FIRST THINGS FIRST

TAKING A BITE OUT OF SCHOOL ABSENCES

Children's Oral Health Report 2016

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EXECUTIVE SUMMARY

School readiness means more than knowing your ABCs; it means that a child is academically, physically, emotionally, and socially prepared to enter kindergarten and succeed in school. For many children in Arizona, one of the threats to their academic success may not be a lack of knowledge, but a lack of good oral health.

Now the most common disease faced by young children, early childhood caries (a rapid form of tooth decay) can cause lasting harm to a child's oral and general health, as well as impact their intellectual and social development. Early childhood caries (ECC), can lead to:

- pain,
- damaged permanent teeth,
- increased vulnerability to infections;
- impaired speech development,
- failure to thrive, and
- reduced self-esteem.

As the child enters school, these issues in turn can lead to:

- distraction from play and learning;
- inability to focus on school work;
- anxiety;
- depression/withdrawal from activities;
- decreased completion of school work,
- and, increased absenteeism

In fact, one study estimates oral disease nationally causes kids to **miss 51 million school hours per year**. There are additional costs of tooth decay for families and society. **Treatment of severe ECC can initially cost $6,000 to $12,000**, especially if children need to be hospitalized and treated under general anesthesia. On the other hand, the cost of **a preventive dental visit is less than $200**.

Given the link among early oral health, child well-being, school readiness, and academic performance, First Things First and early childhood stakeholders statewide set a collective goal of reducing the percentage of children age 5 with untreated tooth decay to 32% by 2020.

Since fiscal year 2010, First Things First has invested more than $23 million in efforts to prevent ECC and promote positive oral health practices in families and communities. This includes providing a total of 177,950 oral health screenings and 162,240 fluoride varnishes to children birth to 5 years old through fiscal year 2015.

As an early childhood system partner, First Things First also must ensure that its investments contribute toward systemic progress in young children's oral health. To that end, First Things First partnered with the Arizona Department of Health Services in 2014 to coordinate a statewide oral health survey. A total of 3,630 kindergarten children received a dental screening at 84 schools during the 2014-2015[1] school year.

[1] Since the survey concluded in 2015, this is the year that will be referenced in the remainder of the report.

Something to Smile About

As noted below, the study shows that First Thing First and its early childhood system partners' **prevention efforts are paying off.** The *Healthy Smiles Healthy Bodies* survey showed:

- Since 2003, the percentage of Arizona's kindergarteners with untreated decay has decreased from 35% to 27%.
- Since 2003, the percentage of kindergarten children sitting in a classroom with dental pain has decreased from 7% to less than 2%.
- The percentage of Arizona's kindergarten children with a dental visit in the last year increased from 54% to 77%. In addition, the percentage of young children who had never been to a dentist was cut by more than half, dropping from 25% to 10%.
- The percentage of kindergarteners needing urgent dental care because of pain or infection has decreased since 2003 from 7% to 2%.

Something to Chew On

While these successes are very encouraging, the *Healthy Smiles Healthy Bodies* survey also showed that challenges remain in young children's oral health. Those challenges include:

- Too many children in Arizona experience tooth decay. More than half of Arizona's kindergarten children (52%) have decay experience, a level higher than the national average for 5-year-olds (36%).
- Some groups of young children have very high levels of dental disease. Children from low-income households and some racial and ethnic groups have higher levels of dental disease, suggesting particular vulnerability for certain populations of young children.
- Many parents are unaware that their health insurance coverage includes dental benefits. The Arizona Health Care Cost Containment System (AHCCCS) – the state's Medicaid program – includes dental benefits. Yet, about 1 in 5 (22%) of parents surveyed who reported their child had AHCCCS insurance also said they had no dental coverage.

Strategies to Get Arizona Kids Smiling All the Way to School

This report shows that investing in prevention and early intervention can significantly improve oral health for Arizona's youngest children, thus reducing the likelihood that oral health problems will impact their school attendance or performance. As one of the principle funders of oral health prevention and early intervention for children birth to 5, First Things First's investments in communities statewide clearly have contributed to this marked improvement.

While more children in Arizona are receiving dental services and fewer have untreated tooth decay, more work needs to be done. To reduce the percentage of children with decay experience, Arizona must expand access to preventive dental services and parent/caregiver education, with an emphasis on reaching the youngest and most vulnerable children. To reduce the percentage of children with untreated decay, early childhood system partners must work collectively to increase

access to dental care by educating parents, caregivers, and early care providers on the importance of early dental visits, developing systems that support early screening and referral, and expanding the workforce providing dental care to Arizona's youngest children. The results presented here should form the foundation for on-going community discussion on how early childhood partners leverage successes and resources of individual communities to overcome the on-going challenges that threaten the oral health of Arizona's youngest children.

SMILING ALL THE WAY TO SCHOOL

To get a population level snap shot of the current oral health status of children in Arizona, FTF partnered with the Arizona Department of Health Services to coordinate a statewide oral health survey of kindergarten children attending Arizona's public schools. This survey, known as *Healthy Smiles Healthy Bodies*, collected information on the prevalence and severity of tooth decay in kindergarten children. The purpose of this report is to present the findings of *Healthy Smiles Healthy Bodies*, including comparisons to previous statewide surveys and, where possible, national benchmarks.

The report begins by presenting general information on tooth decay and the impact poor oral health has on a child, the family, and society with special emphasis on the relationship between oral health and academic achievement. Arizona's efforts to improve oral health are also highlighted including, but not limited to, FTF's oral health strategy which uses a comprehensive, evidence-informed approach to meet the needs of the diverse communities across Arizona.

The report also provides detailed information on survey methods and results. The results are presented by domain, including the prevalence of decay experience, untreated tooth decay, dental pain and infection in addition to annual dental visit and insurance coverage.

Lastly, the report presents a set of goals and strategies for improving the oral health of young children in Arizona.

THE IMPORTANCE OF GOOD ORAL HEALTH

What is Tooth Decay?

Tooth decay (dental caries) is a bacterial disease process affecting both children and adults. When exposed to sugars and other carbohydrates, oral bacteria produce acids that dissolve the minerals in the outer layer of the tooth. If left unchecked, the acid dissolution can advance to form a cavity. Cavities that extend to the pulp tissue, the central portion of the tooth rich in nerves and blood vessels, result in toothaches along with sensitivity to temperature and sweets. If untreated, a large cavity can lead to an abscess, destruction of bone, and spread of the infection via the bloodstream (U.S. Department of Health and Human Services, 2000).

Tooth decay is now the most common chronic early childhood disease in the U.S. (U.S. Department of Health and Human Services, 2000).

Tooth decay can occur at any age after teeth erupt. For most children, teeth begin to erupt at about 6 months of age and by the time they are 3 years old, they will have a full set of 20 primary (baby) teeth. Particularly damaging forms of decay can begin in early childhood, when developing primary teeth are especially vulnerable. This type of decay is called early childhood caries (ECC). ECC is now the most common chronic early childhood disease in the United States; for instance, ECC is five times more common than asthma for children under the age of 6 (U.S. Department of Health and Human Services, 2000). According to the American Academy of Pediatric Dentistry (2014), the issue is not just that children have decay, it is that, for many young children, tooth decay is not being treated and is turning into more serious problems. Due to the aggressive nature of ECC, cavities can develop quickly and, if untreated, can infect the tooth's pulpal tissue. Such infections may result in a medical emergency that could require hospitalization and the extraction of the offending tooth (Sheller, Williams, & Lombardi, 1997). The longer ECC remains untreated, the worse the condition gets, making it more difficult to treat. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat, and access and cost issues multiply (American Academy of Pediatric Dentistry, 2014). Advanced ECC requires complicated dental procedures such as extractions and crowns, often performed using general anesthesia. These complicated procedures are more expensive and must be performed by dentists with specialty training in pediatrics (i.e., pediatric dentists).

Impact of Tooth Decay on Overall Health and Well-Being

Oral health and general health are intertwined and poor oral health can profoundly affect an infant's or child's health and well-being. Many people, however, consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of

Poor oral health can lead to decreased school performance, poor social relationships, and less success later in life (Report to Congressional Requestors, U.S. General Accounting Office, 2000).

future oral health problems. For example, abscessed primary teeth can potentially damage permanent teeth (Fung, Wong, Lo, & Chu, 2013) and if baby teeth are lost early, the child's permanent teeth are more likely to erupt out of proper position, leaving them more susceptible to decay and gum disease and subjecting the child to years of twisted teeth or orthodontia (American Academy of Pediatric Dentistry, 2014).

Other short and long term impacts of advanced tooth decay on the overall health of young children include, but are not limited to:

- Increased vulnerability to infections in other parts of the body, such as the ears, sinuses, and the brain (Alaki, Burt, & Garetz, 2008; Moazzam, Rajagopal, Sedghizadeh, Zada, & Habibian, 2015; Simuntis Kubilius, & Vaitkus, 2014)
- Failure to thrive, impaired speech development, and reduced self-esteem (U.S. Department of Health and Human Services, 2000)
- Shyness, unhappiness, feelings of worthlessness, and reduced friendliness (Guarnizo-Herreño & Wehby, 2012)

Impact of Poor Oral Health on School Readiness & Academic Performance

More than 51 million school hours are lost each year to dental-related illness (Gift, Reisine, & Larach, 1992).

Poor oral health can have a detrimental impact on children's quality of life, their performance at school, and their success in life. In fact, more than 51 million school hours are lost each year to dental-related illness (Gift, Reisine, & Larach, 1992). Young children are often unable to verbalize oral pain, but they may exhibit pain-related behaviors such as difficulty attending to tasks, anxiety, fatigue, irritability, depression, and withdrawal from normal activities. Teachers may be unaware that such pain-related behaviors, which have a significant impact on a child's ability to learn, are due to an oral health problem (Holt & Barzel, 2013).

Missing school in order to receive dental care, including both routine preventive care and treatment for dental problems is common. A day of absence to receive preventive care may be appropriate; however, frequent absences may have significant negative societal and economic consequences. In California, an estimated 874,000 school days are missed each year due to dental problems (Pourat & Nicholson, 2009). Children with oral health problems are three times more likely to miss school due to dental pain than children who did not have oral health problems and absences caused by pain are associated with poorer school performance (Jackson, Vann, Kotch, Pahel, & Lee, 2011). In addition, children who lacked excellent or very good oral health were more likely to perform poorly in school than those who did have excellent or very good oral health (Gift et al., 1992).

Given that poor and minority children are particularly vulnerable to untreated tooth decay, these social and quality-of-life repercussions pose yet another barrier to achieving parity. Most importantly, when a child's acute dental problems are treated, learning and school attendance improve (Gift et al., 1992).

Economic Impact of Poor Oral Health

For young children, preventive dental visits can be cost-saving when targeted to high-risk users (University of the Pacific, 2013).

As previously described, tooth decay exacts a toll on children by affecting their development, school performance, and behavior. In addition, tooth decay can have an economic impact for families, schools, and society. Treatment of severe ECC can initially cost $6,000 to $12,000, especially if children need to be hospitalized and treated under general anesthesia (Indian Health Service, 2014). On the other hand, the cost of a preventive dental visit is less than $200. Add in mostly preventable emergency and restorative interventions and, in the United States alone, it is estimated that more than $113.5 billion was spent on dental services in 2014 for all ages (Centers for Medicare & Medicaid Services, 2015). Medicaid dental expenditures for diagnostic, preventive, restorative and surgical services are about $7 billion each year with most services being provided to children 0-20 years of age (Wall, 2012). Restorative and surgical services are the most costly, although information on expenditures by type of service is not publicly available. If tooth decay was prevented, dental expenditures in the United States would be substantially reduced.

While the financial cost of treating tooth decay is substantial, there are also societal costs that must be considered. First, school absences mean missed opportunities for learning and academic advancement. Second, missed school days are likely correlated with missed days of work for parents who have to take children for treatment or care for them at home. Third, missed school days means lost funding for school districts who receive funding based on school attendance. There is little research on the cost of dental disease to schools and school districts but one study in California estimated that the cost to school districts of students' absences due to dental problems is approximately $30 million per year (Pourat & Nicholson, 2009).

Preventing tooth decay saves money. For example, the Centers for Disease Control and Prevention (CDC) estimates that for communities of more than 20,000 people, every $1 invested in community water fluoridation saves $38 in dental treatment costs (Griffin, Jones, & Tomar, 2001). Another example of how preventing tooth decay saves money relates to early dental visits; preschool children who had an early preventive dental visit by age 1 were more likely to use subsequent preventive services and experienced less dentally related costs (Kolstad, Zvaras, & Yoon, 2015).

How Can We Improve the Oral Health of Young Children?

The good news is that most tooth decay is preventable, but efforts must be made to ensure that all children have access to evidence based prevention strategies. To prevent tooth decay, the American Academy of Pediatrics (2015) recommends several strategies for enhancing the oral health of young children including but not limited to: parent/family education on oral health care (particularly on eating healthy nutritious foods, limiting sugars, and brushing teeth with a toothpaste containing fluoride); first preventive visit to a dentist within six months of the first tooth erupting and no later than age 1, with preventive check-ups thereafter; a series of topical fluoride applications to children's teeth; and, fluoridated public water supplies.

ARIZONA'S EFFORTS TO IMPROVE CHILDREN'S ORAL HEALTH

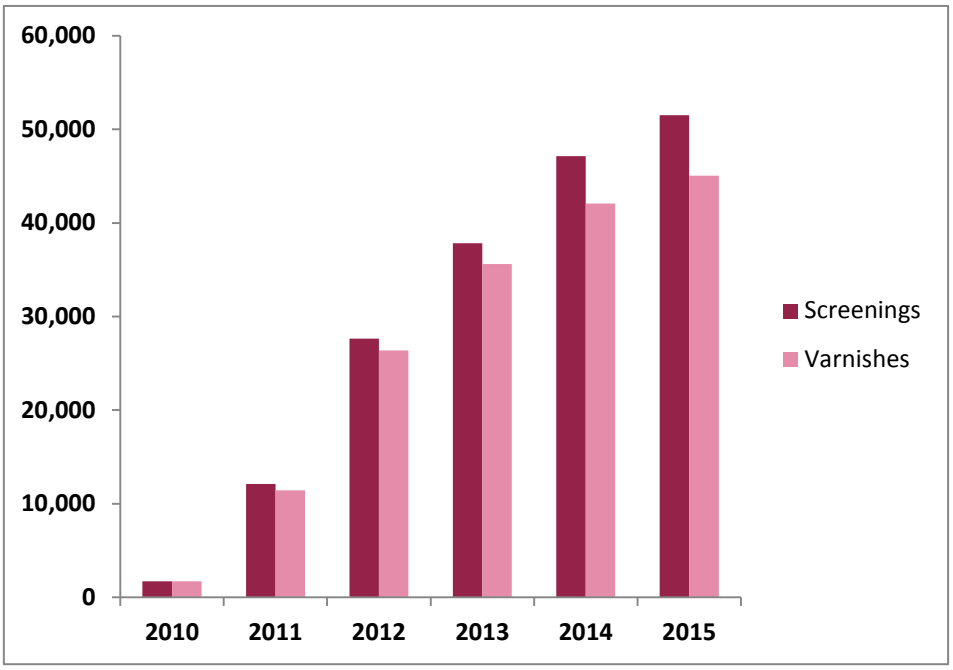
From 2010 to 2015, First Things First grantees completed 177,950 oral health screenings and applied 162,240 fluoride varnishes to the teeth of young children.

Given the critical role oral health has on a child's overall well-being and education, many partners across Arizona are actively engaged in prevention efforts as part of the larger continuum of care to ensure that children have access to timely and quality oral health care. These stakeholders include, but are not limited to, First Things First (FTF), the Arizona Department of Health Services (ADHS), the Arizona Health Care Cost Containment System (AHCCCS), health insurance companies, child care centers and early learning providers, schools, and parents/families. While the majority of prevention efforts focus on children in kindergarten through grade 12, FTF has taken a leadership role in providing preventive and community based oral health support focused solely on children birth to age 5.

To be ready for success in kindergarten and beyond, children need to be well-developed physically, emotionally, and socially. Arizona's early childhood system has identified 10 key School Readiness Indicators (see Appendix A) that will be used to determine if, as a whole, the state is making progress in getting more children ready for school and set for life. Developed by a diverse group of stakeholders – including parents, early childhood and health providers, funders, advocates and First Things First Board, regional council members, and staff – these indicators offer a comprehensive view of the support kids need from their families and from their communities to arrive at kindergarten healthy and prepared to succeed. The School Readiness Indicator on dental health sets the following target: a reduction of the number and percentage of children age 5 with untreated tooth decay.

While FTF is not solely responsible for meeting these School Readiness Indicators, the organization is responsible for contributing to the system's overall progress. Since fiscal year (FY) 2010, FTF has invested more than $23 million in children's oral health efforts through the oral health strategy. Implemented in local communities across Arizona, the strategy seeks to prevent ECC and promote positive oral health practices (see Figure 1). With this investment, FTF has been able to sustain a wide reach, providing a total of 177,950 oral health screenings and 162,240 fluoride varnishes between fiscal year 2010 and 2015. Together, with many system partners, Arizona is providing a strong continuum of preventive services across the state to ensure the oral health care needs of Arizona's youngest children are being met.

Figure 1. Number of FTF Funded Oral Health Screenings and Fluoride Varnish Applications 2010-2015



FTF Oral Health Strategy

The FTF oral health strategy provides a multi-pronged approach to meet the needs of the diverse communities across Arizona and includes the following: screening and referral of expectant mothers and children birth to age 5; application of fluoride varnish two to four times a year; oral health education to children, their parents/caregivers, expectant mothers, and child care and preschool staff; outreach to oral health and medical professionals; and, teledentistry. Taken together, these components represent a comprehensive, integrated and evidence-informed approach to improving oral health outcomes for young children.

Dental Screening

Oral health screenings are a crucial step in not only detecting potential signs of decay and disease but also in monitoring for the presence of risk factors of disease (American Academy of Pediatrics, 2011). In dentistry, a screening for risk factors is referred to as a dental caries risk assessment. The American Academy of Pediatrics recommends that children without a dental home receive an oral health screening and risk assessment by their pediatrician at 6 and 9 months of age with ongoing screenings and risk assessments at 12, 18, 24, 30 months, and at 3- and 6-years old (American Academy of Pediatrics, 2011).

Oral health screenings of infant-mother dyads, coupled with a dental caries risk assessment, provide an opportunity to identify children who are displaying current signs of tooth decay or who may be at high risk for developing future tooth decay, and refer them to a dentist for diagnosis, treatment, and ongoing preventive care (American Academy of Pediatrics, 2003). This approach provides an opportunity to link high risk children to a dental home in order to treat current disease

and prevent further occurrences of tooth decay. Reaching high-risk children early in life is important; partially because the use of dental services early in life can promote use of subsequent preventive dental care (Savage, Lee, Kotch, & Vann, 2004). Furthermore, families whose children received a preventive dental visit prior to their first birthday only spent an average of $262 on dental services in five years, compared with the $546 families spent on dental costs if their child received their first dental visit at 4-5 years of age (Savage et al., 2004).

In addition to providing a benefit to children, dental screenings are an important method for identifying expectant mothers with, or at high risk of developing oral diseases. Pregnancy often causes changes in the mouth including gingivitis (Hemalatha, Manigandan, Sarumathi, Aarthi Nisha, & Amudhan, 2013) and can also lead to a worsening of periodontitis – an infection of the gum tissue which can lead to the destruction of the bone supporting the teeth (Hemalatha et al., 2013). Detecting and treating periodontitis in pregnant women is important because research has found that in addition to smoking, alcoholism, previous pre-term birth, high physical and psychological stress, low socio-economic status, poor maternal nutrition, and genitourinary infections, periodontitis and periodontal infections may be a risk factor for adverse pregnancy outcomes (Parihar et al., 2015).

FTF screening practices focus on screening young children as soon as teeth begin to erupt (around 6 months old). With consent from the child's parent/caregiver, FTF grantees provide an oral health screening using the Association of State and Territorial Dental Director's publication (2015) *Basic Screening Surveys: An Approach to Monitoring Community Oral Health*. The screening also includes assessing the child for how soon he or she should visit a dentist for clinical diagnosis and any necessary treatment, as well as a dental caries risk assessment which assesses the risk level of a child to develop caries in the near or distant future. Screening staff discuss the results of the children's screenings and assessments with the parent/caregiver in person (if the parent/caregiver is present) and also send the results and recommendations in writing.

Screenings occur in settings that best meet the needs of children and their families, such as early care and education centers and family resource centers. For example, in Maricopa County, the FTF grantee has forged a strong partnership with the local Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) clinics to provide regular oral health screening days. In the Cochise region, the oral health grantee collaborates with a local library to offer and provide oral health screening and fluoride varnish application to children visiting the library with their families.

During fiscal year 2015, FTF grantees completed 51,506 oral health screenings on young children and 1,504 screenings on expectant mothers. Those screenings resulted in 19,217 referrals of young children to a dental provider and 1,403 referrals of expectant mothers to a dental provider.

Prevention – Fluoride Varnishes

Applying fluoride varnish to the surface of baby teeth is a proven method for preventing tooth decay. It is estimated that fluoride varnish reduces tooth decay by 43% in permanent teeth and 37% in baby teeth (Marinho, Worthington, Walsh, Clarkson, 2013). The American Dental

Association Council on Scientific Affairs recommends fluoride varnish application at least twice per year for caries prevention among children starting at 6 months old (Weyant et al., 2013). Semi-annual fluoride varnish applications are an important component of an early childhood caries prevention program, particularly for high-risk populations. Specifically, Azarpazhooh and Main (2008) suggest that applying fluoride varnish at least two times per year (i.e., at six month intervals) may be *the* most effective approach to preventing dental caries for high risk populations of children, such as those from lower income families. Moreover, applying fluoride varnish every six months was shown to be effective for reducing early childhood caries over the course of two years in a high-risk sample of children with a previous history of tooth decay (Petersson, Twetman, & Pakhomov, 1998).

FTF grant partners apply fluoride varnish at the same time as the oral health screening, and work to ensure that each child receives this preventive health measure two to four times a year. During FY2015, FTF grant partners applied 45,031 fluoride varnishes on the teeth of children birth to age 5.

Oral Health Education

An additional component of FTF's oral health strategy is oral health education. The goal of the oral health education component is to improve knowledge, which may lead to adoption of favorable oral health behaviors that contribute to better oral health. Education of parents has been shown to improve dietary choices and oral hygiene practices among young children, especially when contemporary education methods such as motivational interviewing are used (Manchanda, Sampath, & De Sarkar, 2014). A recent review of the scientific literature suggests that not only is oral health education effective in improving oral health knowledge, attitudes and practice, but it can also improve oral health outcomes (Nakre & Harikiran, 2013), especially when combined with oral health promotion efforts such as fluoride varnish (Azarpazhooh & Main, 2008).

Moreover, an evaluation of a prenatal dental health program involving screenings, services, and oral health education found that, over the course of three visits during pregnancy, women's oral health problems decreased (e.g., bleeding from gums, plaque, cavity depth) and their oral health knowledge increased (Lin, Harrison, & Aleksejuniene, 2011).

FTF oral health grantees deliver education to children at the time of screening. The curriculum used in communities throughout Arizona is comprehensive and engages the attention of young children. It focuses on bacteria, plaque formation, proper tooth brushing, use of toothpaste and how many times a day children must brush. Grantees also offer oral health education to parents and caregivers (including expectant mothers), either individually or in group settings. The adult curriculum focuses on promoting positive oral health hygiene practices in the home, minimizing saliva-sharing activities (e.g., sharing utensils), beginning tooth brushing during the correct developmental period, the appropriate use and amount of fluoridated toothpaste, and the role of nutrition in oral health. If provided at an early care and education center, staff are encouraged to participate in oral health education, establish tooth brushing schedules, and create sanitary toothbrush stations. In FY2015, 1,006 group education sessions, with an average of six adults each, and approximately 27,572 individualized education sessions were conducted by FTF grantees.

Outreach – Dental and Medical Providers

Efforts towards good oral health for children and expectant mothers must take into consideration the health professionals that provide care and guidance. The oral health strategy in most regions also includes outreach to medical and dental professionals. Outreach efforts include education on the importance of early childhood and prenatal oral health as well as positive early childhood oral health hygiene practices. The grantee also may provide dental and medical providers with supporting print educational materials, as appropriate. In addition, by developing working relationships with dental practices, grant partners are able to engage professionals to provide follow-up care to children or expectant mothers and include those professionals on their referral list for children and expectant mothers who do not have a dental home.

Teledentistry

Telemedicine is a well-accepted practice that has expanded rapidly during the last two decades. Telemedicine in dentistry is referred to as "teledentistry." Since individuals living in rural and underserved areas often have limited access to dental care, teledentistry is designed to target the issue by providing patients with a virtual connection to a dental home prior to their first appointment. It provides easier access to dental care to patients who live in rural areas with little to no access to care. Teledentistry research to date has primarily focused on evaluating pilot projects and short term studies from education, community, school, and public health settings. There is very little published evidence regarding the effect of teledentistry on clinical outcomes, utilization and costs (Daniel & Kumar, 2014). However, a review of the literature found that telemedicine can be effective in providing care and can also be cost effective (Ekeland, Bowes, & Flottorp, 2010).

The primary purpose of teledentistry is to increase access to preventive care. A dental hygienist completes a screening and application of fluoride varnish. If the hygienist sees signs of disease and infection, X-rays and digital images of the teeth are taken and transmitted to a dentist for a complete diagnosis. The patient is then referred for an in-person follow-up appointment with that dentist. Three rural FTF regions (Navajo Nation, Navajo/Apache, and White Mountain Apache Tribe) have been providing teledentistry within their communities to increase access to oral health services for children and their families. In the Navajo/Apache region, the oral health grantee asked families to complete a survey to assess their satisfaction with teledentistry. One hundred percent of families responded favorably. Parents/caregivers indicated that accessing teledentistry was a positive and helpful experience and would utilize the services again in the future. One family stated that they appreciated how easy it was to access screening and the efficiency of having dental images sent directly to their dentist.

