

DENTAL CRISIS IN AMERICA

The Need to Expand Access



A Report from Chairman Bernard Sanders
Subcommittee on Primary Health and Aging
U.S. Senate Committee on Health, Education, Labor & Pensions
February 29, 2012



KEY FINDINGS

- More than 47 million people live in places where it is difficult to access dental care.¹
- About 17 million low-income children received no dental care in 2009.²
- One fourth of adults in the U.S. ages 65 and older have lost all of their teeth.³
- Low-income adults are almost twice as likely as higher-income adults to have gone without a dental check up in the previous year.⁴
- Bad dental health impacts overall health and increases the risk for diabetes, heart disease, and poor birth outcomes.⁵
- There were over 830,000 visits to emergency rooms across the country for preventable dental conditions in 2009 - a 16% increase since 2006.⁶
- Almost 60% of kids ages 5 to 17 have cavities - making tooth decay five times more common than asthma among children of this age.⁷
- Nearly 9,500 new dental providers are needed to meet the country's current oral health needs.⁸
- However, there are more dentists retiring each year than there are dental school graduates to replace them.⁹

INTRODUCTION

In the U.S., many people have access to the best oral health care in the world, yet millions are unable to get even the basic dental care they need. Individuals who are low-income or racial or ethnic minorities, pregnant women, older adults, those with special needs, and those who live in rural communities often have a much harder time accessing a dental provider than other groups of Americans. Tooth decay is almost completely preventable, yet when people do not see a dental provider, they do not get the preventive services and early diagnosis and interventions that can halt or slow the progress of most oral diseases. The issue of lack of access to dental care is extremely serious because untreated oral diseases can lead to not only pain, infection, and tooth loss, but also contribute to an increased risk for serious medical conditions such as diabetes, heart disease, and poor birth outcomes.¹⁰

Since 2000, when the U.S. Surgeon General called dental disease a "silent epidemic,"¹¹ there has been increasing attention paid to oral health issues. "Healthy People 2020," a report issued every decade by the Department of Health and Human Services released in December 2010, includes oral health as a leading health indicator for the first time, and the Institute of Medicine published two reports in 2011 which illustrated that the lack of access to needed care and oral health disparities continue to be huge problems for millions of people. However, not nearly enough has been done to adequately address the true oral health crisis that exists in America today.



THE PROBLEM: MANY AMERICANS CANNOT GET THE ORAL HEALTH CARE THEY NEED

Those Who Need Care the Most are the Least Likely to Get It

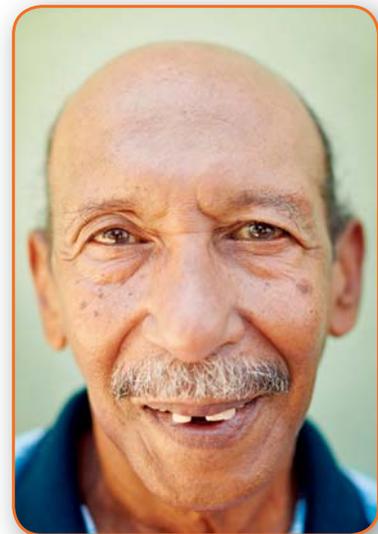
Oral health problems affect people of all ages and backgrounds. For many, oral health problems start when they are young and get worse over time. One quarter of children ages 2-5 and one half of those 12-15 have tooth decay. In fact, dental caries (cavities) are the most common chronic disease of childhood affecting almost 60% of children ages 5 to 17. As people grow older they continue to be plagued by oral health problems. One in four adults ages 65 and older in the U.S. have lost all of their teeth.¹²

While there are high rates of oral disease in all age groups, low-income Americans of any age are more likely than higher-income Americans to have oral health problems. Lack of access to a dental provider and the high costs of dental services are a major cause of these dental problems. About 17 million low-income children go each year without basic care that could prevent the need for higher cost treatment later on.¹³ Children living below the poverty line are twice as likely as their more affluent peers to suffer from toothaches, and the likelihood of experiencing this pain is even greater for kids with special needs.¹⁴ In Vermont in 2009, 62,000 adults ages 18 to 64 and 10,000 seniors went with-

out dental care because they could not afford it.¹⁵

Some racial and ethnic minority groups have even higher rates of oral health conditions. American Indian and Alaska Natives have the highest rates of dental disease, and rates of untreated decay are also significantly higher among Mexican Americans and African Americans than among those who are White.¹⁶ People from minority groups are underrepresented in the dental profession although they are in greater need of care.

