JUST RAISE DENTAL REIMBURSEMENT RATES?

**T**he factors that influence access to dental care are complex. The U.S. Government Accountability Office (GAO) has been tracking and reporting on dental access for decades now.

The majority of states report difficulty in ensuring an adequate number of dental providers in their Medicaid programs, according to one GAO analysis comparing patient access under



Medicaid to private insurance. In fact, according to the study, states reported dental providers as the leading group of medical specialty that was most difficult to fulfill – even more so than specialty providers and mental health/substance abuse providers.<sup>29</sup> While low reimbursement is certainly an important factor in not accepting Medicaid patients, it wasn't the only one.

According to the same GAO study, a variety of other factors, such as missed appointments, the administrative burden of participating in the program, and difficulty referring to specialists are additional factors. The report also noted that these responses were consistent with the published research on this topic.<sup>30</sup>

For example, a 2008 study by the National Academy for State Health Policy found that, while dental provider participation increased after Medicaid rates increased, those increases were not solely sufficient to significantly improve patient access to dental care and services.<sup>31</sup> It should also be noted that, while Arizona's dental reimbursements have decreased in recent years, Arizona's rates remain above the national average for child dental services.<sup>32</sup>

It is time for state lawmakers to think outside-the-box when it comes to providing true access and affordability to needed care. Supply-side reforms in the area of nursing, as well as evidence from around the world, show that Arizona could serve its most vulnerable populations and taxpayers while giving all Arizonans more control and choice over their healthcare options.

## DENTAL THERAPY

Dental therapists are midlevel providers and can be compared to nurse practitioners and physician assistants. Dental therapists work under the supervision of a licensed dentist and are highly trained to perform preventative and routine restorative care, like tooth fillings and certain extractions. Dental therapy is relatively new in the United States, but the concept is not. Beginning in the 1920s, more than 50 countries around the world began utilizing these dental providers.<sup>33</sup>

In 2015, the Commission on Dental Accreditation (CODA) adopted dental therapy education standards. Not only did this mark a strong endorsement of the mid-level dental provider model, but three years of intensive research and evaluation informed those standards.

CODA is an independent organization, housed within the American Dental Association, that is recognized by the U.S. Department of Education as the only national accrediting agency for dental, allied dental, and advanced dental education programs. Thirty members of organizations like the American Dental Association, American Dental Education Association, and the American Dental Hygienists' Association comprise CODA. Despite ongoing opposition to dental therapy by organized dentistry, there is wide support for CODA's assertion that mid-levels are safe and efficacious.

The Federal Trade Commission (FTC) had previously urged the commission "to finalize and adopt proposed standards without unnecessary delay, so that the development of this emerging service model can proceed, and consumers can reap the likely benefits of increased competition."<sup>34</sup>

Adoption of accreditation standards, wrote FTC staff:

*"has the potential to enhance competition by supporting state legislation for the licensure of dental therapists, and also to encourage the development of dental therapy education programs consistent with a nationwide standard, which would facilitate the mobility of dental therapists from state to state to meet consumer demand for dental services... Any further delay in the adoption of accreditation standards could discourage and delay the development of education programs, reduce the availability of these new professionals, and hinder their ability to practice in different states."*<sup>35</sup>

The standards themselves outline the baseline aspects of dental therapy education such as program length, which must be "at least three academic years of full-time instruction or its equivalent at the postsecondary level." Other standards deal with

advanced standing, wherein “credit may be given to dental assistants, expanded function dental assistants and dental hygienists who are moving into a dental therapy program,” supervision, scope of practice, and criteria for a program director.<sup>36</sup>

In Arizona, a dentist is allowed, according to their license, to perform approximately 434 procedures. Under a proposal presented to the legislature’s Health Care Committee of Reference in December 2016, dental therapists would be licensed to perform about 80 procedures, if approved by lawmakers.<sup>37</sup>

Dental therapists work under the supervision of a dentist and provide basic, preventative and restorative care such as fillings and certain tooth extractions. When working under general or remote supervision, dental therapists can expand their geographic reach by offering care in schools, nursing homes, and other community settings.