Table 1: FTF Oral Health Strategy Impact At-A-Glance – Fiscal Year 2015

Number of oral health screenings - children	**51,506**
Number of oral health screenings – expectant mothers	**1,504**
Number of fluoride varnishes applied – children	**45,031**
Number of children referred to a dental provider	**19,217***
Number of expectant mothers referred to a dental provider	**1,403***

***This data may be a duplicate count since a child or expectant mother may receive multiple referrals**

System Wide Coordination and Collaboration

First Things First, its early childhood system partners and other stakeholders work collaboratively to build awareness of the importance of early childhood oral health, overcome challenges, maximize resources and improve young children's oral health outcomes. It is through this collective work that partners arrive at a shared consensus regarding the barriers to optimal oral health for young children, as well as strategies to move Arizona forward when it comes to improving access to preventive oral health care.

State and Community Based Coalitions and Partnerships

In 2012, State Senator Linda Lopez brought together strategic partners in the field of oral health to discuss a public policy agenda to ensure that Arizona residents have ample access to quality oral health care. When Sen. Lopez left the Legislature, the leadership of the coalition was assumed by Senator David Bradley and Representative Regina Cobb. Accomplishments of this collaborative include the passage of the bipartisan supported Senate Bill 1282, "Teledentistry Bill" in 2015 that provided parameters for the use of teledentistry, required AHCCCS reimbursement of teledentistry services for children, and expanded the scope of practice for Affiliated Practice Dental Hygienists. The Affiliated Practice Dental Hygienist model, authorized in 2004 by the Arizona Legislature, allows qualified dental hygienists permitted by Arizona law and regulations, to perform certain procedures in the community and other public health settings without direct supervision from a dentist. This expands preventive oral health care in community settings, reduces barriers, and provides greater access to children and families.

The statewide FTF Oral Health Community of Practice was implemented as a result of feedback from FTF grant partners. Facilitated by FTF, the Community of Practice began meeting in 2014 with all oral health grant partners in attendance with a focus on sharing program practices, research, and news from the field, along with aligning health messaging to strengthen and improve implementation of this strategy across the state.

In addition, several counties have hosted their own regional oral health coalitions with a focus on oral health awareness, disease prevention, sharing best practices, identifying challenges, and generating solutions to oral health-related issues. These regions include La Paz/Mohave, Navajo-Apache-Gila, Northern Arizona (Coconino and Yavapai counties) and Southern Arizona (Pima, Santa Cruz and Cochise counties).

In Arizona, a 2006-2009 federal grant through ADHS allowed teledentistry to be piloted in several areas, including the Hopi reservation; Apache, Navajo, Coconino, and Yavapai counties; and the City of Scottsdale. A 2009-2012 extension of the grant expanded those services to include summer camps, pediatric group practices, and obstetric group practices, partnerships with county health departments, partnership with FTF, and additional school-based sites. The federal grants funded the development of infrastructure including equipment, training and technical assistance, and public and private partnerships that brought teledentistry services to many areas.

In 2010, ADHS implemented the Empower Program to support licensed early care and education facilities in their efforts to encourage young children to grow up strong and healthy. Currently, the Empower Program reaches more than 200,000 children in licensed early care and education settings throughout Arizona. By enrolling in the Empower Program, licensed child care facilities voluntarily agree to develop and implement a written policy for each standard. Any licensed facility that participates receives a 50% reduction in their licensing fees. The licensing fee assistance provided by DHS is supplemented by FTF through Quality First, Arizona's Quality Improvement and Rating System. Child care and preschool programs participating in Quality First receive a variety of supports to enhance the quality of their early learning programs. Quality First participants are required to participate in the Empower program and receive their licensing fee reduction through FTF.

The Empower Program requires providers to adopt 10 health standards, two of which impact children's oral health – 'Fruit Juice' and 'Oral Health'. The Fruit Juice standard requires the development of a program policy that includes the following: ensure that infants 11 months and younger are not served fruit juice; only offer 100% fruit juice without added sugar; and, limit serving fruit juice no more than twice a week with no more than 6 ounces offered. These efforts are welcomed by oral health stakeholders that recognize the link between fruit juice and the oral health of young children. The Oral Health standard also requires the development of a program policy including: monthly oral health education and/or the implementation of a tooth brushing program; educating families on the importance of a dental visit by the child's first birthday; healthy practices with utensils and pacifiers; and never putting children to sleep with a bottle.

It is important to note that ADHS expanded their Empower Program to Home Visiting programs that have similar standards for oral health and the consumption of fruit juice.

ADHS supports two disease prevention programs within the Office of Oral Health – the Arizona School-Based Sealant Program and the Arizona Fluoride Mouthrinse Program. The School-Based Sealant Program provides sealants to high-risk elementary school children in urban and rural communities where there is limited access to care. Dental sealants have been repeatedly shown to

prevent tooth decay in permanent molar teeth (e.g., Ahovuo-Saloranta et al., 2013; Beauchamp et al., 2008). The Fluoride Mouthrinse Program operates in eligible schools in low-income communities that have inadequate levels of fluoride in the community water supply. Fluoride Mouthrinse programs help to reduce the prevalence of tooth decay (Marinho, Higgins, Logan, & Sheiham, 2003).

In the fall of 2015, the ADHS Office of Oral Health through the Maternal Infant and Early Childhood Home Visitation grant implemented oral health training for home visitors. The curriculum is designed to provide home visitors with core skills and competencies in providing best practices for counseling families on the importance of oral health in pregnancy and early childhood. The intent is to increase the knowledge base of the home visiting staff and provide those professionals the skills needed to impart this knowledge directly to families. All home visitors have access to this training as part of the Strong Families Alliance. The Alliance is a consortium of agencies statewide – including DHS, FTF, and the Department of Child Safety – whose work with families includes the funding and implementation of home visitation. The alliance promotes collaboration and the sharing of resources and best practices in Arizona's home visiting system.

Maximizing Resources

In order to look at the sustainability of prevention efforts, FTF has been involved in exploring the Medicaid reimbursement system (AHCCCS) for the provision of fluoride varnish. In FY2013, the FTF Phoenix South Regional Council initiated a pilot to seek AHCCCS reimbursement, in partnership with the ADHS Office of Oral Health. This pilot explored the process for reimbursement through AHCCCS and created the infrastructure necessary to do so. In FY2016, AHCCCS reimbursement was included as a component of the Maricopa countywide oral health strategy being implemented by the Phoenix and Maricopa regional partnership councils, with the goal of increasing the number of children receiving oral health screenings and fluoride varnish applications.

Furthermore, beginning April 1, 2014, AHCCCS began to reimburse primary care providers for the provision of fluoride varnish applications completed at Early and Periodic Screening, Diagnostic and Treatment (EPSDT) visits for children between the ages of 6 months and 2 years. This measure provides young children access to preventive oral health care with their primary care provider during their well child visits. In addition, primary care providers now have a financial mechanism to conduct an oral health screening and engage in an evidence-based preventive oral health measure.

Stakeholder Collaboration

First Things First has been an active participant in various statewide efforts to advocate for children's oral health including the following:

- The Arizona Health Improvement Plan (AzHIP) is a collaborative process driven by ADHS to create a unified plan on how to improve the health of Arizonans within a five-year time span. Oral Health is a priority area identified in the AzHIP with an identified focus on children's oral health including the integration of oral health into primary health care,

improving access to dental coverage, increasing the pediatric dental benefit for the AHCCCS eligible population and increasing the rate of oral health literacy.

- The Arizona State Health Coalition, funded through a DentaQuest Foundation grant to the Arizona Alliance of Community Health Centers, has begun work to identify key policy areas among 40 stakeholders using the Policy Consensus Tool developed by the Children's Dental Health Project. Notable key policy areas identified by stakeholders for children, families, and individuals include: expansion of AHCCCS reimbursement for services provided by affiliated practice dental hygienists; comprehensive dental coverage for all AHCCCS eligible individuals over the age of 21 (impacting expectant mothers); development of a statewide oral health surveillance system; and requiring oral health screening at the time of kindergarten entry.
- The Arizona American Indian Oral Health Initiative, funded through the DentaQuest Foundation, has hosted several forums with system stakeholders and tribal representatives with the aim of elevating the status of oral health care for children and adults residing in Indian country.

Community

Water fluoridation is a critical community-wide and evidence-based strategy to decrease the prevalence of tooth decay. The consensus among dental experts is that fluoridation is the single most important intervention to reduce tooth decay, partially because water is an essential part of everyone's diet, regardless of their motivation to maintain oral hygiene or their willingness to attend or pay for dental treatment (World Health Organization, 2001). As previously mentioned, the Centers for Disease Control and Prevention (CDC) estimates that for communities of more than 20,000 people, every $1 invested in community water fluoridation saves $38 in dental treatment costs (Griffin et al., 2001). At last count in 2012, the Centers for Disease Control and Prevention indicated that approximately 58% of Arizona's residents served by a community water system were receiving water with fluoride at the recommended level to prevent tooth decay. With just over half of the state receiving this oral health benefit, there is more work to be done.

Community water fluoridation is a safe, effective, and inexpensive way to prevent tooth decay. It benefits persons in all age groups and all income levels, including those difficult to reach through other public health programs and private dental care. Community water fluoridation is the most cost-effective way to prevent tooth decay among populations living in areas with community water systems. Because of this, the U.S. Public Health Service supports the continuation of community water fluoridation and its adoption in additional U.S. communities as the foundation for a sound caries prevention program. The benefit of combining fluoride modalities (i.e., fluoridated water, application of fluoride varnishes) is additive. This means that the percent reduction in the prevalence or severity of tooth decay from a combination of these efforts is higher than the percent reduction from each modality by itself. For this reason, the U.S. Public Health Service indicates that fluoride varnish plays an important role in preventing and controlling tooth decay in children living in non-fluoridated areas and high-risk children living in fluoridated communities (Centers for Disease Control and Prevention, 2001).

SURVEY METHODS

This survey, referred to as *Healthy Smiles Healthy Bodies,* was designed to obtain information on the prevalence and severity of tooth decay among Arizona's kindergarten children.[2] In addition, the survey collected information on behavioral and demographic characteristics associated with this condition. *Healthy Smiles Healthy Bodies* included the following primary components – (1) a dental screening and (2) an optional parent/caregiver questionnaire. During the 2014-2015 school year, *Healthy Smiles Healthy Bodies* collected information from children at 84 non-reservation district and charter schools throughout Arizona.[3] A total of 3,630 kindergarten children received a dental screening and 1,583 (44%) returned the parent/caregiver questionnaire.

To evaluate trends in the oral health of Arizona's children, results from *Healthy Smiles Healthy Bodies* are compared to the results of a similar survey completed by ADHS in 1999-2003[4] as part of the state's ongoing oral health surveillance system. Additionally, to allow for within state comparisons, data were collected across all Arizona counties.

Sampling

Healthy Smiles Healthy Bodies sampled children in kindergarten and third grade. District and charter elementary schools with at least 20 children in kindergarten and/or third grade were included in the sampling frame. The following were excluded from the sampling frame: (1) alternative, detention, and state schools for the deaf and the blind plus (2) schools located in tribal communities (based on the Arizona Department of Health Services list of tribal communities). To ensure a representative sample from every county and FTF region, the sampling frame was initially stratified by county. Where a county included more than one FTF region (Maricopa and Pima), the sampling frame was further stratified by FTF region. This resulted in 21 sampling strata; 13 county-level strata, 2 FTF strata within Pima County, and 6 FTF strata within Maricopa County. Within each stratum, schools were ordered by their National School Lunch Program (NSLP) participation rate. A systematic probability proportional to size sampling scheme was used to select a sample of five schools per stratum.[5] Three counties (Apache, Greenlee, and La Paz) had fewer than five schools in the sampling frame. For these counties, all schools in the sampling frame were asked to participate. If a selected school did not have kindergarten or third grade, the appropriate feeder school was added to the sample. A systematic sampling scheme was used to select 99 schools. Of these, five did not have kindergarten or third grade so five feeder schools were added to the sample resulting in 104 schools representing 99 sampling intervals, of which 84 agreed to participate.

[2] Using another funding source, ADHS expanded data collection to include 3rd grade children but that information is not included in this report.

[3] Schools serving children with special needs and schools located in tribal communities were excluded.

[4] From 1999-2003, ADHS conducted a survey to investigate the oral health status of Arizona's kindergarten children. Since the survey concluded in 2003, this is the year that will be referenced when discussing this survey in the remainder of the report.

[5] Probability proportional to size sampling: a sampling technique where the probability that a particular school will be chosen in the sample is proportional to the enrollment size of the school

Parental Consent

A combination of positive and passive consent was used; 11 schools used positive consent and 73 used passive consent. For schools using passive consent, a letter explaining the survey was sent home with children in the target grades and all children received a dental screening unless a parent declined. For schools using positive consent, a letter explaining the survey was sent home with children in the target grades, but only those children whose parents/caregivers returned a positive consent form were screened.

Dental Screening

Trained dental professionals completed the screenings using gloves, penlights, and disposable mouth mirrors. The diagnostic criteria outlined in the Association of State and Territorial Dental Directors' (2015) publication *Basic Screening Surveys: An Approach to Monitoring Community Oral Health* were used. The information collected through the dental screening included presence of untreated decay, number of teeth with untreated decay, presence of treated decay, number of teeth with treated decay, presence of dental sealants, need for dental sealants, and urgency of need for dental care (see Appendix B).

Parent/Caregiver Questionnaire

In addition to the letter explaining the purpose of the survey, parents/guardians were sent a one page questionnaire to obtain information on race, ethnicity, presence of asthma, tooth brushing frequency, time since last dental visit, reasons for never visiting a dentist, receipt of a dental screening or fluoride varnish at non-dental locations, type of health/medical insurance, dental insurance, and parent education (see Appendix C). Completing the parent/caregiver questionnaire was not required for participation in the dental screening. Overall, parent/caregiver questionnaires were available for 44% of the children screened. In all schools, the parent/caregiver questionnaire was combined with the consent form. For schools that used positive consent, the questionnaire/consent form had to be returned for the child to participate. For this reason, the questionnaire response rate was substantially higher in schools that used positive consent compared to schools that used passive consent (96% and 38%, respectively).

Participation in the National School Lunch Program

Healthy Smiles Healthy Bodies did not collect child level information on family income. To estimate the impact of income on the survey's outcome measures, school level participation in the National School Lunch Program (NSLP) was used as a surrogate measure of socioeconomic status. To be eligible for the NSLP program during the 2014-2015 school year, annual income for a family of four could not exceed $44,123 (Child Nutrition Programs- Income Eligibility Guidelines, 2014). For each participating school, the Arizona Department of Education provided information on the percentage of students in that school eligible for NSLP. When assessing the association between income and the outcome measures, stratification by the proportion of children in each school eligible for NSLP (<25%, 25-49%, 50-75%, and $\geq$75%) was used.

Data Analysis and Presentation of Results

All statistical analyses were performed using the SAS software complex survey procedures (Version 9.3; SAS Institute Inc., Cary, NC). Sample weights were used to produce population estimates based on selection probabilities and indicating the number of children in the sampling interval each screened child represents.

Although *Healthy Smiles Healthy Bodies* collected information on a wide variety of potential determinants and risk factors, only those risk factors and determinants that were shown to be significantly associated with the primary outcome variables are discussed in this report. There was no association between oral health and gender, urbanicity, presence of asthma, frequency of tooth brushing, and receipt of a screening or fluoride varnish at a non-dental setting.

Survey Limitations

Although the original sample was representative of the state, not all schools participated, which may bias the results. The percentage of children eligible for the NSLP was 58% for schools in the sampling frame but was 72% for schools that participated, suggesting that lower income schools were more likely to participate. Given that lower income children have more disease; this survey may overestimate the prevalence of disease in the non-tribal communities in the state. Another limitation was the exclusion of tribal communities resulting in small sample sizes for the American Indian/Alaska Native population.

The parent/caregiver questionnaire was optional and was returned for only 44% (N=1,583) of the children screened (see Appendices D & E). Because of this, information obtained from the questionnaire may not be representative of the state. In addition, the information was self-reported and may be affected by both recall and social desirability bias. Because of small sample sizes, caution should be taken when interpreting results at the regional and county level.

Presentation of Results

The following pages will present the results of *Healthy Smiles Healthy Bodies.* The results section of this report has been structured to highlight several important domains, which include three key health outcomes and two risk factors associated with better oral health. The health outcomes include the prevalence of decay experience, untreated tooth decay, plus dental pain and infection. The two risk factors are annual dental visit and insurance coverage.

For each domain of the results section, a short summary is provided on why the topic is important, especially for young children. National benchmarks are also included, when available, with comparable national data. This is followed by Arizona specific data along with the risk factors for each domain. The prevalence of the outcome or risk factor is also presented by FTF region and county.

At the end of this report, a series of FTF regional profiles focusing on decay experience and untreated tooth decay are included that summarize the oral health findings for the School Readiness Indicator on dental health for the 18 FTF regions.

PREVALENCE OF TOOTH DECAY EXPERIENCE

Why It Matters

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities). Although largely preventable, tooth decay remains the most common chronic disease among preschool children. Tooth decay experience in children 0-5 years of age is of special importance because unhealthy teeth in a young child can lead to pain, infection, and can put a child at risk of future oral health problems. In addition, the inability of very young children to cooperate during dental procedures may require that dental care be provided in an operating room or clinic setting using general anesthesia. Treatment under general anesthesia for extensive dental repair is a costly and a potentially risky consequence of tooth decay. In the United States, it is estimated that tens of thousands of young children undergo restoration and extraction of teeth under general anesthesia annually (Casamassimo, Thikkurissy, Edelstein, & Mariorini, 2009).

Medical, dental and health professionals must focus dental disease prevention efforts on children less than 2 years of age because 2 is too late.

Early prevention efforts are critical to eradicate tooth decay in Arizona's children. Medical, dental and public health professionals must focus dental disease prevention efforts on children less than 2 years of age because ***two is too late.*** The American Dental Association, the American Academy of Pediatric Dentistry, and the American Association of Pediatricians all recommend preventive dental care and parent education by age 1. Preventive dental care such as fluoride varnish can be provided in medical and dental offices but it can also be provided in community settings that provide services to high risk children such as preschools and WIC programs. By providing preventive services at community-based settings, children that may not access medical/dental clinics can receive the benefits of preventive dental care.

The American Academy of Pediatrics (2015) recommends that:

- All infants receive oral health risk assessments during well-child visits starting at 6 months of age and periodic fluoride varnish application from the time the first tooth erupts through 5 years of age. The American Dental Association recommends that fluoride varnish be applied at least twice per year, more often for higher risk children (Weyant et al., 2013).
- All children should be referred to a dentist as early as 6 months of age to establish a dental home.
- All children in their early toddler years should have a thorough initial dental examination and regular dental care whenever possible. Most children should have a dental examination at least once a year; some high risk children may need more frequent screenings and examinations.

- Parents should limit food and drink exposure over the course of the day to three meals and two snacks (with healthy food choices and limited juice). More frequent exposure to sugars in foods and drinks makes it more likely that children will develop decay. The World Health Organization strongly recommends that a child's intake of free sugars be less than 10% of total energy intake (World Health Organization, 2015).

- Parents should brush their children's teeth with fluoride toothpaste twice a day as soon as they can see the first tooth coming in (erupting).

Benchmarks and National Data

Developed under the leadership of the Federal Interagency Workgroup (FIW), the Healthy People 2020 (HP 2020) framework is the product of a collaborative process among the U.S. Department of Health and Human Services (HHS) and other federal agencies, public stakeholders, and the advisory committee. Healthy People provides 10-year national objectives for improving the overall health of Americans.

Note: Throughout this document, information from several authoritative national sources is used to illustrate national goals or status in various areas of young children's oral health.

Understanding where Arizona's children fall compared to national benchmarks and data can help highlight areas of strength and those areas in need of improvement in relation to young children's health.

However, caution should be used when comparing the results of *Healthy Smiles Healthy Bodies* to the national information, since there may be differences in the populations surveyed or in the methods of data collection. These differences are highlighted in each section of this report.

The Healthy People 2020 objectives for tooth decay experience are:

- Reduce the proportion of 3- to 5-year-olds with decay experience in their primary teeth to 30%
- Reduce the proportion of 6- to 9-year-olds with decay experience in their primary and permanent teeth to 49%

It should be noted that Arizona's *Healthy Smiles Healthy Bodies* survey screened kindergarten children (5- to 6-year-olds) and captured information on the prevalence of decay experience in both primary and permanent teeth.

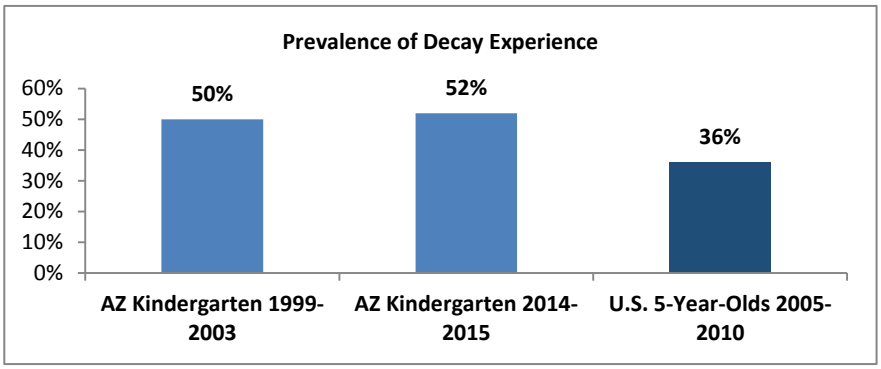
The National Health and Nutrition Examination Survey (NHANES) is conducted by the National Center for Health Statistics to assess the health and nutritional status of adults and children in the United States. Findings from the survey are used to determine the prevalence of major diseases and risk factors for diseases. The following is based on data from NHANES 2005-2010:

- In the United States, the prevalence of tooth decay experience among 5-year-olds is 36%

How Arizona's Young Children are Faring

The good news – many children in Arizona only have 1 or 2 teeth with decay experience. Although the prevalence of decay experience is higher in Arizona than the nation as a whole, many children with decay experience (30%) only have 1 or 2 teeth affected by the disease. For those children with decay experience, the number of affected teeth ranged from 1 to 19 with an average of 4.9 teeth.

Ongoing Challenges – too many children in Arizona experience tooth decay. More than half of Arizona's kindergarten children (52%) have decay experience, a level higher than the national average for 5-year-olds (36%) and the HP 2020 objectives for 3- to 5-year-olds (30%) and 6- to 9-year-olds (49%).



Arizona Department of Health Services, Office of Oral Health (2005). "The Oral Health of Arizona's Children: Current status, Trends and Disparities." Arizona Department of Health Services and First Things First (2015). The Oral Health of Arizona's Kindergarten Children: Healthy Smile Healthy Bodies Survey 2015. National Health and Nutrition Examination Survey (NHANES), 2005-2010.

The longer a tooth is in the mouth, the more likely it is to become decayed. For this reason, the prevalence of tooth decay increases with age. Results from the Arizona survey mirrors national data; the percentage of Arizona's children with decay experience increases from 52% for kindergarten to 65% for third grade children. Unfortunately, the percentage of kindergarten children with decay experience has not changed since 2003 (50%). This may be partially explained by an increase in the percentage of children with an annual dental visit from 2003 to 2015, which corresponds with an increase in the percentage of children receiving restorative dental care. For example, the increase in the prevalence of decay experience in children under 6 between two national surveys conducted in 1988-1994 and 1999-2004 was attributed to the fact that children received more restorative treatment during 1999–2004 compared with 1988–1994 (Dye, Tan, & Smith 2007).

Risk Factors for Decay Experience

The findings from the Arizona survey are similar to national data that indicates that lower-income children and Hispanic children are more likely to have a higher prevalence of decay experience than their higher-income and non-Hispanic white counterparts (Dye, Li, & Thornton-Evans, 2012), along with children whose parents have a lower educational attainment (Vargas, Crall, & Schneider, 1998).

Data from *Healthy Smiles Healthy Bodies* shows that the prevalence of decay experience is higher among children from low-income households, some racial and ethnic groups, children with AHCCCS (Medicaid) or no health insurance, and children whose parents have less than a college education, suggesting particular vulnerability for certain populations of young children (see Table 2). For example, among children whose parents did not attend college, 60% have decay experience

compared to only 40% among children whose parents attended college. In lower income schools, defined as schools with at least 75% of children eligible for the National School Lunch Program (NSLP), 62% have decay experience compared to 29% in higher income schools (<25% NSLP).[6] Among American Indian and Alaska Native children, 76% have decay experience compared to 56% and 34% among Hispanic and white children, respectively. Of children with AHCCCS (Medicaid) health insurance, 62% have decay experience compared to 34% of those with employer or privately purchased insurance. Having dental insurance coverage was not associated with decay experience. In most cases, the FTF regional and county level risk factors are similar to those found at the state-level.

The higher prevalence of decay experience among certain population groups underscores the need to strengthen existing programs and explore additional policy and programmatic interventions designed to increase access to preventive dental services among Arizona's most vulnerable children.