In addition to the high costs of care, low-income and minority families may experience other barriers to care including language and cultural barriers, transportation challenges, and difficulty finding work and childcare arrangements. Seeing a dentist is expensive, so many people seek care only when the disease is advanced and the pain is unbearable. It is at that point when many people go to the emergency room for relief because they have no other option. To make matters worse, often people are faced with the difficult decision to remove their teeth because extractions are considerably cheaper than the cost of treatments to save them, regardless of the negative health and social impacts of missing teeth.



Heather Getty, East Fairfield, Vermont: “My husband and I and our four kids are the working poor. We have to think about rent and electricity before we think about dental care. My wisdom teeth have been a problem for over a decade now. I take ibuprofen and just keep on going. My husband has not seen a dentist since he was a teenager. He’s afraid of the costs if they find something. So it’s been 20 years. Because of Vermont’s Dr. Dynasaur program, at least my children have been lucky enough to have regular cleanings, but I have to comb through the Yellow Pages to find an office who will accept their coverage. One time I missed an appointment because my car broke down, and when I called to reschedule, they told me that we had been blacklisted and that no one from my family could be seen by that office again. We’ve learned over the years how important dental care is. If you get preventive care early, you are less likely to have problems later on.”

A Shortage of Providers Willing to Serve Those with the Greatest Needs

There are about 190,000 dentists currently practicing in the United States.¹⁷ Not only is this number too low to meet the current need, but an uneven distribution of dentists across the country makes the problem even worse. Dentists have a disproportionate presence in suburbs whereas those who are most in need of care are concentrated in inner cities and rural communities.¹⁸ In fact, more than 47 million people live in over 4,400 “dental health shortage areas” around the U.S. The Health Resources and Services Administration (HRSA) estimates it would take a net increase of nearly 9,500 providers to address the unmet need today.¹⁹ Although we know that additional dental providers are necessary to meet the current and growing need, dental schools are graduating fewer dentists than the number required to replace those who retire each year.²⁰

While these aggregated numbers indicate the scale of the problem, the real crisis is that too few dentists are willing to provide care to low-income populations, older adults, and people with disabilities. Only about 20 percent of the nation’s practicing dentists provide care to people with Medicaid, and, of those who do, only a small percentage devote a substantial part of their practice to serving those who are poor, chronically ill, or living in rural communities.²¹ The Government

Shawn Jones, Brattleboro, Vermont: “Last year, I had a toothache that was so painful, I had trouble eating and sleeping. My girlfriend is also covered by Medicaid so I called her dentist, but they wouldn’t see me. So I called 12 more dentists in the area, but they all said the same thing: they weren’t taking new Medicaid patients. A few said to call back in three months, which seems like a long time to live with a bad toothache. Finally, someone from OVHA [Office of Vermont Health Access] helped me get an emergency voucher to get my tooth pulled. I’m just grateful that my girlfriend had a car to get me there.”

Accountability Office (GAO) found that less than half of dentists in 25 states treat any people with Medicaid at all.²²

More than One Third of Americans Do Not Have Dental Coverage

As many as 130 million Americans do not have dental insurance coverage.²³ Private health insurance plans often exclude dental coverage, and even those that include a dental benefit often require high levels of cost-sharing, making care unaffordable for many low- and middle-income families. Traditional Medicare does not offer dental benefits, and many veterans do not qualify for benefits through the Veteran’s Administration. About half of all dental services are paid for out of pocket because so many people do not have dental insurance, and it is very common even for people with insurance to have to pay for a significant portion of their care.²⁴

Dental services are an optional benefit for adults who have Medicaid. This means that states may place limits on the types or amount of services they will cover or may elect not to provide dental services at all as part of the Medicaid program.²⁵ While most states provide at least emergency dental services for adults with Medicaid, less than half of states provide coverage for other types of dental care.