## VARIOUS DENTAL THERAPY MODELS

Since first being introduced in the Alaska Native communities in 2004, dental therapy has spread throughout the United States. Dental therapists are now authorized in Minnesota, Maine, Vermont, and on tribal lands in Alaska, Washington State and Oregon.

When CODA released accreditation standards for dental therapy education programs in 2015, it provided baseline requirements for dental therapy education programs, but also provided states the flexibility to build a dental therapy model that meets their needs and the dental access challenges their residents face. Today, the practice of dental therapy varies among the states that have approved it, based on the unique political, population, geographic, and dental delivery needs of each state. While differences exist in how dental therapists work in each of these states, the reason for approving a new member of the dental team has been the same: to increase dental access for underserved groups and boost the supply of dental professionals to meet the challenges of an aging dental workforce.



**ALASKA:** The Alaska Native Tribal Health Corporation (ANTHC) identified dental therapy as a remedy for underserved tribal communities in rural and remote areas of the state when it established the first dental therapy program in the U.S. in 2014, which ANTHC called Dental Health Aide Therapists. Alaska’s education requirements primarily include completion of a full-time two-year educational program, followed by supervised preceptorship of at least 400 hours, culminating in certification. Dental therapists work under supervision of dentists, either “in person or remotely.”<sup>38</sup> The program will begin awarding an associate degree later this year. Because of dental therapists, 40,000 people in 81 previously underserved communities in Alaska now have regular access to dental care.<sup>39</sup>



**MINNESOTA:** In 2009, Minnesota was the first state to license dental therapists to work in any community throughout the state. Minnesota’s dental therapists are allowed to perform more than 70 services and procedures, including oral evaluations and consultations with pediatricians of patients three years old and younger. Minnesota also has an “advanced dental therapist” license, which allows the practitioner to perform up to 80 different services and procedures. These two designations differ in the level of supervision required, but both allow licensed providers to perform a variety of needed preventive and routine dental procedures. The Minnesota Board of Dentistry and Department of Health reported that dental therapists have been delivering safe, high quality care in rural and underserved communities, and that clinics employing them are expanding capacity and decreasing travel and wait times for patients.<sup>40</sup>

The dispersion of dental therapists in Minnesota in the last eight years shows dentists will naturally opt to grow their practices with these dental providers where their services are most needed. In late 2016, Minnesota had 64 licensed dental therapists, 32 of whom were advanced dental therapists. Of the 95 percent who were employed at that time, 52 percent worked in urban areas, and 48 percent served in suburban and rural communities.<sup>41</sup> This pattern demonstrates dental therapists are expanding access for the underserved.

**OTHER STATES:** Maine passed a dental therapy law in 2014 and Vermont passed its law in 2016. In early 2017, Washington State passed a law to allow tribes throughout the state to utilize dental therapists, after the Swinomish Indian Tribal Community exercised its sovereignty in 2016 and began licensing its own dental therapist. Finally, Oregon, under its dental pilot project authority, authorized two tribes to hire dental therapists in their tribal health systems in 2016.

Today, at least ten additional states and tribes around the United States are considering dental therapy legislation to increase access to dental care for their residents, while also expanding the existing dental workforce.

# DENTAL THERAPY SUPERVISION

In order to best meet the needs of Arizonans in receiving accessible and affordable dental options, lawmakers should be aware that there are variety of ways to organize the dentist and dental therapy relationship.

Dental therapists treat patients in conjunction with the dental team, which includes a supervising dentist and at least one dental hygienist and/or dental assistant. The dental therapist-dentist relationship resembles the relationship between physician assistants and supervising physicians. In states that have already authorized dental therapists, the supervising dentist determines the specific procedures the dental therapist can perform, the types of patients they can treat, and the scenarios when the dentist would need to be consulted. Dentists and dental therapists outline these requirements through “collaborative care agreements” (Alaska),<sup>42</sup> “written practice agreements” (Maine),<sup>43</sup> “collaborative management agreements” (Minnesota),<sup>44</sup> or “collaborative agreements” (Vermont).<sup>45</sup>

General supervision, where the supervising or employing physician or dentist is not in the same physical location as the practitioner being supervised, is the norm for many of the current arrangements for mid-level health care providers in Arizona, and it is also the norm for dental therapists throughout the United States and around the world.<sup>46</sup>