Table 2. Prevalence of Decay Experience by Selected Characteristics

	N	Weighted %
Arizona	3,630	52%
School participation in NSLP		
< 25% of children in school	150	29%
25-49% of children in school	787	41%
50-74% of children in school	839	48%
≥ 75% of children in school	1,854	62%
Race/Ethnicity		
Non-Hispanic White	436	34%
Non-Hispanic AI/AN	117	76%
Non-Hispanic Other Race*	93	48%
Hispanic - any race	800	56%
Type of health insurance		
Employer or private purchase	567	34%
AHCCCS (Medicaid)	703	62%
None	98	52%
Dental insurance coverage		
No	335	52%
Yes	1,059	47%
Parent Education		
High school graduate or less	562	60%
Some college	831	40%

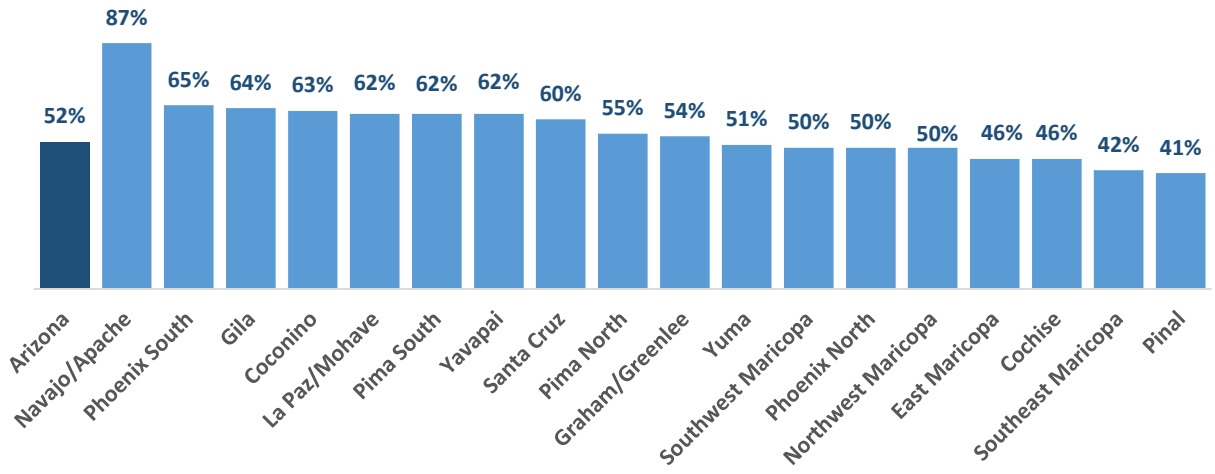
***Non-Hispanic Other Race: Includes African American/Black, Asian, and Pacific Islander/Native Hawaiian**

[6] To be eligible for the NSLP program during the 2014-2015 school year, annual income for a family of four could not exceed $44,123 (Child Nutrition Programs- Income Eligibility Guidelines, 2014)

Regional Highlights

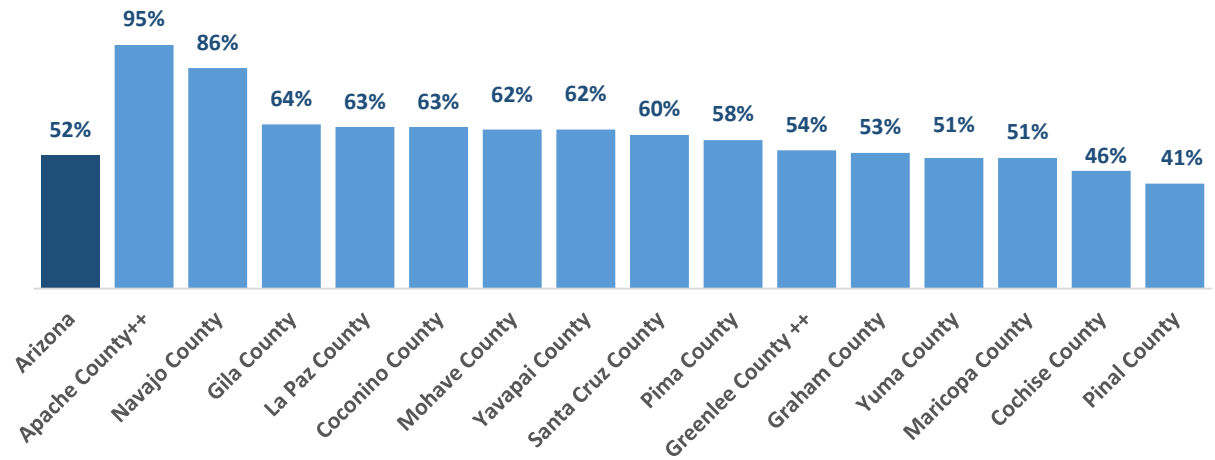
The percentage of children with decay experience varies greatly by region. The Navajo/Apache region has a particularly high percentage of kindergarten children with decay experience (87%) followed by Phoenix South (65%), Gila (64%), Coconino (63%), LaPaz/Mohave (62%), Pima South (62%), Yavapai (62%), and Santa Cruz (60%). Conversely, Pinal had the lowest percentage (41%), which falls far below the state rate of 52% (see Figure 2). For more information on region specific findings please refer to the regional profiles at the end of this report. Because of small sample sizes, caution should be taken when interpreting results at the regional and county level.

Figure 2. Prevalence of Decay Experience by Region



County Highlights

Figure 3. Prevalence of Decay Experience by County



++ Only 1 school was screened.

PREVALENCE OF UNTREATED DECAY

Why It Matters

Having untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Tooth decay in infants and children destroys more than just a smile. Untreated decay compromises the child's ability to eat well, sleep well, and function well at home and at school. In addition, the unaesthetic nature of untreated decay can compromise a child's self-esteem and social development. Untreated tooth decay in children is painful and without appropriate treatment, can lead to infection of the teeth and gums. Although rare, infections due to untreated tooth decay can lead to severe morbidity and even death (Casamassimo et al., 2009).

Benchmarks and National Data

Healthy People 2020 provides 10-year national objectives for improving the overall health of Americans. The Healthy People 2020 objectives for untreated decay are:

- Reduce the proportion of 3- to 5-year-olds with untreated decay in their primary teeth to 21%
- Reduce the proportion of 6- to 9-year-olds with untreated decay in their primary and permanent teeth to 26%

It should be noted that Arizona's *Healthy Smiles Healthy Bodies* survey screened kindergarten children (5- to 6-year-olds) and captured information on the prevalence of untreated decay in both primary and permanent teeth.[7]

FTF, in coordination with statewide partners, provides a state level objective for improving the oral health of Arizona's young children. Arizona's objective for untreated decay is to:

- Reduce the number and percentage of children age 5 with untreated tooth decay to 32%

The National Health and Nutrition Examination Survey (NHANES) assesses the health and nutritional status of adults and children in the United States. The following is based on data from NHANES 2005-2010:

- In the United States, the prevalence of untreated decay among 5-year-olds is 21%

How Arizona's Young Children Are Faring

The good news – fewer children have untreated tooth decay. In recent years many different organizations in Arizona, including FTF and ADHS, have worked on improving access to dental care for children. The efforts are paying off – compared to 2003,

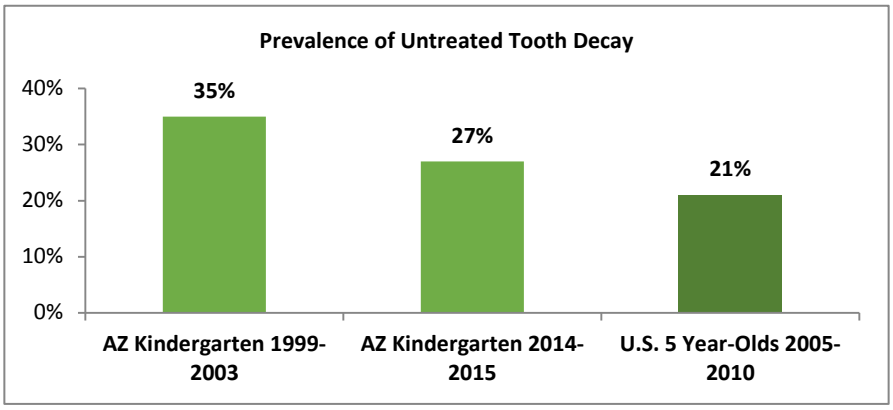
Compared to 10 years ago, significantly fewer children have untreated tooth decay.

[7] Please see Page 22 for the cautionary note regarding comparisons of the *Healthy Smiles Healthy Bodies Survey* against national goals or data points presented.

significantly fewer children had untreated decay in 2015. Overall, 27% of Arizona's kindergarten children were found to have untreated decay, a decrease from 35% in 2003. This means that Arizona has surpassed by 5 percentage points the statewide 2020 Oral Health School Readiness Indicator benchmark of 32% set in 2013 by FTF's State Board.

Arizona's kindergarten children, however, continue to have more disease than the national average for 5-year-old children (21%). For those children with untreated decay, the number of decayed teeth ranged from 1 to 16 with an average of 2.7 teeth. Most of the children with untreated decay (65%) had either 1 or 2 teeth with decay.

Children who had not been to the dentist in the past year were twice as likely to have untreated decay (see Table 3) and the decrease in untreated decay may be partially explained by an increase in the percentage of children with an annual dental visit. In 2003, only 54% of kindergarten children had been to a dentist in the past year compared to 77% in 2015. The percentage that had never been to a dentist was cut by more than half, dropping from 25% to 10%. A similar trend in increasing dental utilization can also be found in Arizona's AHCCCS (Medicaid) data. In 2003, 33% of Arizona's children ages 3-5 years and 44% of children 6-9 years covered by AHCCCS (Medicaid) received dental services compared to 55% and 64% respectively in 2014 (Medicaid, 2016). As a comparison, the percentage of Medicaid children 3-5 years of age receiving dental services at the national level in 2014 was 54% for children 3-5 years of age and 61% for children 6-9 years of age (Medicaid, 2016).



Arizona Department of Health Services, Office of Oral Health (2005). "The Oral Health of Arizona's Children: Current status, Trends and Disparities." Arizona Department of Health Services and First Things First (2015). The Oral Health of Arizona's Kindergarten Children: Healthy Smile Healthy Bodies Survey 2015. National Health and Nutrition Examination Survey (NHANES), 2005-2010.

Risk Factors for Untreated Decay

Ongoing Challenges – some sub-populations still have high levels of untreated decay. While more children are receiving dental services and fewer have untreated tooth decay, more work needs to be done. Data from *Healthy Smiles Healthy Bodies* shows that the prevalence of untreated tooth decay is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year, suggesting particular vulnerability for certain populations of young children (see Table 3). For example, in schools where 75% or more of the children are eligible for the National School Lunch Program (NSLP), 32% have untreated decay

compared to only 11% in schools where less than 25% of children are eligible for NSLP.[8] The percentage with untreated decay is highest for American Indian and Alaska Native children (48%) followed by Hispanic (28%) and white (15%) children. If a child has not been to the dentist for a year or more, they are more likely to have untreated decay. In most cases, the FTF regional and county level risk factors are similar to those found at the state level. There are also differences in the prevalence of untreated decay by geographic area, which may, in some cases, be associated with a scarcity of dental providers able to provide care to the most vulnerable children (refer to Regional and County Highlights).

It should be noted that *Healthy Smiles Healthy Bodies* was not designed to determine why some sub-populations have more disease. The scientific literature, however, suggests that social determinants play a significant role in a child's oral health stemming from the consequences of poverty, limited access to dental care, lack of dental insurance, poor cultural and linguistic competency of care providers, and the health literacy and beliefs of parents (Garcia, Cadoret, & Henshaw, 2008).

Arizona's results mirror those of the National Health and Nutrition Examination Survey (NHANES), which found that low-income and minority children have higher rates of untreated tooth decay compared to their higher-income and non-Hispanic white peers (Dye et al., 2012). In this survey, the associations between untreated decay and gender, urbanicity, frequency of tooth brushing, type of health insurance, dental insurance, and parent education were not statistically significant.

Table 3. Prevalence of Untreated Tooth Decay by Selected Characteristics

	N	Weighted %
Arizona	3,630	27%
School participation in NSLP		
< 25% of children in school	150	11%
25-49% of children in school	787	24%
50-74% of children in school	839	29%
≥ 75% of children in school	1,854	32%
Race/Ethnicity		
Non-Hispanic White	436	15%
Non-Hispanic AI/AN	117	48%
Non-Hispanic Other Race*	93	33%
Hispanic - any race	800	28%
Time since last dental visit		
Within past year	1,066	20%
More than 1 year ago or never been	352	38%

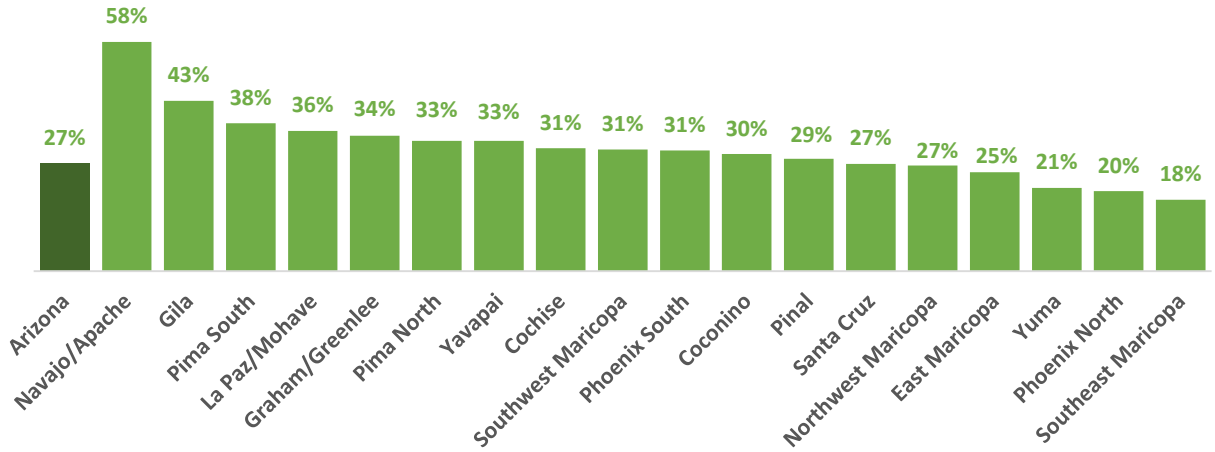
***Non-Hispanic Other Race: Includes African American/Black, Asian, and Pacific Islander/Native Hawaiian**

[8] To be eligible for the NSLP program during the 2014-2015 school year, annual income for a family of four could not exceed $44,123 (Child Nutrition Programs- Income Eligibility Guidelines, 2014)

Regional Highlights

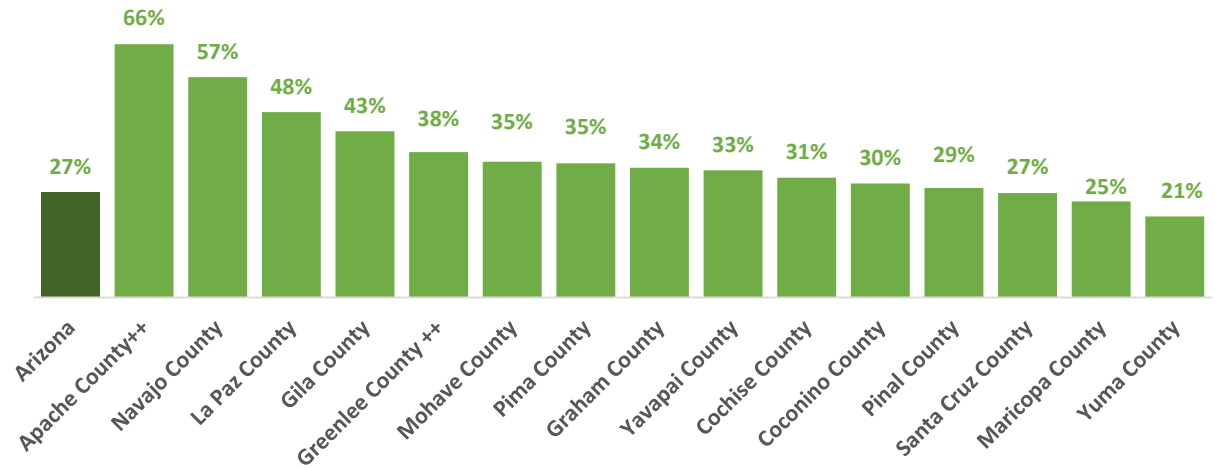
The percentage of children with untreated decay varies greatly by region. The Navajo/Apache region has a particularly high percentage of kindergarten children with untreated decay (58%) followed by Gila (43%), Pima South (38%), LaPaz/Mohave (36%), Graham/Greenlee (34%), Pima North (33%), Yavapai (33%), and Cochise (31%). Conversely, Southeast Maricopa had the lowest percentage (18%), which falls far below the state rate of 27% (see Figure 4). For more information on region specific findings please refer to the regional profiles at the end of this report. Because of small sample sizes, caution should be taken when interpreting results at the regional and county level.

Figure 4. Prevalence of Untreated Tooth Decay by Region



County Highlights

Figure 5. Prevalence of Untreated Tooth Decay by County



++ Only 1 school was screened.

PREVALENCE OF DENTAL PAIN AND INFECTION

Why It Matters

Having dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. A child with pain may have difficulty attending to tasks or may demonstrate other effects of pain such as anxiety, fatigue, irritability, depression, and withdrawal from normal activities (Holt & Barzel, 2013). An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain (Alaki et al., 2008; Moazzam et al., 2015; Simuntis et al., 2014). Although rare, infections due to untreated tooth decay can lead to severe morbidity and even death (Casamassimo et al., 2009).

Benchmarks and National Data

Healthy People 2020 provides 10-year national objectives for improving the overall health of Americans. Healthy People 2020 does not have an objective or national benchmark for the prevalence of dental pain or infection.

The National Health and Nutrition Examination Survey (NHANES) assesses the health and nutritional status of adults and children in the United States. The following is based on data from NHANES 2011-2012:

- In the United States, less than 1% of children ages 4-6 years of age need dental care within the next two weeks[9]

How Arizona's Young Children Are Faring

The good news – fewer children have dental pain or infection. In 2003, 7% of the kindergarten children screened had tooth decay severe enough that they had a toothache or an abscessed tooth on the day of the screening. This percentage decreased to less than 2% in 2015. Arizona's kindergarten enrollment was about 70,900 in 2002-2003 and 83,100 in 2015. If the percentage with dental pain or infection is applied to these enrollment figures, approximately 4,960 children had dental pain in 2002-2003 compared to 1,660 in 2015. This means that 3,300 ***fewer*** kindergarten children are sitting in a classroom with dental pain. As previously mentioned, children with dental problems are more likely to miss school, have problems at school, and perform poorly at school, all of which negatively impact a child's ability to learn (Gift et al., 1992; Jackson et al., 2011). By decreasing the number of children attending school with dental pain, the hope is that this will improve a child's chance of achieving educational success. As with untreated decay, children from low-income households, some racial and ethnic groups, and children without a dental visit in the past year are more likely to have dental pain or infection (see Table 4). For example, in schools where 75% or more of the children are eligible for the National School Lunch Program (NSLP), 1.7%

[9] Please see Page 22 for the cautionary note regarding comparisons of the *Healthy Smiles Healthy Bodies Survey* against national goals or data points presented.

have dental pain or infection compared to no children in schools where less than 25% of children are eligible for NSLP.[10] The percentage with dental pain or infection is highest among American Indian and Alaska Native children (6%) followed by Hispanic (2%) and white (1%) children. If a child has not been to the dentist for a year or more, they are more likely to have untreated decay. In most cases, the FTF regional and county-level risk factors are similar to those found at the state-level.

Table 4. Number and Percent of Arizona's Kindergarten Children Needing Urgent Dental Care as a Result of Pain or Infection by Selected Characteristics

	N	Weighted %
Arizona	3,630	1.6%
School participation in NSLP		
< 25% of children in school	150	0%
25-49% of children in school	787	1.8%
50-74% of children in school	839	1.9%
≥ 75% of children in school	1,854	1.7%
Race/Ethnicity		
Non-Hispanic White	436	0.7%
Non-Hispanic AI/AN	117	5.7%
Non-Hispanic Other Race*	93	1.1%
Hispanic - Any Race	800	1.7%
Time since last dental visit		
Within past year	1,066	0.7%
More than 1 year ago or never been	352	3.5%

*** Non-Hispanic Other Race: Includes African American/Black, Asian, and Pacific Islander/Native Hawaiian**

As previously mentioned, the percentage of children with dental pain or infection has decreased since 2003. Given that children who had not been to the dentist in the past year were more than four times more likely to have dental pain or infection than those with a dental visit (see Table 4), the decrease in children with pain or infection may be partially explained by an increase in the percentage of children with an annual dental visit. In 2003, only 54% of kindergarten children had been to a dentist in the last year compared to 77% in 2015; while the percent that had never been to a dentist was cut in half, dropping from 25% to 10%. A similar trend in increasing dental utilization can also be found in Arizona's AHCCCS (Medicaid) data. In 2003, 33% of Arizona's children ages 3-5 years and 44% of children ages 6-9 years covered by Medicaid received dental services, compared to 55% and 64% respectively in 2014 (Medicaid, 2016). As a comparison, the percent of Medicaid children 3-5 years of age receiving dental services at the national level in 2014 was 54% for children 3-5 years of age and 61% for children 6-9 years of age (Medicaid, 2016). The

[10] To be eligible for the NSLP program during the 2014-2015 school year, annual income for a family of four could not exceed $44,123 (Child Nutrition Programs- Income Eligibility Guidelines, 2014)

increase in the percent of Arizona's kindergarten children with a dental visit may be associated with the fact that nationwide more children had dental benefits in 2015 than in 2001 (Vujicic, Goodell, & Nasseh, 2013), along with an increased awareness among parents of the importance of regular dental visits. The increase in the number of children with dental benefits since 2001 was primarily due to Medicaid expansions and the Affordable Care Act's pediatric dental benefit.

Ongoing Challenges – too many children have dental pain or infection. Even though the percent of kindergarten children with dental pain or infection has decreased during the last 10 years, 1.6% still need urgent dental care because of pain or infection. During the 2014-2015 school year, there were about 83,100 kindergarten children in Arizona. If almost 2% need urgent dental care, this means that about 1,660 kindergarten children are in the classroom while in pain or with an oral infection, which can affect their ability to concentrate and learn.

Children generally have pain or infection because they have not received regular restorative dental care or have not been to the dentist for a period of time. Reasons for not going to the dentist are complex but a recent national survey suggests that adults do not seek dental care because of cost, low perceived need, lack of time, difficulty traveling to a dentist, anxiety, and difficulty finding a dentist that accepts Medicaid (Yarbrough, Nasseh, & Vujicic, 2014). Although not geared toward young children, the reasons why some adults do not seek dental care are likely similar to why some adults do not take their children to a dentist.

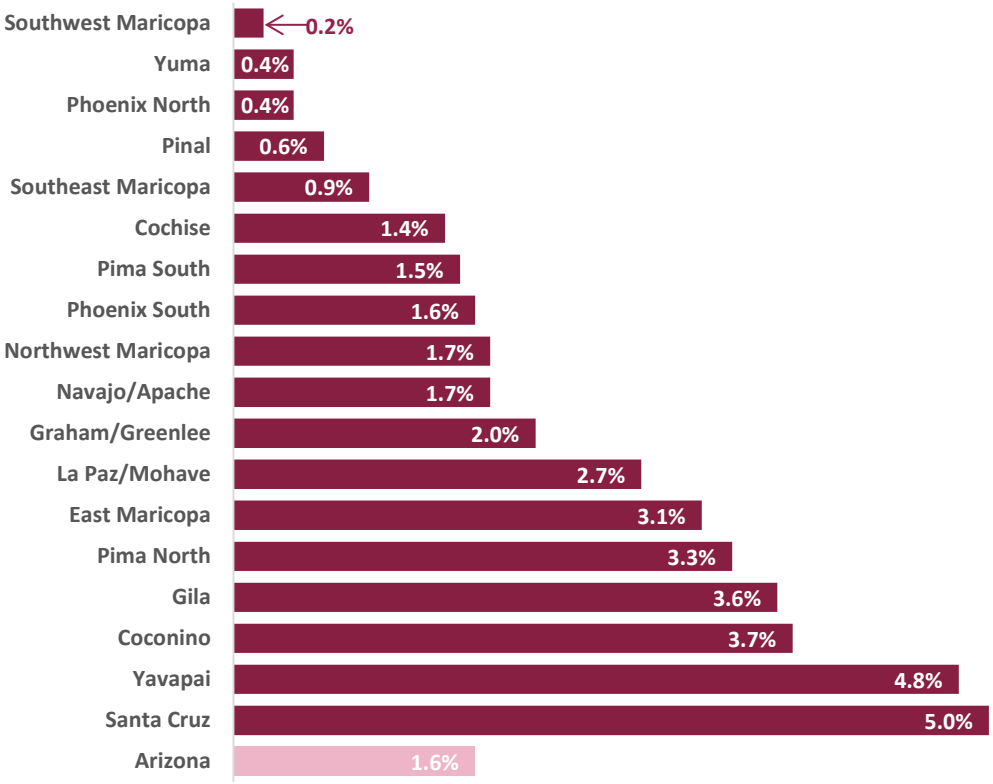
Risk Factors for Dental Pain or Infection

Ongoing Challenges – some sub-populations still have high levels of dental pain or infection. While more children are receiving dental services and fewer have pain or infection, more work needs to be done. Data from *Healthy Smiles Healthy Bodies* shows that the prevalence of dental pain or infection is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year or more, suggesting particular vulnerability for certain populations of young children (see Table 4). For example, if a child had not been to the dentist in the last year, 4% had dental pain compared to <1% among those that had been to the dentist in the last year. In most cases, the FTF regional and county level risk factors are similar to those found at the state-level. There are also differences in the prevalence of dental pain or infection by geographic area which may, in some cases, be associated with a scarcity of dental providers who are able to provide care to the most vulnerable children (refer to Regional and County Highlights).