The little bit of good news is that Medicaid and the Children’s Health Insurance Program (CHIP) provide dental coverage through the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program. Under the Patient Protection and Affordable Care Act, over 5 million more children will have dental coverage by the year 2014. The bad news is that coverage alone, especially Medicaid coverage, in no way guarantees access to a dentist. Many dentists do not accept Medicaid, and those who do often have an unreasonably long wait for services. In fact, a 2011 study published in *Pediatrics* found that dentists, including those participating in Medicaid, were less likely to see a child needing urgent dental care if the child had public insurance as compared to private coverage.²⁶ In Vermont, 57% of children with Medicaid received any dental service in 2009. While this is

considerably higher than the 38% of children with Medicaid nationally who received any dental service that year, it is still unacceptably low.²⁷

The Costs of Untreated Oral Health Problems

Untreated dental problems result in missed work and school, poor nutrition, and a decline in overall well-being. The U.S. Surgeon General's report, *Oral Health in America*, published in 2000, noted that students miss more than 51 million hours of school and employed adults lose more than 164 million hours of work each year due to dental disease or dental visits.²⁸ A more recent study published in 2009 found that 504,000 children age 5 to 17 missed at least one day of school due to a toothache or other oral health problem in California alone.²⁹

The Emergency Room as Safety Net

Because no real dental safety net exists in the United States, many people turn to the emergency room for care. This is costly to hospitals and taxpayers. The Pew Center on the States estimates that there were over 830,000 visits to ERs nationwide for preventable dental conditions in 2009 - a 16% increase from 2006.³⁰ In 2007, more than 10,000 visits to Iowa emergency rooms were related to dental issues with a cost to Medicaid and other public programs of nearly \$5 million.³¹ In Florida, there were more than 115,000 hospital ER visits for dental problems in 2010 with costs of more than \$88 million.³² These numbers would not be nearly as high if people had access to the basic and preventive care they need.



POTENTIAL SOLUTIONS FOR INCREASING ACCESS TO DENTAL SERVICES

There are many things we can do to improve access to dental services for those who need them most. Options include expanding the oral health workforce, integrating dental services, and promoting prevention and education.

Expanding the Oral Health Workforce

In order to address access issues we must increase the number of providers. Specifically, we need more oral health professionals who treat low-income individuals and other populations that face barriers to care and understand what should be done to eliminate these barriers. After a period from 1986-2001 when several private, not-for-profit dental schools closed their doors, a number of new dental schools have been established.³³ There should be a continued effort to increase the number of dentists, and in particular, dentists from diverse backgrounds. Dental schools should encourage students to gain experience in community-based programs as a component of their education and continuing dental education should focus on ways to address disparities in access to oral health services. The Institute of Medicine report, *Improving Access to Oral Health Services for Vulnerable Populations*, notes that “[a]n improved and responsive dental education system is needed to ensure that current and future generations of dental professionals can deliver quality care to diverse populations in a variety of settings, using a variety of service-delivery mechanisms, and across the life cycle.”³⁴

The traditional dental team includes dental assistants, dental hygienists, and dentists. Another option to expand the workforce is to introduce a new type of dental provider, called midlevel dental providers, allied dental providers, or dental therapists, to the team. These providers are sometimes described as the dental equivalent to a nurse practitioner. Right now, these providers are

Dr. Frank Catalanotto, Professor and Chair, Department of Community Dentistry and Behavioral Sciences, University of Florida, Gainesville, Florida: “Academic dental institutions are an important part of the safety net that provide access to care for underserved and vulnerable patients. Many dental schools have dental students spend time in community-based sites such as federally qualified community health centers and county health departments where the students can provide dental care to patients served by these institutions.”

currently practicing in Minnesota, in more than 50 countries around the world including Great Britain, Australia, Canada, and New Zealand, and in some rural Alaska Native communities.³⁵

Research studies demonstrate that these midlevel providers increase access and provide high quality care within their scope of practice.^{36 37} An analysis by the Pew Center on the States also suggests that most private practice dentists could serve more patients while maintaining or improving their bottom line by hiring an allied dental provider.³⁸ Advocates in about a dozen states including Kansas, New Mexico, Ohio, Vermont, and Washington are working to develop proposals with models to expand their dental workforce.