The FTC has recently reiterated the benefits to patients and the entire dental delivery system when dental therapists are authorized to work under general supervision:

*“Dental therapists are likely to be most effective in expanding access to cost-effective care, especially to the underserved, when they are allowed to practice under the general supervision of a remotely-located dentist. Although dental therapists generally receive lower compensation than dentists because of their more limited training and the narrower scope of services they are typically authorized to provide, the main potential for cost savings from the use of dental therapists depends ‘on whether duplication in providers*

*arises and whether the profit arising from care provided by lower-paid therapists accrues to dentists, insurers, or patients.’ A requirement to have a supervising dentist on the premises will likely lead to unnecessary duplication of resources and thereby undercut the cost savings that otherwise might arise from the use of lower-cost providers, effectively defeating a major purpose of expanding the supply of dental therapists.”<sup>47</sup>*

Not only does greater autonomy for midlevel providers create more opportunities for patient access, as pointed out by the FTC,<sup>48</sup> but greater autonomy for dental hygienists resulted in a six percent increase in employment growth for those professionals.<sup>49</sup>

## DENTAL THERAPY’S SAFETY RECORD

In 2012, a global literature review of 1,100 publications spanning 26 countries concluded that dental therapists provide safe and quality care.<sup>50</sup>

Even the American Dental Association’s own Council on Scientific Affairs found that “The results of a variety of studies indicate that appropriately trained midlevel providers are capable of providing high-quality services, including irreversible procedures such as restorative care and dental extractions.”<sup>51</sup> This is especially notable because the American Dental Association itself has been an outspoken critic of dental therapy, usually on the grounds that it offers an inferior quality of care.

Dental therapy students are held to the same standards as those studying to become dentists for the procedures that both professionals provide to their patients. To receive licensure in Minnesota dental therapists are required by the Board of Dentistry to meet the same level of competency as dentists for the procedures they have in common. The University of Minnesota trains dental therapists side-by-side with dental students for such procedures. Further, in a 2010 evaluation of the dental therapy workforce in Alaska, 125 direct restorations were evaluated with the relative proportion of deficient restorations smaller for therapists (12%) than dentists (22%).<sup>52</sup>

# CONCLUSION

For all of the healthcare discussions coming from Washington, D.C., there has been little discussion of how to reduce health care costs. Fortunately, state lawmakers wield enormous authority over state-level policies that right now are limiting the availability of healthcare providers and keeping prices high. These providers could be performing basic services and, with more available providers, offering these services at a lower cost and closer to home to consumers.

Arizona's Dental Practice Act makes it illegal for anyone other than dentists to perform restorative dental care. State scope of practice laws restrict healthcare providers from adding practitioners that can perform the more routine procedures, that would allow all practitioners to practice at the top of their education and professional training. These laws govern the precise activities healthcare practitioners may engage in when caring for patients – and often set these standards above healthcare practitioners' professional skill and medical education levels.

Arizona should address the supply-side of the healthcare equation by removing these artificial barriers that grant monopolies and restrict the availability of qualified dental professionals.

Nowhere is this more needed than in dental care.

Arizona lawmakers determine, through the state's occupational licensing system, who is allowed to provide specific dental services. Proponents of the status quo will argue that by expanding the pool of providers, patient safety will be compromised.

Taking this argument to its logical extreme, the most favorable outcomes will occur when only those with the highest qualifications perform the majority of services. Not only is this conclusion unfounded, arcane and expensive, but one must ask: why not allow only oral surgeons, who have the most education and highest professional qualifications, to provide all dental services?





The answer is obvious: one need not be an oral surgeon to perform the many procedures and services that licensed dentists perform. Likewise, one need not be a dentist to perform a limited scope of common restorative and preventative procedures and services.

The faulty logic that only dentists can safely perform routine procedures like fillings and extractions is causing harm to those who are unable to obtain basic dental services in Arizona. Some patients are traveling to Mexico for care. Others go without care for an extended period as they wait for an available provider. Some, whose conditions worsen, present in hospital emergency rooms, or worse, face additional ailments and complications that result from a lack of care. Often, the additional costs of treating preventable dental conditions in the emergency department are shared by taxpayers.