Regional Highlights

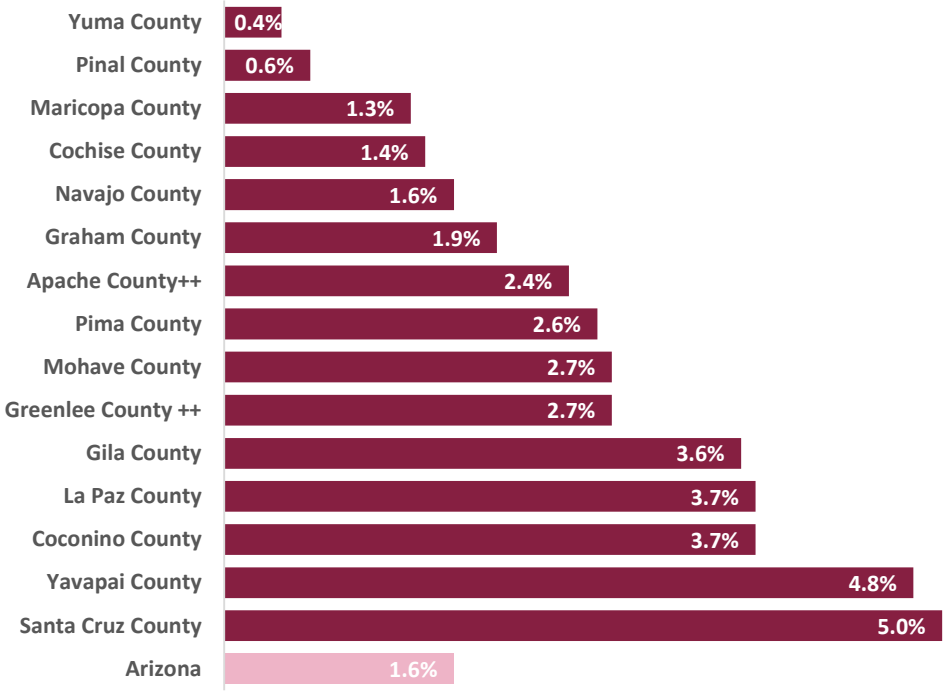
The percentage of children with dental pain or infection varies by region. The Santa Cruz and Yavapai regions have the highest percentage of kindergarten children with pain or infection (5.0% and 4.8%, respectively). Conversely, Southwest Maricopa had the lowest percentage (< 1%), which falls below the state rate of 1.6% (see Figure 6). For more information on region specific findings please refer to the regional profiles at the end of this report. Because of small sample sizes, caution should be taken when interpreting results at the regional and county level.

Figure 6. Percent of Children with Dental Pain or Infection by Region



County Highlights

Figure 7. Percent of Children with Dental Pain or Infection by County



++ Only 1 school was screened.

ANNUAL DENTAL VISIT

Why It Matters

Regular visits to the dentist provide access to early diagnosis and treatment, as well as preventive services and education on how to prevent problems. Data from both Arizona and the nation show that children who visited a dentist in the last year are less likely to have untreated tooth decay and dental pain. The American Academy of Pediatrics recommends that children have a first dental visit within six months of the eruption of the first primary tooth and no later than 12 months of age. Having a dental visit on at least an annual basis is recommended, with more frequent visits for those at high risk of tooth decay. The Association of State and Territorial Dental Directors (2012) strongly encourages early childhood tooth decay prevention programs to be interdisciplinary with medical, dental, social service, and early childhood educators working together to facilitate the first dental visit by age 1. This includes arranging for a tooth decay risk assessment, providing anticipatory guidance and making timely referrals for the establishment of a dental home.

Children should have their first dental visit within six months of the eruption of the first tooth and no later than 12 months of age (American Academy of Pediatrics, 2015).

Benchmarks and National Data

Healthy People 2020 provides 10-year national objectives for improving the overall health of Americans. The Healthy People 2020 objective for dental visits is:

- Increase the proportion of children, adolescents, and adults who used the oral health care system in the past year to 49%

Having an annual dental visit is so important that it is classified as a Healthy People 2020 Leading Health Indicator. The Leading Health Indicators are a select subset of 26 Healthy People 2020 objectives chosen to communicate high-priority health issues.

The Medical Expenditure Panel Survey (MEPS) is a set of large-scale surveys of families and individuals, their medical providers, and employers across the United States. MEPS is the most complete source of data on the cost and use of health care and health insurance coverage. The following is based on data from MEPS 2011:

- In the United States, the percentage of persons aged 2 years and older who had a dental visit in the past 12 months is 42%

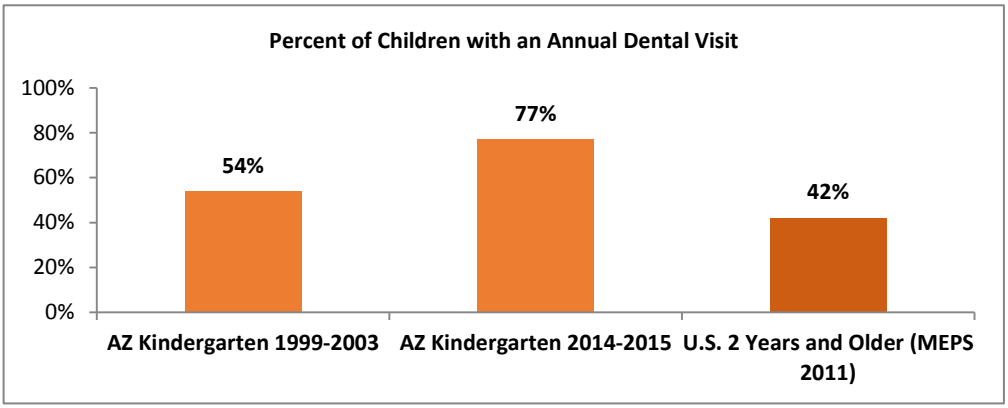
The National Survey of Children's Health (NSCH), led by the National Center for Health Statistics at the Centers for Disease Control and Prevention, provides rich data on multiple, intersecting aspects of children's lives including physical and mental health, access to quality health care, and the child's family, neighborhood, school, and social context. The following is based on data from NSCH 2011-2012:

- For children 1-5 years of age, 55% had a dental visit in the last year while 88% of those 6-11 years had a dental visit in the last year

It should be noted that Arizona's *Healthy Smiles Healthy Bodies* surveyed the parents of kindergarten children (5-6 year olds) and the dental visit data was collected using an optional questionnaire.[11]

How Arizona's Young Children are Faring

The good news – more children are visiting the dentist annually. In 2003, only 54% of kindergarten children had been to a dentist in the last year compared to 77% in 2015.



Arizona Department of Health Services, Office of Oral Health (2005). "The Oral Health of Arizona's Children: Current status, Trends and Disparities." Arizona Department of Health Services and First Things First (2015). The Oral Health of Arizona's Kindergarten Children: Healthy Smile Healthy Bodies Survey 2015. US Department of Health and Human Services (2011). The Percentage of Persons Aged 2 Years and Older who had a Dental Visit in the Past 12 Months. Medical Expenditure Panel Survey 2011.

The percent that had never been to a dentist was cut by more than half, dropping from 25% to 10%. A similar trend in increasing dental utilization can also be found in Arizona's AHCCCS (Medicaid) data. In 2003, 33% of Arizona's children ages 3-5 years and 44% of children 6-9 years covered by Medicaid received dental services compared to 55% and 64% respectively in 2014 (Medicaid, 2016). As a comparison, the percent of Medicaid children receiving dental services at the national level in 2014 was 54% for children 3-5 years of age and 61% for children 6-9 years of age (Medicaid, 2016).

Compared to those that had been to the dentist in the last year, children who had not been to the dentist were significantly more likely to have untreated decay (20% vs. 38%) and dental pain or infection (4% vs. 1%). Children with a dental visit in the last year had an average of 0.5 teeth with untreated decay while those without a dental visit had an average of 1.3 teeth with untreated decay.

Risk Factors for Not Having an Annual Dental Visit

Ongoing Challenges – some sub-populations are less likely to visit the dentist each year. While more children are visiting the dentist and receiving dental services, more work needs to be done. Data from *Healthy Smiles Healthy Bodies* shows that lower income children, children whose parents

[11] Please see Page 22 for the cautionary note regarding comparisons of the *Healthy Smiles Healthy Bodies Survey* against national goals or data points presented.

have not attended college, and children with no health insurance are less likely to have had a dental visit in the last year (see Table 5). For example, in schools where 75% or more of the children are eligible for the National School Lunch Program (NSLP), 72% had a dental visit compared to 85% in schools where less than 25% of children are eligible for NSLP[12]. About 78% of children with employer or private health insurance had a dental visit compared to only 49% of those with no health insurance. If a parent reported that a child had dental insurance, 80% had visited the dentist while only 67% of those without dental insurance had visited the dentist. In most cases, the FTF regional and county level risk factors are similar to those found at the state-level. There are also differences in the percentage of children with a dental visit by geographic area which may, in some cases, be associated with a scarcity of dental professionals who are able to provide care to the most vulnerable children (refer to Regional and County Highlights).

Table 5. Percent of Children with a Dental Visit in the Last Year by Selected Characteristics

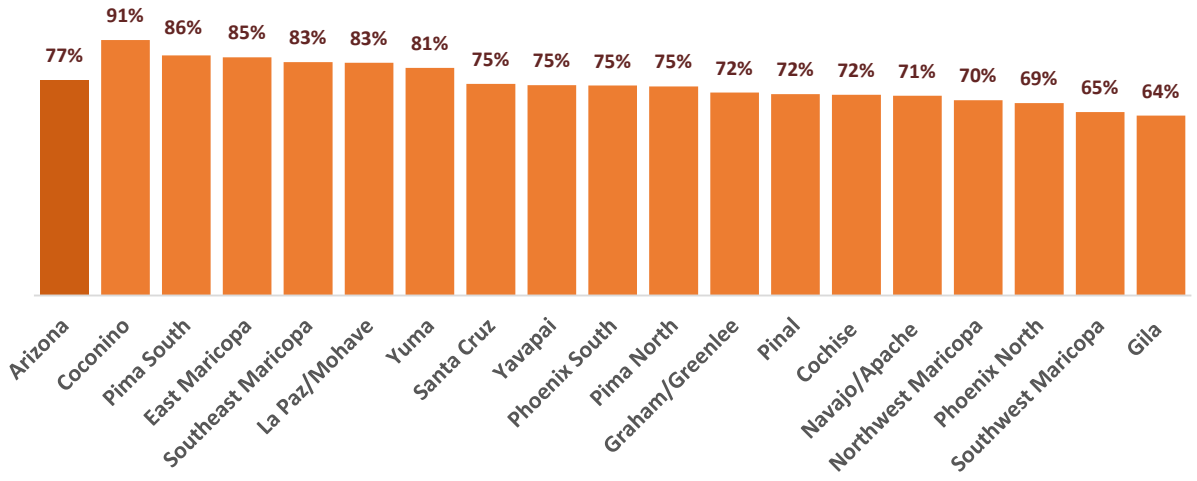
	N	Weighted %
Arizona	1,066	77%
School participation in NSLP		
< 25% of children in school	68	85%
25-49% of children in school	249	77%
50-74% of children in school	294	81%
≥ 75% of children in school	455	72%
Type of health insurance		
Employer or private purchase	421	78%
AHCCCS (Medicaid)	545	80%
None	47	49%
Dental Insurance		
Yes	829	80%
No	207	67%
Parent education		
High school graduate or less	397	72%
Some college	638	80%

Regional Highlights

The percentage of children with an annual dental visit varies by region. The Coconino region has the highest percentage of kindergarten children with a dental visit (91%) followed by Pima South (86%), East Maricopa (85%), Southeast Maricopa (83%), La Paz/Mohave (83%) and Yuma (81%). Conversely, Gila had the lowest percentage (64%), which falls far below the state rate of 77% (see Figure 8). For more information on region specific findings please refer to the regional profiles at the end of this report. Because of small sample sizes, caution should be taken when interpreting results at the regional and county level.

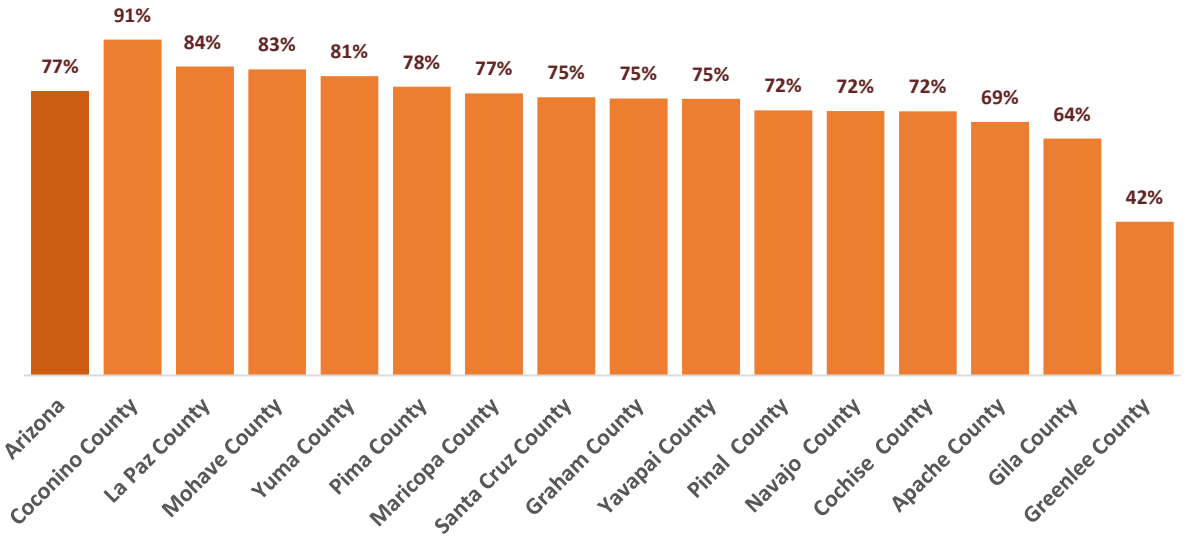
[12] To be eligible for the NSLP program during the 2014-2015 school year, annual income for a family of four could not exceed $44,123 (Child Nutrition Programs- Income Eligibility Guidelines, 2014)

Figure 8. Percent of Children with an Annual Dental Visit by Region



County Highlights

Figure 9. Percent of Children with an Annual Dental Visit by County



INSURANCE COVERAGE

Why It Matters

Dental benefits are a crucial factor enabling access to dental care. People with private dental benefits are more than twice as likely to have an annual dental exam compared to those without any benefits (Manski & Brown, 2007). Expanded Medicaid dental benefits also increase dental care use (Choi, 2011). Utilization of dental care among children has been increasing, driven primarily by gains among low-income children resulting from the expansion of Medicaid (Vujicic & Nasseh, 2014).

Benchmarks and National Data

Healthy People 2020 provides 10-year national objectives for improving the overall health of Americans. Healthy People 2020 does not have an objective or national benchmark for dental insurance coverage.

The Medical Expenditure Panel Survey (MEPS) is the most complete source of data on the cost and use of health care and health insurance coverage. The following is based on data from MEPS 2012:

- In the United States, the percentage of children 2-18 years of age with private dental benefits is 50%, 37% have public benefits, and 13% are uninsured (Nasseh & Vujicic, 2014)

It should be noted that Arizona's *Healthy Smiles Healthy Bodies* surveyed the parents of kindergarten children (5-6 year olds) and the dental insurance data was collected using an optional questionnaire.[13]

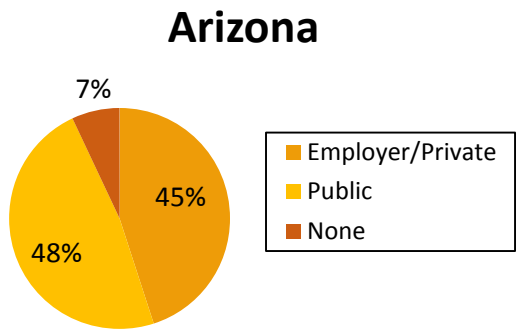
How Arizona's Young Children are Faring

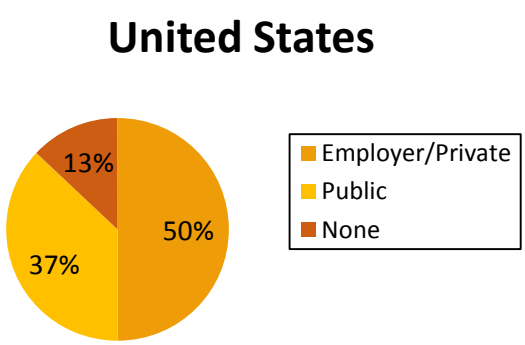
The *Healthy Smiles Healthy Bodies* survey asked two questions about insurance coverage. These questions obtained information on type of medical/health insurance and whether or not the child has insurance that pays for dental care.

The good news – most children have health insurance coverage. Of the children whose parents completed the optional questionnaire, 93% reported having health insurance. About 45% reported having private insurance, 46% had AHCCCS (Medicaid) and 2% had another type of insurance such as Indian Health Service or military benefits. Compared to children ages 2-18 in the United States, Arizona's kindergarteners are less likely to be uninsured (13% versus 7%, respectively) (see Figure 10).

[13] Please see Page 22 for the cautionary note regarding comparisons of the *Healthy Smiles Healthy Bodies Survey* against the national goals or data points presented.

Figure 10. Types of Insurance Coverage for Children in Arizona versus the United States.





Insurance Coverage in Arizona for Kindergarten Children. Arizona Department of Health Services and First Things First (2015). The Oral Health of Arizona's Kindergarten Children: Healthy Smile Healthy Bodies Survey 2015.

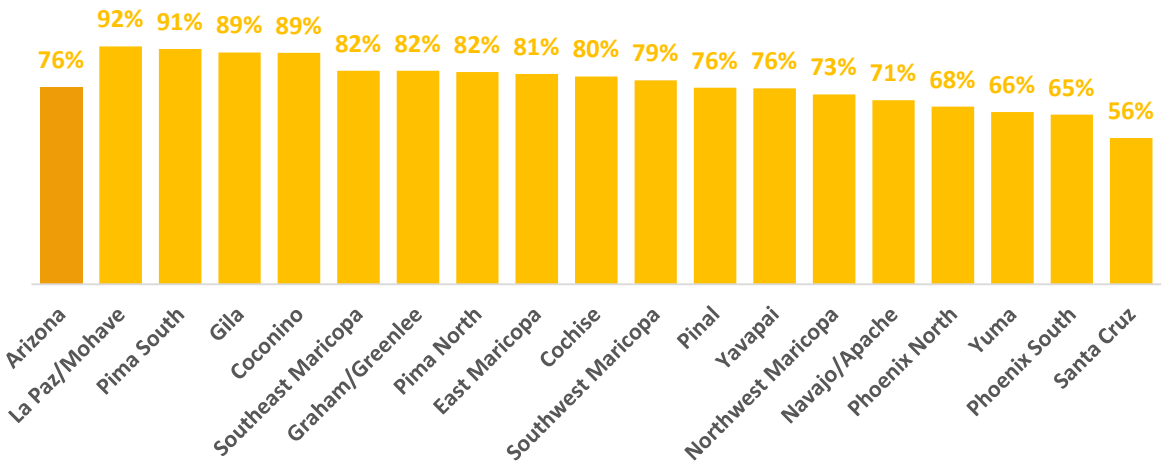
Insurance Coverage in the United States for Children 2-18 Years of Age. US Department of Health and Human Services (2012). Medical Expenditure Panel Survey 2012.

Ongoing Challenges – many parents do not know that AHCCCS (Medicaid) health insurance coverage includes dental care benefits. If a child has AHCCCS (Medicaid) health insurance, they also have coverage for dental care. The results of the survey, however, suggest that many parents are unaware of these dental benefits. Of the parents reporting that their child has AHCCCS (Medicaid) health/medical insurance, 22% reported that their child does not have insurance that pays for dental care. This result suggests that additional efforts must be made to educate parents of the dental care benefits available through AHCCCS (Medicaid).

Regional Highlights

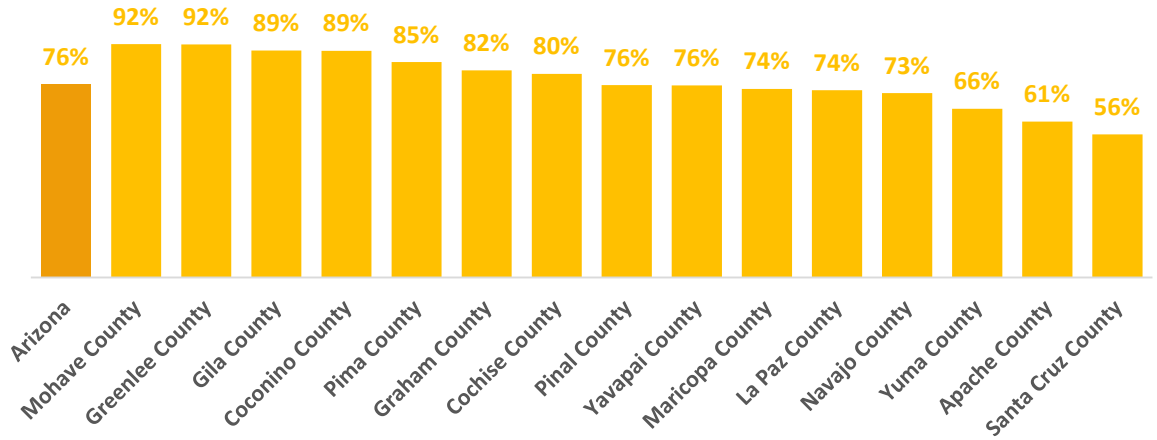
The percentage of children with dental insurance coverage varies greatly by region. The La Paz/Mohave region has the highest percentage of kindergarten children with dental insurance (92%) followed by Pima South (91%), Gila (89%), and Coconino (89%). Conversely, Santa Cruz had the lowest percentage (56%), which falls far below the state rate of 76% (see Figure 11). Because of small sample sizes, caution should be taken when interpreting results at the regional and county level.

Figure 11. Percent of Children with Dental Insurance by Region



County Highlights

Figure 12. Percent of Children with Dental Insurance by County



CONCLUSION

The results of *Healthy Smiles Healthy Bodies* highlight an important fact – the oral health of Arizona's young children has, in some cases, improved. Compared to a decade ago, more children are visiting a dentist each year, fewer children have untreated decay and fewer children have dental pain or infection. Unfortunately, the percent of children with decay experience has not changed and substantial oral health disparities still exist with low-income and racial/ethnic minorities suffering disproportionately from tooth decay. To put it differently, while the oral health of Arizona's young children is improving, more work needs to be done.

To reduce the percent of children with decay experience, access to preventive dental services and parent/caregiver education must be expanded with an emphasis on reaching the youngest and most vulnerable children. To reduce the percent of children with untreated decay, there must be an increase of access to dental care by educating parents on the importance of early dental visits, developing systems that support early screening, referral and case management, and expanding the workforce providing dental care to Arizona's youngest children.

The following goals have been identified to improve the oral health of young children in Arizona. Attainment of these goals requires an increase in private and public sector participation in mobilizing resources and developing policies that support the identified strategies to be implemented and sustained.

FUTURE STRATEGIES

Increase parent and caregiver awareness of the importance of oral health starting in pregnancy and birth

- Ensure the continued focus on the promotion of oral health within the public health arena, including using health and social service settings to increase parents' knowledge on easy and positive oral health hygiene practices.
- Develop an ongoing campaign to promote oral health as part of general health and well-being.
- Promote annual dental exams, particularly for high-risk children, by 1 year of age.
- Teach parents how to use their dental health care benefits and advocate for oral health for themselves and their children.

Increase access to oral health prevention and early intervention

- In communities at high risk of dental disease, target preschools and community-based settings for the expansion of oral health screening, fluoride varnish application and parent/caregiver education.
- Sustain/increase grant funding for innovative practices – such as teledentistry – in rural and other underserved areas.
- Increase access to dental insurance for high risk children and their parents/caregivers. This includes supporting efforts to reinstate KidsCare/CHIP in Arizona that includes a pediatric dental benefit.
- Reinstate the Arizona Medicaid dental benefits for adults so that expectant mothers and parents can access needed dental care and become models for positive oral health hygiene practices.
- Provide oral health screenings at the beginning of kindergarten to provide data on the ongoing oral health status and needs of young children. This data will inform the provision of services and the development of public policy on children's oral health.
- Increase the proportion of Arizona communities with fluoridated water supplies.

Increase the number and capacity of professionals who can provide oral health care for children birth to age 5 and can promote good oral health practices for young children

- Build capacity in dental public health at the state and local levels, including the number of dental providers in under-served areas.
- Increase the number of dentists participating in AHCCCS (Medicaid).
- Create a network of champion pediatric dentists that can act as leaders within their profession and provide mentoring to general dentists to increase their skill set and comfort in providing dental care to young children birth to age 5.
- Increase the number of mid-level dental providers – such as qualified dental hygienists (i.e., Affiliated Practice Dental Hygienists) permitted by Arizona law and regulations - to provide services in the rural areas and give families more options for dental care to mitigate barriers to access.
- Expand AHCCCS (Medicaid) and private insurance reimbursement of: screening and fluoride varnish application and the provision of oral health education by dental and primary care professionals.
- Educate non-dental health care providers about the relationship between oral health and general health and their role in oral health education, screening and prevention.