Other options for expanding the workforce are possible too. Some states allow dental hygienists to provide care directly without a dentist on site, allowing dental hygienists to practice in areas

with high levels of need and in nontraditional service settings. Health care professionals, such as nurses, pharmacists, and physicians, can also play a role in screening for oral disease and delivering preventive care to improve access.

In 2010, 35 states

reimbursed primary care medical providers for performing preventive oral health services.³⁹



Integrating Dental Services: FQHCs and SBHCs as Models

The oral health care system in America is currently designed around the needs of dentists rather than the needs of those who are underserved. While over 90% of dentists currently work in private dental practices,⁴⁰ very successful community- and school-based models for the delivery of dental care exist.

Dental services have been successfully integrated into Federally Qualified Health Centers (FQHCs), which provide comprehensive health services to everyone in a community regardless of their ability to pay. Low-income people and those without

Dr. David Nash, William R. Willard Professor of Dental Education, Professor of Pediatric Dentistry, College of Dentistry, University of Kentucky, Lexington, Kentucky: “Society has granted the profession of dentistry the exclusive right and privilege of caring for the oral health of the nation’s children. Unfortunately, the dental delivery system in place today does not provide adequate access to care for our children. In many instances it is because few dentists will accept Medicaid payments. In other countries of the world, children’s oral health is cared for by dental therapists, primarily in school-based programs. This results in an overwhelming majority of children being able to receive care. Dental therapists as utilized internationally do not create a two-tiered system of care. They have extensive training in caring for children, significantly more than the typical graduate of our nation’s dental schools. International research supports the high quality of care dental therapists provide. The time has arrived for the United States to develop a new workforce model to care for our children’s oral health.”

insurance can receive care on a sliding-scale fee basis. There are more than 1,100 FQHCs around the country,⁴¹ and nearly 3.5 million people received dental services in the health center system in 2009.⁴² Health centers play an important role in the delivery of oral health services to vulnerable populations who would otherwise go without care, yet some areas do not have FQHCs and some centers report that they are simply unable to provide care to everyone who needs it. A major expansion of FQHCs is underway across the country as a result of the health reform bill, yet further focus on dental care through the FQHC program could go a long way toward reaching those currently without access to dental care. An increase in the number of dental providers through the National Health Service Corps would also promote further access through FQHCs.

Gregory Nycz, Director, Family Health Center of Marshfield Inc., Marshfield, Wisconsin: “As a community health center director, I know that providing good quality dental care brings value in and of itself, which is reason enough to do it. However, the fact that it has many positive impacts on overall health should strengthen our resolve to eliminate oral health disparities. The fact is that for certain individuals, oral health treatment may greatly bring down their medical care costs.”

School-Based Health Centers (SBHCs), another essential part of the health care safety net, provide needed services for children while in school, particularly those students who lack insurance or have limited access to providers in the community. There are nearly 2,000 school-based health centers around the country.⁴³ According to the Institute of Medicine, students with access to SBHCs are more likely to see a dentist.⁴⁴ Although SBHCs offer significant potential to increase access to dental care and many do provide preventive services, only a small percentage of schools have professional dental providers on staff or are equipped to provide dental care to students.⁴⁵ More SBHCs should provide dental care in conjunction with primary medical and other services

to expand access to children. Furthermore, innovations such as portable dental clinics and telehealth technologies can be used in these and other settings to reach those in greatest need. It is important that we expand on the community- and school-based models that are already working.

Dr. Gregory Folse, President, Outreach Dentistry, Lafayette, Louisiana: “I provide comprehensive dentistry to older people and people with disabilities in nursing facilities. Although providing portable dental services can be done, and done very well, our country lacks the needed infrastructure to care for our most vulnerable patients – our poor, aged, blind, and disabled citizens. Treating this population may not always be easy but doing so has great personal value to all involved.”

Expanding Coverage and Increasing Reimbursement Rates

Another potential solution to increase access, for those least likely to have it, is to expand dental coverage to adults on Medicaid. Requiring a minimum adult dental benefit under Medicaid would ensure coverage for those who now cannot afford to pay out of pocket for care.