The fact is, dental scope of practice laws in Arizona are protecting the status quo at the expense of patients in need of better access to affordable care. Other states and nations have already taken steps to address the problems Arizona faces, by licensing dental therapists. This policy change has resulted in an increased supply of oral health care providers, increased access to care for the underserved, increased revenues for dentists who employ these midlevel providers, and a more efficient and effective dental delivery system.

There are many ways Arizona lawmakers could do this. As we have seen, not every state has gone about licensing dental therapists in the same way, just as states do not license dental hygienists in the same way. Several states allow hygienists to be self-employed and own a dental hygiene practice to provide specific procedures for which they are licensed, such as teeth cleanings.

The support for reform in this area can no longer be ignored. There is broad and growing recognition that addressing the supply side of health care is imperative for patient access and affordability. A 2014 letter from the Federal Trade Commission (FTC) to the Commission on Dental Accreditation (CODA) stated:

*“FTC staff support CODA’s efforts to facilitate the creation of new dental therapy education programs and to expand the supply of dental therapists because these initiatives are likely to increase the output of basic dental services, enhance competition, reduce costs, and expand access to dental care.”<sup>53</sup>*

Too often, our state laws protect the special interests of medical professionals rather than the interests of the public. The result is high prices and a lack of access to healthcare services. Arizona needs to begin putting patients first so that every Arizonan, especially the most vulnerable, can have access to the care they need. Arizona lawmakers can – and should – free the state from its outdated, restrictive and protectionist scope of practice laws and allow dental therapists to be part of the solution to Arizona’s ongoing oral health care access problem.

# ENDNOTES

<sup>1</sup> Bureau of Clinician Recruitment and Service, Health Resources and Services Administration (HRSA), U.S. Department of Health & Human Services, HRSA Data Warehouse: Designated Health Professional Shortage Areas Statistics, as of January 1, 2017, at <https://datawarehouse.hrsa.gov/topics/shortageAreas.aspx>.

<sup>2</sup> Newsroom Northern Arizona University, "New Research Project to Improve Oral Health of Arizona's Preschoolers," April 3, 2017, at <http://www.newswise.com/articles/new-research-project-to-improve-oral-health-of-arizona-s-preschoolers>.

<sup>3</sup> American Dental Association, Health Policy Institute, "The Oral Health Care System: A State-Level Analysis." 2015, <http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/OralHealthCare-StateFacts/Oral-Health-Care-System-Full-Report.pdf>.

<sup>4</sup> Arizona Early Childhood Development and Health Board (First Things First), "Taking a Bite Out of School Absences: Children's Oral Health Report 2016," at [http://azftf.gov/WhoWeAre/Board/Documents/FTF\\_Oral\\_Health\\_Report\\_2016.pdf](http://azftf.gov/WhoWeAre/Board/Documents/FTF_Oral_Health_Report_2016.pdf)

<sup>5</sup> The Pew Charitable Trusts, Analysis using 2016 American Dental Association Codes on Dental Procedures and Nomenclature, ADA Commission on Dental Accreditation 2015 Accreditation Standards for Dental Therapy Programs, Arizona Title 32 Revised Statutes (via the Arizona State Board of Dental Examiners) current as of July 3, 2015 and the Arizona Administrative Code (via the Arizona State Board of Dental Examiners) current as of April 3.

<sup>6</sup> David A. Nash et al., "A Review of the Global Literature on Dental Therapists," April 2012, at <http://www.wkkf.org/-/media/pdfs/dental-therapy/nash-dental-therapist-literature-review.ASHX>

<sup>7</sup> Harris Interactive Survey for the American Dental Association and The ADA Dental Divide in America Study, April 24-29, 2013 among 1,221 U.S. adults age 18+.

<sup>8</sup> Mayo Clinic, "Oral health: A window to your overall health," at <http://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/dental/art-20047475>.

<sup>9</sup> *Ibid.*

<sup>10</sup> Mary Otto, "For Want of a Dentist," Washington Post, February 28, 2007 at <http://www.washingtonpost.com/wp-dyn/content/article/2007/02/27/AR2007022702116.html>.

<sup>11</sup> Harris Interactive.