REGIONAL PROFILES ON YOUNG CHILDREN'S TOOTH DECAY EXPERIENCE & UNTREATED TOOTH DECAY

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

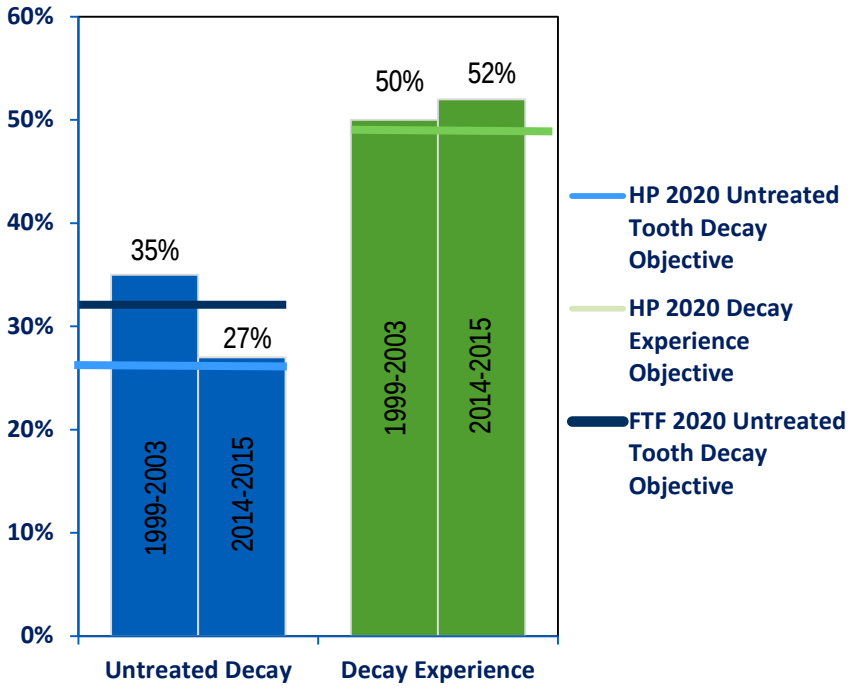
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.***

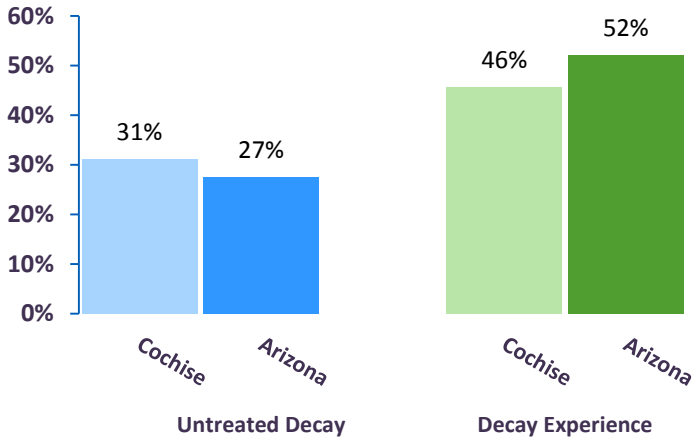
Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Cochise Region

Results show that (see Figure 2) around one third of kindergarteners (31%) in the First Things First Cochise region have untreated decay and are in need of dental care. Untreated decay findings for the region are slightly higher than for Arizona (27%).

When looking at overall decay experience, a lower percentage of kindergarteners in the region had decay experience (46%) compared to Arizona (52%). The trend for dental pain and infection in the Cochise region (1%) was similar to Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Cochise: In the Cochise region, 165 children were screened and 86 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Cochise region, children with a dental visit in the last year, children attending higher income schools and children whose parents attended college were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Cochise Region[14]			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	105	27%	45%
50-74% Eligible for NSLP	36	39%	44%
> 75% Eligible for NSLP	24	33%	50%
Race/Ethnicity			
Non-Hispanic White	28	29%	47%
Non-Hispanic Black	4	53%	100%
Hispanic (any race)	45	31%	49%
Non-Hispanic American Indian	0	.	.
Type of health insurance			
Employer/Private	27	45%	52%
AHCCCS (Medicaid)	42	25%	48%
None	5	19%	42%
Time since last dental visit			
Within the last year	60	30%	53%
> 1 year or never	24	40%	44%
Parent education			
Some College	52	28%	47%
High School or Less	32	36%	52%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

[14] Only FTF regional information is displayed as the FTF region and the Arizona County encompass the same area.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

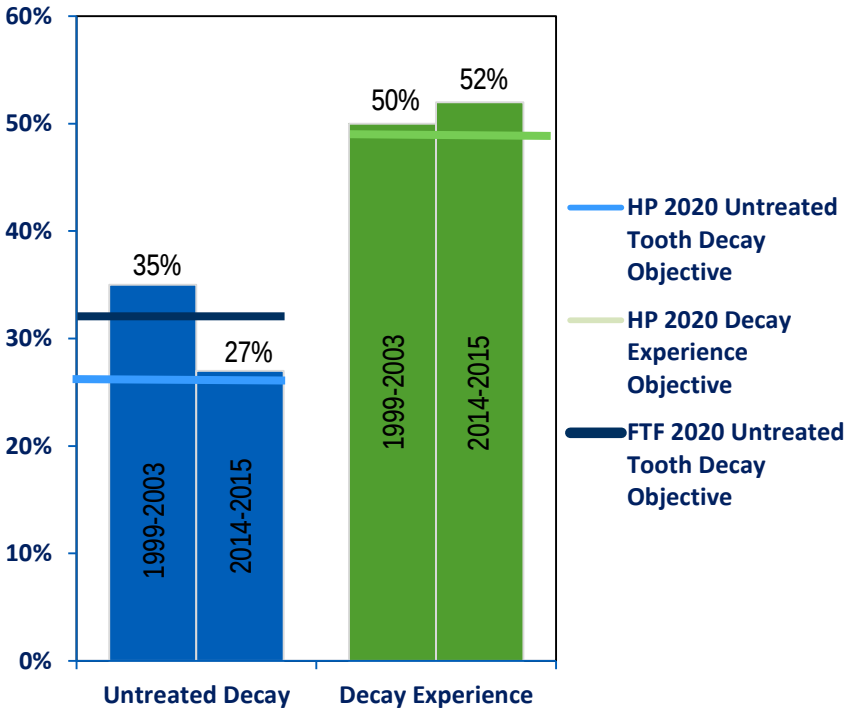
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early***

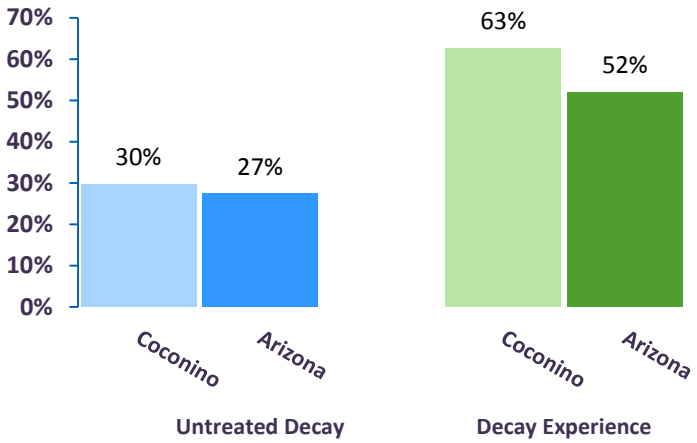
2000s. Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Coconino Region

Results show that (see Figure 2) around one third of kindergarteners (30%) in the First Things First Coconino region have untreated decay and are in need of dental care. Untreated decay findings for the region are slightly higher than for Arizona (27%).

When looking at overall decay experience, a higher percentage of kindergarteners in the region had decay experience (63%) compared to Arizona (52%). The trend for dental pain and infection in the Coconino region (4%) was slightly higher than for Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Coconino: In the Coconino region, 204 children were screened and 152 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Coconino region, children with a dental visit in the last year, children attending higher income schools, and children whose parents attended college were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Coconino Region[15]			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	90	26%	48%
50-74% Eligible for NSLP	75	29%	63%
> 75% Eligible for NSLP	39	36%	79%
Race/Ethnicity			
Non-Hispanic White	34	23%	46%
Non-Hispanic Black	0	.	.
Hispanic (any race)	25	30%	76%
Non-Hispanic American Indian	8	33%	83%
Type of health insurance			
Employer/Private	46	25%	43%
AHCCCS (Medicaid)	21	35%	87%
None	2	0%	44%
Time since last dental visit			
Within the last year	64	25%	59%
> 1 year or never	7	39%	59%
Parent education			
Some College	56	27%	55%
High School or Less	12	34%	75%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

[15] Only FTF regional information is displayed as the FTF region and the Arizona County encompass the same area.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

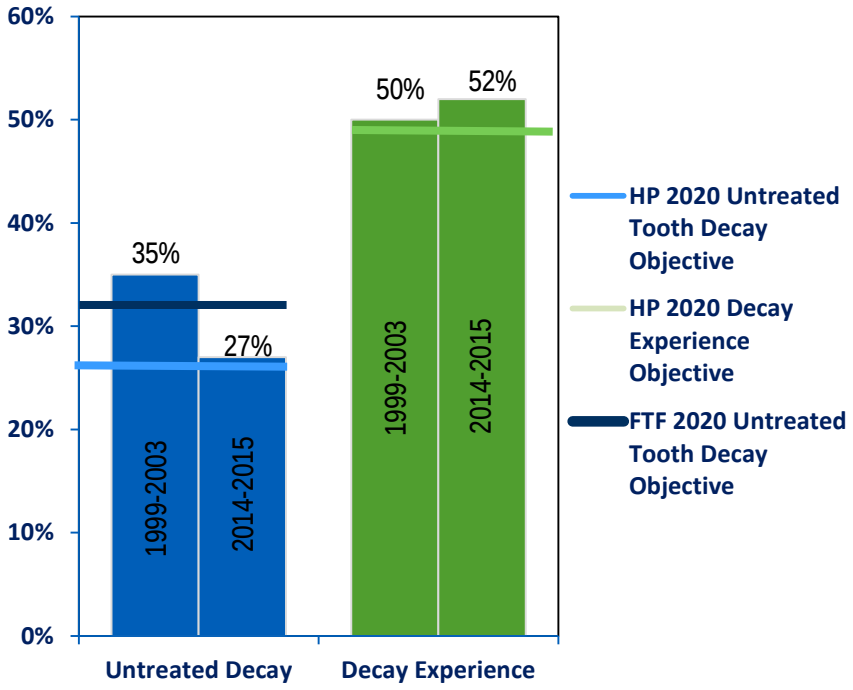
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.*** Additionally, the results of this survey show that

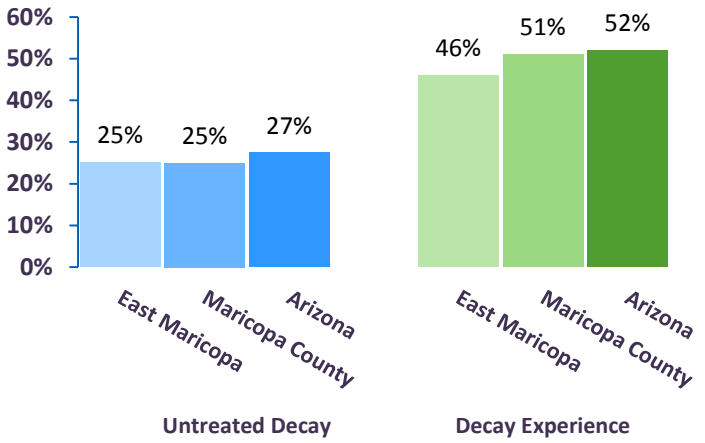
Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the East Maricopa Region

Results show that (see Figure 2) around one quarter of kindergarteners (25%) in the First Things First East Maricopa region have untreated decay and are in need of dental care. Untreated decay findings for the region are similar to Maricopa County (25%) and Arizona (27%).

When looking at overall decay experience, a lower percentage of kindergarteners in the region had decay experience (46%) in comparison to Maricopa County (51%) or Arizona (52%). The trend for dental pain and infection in the East Maricopa region (3%) was slightly higher than for Maricopa County (1%) and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

East Maricopa: In the East Maricopa region, 119 children were screened and 35 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the East Maricopa region, children with a dental visit in the last year were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
East Maricopa Region			
School participation in NSLP			
< 25% Eligible for NSLP	29	7%	17%
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	0	.	.
> 75% Eligible for NSLP	90	33%	58%
Race/Ethnicity			
Non-Hispanic White	16	0%	13%
Non-Hispanic Black	2	0%	0%
Hispanic (any race)	15	7%	24%
Non-Hispanic American Indian	2	100%	100%
Type of health insurance			
Employer/Private	26	0%	11%
AHCCCS (Medicaid)	7	31%	58%
None	1	0%	0%
Time since last dental visit			
Within the last year	29	3%	16%
> 1 year or never	6	36%	49%
Parent education			
Some College	26	4%	12%
High School or Less	8	27%	50%
Maricopa County			
School participation in NSLP			
< 25% Eligible for NSLP	150	11%	29%
25-49% Eligible for NSLP	194	23%	41%
50-74% Eligible for NSLP	120	28%	43%
> 75% Eligible for NSLP	884	29%	62%
Race/Ethnicity			
Non-Hispanic White	135	10%	31%
Non-Hispanic Black	28	22%	31%
Hispanic (any race)	284	28%	58%
Non-Hispanic American Indian	9	57%	100%
Type of health insurance			
Employer/Private	190	17%	31%
AHCCCS (Medicaid)	206	21%	63%
None	43	36%	52%
Time since last dental visit			
Within the last year	338	17%	46%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
> 1 year or never	108	36%	48%
Parent education			
Some College	253	18%	36%
High School or Less	189	26%	62%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

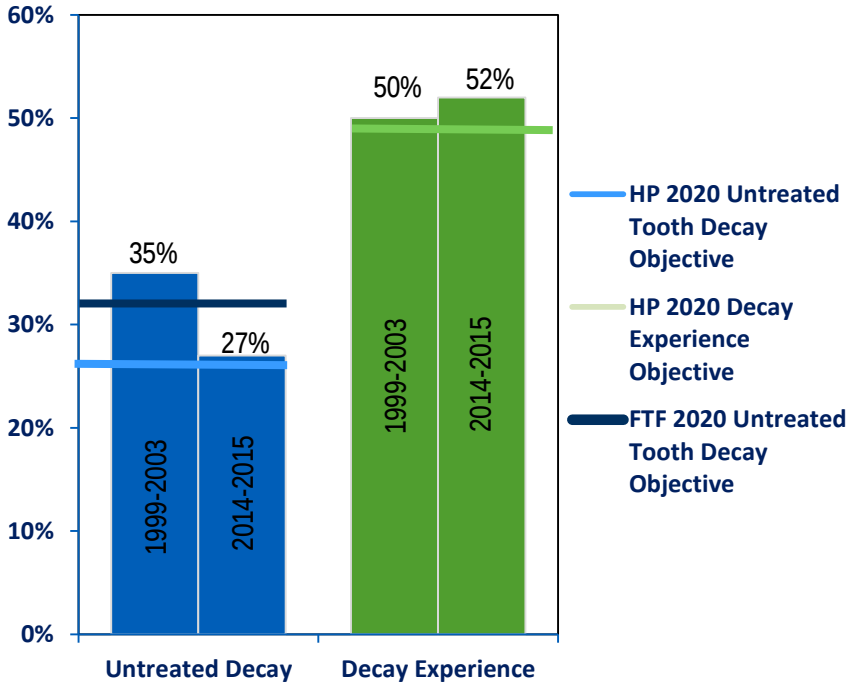
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.*** Additionally, the results of this survey show that Arizona has met its 2020

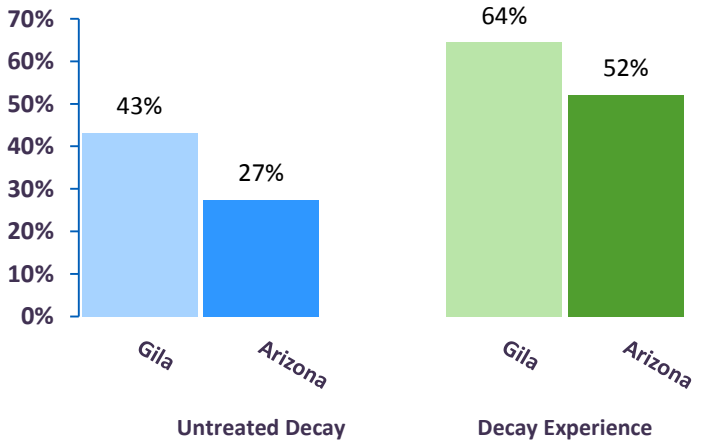
benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Gila Region

Results show that (see Figure 2) four out of every ten kindergarteners (43%) in the First Things First Gila region have untreated decay and are in need of dental care. Untreated decay findings for the region are substantially higher than for Arizona (27%).

When looking at overall decay experience, a higher percentage of kindergarteners in the region had decay experience (64%) in comparison to Arizona (52%). The trend for dental pain and infection in the Gila region (4%) was higher than for Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Gila: In the Gila region, 173 children were screened and 55 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Gila region, children with a dental visit in the last year were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Gila Region[16]			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	78	42%	68%
50-74% Eligible for NSLP	78	33%	59%
> 75% Eligible for NSLP	17	65%	71%
Race/Ethnicity			
Non-Hispanic White	25	35%	58%
Non-Hispanic Black	0	.	.
Hispanic (any race)	20	24%	47%
Non-Hispanic American Indian	7	71%	100%
Type of health insurance			
Employer/Private	27	26%	48%
AHCCCS (Medicaid)	25	34%	61%
None	2	100%	100%
Time since last dental visit			
Within the last year	33	28%	51%
> 1 year or never	22	44%	66%
Parent education			
Some College	30	32%	46%
High School or Less	23	36%	71%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

[16] Only FTF regional information is displayed as the FTF region and the Arizona County encompass the same area.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

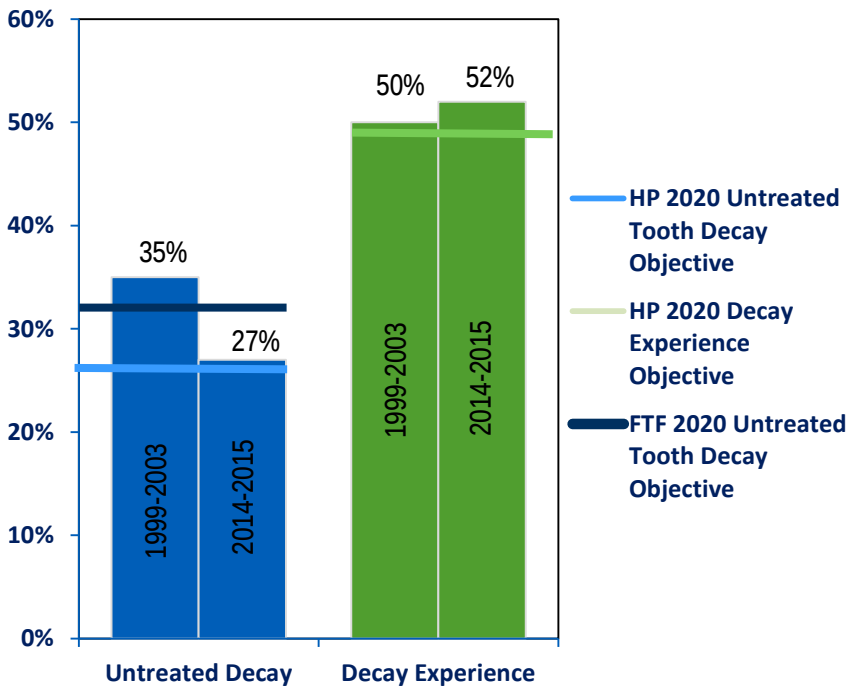
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.*** Additionally, the results of this survey show that Arizona has met its 2020

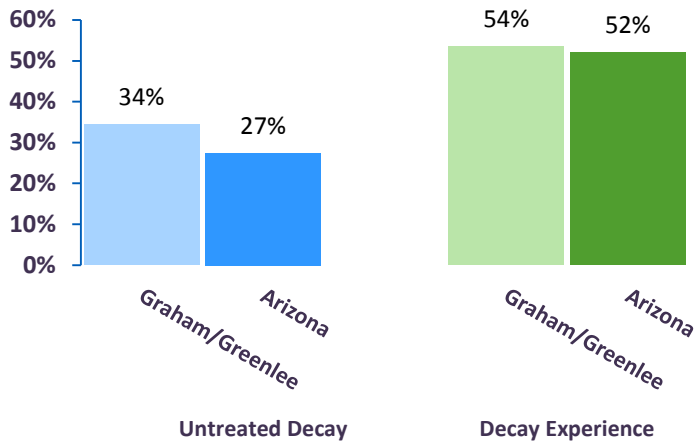
benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Graham/Greenlee Region

Results show that (see Figure 2) around one third of kindergarteners (34%) in the First Things First Graham/Greenlee region have untreated decay and are in need of dental care. Untreated decay findings for the region are similar to Graham County (34%) and Greenlee County (38%) but higher than the percentage for Arizona (27%).

When looking at overall decay experience, a similar percentage of kindergarteners in the region had decay experience (54%) in comparison to Graham County (53%), Greenlee County (54%) and Arizona (52%). The trend for dental pain and infection in the Graham/Greenlee region (2%) was similar to Graham County (2%), Greenlee County (3%) and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Graham/Greenlee: In the Graham/Greenlee region, 174 children were screened and 115 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Graham/Greenlee region, children attending higher income schools and children with employer/private insurance were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Graham/Greenlee Region			
School participation in NSLP			
< 25% Eligible for NSLP	96	29%	46%
25-49% Eligible for NSLP	78	39%	61%
50-74% Eligible for NSLP	0	.	.
> 75% Eligible for NSLP	0	.	.
Race/Ethnicity			
Non-Hispanic White	45	29%	46%
Non-Hispanic Black	2	0%	0%
Hispanic (any race)	63	41%	64%
Non-Hispanic American Indian	1	100%	100%
Type of health insurance			
Employer/Private	65	28%	44%
AHCCCS (Medicaid)	46	42%	69%
None	3	34%	67%
Time since last dental visit			
Within the last year	79	34%	61%
> 1 year or never	35	37%	45%
Parent education			
Some College	77	34%	52%
High School or Less	38	36%	66%
Graham County			
School participation in NSLP			
< 25% Eligible for NSLP	59	24%	41%
25-49% Eligible for NSLP	78	39%	61%
50-74% Eligible for NSLP	0	.	.
> 75% Eligible for NSLP	0	.	.
Race/Ethnicity			
Non-Hispanic White	43	28%	46%
Non-Hispanic Black	2	0%	0%
Hispanic (any race)	55	42%	66%
Non-Hispanic American Indian	1	100%	100%
Type of health insurance			
Employer/Private	54	30%	46%
AHCCCS (Medicaid)	45	41%	69%
None	3	34%	67%
Time since last dental visit			
Within the last year	74	35%	62%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
> 1 year or never	28	38%	45%
Parent education			
Some College	71	34%	53%
High School or Less	32	39%	68%
Greenlee County			
School participation in NSLP			
< 25% Eligible for NSLP	37	38%	54%
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	0	.	.
> 75% Eligible for NSLP	0	.	.
Race/Ethnicity			
Non-Hispanic White	2	50%	50%
Non-Hispanic Black	0	.	.
Hispanic (any race)	8	25%	38%
Non-Hispanic American Indian	0	.	.
Type of health insurance			
Employer/Private	11	18%	36%
AHCCCS (Medicaid)	1	100%	100%
None	0	.	.
Time since last dental visit			
Within the last year	5	20%	40%
> 1 year or never	7	29%	43%
Parent education			
Some College	6	33%	33%
High School or Less	6	17%	50%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

THE STATE OF ORAL HEALTH IN LA PAZ/MOHAVE

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

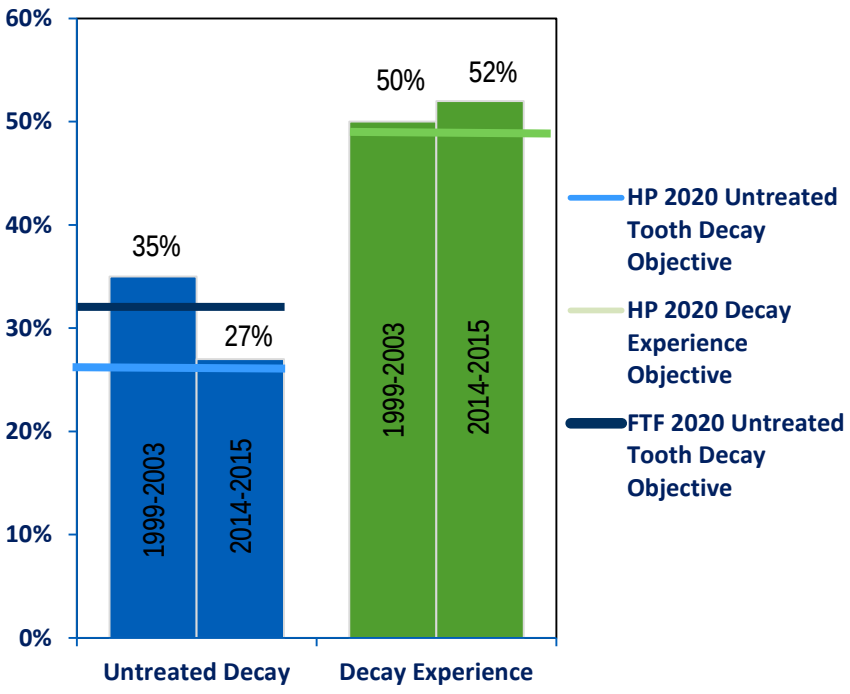
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.***

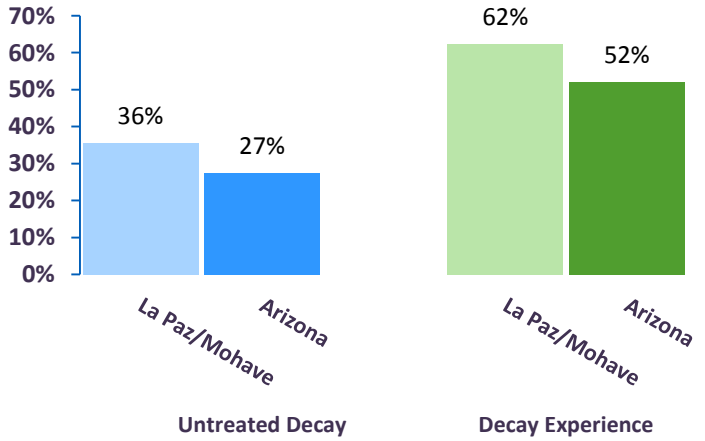
Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the La Paz/Mohave Region

Results show that (see Figure 2) around one third of kindergarteners (36%) in the First Things First La Paz/Mohave region have untreated decay and are in need of dental care. Untreated decay findings for the region are lower than for La Paz County (48%), similar to Mohave County (35%) and higher than for Arizona (27%).