Now is also the time to consider new ways to encourage more dentists to treat people with Medicaid. Even during these tough economic times, states are taking significant steps to improve dentists’ willingness to treat children with Medicaid including addressing administrative challenges and increasing reimbursement rates.⁴⁶ According to a 2011 study published in the *Journal of the American Medical Association*, when Medicaid payment to dentists increased, children were more likely to see a provider.⁴⁷ However, while in-

Kiah Morris, Bennington, Vermont: “When I was pregnant, I had a tooth infection that had gotten into my lymph nodes and I needed a root canal, but adult Medicaid has a \$495 cap, which wasn’t enough. Dental care shouldn’t be a luxury.”

creases in reimbursement rates may lead to some increases in access, increasing payment levels alone will not solve the access problem.

Promoting Prevention and Education

Dental caries are the most common infectious disease affecting humans and they can be prevented. We must ensure that all people get the preventive services and education they need to maintain oral health, especially those who do not have the resources to be immediately seen by a dentist when a problem develops.

For example, drinking fluoridated water can have important oral health benefits for everyone, especially for those who are unable to access or afford dental care. The Centers for Disease Control and Prevention (CDC) recognized community water fluoridation as one of the ten greatest public health achievements of the 21st century.⁴⁸ Furthermore, dental sealants - clear plastic coatings that provide a barrier to bacteria and are applied to the chewing surfaces of molars (the most cavity-prone teeth) - prevent 60% of decay at one third the cost of filling a cavity.⁴⁹ Still today, children from low-income families are less likely to receive sealants than their more affluent peers. We must also do much more to provide education that promotes oral health literacy, including education about good hygiene and oral health practices, for all people.



CONCLUSION: WHY WE MUST ACT NOW

February 25, 2012 marks the five-year anniversary of the tragic and untimely death of 12-year-old Deamonte Driver of Maryland. Deamonte died from an infected tooth. His Medicaid coverage had lapsed, and yet even with insurance, Deamonte's mother struggled unsuccessfully for months to find a dentist who would see her children and accept their Medicaid coverage. More recently, in August 2011, 24-year-old Cincinnati father, Kyle Willis, died because he could not afford the antibiotics needed to treat his infected tooth. Sadly, there are many more stories like these which highlight the rare but extremely serious potential consequences of the lack of access to oral health care.

In 2000, the U.S. Surgeon General noted "there are profound and consequential disparities in the oral health of our citizens."⁵⁰ These inequalities and health disparities require the attention and action they deserve. Under our current system, low-income and minority families experience more oral disease, yet they receive less care. It is an ethical and moral imperative that we commit to providing access to dental care for all, both to improve health and also to reduce overall costs.

We need to leverage the available workforce more effectively, produce more dentists and providers of dental care and, if needed, create new provider categories to ensure that everyone has access to the care they need. We need to redesign the oral health system by further integrating dental services into nontraditional settings, such as schools. We also need to prioritize preventive strategies and education which provide important health benefits to all people. The time to strengthen the oral health care system to improve oral health and overall health for millions of Americans is now.