<sup>12</sup> Arizona state statistics from HCUP State Inpatient Databases and State Emergency Department Databases 2014, Agency for Healthcare Research and Quality (AHRQ), based on data collected by the Arizona Department of Health Services, using ICD-9 codes 521- 522, 523.00, 523.01, 523.10, 523.11, 523.20, 523.21, 523.22, 523.23, 523.24, 523.25, 523.3-523.33, 523.30, 523.31, 523.32, 523.33, 523.40, 523.41, 523.42, 523.5, 523.6, 523.8, 523.9, and 528.3.

<sup>13</sup> Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Oral Health. Oral Health Data for 2015 at <https://nccd.cdc.gov/oralhealthdata/>.

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<sup>14</sup> ADA Health Policy Institute, "Oral Health Care System: Arizona" at <http://www.ada.org/en/science-research/health-policy-institute/oral-health-care-system/Arizona-facts>.

<sup>15</sup> Arizona Early Childhood Development and Health Board (First Things First), "Taking a Bite Out of School Absences: Children's Oral Health Report 2016," at [http://azftf.gov/WhoWeAre/Board/Documents/FTF\\_Oral\\_Health\\_Report\\_2016.pdf](http://azftf.gov/WhoWeAre/Board/Documents/FTF_Oral_Health_Report_2016.pdf).

<sup>16</sup> Bureau of Clinician Recruitment and Service, Health Resources and Services Administration (HRSA), U.S. Department of Health & Human Services, HRSA Data Warehouse: Designated Health Professional Shortage Areas Statistics, as of January 1, 2017 at <https://datawarehouse.hrsa.gov/topics/shortageAreas.aspx>.

<sup>17</sup> The percent of need met is based on number of dentists available to serve the population of the area, group, or facility by the number of dentists that would be necessary to eliminate the dental HPSA (based on a ratio of 5,000 to 1 or 4,000 to 1 where high needs are indicated).

<sup>18</sup> The number of additional dentists needed to achieve a population-to-dentist ratio of 5,000 to 1 (4,000 to 1 where high needs are indicated) in all designated dental HPSAs, resulting in their removal from designation.

<sup>19</sup> Barrett Newkirk, "The allure of cheap doctors, drugs and dentists in Mexico: For Californians living near the border, Mexico offers what the U.S. does not: Reliable health care at a cheap price," The Desert Sun, October 21, 2016 at <http://www.desertsun.com/story/news/health/2016/10/20/mexico-fills-health-needs-many-latino-americans/90497326/>.

<sup>20</sup> Barrett Newkirk, "The allure of cheap doctors, drugs and dentists in Mexico: For Californians living near the border, Mexico offers what the U.S. does not: Reliable health care at a cheap price," The Desert Sun, October 21, 2016 at <http://www.desertsun.com/story/news/health/2016/10/20/mexico-fills-health-needs-many-latino-americans/90497326/>.

<sup>21</sup> Ted Robbins, "A Reason to Smile: Mexican Town is Destination for Dental Tourism," NPR All Things Considered, June 9, 2014 at <http://www.npr.org/sections/health-shots/2014/06/09/318212444/a-reason-to-smile-mexican-town-is-a-destination-for-dental-tourism>.

<sup>22</sup> Stephanie Innes, "Going to Mexico for dental care saved me \$1,800," Arizona Daily Star, March 14, 2017 at [http://tucson.com/news/local/going-to-mexico-for-dental-care-saved-me/article\\_a98bb282-079b-11e7-9fed-3369b1d160e3.html](http://tucson.com/news/local/going-to-mexico-for-dental-care-saved-me/article_a98bb282-079b-11e7-9fed-3369b1d160e3.html).



## ENDNOTES

<sup>23</sup> The Health Assessment and Research for Communities (HARC) report analyzes the health of the Coachella Valley and is based on survey data. The region includes nine incorporated cities and a large, but sparsely populated, unincorporated area. The nine incorporated cities in the Coachella Valley are Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage. The unincorporated areas within the Coachella Valley include Bermuda Dunes, Indio Hills, Mecca, North Palm Springs, Oasis, Sky Valley, Thermal, and Thousand Palms. Indian reservations include the Cahuilla Indians in the Coachella Valley, including the Agua Caliente Indian Reservation, the Augustine Reservation, the Cabazon Indian Reservation, and the Torres-Martinez Desert Cahuilla Indian Reservation.

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