When looking at overall decay experience, a similar percentage of kindergarteners in the region had decay experience (62%) in comparison to La Paz County (63%) and Mohave County (62%) but the percentage was higher than for Arizona (52%). The trend for dental pain and infection in the La Paz/Mohave region (3%) was similar to La Paz County (4%), Mohave County (3%), and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

La Paz/Mohave: In the La Paz/Mohave region, 158 children were screened and 84 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the La Paz/Mohave region, children with a dental visit in the last year, children with

employer/private insurance, children attending higher income schools, and children whose parents attended college were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
La Paz/Mohave Region			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	52	21%	58%
> 75% Eligible for NSLP	106	41%	64%
Race/Ethnicity			
Non-Hispanic White	42	30%	53%
Non-Hispanic Black	2	0%	95%
Hispanic (any race)	31	50%	69%
Non-Hispanic American Indian	2	0%	100%
Type of health insurance			
Employer/Private	23	20%	56%
AHCCCS (Medicaid)	55	36%	61%
None	4	98%	98%
Time since last dental visit			
Within the last year	70	36%	67%
> 1 year or never	14	46%	46%
Parent education			
Some College	47	21%	55%
High School or Less	33	49%	68%
La Paz County			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	14	29%	50%
> 75% Eligible for NSLP	18	62%	72%
Race/Ethnicity			
Non-Hispanic White	2	45%	45%
Non-Hispanic Black	1	0%	0%
Hispanic (any race)	7	29%	71%
Non-Hispanic American Indian	0	.	.
Type of health insurance			
Employer/Private	2	0%	0%
AHCCCS (Medicaid)	8	40%	76%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
None	1	0%	0%
Time since last dental visit			
Within the last year	10	31%	59%
> 1 year or never	2	51%	51%
Parent education			
Some College	4	28%	50%
High School or Less	7	29%	57%
Mohave County			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	38	21%	58%
> 75% Eligible for NSLP	88	40%	64%
Race/Ethnicity			
Non-Hispanic White	40	30%	54%
Non-Hispanic Black	1	0%	100%
Hispanic (any race)	24	50%	69%
Non-Hispanic American Indian	2	0%	100%
Type of health insurance			
Employer/Private	21	20%	56%
AHCCCS (Medicaid)	47	36%	61%
None	3	100%	100%
Time since last dental visit			
Within the last year	60	36%	67%
> 1 year or never	12	46%	46%
Parent education			
Some College	43	21%	55%
High School or Less	26	49%	68%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

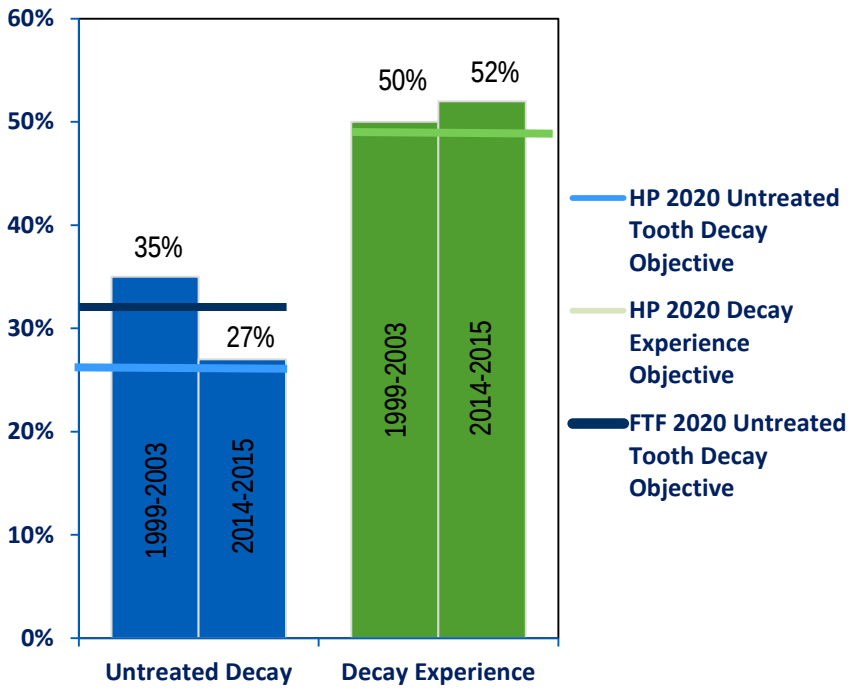
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.***

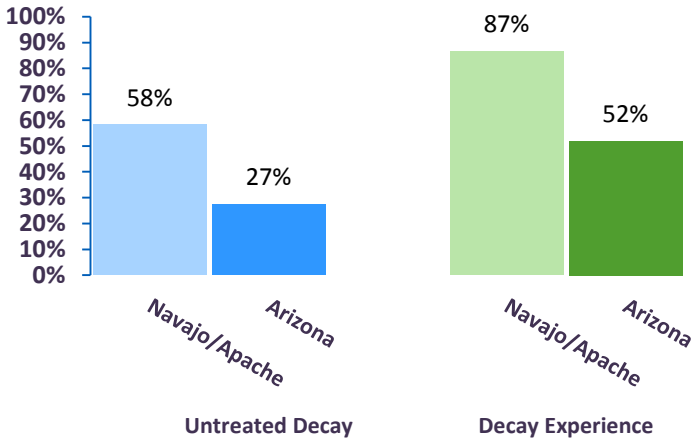
Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Navajo/Apache Region

Results show that (see Figure 2) more than half of the kindergarteners (58%) in the First Things First Navajo/Apache region have untreated decay and are in need of dental care. Untreated decay findings for the region are lower than in Apache County (66%), similar to Navajo County (57%), and substantially higher than for Arizona (27%).

When looking at overall decay experience, a higher percentage of kindergarteners in the region had decay experience (87%) in comparison to Arizona (52%). The region percentage was similar to Navajo County (86%) and lower than Apache County (95%). The trend for dental pain and infection in the Navajo/Apache region (2%) was similar to Apache County (2%), Navajo County (2%), and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Navajo/Apache: In the Navajo/Apache region, 209 children were screened and 141 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1.

In the Navajo/Apache region, children with employer/private insurance and children attending higher income schools were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Navajo/Apache Region			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	85	51%	80%
> 75% Eligible for NSLP	124	62%	90%
Race/Ethnicity			
Non-Hispanic White	20	31%	45%
Non-Hispanic Black	0	.	.
Hispanic (any race)	38	45%	86%
Non-Hispanic American Indian	77	71%	95%
Type of health insurance			
Employer/Private	29	38%	56%
AHCCCS (Medicaid)	90	64%	94%
None	4	85%	100%
Time since last dental visit			
Within the last year	94	58%	88%
> 1 year or never	39	56%	80%
Parent education			
Some College	61	60%	79%
High School or Less	71	56%	92%
Apache County			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	0	.	.
> 75% Eligible for NSLP	41	66%	95%
Race/Ethnicity			
Non-Hispanic White	1	0%	0%
Non-Hispanic Black	0	.	.
Hispanic (any race)	4	50%	100%
Non-Hispanic American Indian	25	64%	100%
Type of health insurance			
Employer/Private	4	75%	100%
AHCCCS (Medicaid)	26	62%	96%
None	1	0%	100%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Time since last dental visit			
Within the last year	22	64%	95%
> 1 year or never	10	60%	100%
Parent education			
Some College	13	69%	100%
High School or Less	18	61%	100%
Navajo County			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	85	51%	80%
> 75% Eligible for NSLP	83	61%	89%
Race/Ethnicity			
Non-Hispanic White	19	32%	46%
Non-Hispanic Black	0	.	.
Hispanic (any race)	34	45%	85%
Non-Hispanic American Indian	52	73%	94%
Type of health insurance			
Employer/Private	25	34%	52%
AHCCCS (Medicaid)	64	64%	93%
None	3	100%	100%
Time since last dental visit			
Within the last year	72	57%	87%
> 1 year or never	29	55%	76%
Parent education			
Some College	48	59%	76%
High School or Less	53	55%	91%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

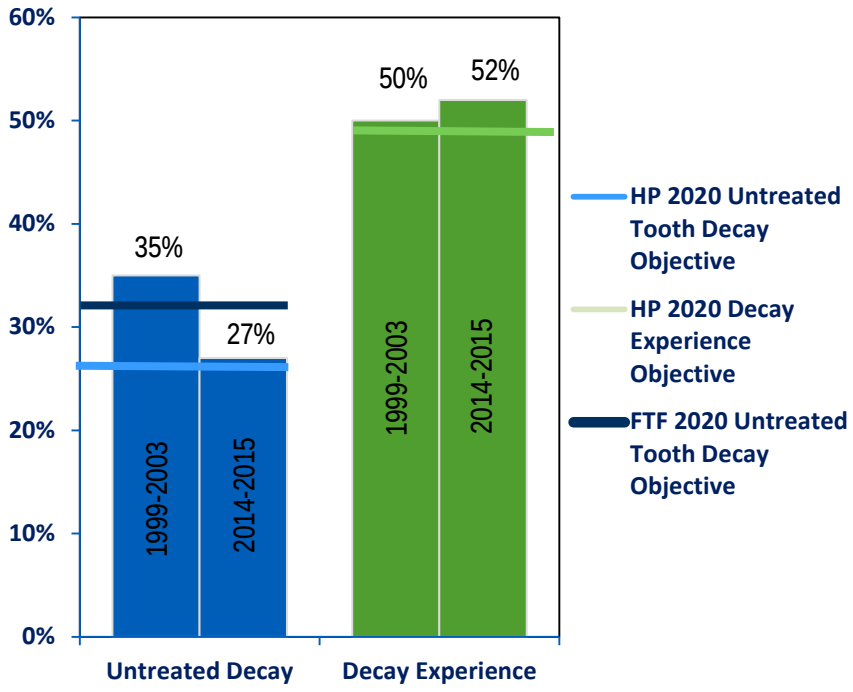
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.***

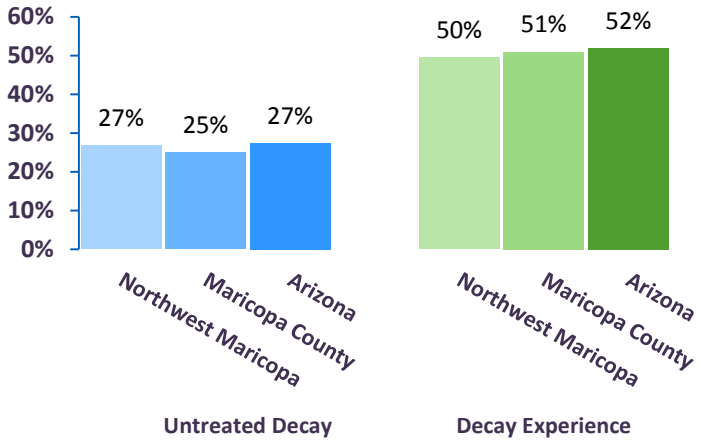
Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Northwest Maricopa Region

Results show that (see Figure 2) around one quarter of kindergarteners (27%) in the First Things First Northwest Maricopa region have untreated decay and are in need of dental care. Untreated decay findings for the region are similar to Maricopa County (25%) and Arizona (27%).

When looking at overall decay experience, a similar percentage of kindergarteners in the region had decay experience (50%) in comparison to Maricopa County (51%) or Arizona (52%). The trend for dental pain and infection in the Northwest Maricopa region (2%) was similar to Maricopa County (1%) and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Northwest Maricopa: In the Northwest Maricopa region, 292 children were screened and 56 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Northwest Maricopa region, children with a dental visit in the last year were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Northwest Maricopa Region			
School participation in NSLP			
< 25% Eligible for NSLP	37	14%	38%
25-49% Eligible for NSLP	31	58%	61%
50-74% Eligible for NSLP	43	26%	44%
> 75% Eligible for NSLP	181	20%	54%
Race/Ethnicity			
Non-Hispanic White	15	23%	40%
Non-Hispanic Black	5	7%	7%
Hispanic (any race)	28	25%	65%
Non-Hispanic American Indian	3	41%	100%
Type of health insurance			
Employer/Private	20	38%	49%
AHCCCS (Medicaid)	27	15%	73%
None	3	30%	30%
Time since last dental visit			
Within the last year	37	22%	52%
> 1 year or never	15	49%	63%
Parent education			
Some College	31	32%	52%
High School or Less	24	21%	62%
Maricopa County			
School participation in NSLP			
< 25% Eligible for NSLP	150	11%	29%
25-49% Eligible for NSLP	194	23%	41%
50-74% Eligible for NSLP	120	28%	43%
> 75% Eligible for NSLP	884	29%	62%
Race/Ethnicity			
Non-Hispanic White	135	10%	31%
Non-Hispanic Black	28	22%	31%
Hispanic (any race)	284	28%	58%
Non-Hispanic American Indian	9	57%	100%
Type of health insurance			
Employer/Private	190	17%	31%
AHCCCS (Medicaid)	206	21%	63%
None	43	36%	52%
Time since last dental visit			
Within the last year	338	17%	46%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
> 1 year or never	108	36%	48%
Parent education			
Some College	253	18%	36%
High School or Less	189	26%	62%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

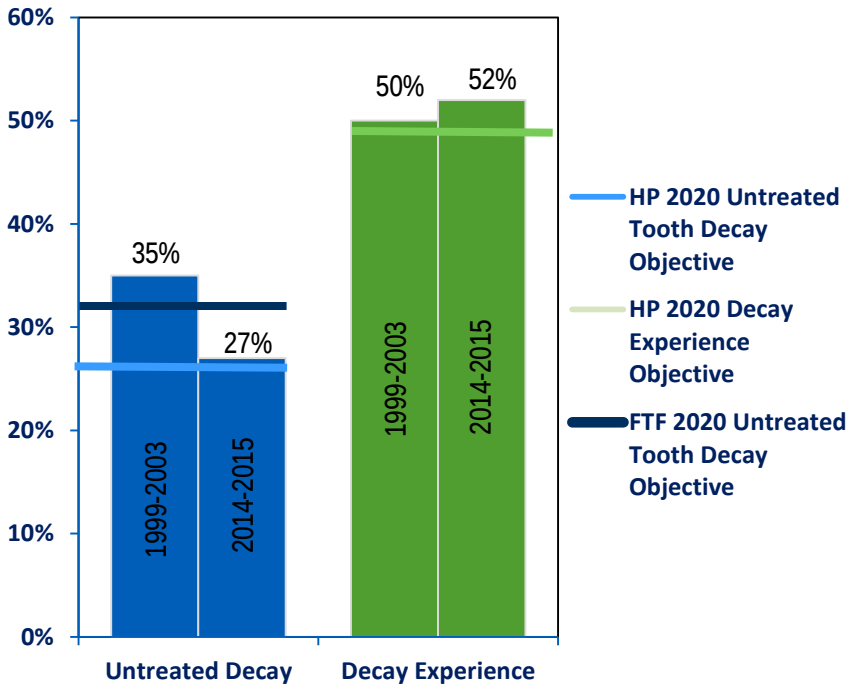
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.*** Additionally, the results of this survey show that Arizona has met its 2020

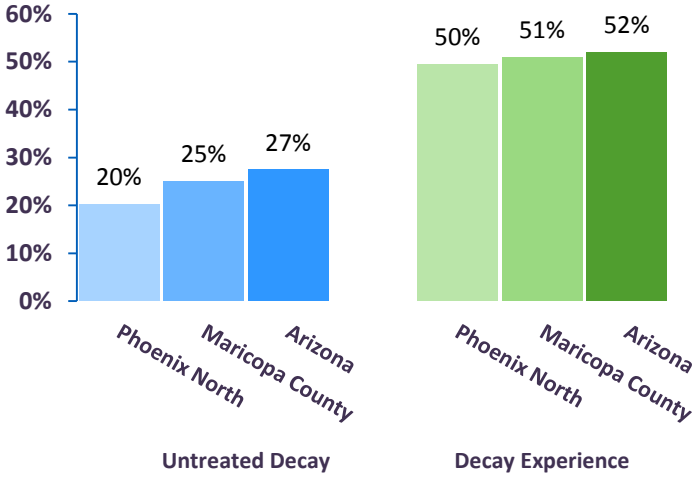
benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Phoenix North Region

Results show that (see Figure 2) around one fifth of kindergarteners (20%) in the First Things First Phoenix North region have untreated decay and are in need of dental care. Untreated decay findings for the region are lower than in Maricopa County (25%) or Arizona (27%).

When looking at overall decay experience, a similar percentage of kindergarteners in the region had decay experience (50%) in comparison to Maricopa County (51%) or Arizona (52%). The trend for dental pain and infection in the Phoenix North region (< 1%) was lower than Maricopa County (1%) and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Phoenix North: In the Phoenix North region, 177 children were screened and 62 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Phoenix North region, children attending higher income schools (< 25% on NSLP) were less likely to have decay experience and untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Phoenix North Region			
School participation in NSLP			
< 25% Eligible for NSLP	40	18%	33%
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	0	.	.
> 75% Eligible for NSLP	137	22%	57%
Race/Ethnicity			
Non-Hispanic White	19	22%	38%
Non-Hispanic Black	6	11%	23%
Hispanic (any race)	30	33%	58%
Non-Hispanic American Indian	0	.	.
Type of health insurance			
Employer/Private	21	24%	38%
AHCCCS (Medicaid)	27	22%	57%
None	8	38%	63%
Time since last dental visit			
Within the last year	43	26%	52%
> 1 year or never	17	24%	36%
Parent education			
Some College	28	26%	45%
High School or Less	30	25%	54%
Maricopa County			
School participation in NSLP			
< 25% Eligible for NSLP	150	11%	29%
25-49% Eligible for NSLP	194	23%	41%
50-74% Eligible for NSLP	120	28%	43%
> 75% Eligible for NSLP	884	29%	62%
Race/Ethnicity			
Non-Hispanic White	135	10%	31%
Non-Hispanic Black	28	22%	31%
Hispanic (any race)	284	28%	58%
Non-Hispanic American Indian	9	57%	100%
Type of health insurance			
Employer/Private	190	17%	31%
AHCCCS (Medicaid)	206	21%	63%
None	43	36%	52%
Time since last dental visit			
Within the last year	338	17%	46%

> 1 year or never	108	36%	48%
Parent education			
Some College	253	18%	36%
High School or Less	189	26%	62%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

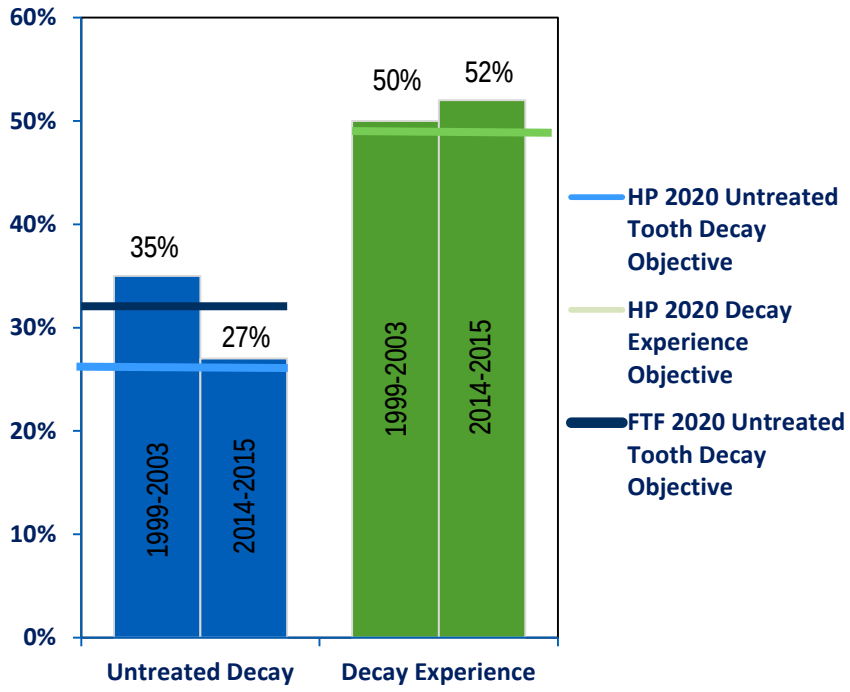
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated***

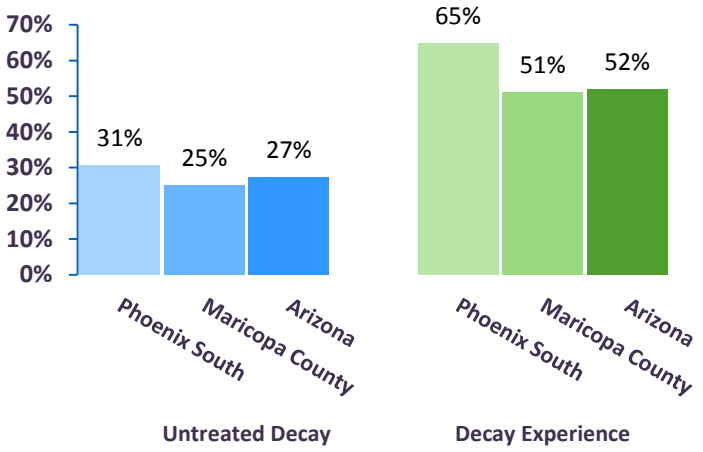
tooth decay has fallen from 35% to 27% since the early 2000s. Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Phoenix South Region

Results show that (see Figure 2) around one third of kindergarteners (31%) in the First Things First Phoenix South region have untreated decay and are in need of dental care. Untreated decay findings for the region are slightly higher than in Maricopa County (25%) or Arizona (27%).

When looking at overall decay experience, a higher percentage of kindergarteners in the region had decay experience (65%) in comparison to Maricopa County (51%) or Arizona (52%). The trend for dental pain and infection in the Phoenix South region (2%) was similar to Maricopa County (1%) and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Phoenix South: In the Phoenix South region, 266 children were screened and 184 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1.

In the Phoenix South region, children with a dental visit in the last year were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Phoenix South Region			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	0	.	.
> 75% Eligible for NSLP	266	31%	65%
Race/Ethnicity			
Non-Hispanic White	2	57%	100%
Non-Hispanic Black	6	71%	71%
Hispanic (any race)	145	31%	66%
Non-Hispanic American Indian	2	41%	100%
Type of health insurance			
Employer/Private	20	41%	73%
AHCCCS (Medicaid)	96	23%	63%
None	9	84%	92%
Time since last dental visit			
Within the last year	94	26%	69%
> 1 year or never	32	40%	61%
Parent education			
Some College	35	41%	69%
High School or Less	89	26%	66%
Maricopa County			
School participation in NSLP			
< 25% Eligible for NSLP	150	11%	29%
25-49% Eligible for NSLP	194	23%	41%
50-74% Eligible for NSLP	120	28%	43%
> 75% Eligible for NSLP	884	29%	62%
Race/Ethnicity			
Non-Hispanic White	135	10%	31%
Non-Hispanic Black	28	22%	31%
Hispanic (any race)	284	28%	58%
Non-Hispanic American Indian	9	57%	100%
Type of health insurance			
Employer/Private	190	17%	31%
AHCCCS (Medicaid)	206	21%	63%
None	43	36%	52%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Time since last dental visit			
Within the last year	338	17%	46%
> 1 year or never	108	36%	48%
Parent education			
Some College	253	18%	36%
High School or Less	189	26%	62%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

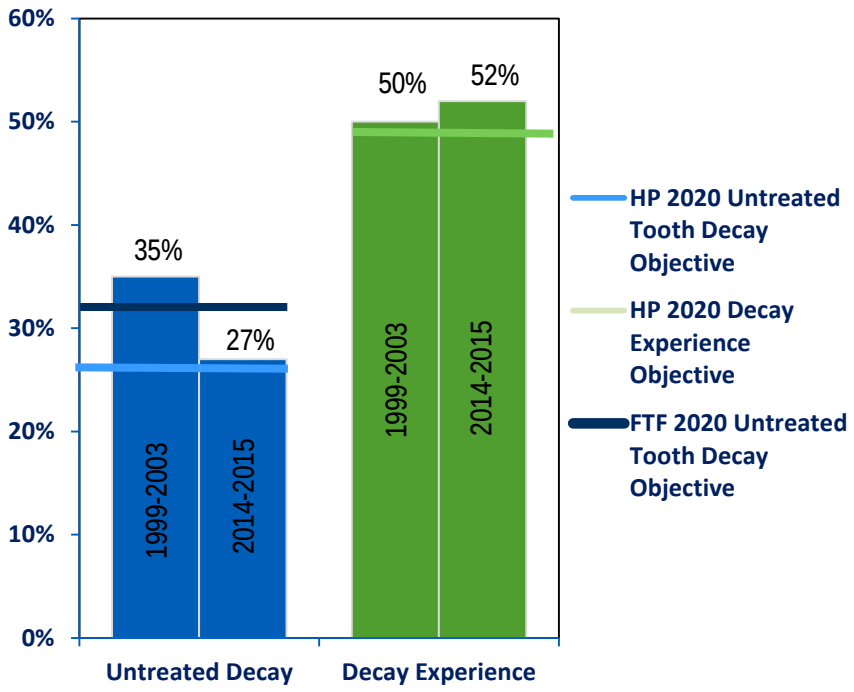
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.*** Additionally, the results of this survey show that Arizona has met its 2020

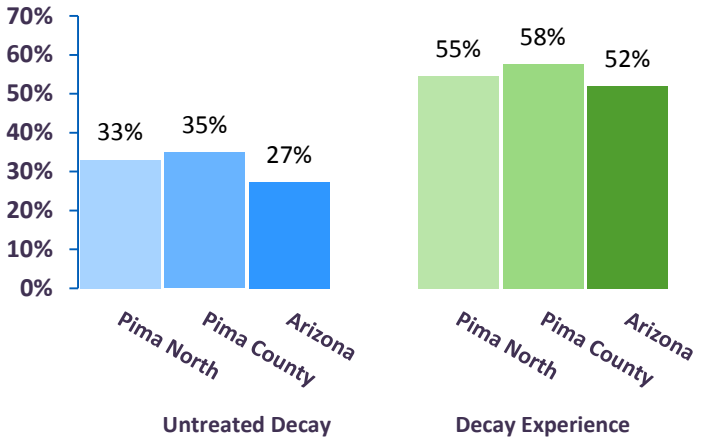
benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Pima North Region

Results show that (see Figure 2) around one third of kindergarteners (33%) in the First Things First Pima North region have untreated decay and are in need of dental care. Untreated decay findings for the region are similar to the overall rate for Pima County (35%) but higher than the rate for Arizona (27%).