REFERENCES

- ¹ Health Resources and Services Administration [HRSA]. *Shortage Designation: Health Professional Shortage Areas and Medically Underserved Areas/Populations*. Accessed February 7, 2012, from <http://bhpr.hrsa.gov/shortage/>
- ² Pew Center on the States [Pew]. *The Cost of Delay: State Dental Policies Fail One in Five Children*; February 2010. http://www.pewtrusts.org/uploadedFiles/Cost_of_Delay_web.pdf
- ³ Centers for Disease Control and Prevention [CDC]. *Oral Health: Preventing Cavities, Gum Disease, Tooth Loss, and Oral Cancers*; 2011. <http://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2011/Oral-Health-AAG-PDF-508.pdf>
- ⁴ Haley J et al. "Access to Affordable Dental Care: Gaps for Low-Income Adults." *Kaiser Low Income Coverage and Access Survey*; July 2008. <http://www.kff.org/medicaid/upload/7798.pdf>
- ⁵ Institute of Medicine [IOM]. *Advancing Oral Health in America*; 2011. <http://www.hrsa.gov/public-health/clinical/oralhealth/advancingoralhealth.pdf>
- ⁶ Pew. *A Costly Dental Destination: Hospital Care Means States Pay Dearly*; February 2012. <http://www.pewcenteronthestates.org/dental>
- ⁷ U.S. Department of Health and Human Services [DHHS]. *Oral Health in America. A Report of the Surgeon General*; 2000, p. 63. <http://silk.nih.gov/public/hck1ocv.@www.surgeon.fullrpt.pdf>
- ⁸ HRSA. *Shortage Designation*. See note 1.
- ⁹ Beazoglou T et al. "Selling Your Practice at Retirement." *Journal of the American Dental Association*, Vol. 131, No. 12, 1693-1698; 2000. See also Gehshan S et al. *Help Wanted: A Policy Maker's Guide to New Dental Providers*; May 2009. http://www.pewcenteronthestates.org/uploadedFiles/Dental_Report_Help_Wanted.pdf
- ¹⁰ DHHS. *Oral Health in America*. See note 7.
- ¹¹ DHHS. *Oral Health in America*. p. vii. See note 7.
- ¹² CDC. *Oral Health*. See note 3.
- ¹³ Pew. *The Cost of Delay*. See note 2.
- ¹⁴ Lewis C and Stout J. "Toothache in U.S. Children." *Archives of Pediatric Adolescent Medicine*, Vol. 161, No. 11, 1059-1063; 2010.
- ¹⁵ Finn C. *Vermont Oral Health Care for All Project*; 2000. http://www.newenglandruralhealth.org/activities/items/oralhealth/pres-11/Finn_2011.pdf Derived from *2009 Vermont Household Health Insurance Survey: Comprehensive Report*. <http://www.bishca.state.vt.us/sites/default/files/VH-HIS-2009.pdf>
- ¹⁶ CDC. *Disparities in Oral Health*. Accessed February 8, 2012 from http://www.cdc.gov/oralhealth/oral_health_disparities.htm

- ¹⁷ Kaiser Family Foundation [KFF]. "State Health Facts." Professionally Active Dentists, February 2012. Accessed February 23, 2012 from <http://www.statehealthfacts.org/comparemaptable.jsp?ind=442&cat=8>
- ¹⁸ Nash DA. "Adding Dental Therapists to the Health Care Team to Improve Access to Oral Health Care for Children." *Academic Pediatrics*, Vol. 9, No. 6, 446-451; 2009.
- ¹⁹ HRSA. *Shortage Designation*. See note 1.
- ²⁰ Beazoglou T et al. "Selling Your Practice at Retirement;" and Gehshan S et al. *Help Wanted*. See note 9. http://www.pewcenteronthestates.org/uploadedFiles/Dental_Report_Help_Wanted.pdf
- ²¹ HRSA. *Oral Health Workforce*. Accessed February 8, 2012, from <http://www.hrsa.gov/publichealth/clinical/oralhealth/workforce.html>
- ²² U.S. Government Accountability Office [GAO]. *Efforts Under Way to Improve Children's Access to Dental Services, But Sustained Attention Needed to Address Ongoing Concerns*; November 2010. <http://www.gao.gov/new.items/d1196.pdf>
- ²³ National Association of Dental Plans, *Dental Benefits Improve Access to Dental Care*; 2009. Accessed January 17, 2012, from http://www.nadp.org/Libraries/HCR_Documents/nadphcr-dental-benefitsimproveaccesstocare-3-28-09.sflb.ashx
- ²⁴ Agency for Healthcare Research and Quality [AHRQ]. "Research Findings #20." *Dental Services: Use, Expenses, and Sources of Payment, 1996-2000*. Accessed February 7, 2012 from http://meps.ahrq.gov/mepsweb/data_files/publications/rf20/rf20.shtml
- ²⁵ Haley J et al. "Access to Affordable Dental Care." See note 4.
- ²⁶ Bisgaier J et al. "Disparities in Child Access to Emergency Care for Acute Oral Injury." *Pediatrics*, Vol. 127, No. 6, e1428-e1435; 2011.
- ²⁷ Pew. "Vermont." *The State of Children's Dental Health: Making Coverage Matter*; 2011. http://www.pewcenteronthestates.org/uploadedFiles/wwwpewcenteronthestatesorg/Initiatives/Childrens_Dental_Health/048_11_DENT_50_State_Factsheets_Vermont_052311_web.pdf
- ²⁸ DHHS. *Oral Health in America*. See note 7.
- ²⁹ Pourat N and Nicholson G. "Unaffordable Dental Care is Linked to Frequent School Absences." *UCLA Health Policy Research Brief*; November 2009. http://www.healthpolicy.ucla.edu/pubs/files/Unaffordable_Dental_Care_PB_1109.pdf
- ³⁰ Pew. *A Costly Dental Destination*. See note 6.
- ³¹ Pew. *A Costly Dental Destination*. See note 6. See also Russell B. "The Impact of Unaddressed Dental Disease: Emergency Room Utilization;" October 2010. http://www.idph.state.ia.us/hpcdp/common/pdf/oral_health/er_utilization.pdf
- ³² Pew. *A Costly Dental Destination*. See note 6. See also Florida Public Health Institute. "News Release: 315 Patients a Day Seek Dental Treatment in Florida's Hospital Emergency Rooms;" December 15, 2011. http://cdn.trustedpartner.com/docs/library/FloridaOralHealth2011/ER_Data_Press_Release_Final.pdf