When looking at overall decay experience, a slightly lower percentage of kindergarteners in the region had decay experience (55%) in comparison to Pima County (58%) but a slightly higher percentage compared to Arizona (52%). The trend for dental pain and infection in the Pima North region (3%) was similar to Pima County (3%) and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Pima North: In the Pima North region, 289 children were screened and 93 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Pima North region, children with a dental visit in the last year and children attending higher income schools were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Pima North Region			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	109	28%	42%
50-74% Eligible for NSLP	53	26%	49%
> 75% Eligible for NSLP	127	40%	66%
Race/Ethnicity			
Non-Hispanic White	32	28%	51%
Non-Hispanic Black	3	82%	82%
Hispanic (any race)	21	35%	64%
Non-Hispanic American Indian	5	30%	30%
Type of health insurance			
Employer/Private	34	32%	40%
AHCCCS (Medicaid)	27	39%	71%
None	1	100%	100%
Time since last dental visit			
Within the last year	48	33%	57%
> 1 year or never	15	42%	53%
Parent education			
Some College	38	32%	48%
High School or Less	20	34%	58%
Pima County			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	171	26%	43%
50-74% Eligible for NSLP	93	32%	55%
> 75% Eligible for NSLP	337	40%	66%
Race/Ethnicity			
Non-Hispanic White	44	25%	47%
Non-Hispanic Black	4	73%	73%
Hispanic (any race)	82	33%	60%
Non-Hispanic American Indian	5	30%	30%
Type of health insurance			
Employer/Private	71	31%	42%
AHCCCS (Medicaid)	62	35%	68%
None	4	40%	40%
Time since last dental visit			
Within the last year	111	29%	55%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
> 1 year or never	27	45%	56%
Parent education			
Some College	92	30%	47%
High School or Less	42	32%	59%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

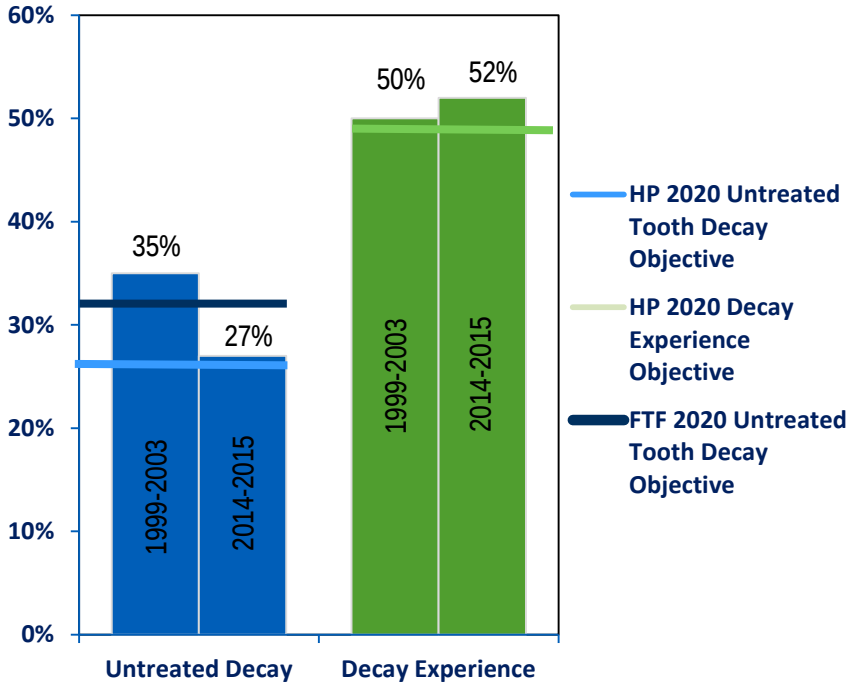
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early***

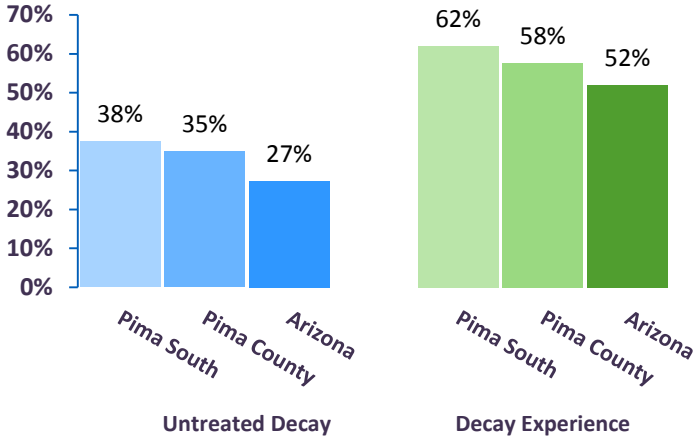
2000s. Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Pima South Region

Results show that (see Figure 2) more than one third of kindergarteners (38%) in the First Things First Pima South region have untreated decay and are in need of dental care. Untreated decay findings for the region are higher than in Pima County (35%) or Arizona (27%).

When looking at overall decay experience, a higher percentage of kindergarteners in the region had decay experience (62%) in comparison to Pima County (58%) or Arizona (52%). The trend for dental pain and infection in the Pima South region (2%) was similar to Pima County (3%) and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Pima South: In the Pima South region, 312 children were screened and 77 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Pima South region, children with a dental visit in the last year and children attending higher income schools were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Pima South Region			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	62	21%	44%
50-74% Eligible for NSLP	40	43%	65%
> 75% Eligible for NSLP	210	8%	25%
Race/Ethnicity			
Non-Hispanic White	12	8%	25%
Non-Hispanic Black	1	.	.
Hispanic (any race)	61	31%	57%
Non-Hispanic American Indian	0	.	.
Type of health insurance			
Employer/Private	37	31%	47%
AHCCCS (Medicaid)	35	25%	61%
None	3	17%	17%
Time since last dental visit			
Within the last year	63	22%	51%
> 1 year or never	12	59%	64%
Parent education			
Some College	54	28%	47%
High School or Less	22	26%	63%
Pima County			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	171	26%	43%
50-74% Eligible for NSLP	93	32%	55%
> 75% Eligible for NSLP	337	40%	66%
Race/Ethnicity			
Non-Hispanic White	44	25%	47%
Non-Hispanic Black	4	73%	73%
Hispanic (any race)	82	33%	60%
Non-Hispanic American Indian	5	30%	30%
Type of health insurance			
Employer/Private	71	31%	42%
AHCCCS (Medicaid)	62	35%	68%
None	4	40%	40%
Time since last dental visit			
Within the last year	111	29%	55%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
> 1 year or never	27	45%	56%
Parent education			
Some College	92	30%	47%
High School or Less	42	32%	59%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

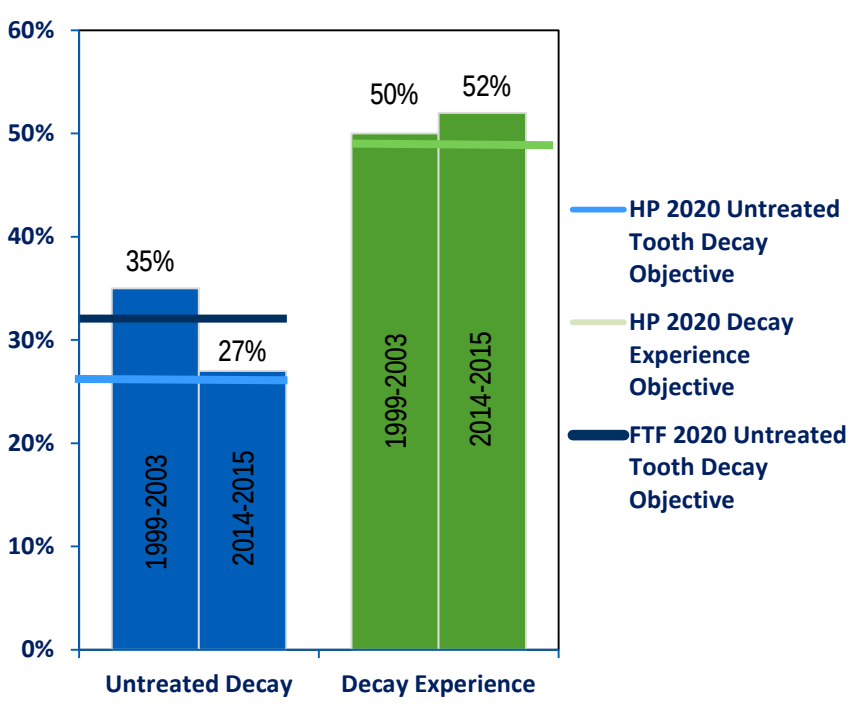
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early***

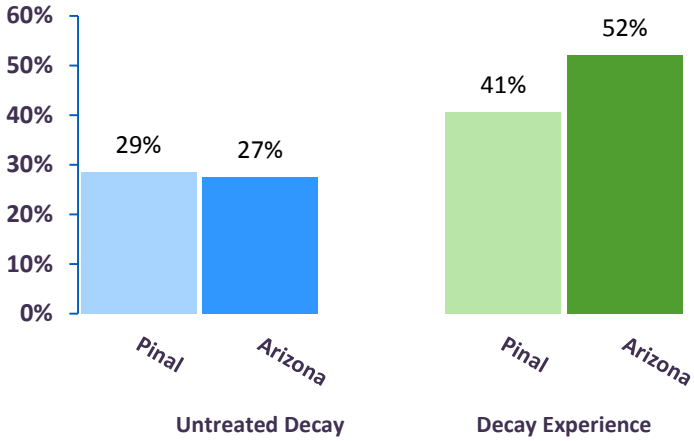
2000s. Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Pinal Region

Results show that (see Figure 2) less than one third of kindergarteners (29%) in the First Things First Pinal region have untreated decay and are in need of dental care. Untreated decay findings for the region are similar to Arizona (27%).

When looking at overall decay experience, a lower percentage of kindergarteners in the region had decay experience (41%) compared to Arizona (52%). The trend for dental pain and infection in the Pinal region (1%) was similar to Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Pinal: In the Pinal region, 219 children were screened and 98 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Pinal region, children with a dental visit in the last year, children attending higher income schools, and children whose parents attended college were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Pinal Region[17]			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	53	21%	30%
50-74% Eligible for NSLP	130	31%	44%
> 75% Eligible for NSLP	36	33%	47%
Race/Ethnicity			
Non-Hispanic White	36	27%	33%
Non-Hispanic Black	5	35%	35%
Hispanic (any race)	50	29%	39%
Non-Hispanic American Indian	6	30%	55%
Type of health insurance			
Employer/Private	40	26%	34%
AHCCCS (Medicaid)	42	36%	47%
None	7	23%	23%
Time since last dental visit			
Within the last year	69	27%	39%
> 1 year or never	29	36%	36%
Parent education			
Some College	53	24%	36%
High School or Less	39	38%	39%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

[17] Only FTF regional information is displayed as the FTF region and the Arizona County encompass the same area.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

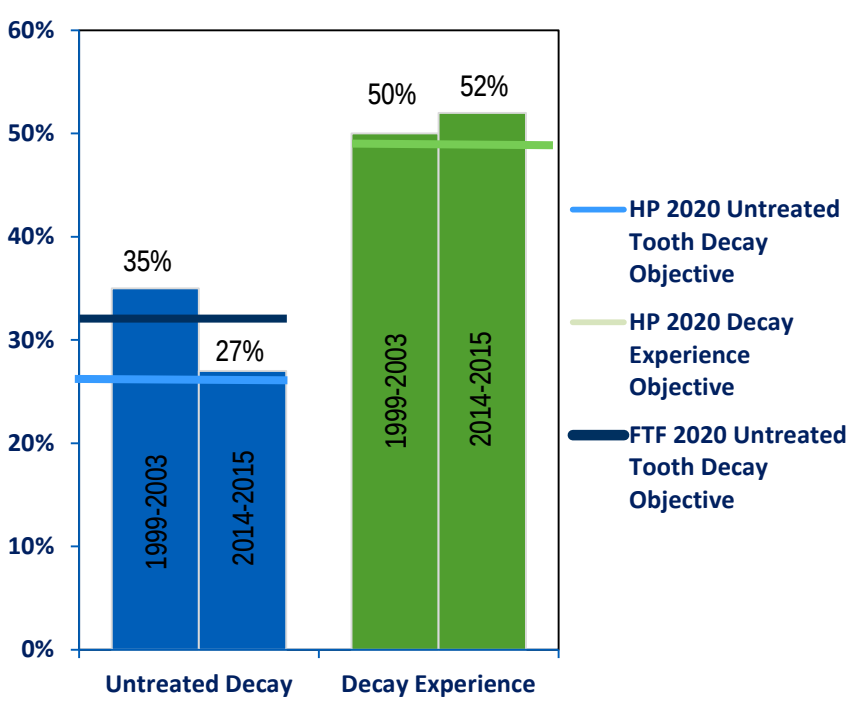
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early***

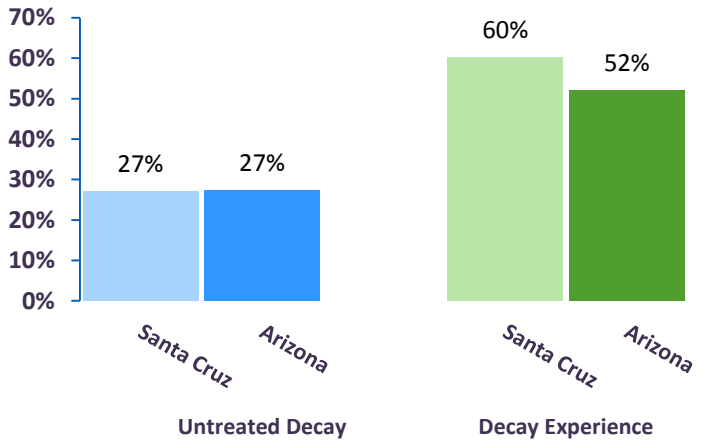
2000s. Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Santa Cruz Region

Results show that (see Figure 2) slightly more than one quarter of kindergarteners (27%) in the First Things First Santa Cruz region have untreated decay and are in need of dental care. Untreated decay findings for the region are similar to Arizona (27%).

When looking at overall decay experience, a higher percentage of kindergarteners in the region had decay experience (60%) compared to Arizona (52%). The trend for dental pain and infection in the Santa Cruz region (5%) was higher than for Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Santa Cruz: In the Santa Cruz region, 119 children were screened and 81 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Santa Cruz region, children whose parents had attended college were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Santa Cruz Region[18]			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	0	.	.
> 75% Eligible for NSLP	119	27%	60%
Race/Ethnicity			
Non-Hispanic White	0	.	.
Non-Hispanic Black	0	.	.
Hispanic (any race)	77	21%	55%
Non-Hispanic American Indian	0	0%	0%
Type of health insurance			
Employer/Private	14	23%	42%
AHCCCS (Medicaid)	56	21%	64%
None	9	34%	47%
Time since last dental visit			
Within the last year	60	21%	62%
> 1 year or never	19	22%	32%
Parent education			
Some College	40	16%	49%
High School or Less	36	32%	71%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

[18] Only FTF regional information is displayed as the FTF region and the Arizona County encompass the same area.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

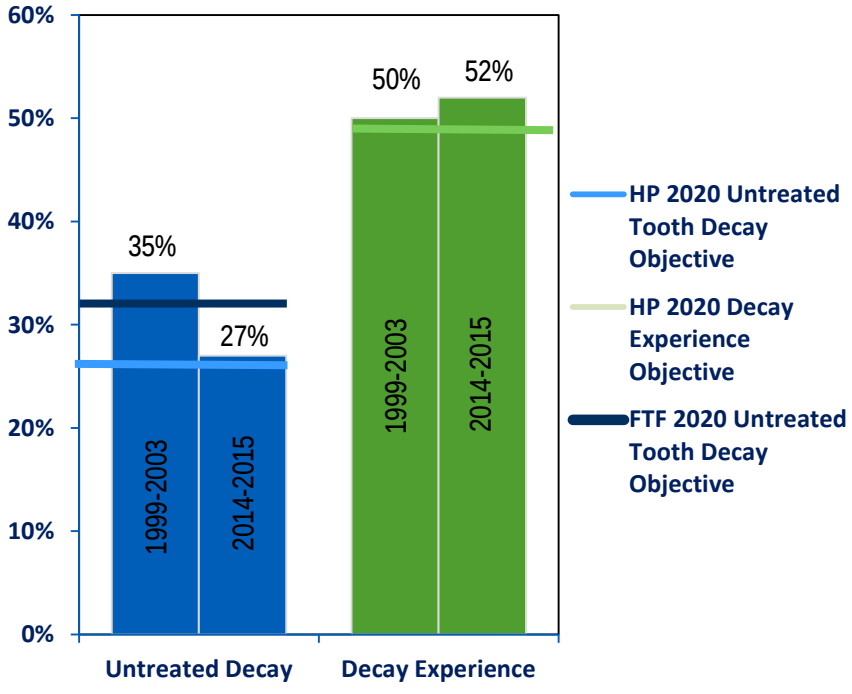
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early***

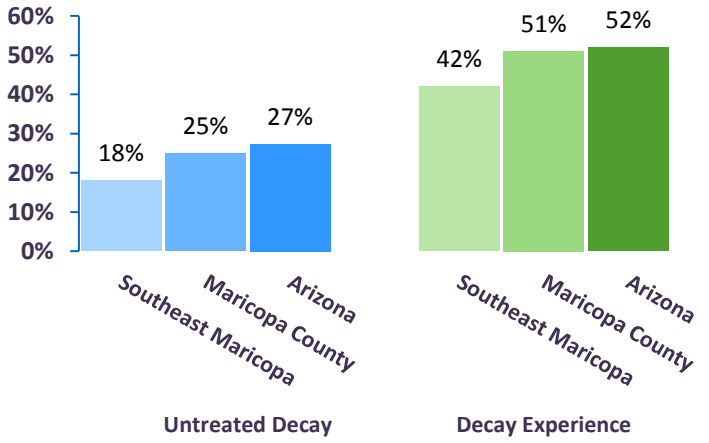
2000s. Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Southeast Maricopa Region

Results show that (see Figure 2) less than one fifth of kindergarteners (18%) in the First Things First Southeast Maricopa region have untreated decay and are in need of dental care. Untreated decay findings for the region are lower than in Maricopa County (25%) or Arizona (27%).

When looking at overall decay experience, a lower percentage of kindergarteners in the region had decay experience (42%) in comparison to Maricopa County (51%) or Arizona (52%). The trend for dental pain and infection in the Southeast Maricopa region (1%) was similar to Maricopa County (1%), and Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Southeast Maricopa: In the Southeast Maricopa region, 235 children were screened and 109 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Southeast Maricopa region, children with a dental visit in the last year, children attending higher income schools, and children whose parents attended some college were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Southeast Maricopa Region			
School participation in NSLP			
< 25% Eligible for NSLP	44	5%	27%
25-49% Eligible for NSLP	93	12%	36%
50-74% Eligible for NSLP	42	31%	43%
> 75% Eligible for NSLP	56	34%	70%
Race/Ethnicity			
Non-Hispanic White	69	6%	31%
Non-Hispanic Black	6	13%	29%
Hispanic (any race)	23	16%	36%
Non-Hispanic American Indian	2	42%	100%
Type of health insurance			
Employer/Private	73	7%	21%
AHCCCS (Medicaid)	25	14%	63%
None	11	10%	36%
Time since last dental visit			
Within the last year	90	5%	31%
> 1 year or never	18	32%	37%
Parent education			
Some College	89	7%	26%
High School or Less	17	22%	63%
Maricopa County			
School participation in NSLP			
< 25% Eligible for NSLP	150	11%	29%
25-49% Eligible for NSLP	194	23%	41%
50-74% Eligible for NSLP	120	28%	43%
> 75% Eligible for NSLP	884	29%	62%
Race/Ethnicity			
Non-Hispanic White	135	10%	31%
Non-Hispanic Black	28	22%	31%
Hispanic (any race)	284	28%	58%
Non-Hispanic American Indian	9	57%	100%
Type of health insurance			
Employer/Private	190	17%	31%
AHCCCS (Medicaid)	206	21%	63%
None	43	36%	52%
Time since last dental visit			
Within the last year	338	17%	46%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
> 1 year or never	108	36%	48%
Parent education			
Some College	253	18%	36%
High School or Less	189	26%	62%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

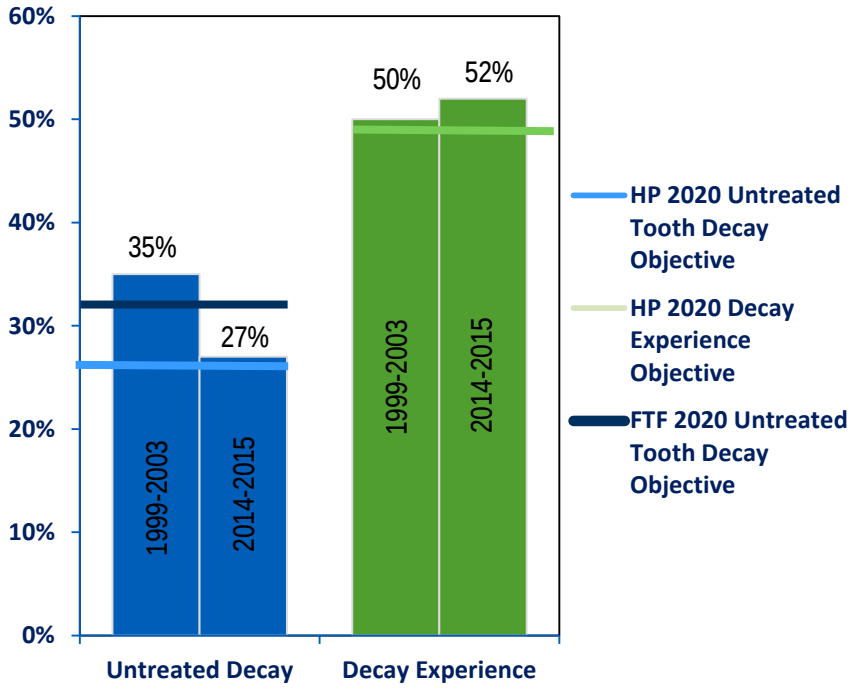
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.*** Additionally, the results of this survey show that Arizona has met its 2020

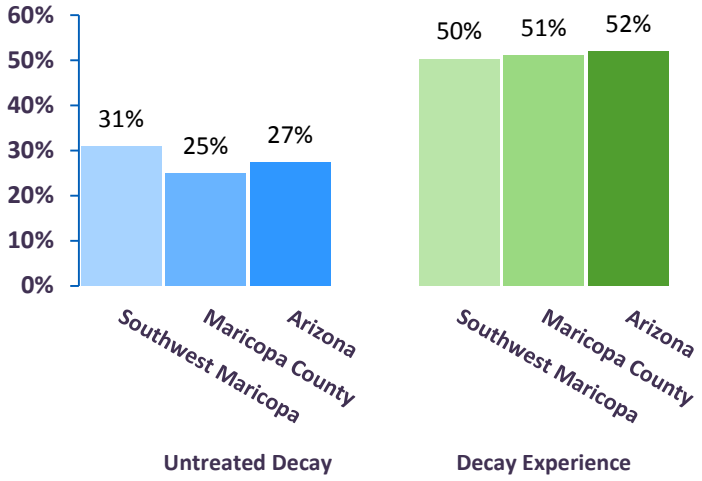
benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Southwest Maricopa Region

Results show that (see Figure 2) around one third of kindergarteners (31%) in the First Things First Southwest Maricopa region have untreated decay and are in need of dental care. Untreated decay findings for the region are slightly higher than in Maricopa County (25%) or Arizona (27%).