- 33 Fox K. "Special Report: An In-Depth Look at New Dental Schools." *ADA News*; September 2011. Accessed February 8, 2012, from <http://www.ada.org/news/6173.aspx>
- 34 IOM. *Improving Access to Oral Health Care for Vulnerable and Underserved Populations*; 2011, p. 7. <http://www.iom.edu/Reports/2011/Improving-Access-to-Oral-Health-Care-for-Vulnerable-and-Underserved-Populations.aspx>
- 35 Nash DA et al. "Dental Therapists: A Global Perspective." *International Dental Journal*, Vol. 58, No. 2, 61-70; 2008.
- 36 Nash. "Dental Therapists." See note 35.
- 37 Wetterhall S et al. *Evaluation of the Dental Health Aide Therapist Workforce Model in Alaska*; October 2010. Accessed January 12, 2012 from <http://www.wkkf.org/knowledge-center/resources/2010/10/Alaska-Dental-Therapist-Program-RTI-Evaluation-Report.aspx>
- 38 Pew. *It Takes a Team: How New Dental Providers Can Benefit Patients and Practices*; December 2010. http://www.pewcenteronthestates.org/uploadedFiles/Pew_It_Takes_a_Team.pdf
- 39 Hanlon C. *Reimbursing Medical Providers for Preventive Oral Health Services: State Policy Options*; February 2010. <http://nashp.org/sites/default/files/Pew%20Oral%20Health.pdf?q=files/Pew%20Oral%20Health.pdf>
- 40 Pew. *It Takes a Team*. See note 38.
- 41 KFF. "State Health Facts." Number of federally-funded federally qualified health centers, 2010. Accessed February 9, 2012 from <http://www.statehealthfacts.org/comparemaptable.jsp?cat=8&ind=424>.
- 42 IOM. *Improving Access to Oral Health Care for Vulnerable and Underserved Populations*. See note 34.
- 43 HRSA. *School-Based Health Centers*. Accessed February 8, 2012 from <http://www.hrsa.gov/ourstories/schoolhealthcenters/>
- 44 IOM. *Improving Access to Oral Health Care for Vulnerable and Underserved Populations*. See note 34.
- 45 National Maternal and Child Oral Health Policy Center. *Oral Health Opportunities in School-Based Health Centers*; October 2010. <http://nmcohpc.net/resources/SBHC%20Issue%20Brief%20Final.pdf>
- 46 Pew. *The Cost of Delay*. See note 2.
- 47 Decker SL. "Medicaid Payment Levels to Dentists and Access to Dental Care Among Children and Adolescents." *Journal of the American Medical Association*, Vol. 306, No. 2, 187-193; 2011.
- 48 CDC. "Ten Great Public Health Achievements—United States, 1900-1999." *Morbidity and Mortality Weekly Report*, Vol. 48, No. 12, 241; April 2, 1999.
- 49 Pew. *The Cost of Delay*. See note 2.
- 50 DHHS. *Oral Health in America*. p. vii. See note 7.