When looking at overall decay experience, a similar percentage of kindergarteners in the region had decay experience (50%) in comparison to Maricopa County (51%) or Arizona (52%). The trend for dental pain and infection in the Phoenix South region (<1%) was lower than for Maricopa County (1%) or Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Southwest Maricopa: In the Southwest Maricopa region, 259 children were screened and 66 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Southwest Maricopa region, children attending higher income schools and children whose parents attended some college were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Southwest Maricopa Region			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	70	23%	34%
50-74% Eligible for NSLP	35	29%	43%
> 75% Eligible for NSLP	154	38%	67%
Race/Ethnicity			
Non-Hispanic White	14	9%	25%
Non-Hispanic Black	3	.	34%
Hispanic (any race)	43	43%	55%
Non-Hispanic American Indian	0	.	.
Type of health insurance			
Employer/Private	30	35%	41%
AHCCCS (Medicaid)	24	31%	56%
None	11	40%	51%
Time since last dental visit			
Within the last year	45	37%	57%
> 1 year or never	20	28%	30%
Parent education			
Some College	44	29%	41%
High School or Less	21	40%	56%
Maricopa County			
School participation in NSLP			
< 25% Eligible for NSLP	150	11%	29%
25-49% Eligible for NSLP	194	23%	41%
50-74% Eligible for NSLP	120	28%	43%
> 75% Eligible for NSLP	884	29%	62%
Race/Ethnicity			
Non-Hispanic White	135	10%	31%
Non-Hispanic Black	28	22%	31%
Hispanic (any race)	284	28%	58%
Non-Hispanic American Indian	9	57%	100%
Type of health insurance			
Employer/Private	190	17%	31%
AHCCCS (Medicaid)	206	21%	63%
None	43	36%	52%
Time since last dental visit			
Within the last year	338	17%	46%

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
> 1 year or never	108	36%	48%
Parent education			
Some College	253	18%	36%
High School or Less	189	26%	62%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

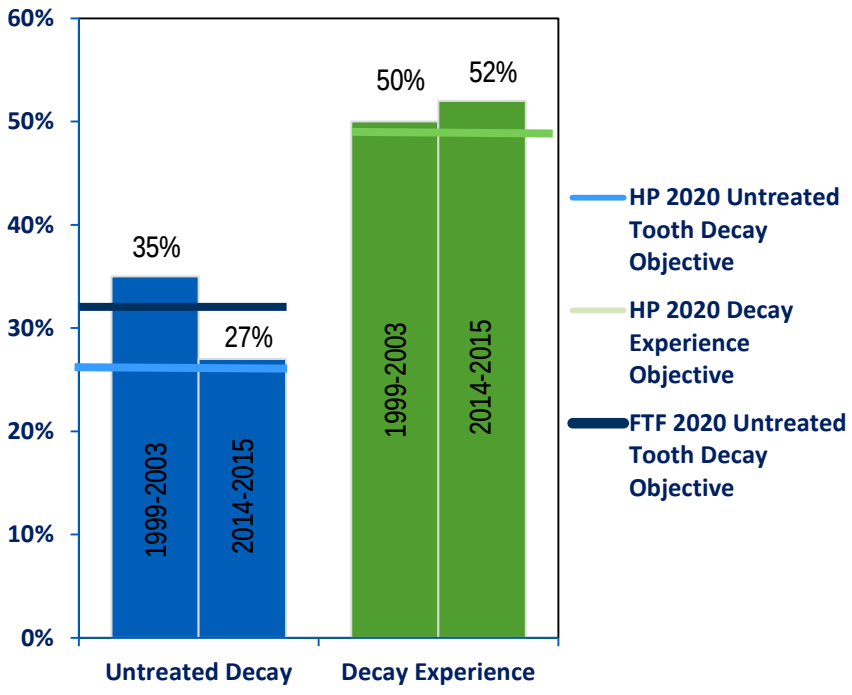
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.***

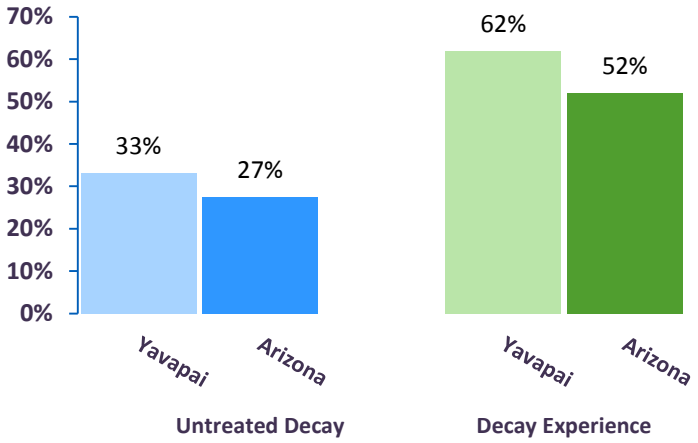
Additionally, the results of this survey show that Arizona has met its 2020 benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Yavapai Region

Results show that (see Figure 2) one third of kindergarteners (33%) in the First Things First Yavapai region have untreated decay and are in need of dental care. Untreated decay findings for the region are slightly higher than for Arizona (27%).

When looking at overall decay experience, a higher percentage of kindergarteners in the region had decay experience (62%) compared to Arizona (52%). The trend for dental pain and infection in the Yavapai region (5%) was higher than for Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Yavapai: In the Yavapai region, 60 children were screened and 36 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Yavapai region, children with a dental visit in the last year, children attending higher income schools, and children whose parents attended college were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Yavapai Region[19]			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	26	15%	46%
> 75% Eligible for NSLP	34	53%	79%
Race/Ethnicity			
Non-Hispanic White	18	21%	38%
Non-Hispanic Black	1	0%	100%
Hispanic (any race)	15	24%	71%
Non-Hispanic American Indian	2	100%	100%
Type of health insurance			
Employer/Private	16	19%	38%
AHCCCS (Medicaid)	15	30%	70%
None	5	31%	77%
Time since last dental visit			
Within the last year	26	17%	56%
> 1 year or never	9	42%	50%
Parent education			
Some College	27	21%	51%
High School or Less	9	38%	72%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

[19] Only FTF regional information is displayed as the FTF region and the Arizona County encompass the same area.

Why is Good Oral Health Important?

Many people consider tooth decay to be a minor problem but for many it results in pain, infection, the inability to chew foods well, embarrassment about damaged or discolored teeth and distraction from play and learning. Tooth decay in the primary teeth is of special importance because an unhealthy tooth in a child puts the child at risk of future oral health problems. The longer early childhood tooth decay remains untreated, the worse the condition gets, making it more difficult to treat. These more complicated procedures are expensive, performed by a smaller number of clinicians and may need to be performed in an operating room or clinic setting using general anesthesia. In other words, as treatment is delayed, the problem becomes more serious and difficult to treat. As a result, access and cost issues multiply.

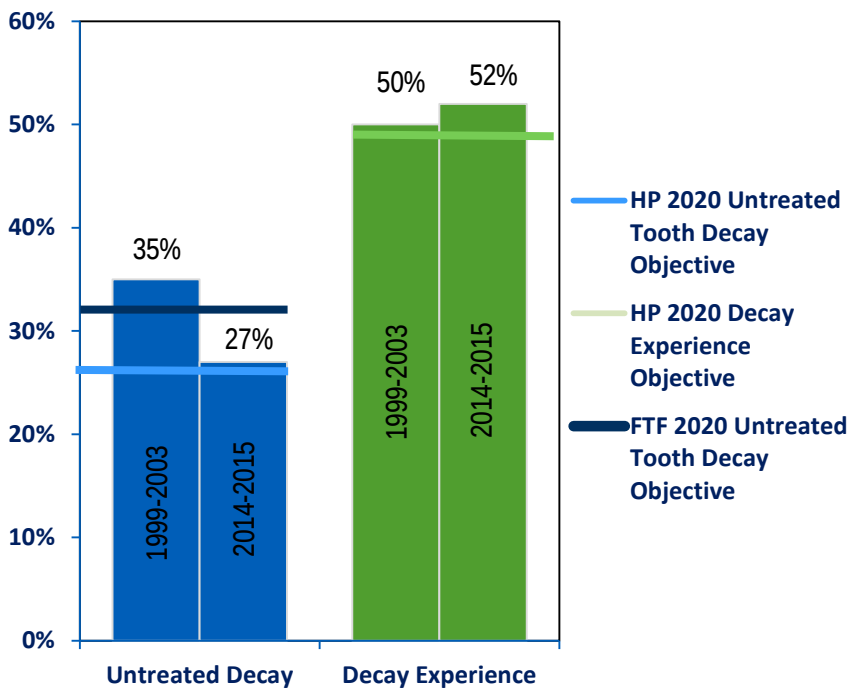
Definitions

Untreated decay means that a child has at least one tooth with a cavity that has not received appropriate treatment. Untreated decay compromises a child's ability to eat well, sleep well, and function well at home and at school.

Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his/her lifetime. Children can have *past decay experience* (fillings, crowns, or teeth that have been extracted because of decay), or *present decay experience* (untreated tooth decay or cavities).

Dental pain or infection means that a child has tooth decay severe enough that they have a toothache or visible signs of an oral infection such as a dental abscess. Dental pain impacts a child's ability to concentrate and learn. An oral infection can increase a child's vulnerability to infections in other parts of the body, such as the ears, sinuses and the brain.

Figure 1. Kindergarten Children's Oral Health Status



The State of Oral Health in Arizona

In recent years many different organizations in Arizona, including FTF and ADHS, have worked to improve oral health outcomes for young children. The good news is these efforts are paying off. ***The number of kindergarteners in Arizona with untreated tooth decay has fallen from 35% to 27% since the early 2000s.*** Additionally, the results of this survey show that Arizona has met its 2020

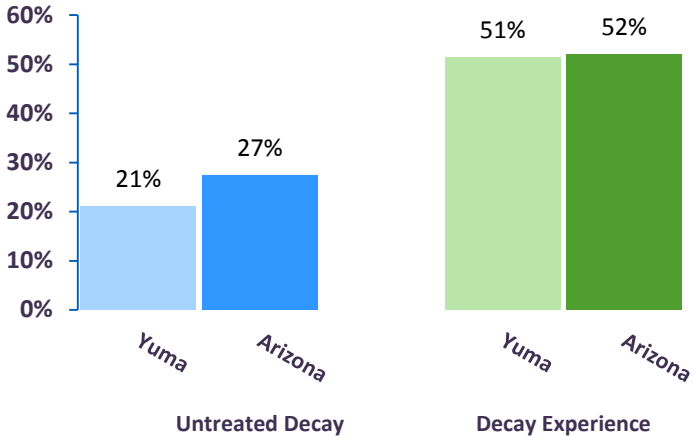
benchmark of 32% and is well on track to meet Healthy People's 2020 target of 26%. The bad news is that there has been no significant change in the percent of children with decay experience suggesting that we need to continue focusing efforts on primary prevention.

The State of Oral Health in the Yuma Region

Results show that (see Figure 2) around one fifth of kindergarteners (21%) in the First Things First Yuma region have untreated decay and are in need of dental care. Untreated decay findings for the region are slightly lower than for Arizona (27%).

When looking at overall decay experience, a similar percentage of kindergarteners in the region had decay experience (51%) compared to Arizona (52%). The trend for dental pain and infection in the Yuma region (< 1%) was lower than for Arizona (2%).

Figure 2. Prevalence of Untreated Tooth Decay & Decay Experience



Determinants and Risk Factors for Untreated Decay and Decay Experience

Arizona: The prevalence of **untreated tooth decay** in Arizona is higher among children from low-income households, some racial and ethnic groups, and children that have not been to the dentist in the last year.

The state level risk factors for **decay experience** are income, race/ethnicity, type of health insurance coverage and parental education, with the prevalence of decay experience being higher among children from low-income households, some racial and ethnic groups, children with Medicaid or no health insurance, and children whose parents have less than a college education.

Yuma: In the Yuma region, 200 children were screened and 83 parents/caregivers answered at least one question on the optional questionnaire. Due to the optional nature of the parent/caregiver questionnaire, risk factors at the regional level should be viewed with caution because of small sample sizes and/or small numbers within sub-categories. The demographic characteristics in Table 1, including race, insurance, dental visits, and parent education, were reported by parents/caregivers in the optional questionnaire. The percent of children eligible for the National School Lunch Program (NSLP) in that child's school was recorded for all children who received an oral health screening; this information can also be found in Table 1. In the Yuma region, children with a dental visit in the last year, children with employer/private health insurance, and children whose parents attended college were less likely to have untreated decay.

Table 1. Prevalence of Untreated Tooth Decay & Decay Experience by Selected Demographic Characteristics

	Number of Children with Data	Untreated Decay (%)	Decay Experience (%)
Yuma Region[20]			
School participation in NSLP			
< 25% Eligible for NSLP	0	.	.
25-49% Eligible for NSLP	0	.	.
50-74% Eligible for NSLP	66	20%	47%
> 75% Eligible for NSLP	134	22%	55%
Race/Ethnicity			
Non-Hispanic White	9	0%	0%
Non-Hispanic Black	2	0%	77%
Hispanic (any race)	70	19%	46%
Non-Hispanic American Indian	0	.	.
Type of health insurance			
Employer/Private	19	4%	19%
AHCCCS (Medicaid)	43	14%	49%
None	10	40%	57%
Time since last dental visit			
Within the last year	62	9%	40%
> 1 year or never	19	38%	43%
Parent education			
Some College	43	12%	32%
High School or Less	38	20%	52%

Note: Race/ethnicity, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire and will not add up to the children screened. Also, ***weighted percentages*** are displayed. The weighted percent is the percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

[20] Only FTF regional information is displayed as the FTF region and the Arizona County encompass the same area.

REFERENCES

Ahovuo-Saloranta, A., Forss, H., Walsh, T., Hiiri, A., Nordblad, A., Makela, M., & Worthington, H. V. (2013). Sealants for preventing dental decay in the permanent teeth. *Cochrane Database of Systematic Reviews* (3). Art. No.: CD001830. doi: 10.1002/14651858.CD001830.pub4.

Alaki, S., Burt, B., & Garetz, S. (2008). Middle ear and respiratory infections in early childhood and their association with early childhood caries. *Journal of Pediatric Dentistry, 30*(2), 105-110.

American Academy of Pediatric Dentistry (2014). *The state of little teeth.* Retrieved from www.aapd.org/assets/1/7/State_of_Little_Teeth_Final.pdf

American Academy of Pediatrics (2003). Oral health risk assessment timing and establishment of the dental home. *Pediatrics*, 111(*5*), 1113-1116. Retrieved from: http://pediatrics.aappublications.org/content/111/5/1113

American Academy of Pediatrics. (2011). *Oral health risk assessment tool.* Retrieved from http://www2.aap.org/oralhealth/docs/riskassessmenttool.pdf

American Academy of Pediatrics. (2015). *How to prevent tooth decay in your baby.* Retrieved from https://www.healthychildren.org/English/ages-stages/baby/teething-tooth-care/Pages/How-to-Prevent-Tooth-Decay-in-Your-Baby.aspx

Association of State and Territorial Dental Directors. (2012). Policy Statement: First Dental Visit by Age One. Retrieved from http://www.astdd.org/docs/first-dental-visit-by-age-one-august-31-2012.pdf

Association of State and Territorial Dental Directors. (2015). *Basic screening surveys: an approach to monitoring community oral health.* Retrieved from http://www.astdd.org/basic-screening-survey-tool/

Azarpazhooh, A. & Main, P.A. (2008). Fluoride varnish in the prevention of dental caries in children and adolescents: A systematic review. *Journal of the Canadian Dental Association, 74*(1), 73-79.

Beauchamp, J., Caufield, P. W., Crall, J. J., Donly, K., Feigal, R., Gooch, B., … Simonsen, R. (2008). Evidence-based clinical recommendations for the use of pit-and-fissure sealants. *The Journal of the American Dental Association, 139,* 257-268.

Casamassimo, P., Thikkurissy, S., Edelstein, B., & Maiorini, E. (2009). Beyond the dmft: the human and economic cost of early childhood caries. *Journal of the American Dental Association, 140*(6), 650-657.

Centers for Disease Control and Prevention. (2001). Recommendations for using fluoride to prevent and control dental caries in the United States. Retrieved from: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5014a1.htm.

Centers for Medicare & Medicaid Services. (2015). *National health expenditures 2014 highlights*. Retrieved from https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/downloads/highlights.pdf

"Child Nutrition Programs- Income Eligibility Guidelines; Notice," 79 *Federal Register* 43 (5 March 2014), pp. 12467-12469. Retrieved from http://www.fns.usda.gov/sites/default/files/2014-04788.pdf.

Choi, M. (2011). The impact of Medicaid insurance on dental service use. *Journal of Health Economics, 30*(5), 1020-1031. doi:10.1016/j.jhealeco.2011.08.002

Daniel, S. J., & Kumar, S. (2014). Teledentistry: A key component in access to care. *Journal of Evidence Based Dental Practice, 14*, 201-208. doi: 10.1016/j.jebdp.2014.02.008

Dye, B., Tan, S., Smith, V., et al. (2007). Trends in oral health status: United States, 1988–1984 and 1999–2004. *Vital and Health Statistics Series, 11*, 1–92.

Dye, B., Li, X., Thornton-Evans, G. (2012). Oral health disparities as determined by selected Healthy People 2020 oral health objectives for the United States, 2009–2010. NCHS data brief, no 104. Hyattsville, MD: National Center for Health Statistics.

Ekeland, A. G., Bowes, A., & Flottorp, S. (2010). Effectiveness of telemedicine: a systematic review of reviews. *International Journal of Medical Informatics, 79*(11), 736-771. doi:10.1016/j.ijmedinf.2010.08.006

Fung, M., Wong, M., Lo, E., & Chu, C. (2013). Early childhood caries: a literature review. *Journal of Oral Hygiene & Health 1*:107. doi:10.4172/2332-0702.1000107

Garcia, R. Cadoret, C., Henshaw, M. (2008). Multicultural issues in oral health. *Dental Clinics of North America, 52*(2), 319–332. doi:10.1016/j.cden.2007.12.006

Gift, H., Reisine, S., & Larach, D. (1992). The social impact of dental problems and visits. *American Journal of Public Health, 82*(12), 1663-1668. doi:10.2105/ajph.82.12.1663

Griffin, S., Jones, K. & Tomar, S. (2001). An economic evaluation of community water fluoridation. *Journal of Public Health Dentistry*, *61*(2), 78–86. doi:10.1111/j.1752-7325.2001.tb03370.x

Guarnizo-Herreño, C., & Wehby, L. (2012). Children's dental health, school performance, and psychosocial well-being. *Pediatrics, 161*(6), 1153-1159. doi: 10.1016/j.jpeds.2012.05.025

Hemalatha, V.T., Manigandan, T., Sarumathi, T., Aarthi Nisha, V., & Amudhan, A. (2013). Dental considerations in pregnancy—A critical review on the oral care. *Journal of Clinical and Diagnostic Research*, 7(*5*), 948-953. doi:10.7860/JCDR/2013/5405.2986

Holt K., & Barzel R. (2013). *Oral health and learning: when children's health suffers, so does their ability to learn* (3rd ed.). National Maternal and Child Oral Health Resource Center. Retrieved from http://mchoralhealth.org/PDFs/learningfactsheet.pdf

Indian Health Service. (2014). *The 2010 Indian Health Service oral health survey of American Indian and Alaska Native preschool children*. Retrieved from https://www.ihs.gov/DOH/documents/IHS%20Oral%20Health%20Report%2004-17-2014.pdf

Jackson, S., Vann, W., Kotch, J., Pahel, B., & Lee, J. (2011). Impact of poor oral health on children's school attendance and performance. *American Journal of Public Health, 101*(10), 1900-1906. doi: 10.2105/ajph.2010.200915

Kolstad, C., Zvaras, A., & Yoon, R. (2015). Cost-benefit analysis of the age one dental visit for the privately insured. *Pediatric Dentistry, 37*(4), 376-380.

Lin, D. L., Harrison, R., & Aleksejuniene, J. (2011). Can a prenatal dental public health program make a difference? *Journal of the Canadian Dental Association, 77*, b32.

Manchanda, K., Sampath, N., & De Sarkar, A. (2014). Evaluating the effectiveness of oral health education program among mothers with 6-18 months children in prevention of early childhood caries. *Contemporary clinical dentistry, 5*(4), 478-483. doi: 10.4103/0976-237X.142815

Manski , R., & Brown, E. (2007). Dental use, expenses, private dental coverage, and changes, 1996 and 2004. Agency for Healthcare Research and Quality. 2007. MEPS Chartbook No.17. Retrieved from: http://www.meps.ahrq.gov/mepsweb/data_files/publications/cb17/cb17.pdf

Marinho, V. C., Higgins, J. P., Logan, S., & Sheiham, A. (2003). Fluoride mouthrinses for preventing dental caries in children and adolescents (Review). *Cochrane Database of Systematic Reviews,* (3). Art. No.: CD002284. doi: 10.1002/14651858.CD002284

Marinho, V. C., Worthington, H. V., Walsh, T., & Clarkson, J. E. (2013). Fluoride varnishes for preventing dental caries in children and adolescents. *Cochrane Database of Systematic Reviews, 7*(11). doi: 10.1002/14651858.CD002279.pub2

Medicaid. (2016). Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) Data. https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Early-and-Periodic-Screening-Diagnostic-and-Treatment.html. Accessed 01-18-16.

Moazzam, A., Rajagopal, S., Sedghizadeh, P., Zada, G., & Habibian, M. (2015). Intracranial bacterial infections of oral origin. *Journal of Clinical Neuroscience, 22*(5), 800-806. doi: 10.1016/j.jocn.2014.11.015

Nakre, P. D., & Harikiran, A. G. (2013). Effectiveness of oral health education programs: A systematic review. *Journal of International Society of Preventive & Community Dentistry, 3*(2), 103-115. doi:10.4103/2231-0762.127810

Nasseh, K., Vujicic, M. (2014). Dental benefits expanded for children, young adults in 2012. Health Policy Institute Research Brief. American Dental Association. Retrieved from http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_1014_5.ashx.

Parihar, A. S., Katoch, V., Rajguru, S. A., Rajpoot, N., Singh, P., & Wakhle, S. (2015). Periodontal Disease: A Possible Risk-Factor for Adverse Pregnancy Outcome. *Journal of international oral health: JIOH, 7*(7), 137-142.

Petersson, L.G., Twetman, S., & Pakhomov, G.N. (1998). The efficiency of semiannual silane fluoride varnish applications: A two-year clinical study of preschool children. *Journal of Public Health Dentistry*, 58(*1*), 57-60. doi:10.1111/j.1752-7325.1998.tb02991.x

Pourat, N. & Nicholson, G. (2009). *Unaffordable dental care is linked to frequent school absences*. Los Angeles, CA: UCLA Center for Health Policy Research. Retrieved from http://healthpolicy.ucla.edu/publications/Documents/PDF/Unaffordable%20Dental%20Care%20Is%20Linked%20to%20Frequent%20School%20Absences.pdf

Savage, M.F., Lee, J.Y., Kotch, J.B., & Vann, W.F., Jr. (2004). Early preventive dental visits: Effects on subsequent utilization and costs. *Pediatrics, 114*(4), e418–e423. doi:10.1542/peds.2003-0469-f

Sheller, B., Williams, B., & Lombardi, S. (1997). Diagnosis and treatment of dental caries-related emergencies in a children's hospital. *Journal of Pediatric Dentistry, 19*(8):470-475.

Simuntis, R., Kubilius, R., & Vaitkus, S. (2014). Odontogenic maxillary sinusitis: a review. *Stomatologija, 16*(2), 39-43.

U.S. Department of Health and Human Services. (2000). *Oral Health in America: A report of the Surgeon General.* Retrieved from http://www.nidcr.nih.gov/DataStatistics/SurgeonGeneral/

U.S. General Accounting Office. (2000). *Oral health: dental disease is a chronic problem among low income and vulnerable populations*. Retrieved from http://www.gao.gov/new.items/he00072.pdf

University of the Pacific. (2013). Policy brief: the costs of neglect of dental disease and the impact of the virtual dental home. Retrieved from http://dental.pacific.edu/Documents/community/special_care/acrobat/VirtualDentalHome_CostOfNeglect_PolicyBrief_2013_0407.pdf

Vargas, C., Crall, J., Schneider, D. (1998). Sociodemographic distribution of pediatric dental caries: NHANES III, 1988-1994. *Journal of the American Dental Association, 129*(9), 1229-1238. doi: 10.14219/jada.archive.1998.0420

Vujicic, M., Goodell, S., & Nasseh, K. (2013). Dental benefits to expand for children, likely decrease for adults in coming years. Health Policy Institute Research Brief. American Dental Association. Retrieved from http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0413_1.pdf.

Vujicic, M., & Nasseh, K. (2014). A decade in dental care utilization among adults and children (2001-2010). *Health Services Research, 49*(2), 460-480. doi: 10.1111/1475-6773.12130

Wall, T. (2012). *Dental Medicaid – 2012*. Dental Health Policy Analysis Series. American Dental Association, Health Policy Resources Center, Chicago. Retrieved from http://www.aapd.org/assets/1/7/ADA-2012_Medicaid_Report.pdf

Weyant, R. J., Tracy, S. L., Anselmo, T. T., Beltrán-Aguilar, E. D., Donly, K. J., Frese, W. A., ... & Levy, S. M. (2013). Topical fluoride for caries prevention. *The Journal of the American Dental Association, 144*(11), 1279-1291.

World Health Organization. (2001). *Water fluoridation.* Retrieved from World Health Organization website: http://www.who.int/water_sanitation_health/oralhealth/en/index2.html.

World Health Organization. (2015). Guideline: Sugars intake for adults and children. Retrieved from http://apps.who.int/iris/bitstream/10665/149782/1/9789241549028_eng.pdf

Yarbrough, C., Nasseh, K., & Vujicic, M. (2014). Why adults forgo dental care: evidence from a new national survey. Health Policy Institute Research Brief. American Dental Association. Retrieved from http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_1114_1.ashx.

Appendix A: Arizona School Readiness Indicators

Arizona School Readiness Indicators

The following indicators are designed to guide and measure progress in building an effective early childhood system in Arizona. Taken collectively, they provide a comprehensive picture of how our state is preparing its youngest children for success in kindergarten and beyond.

CHILDREN'S HEALTH

Well-Child Visits

% of Arizona children receiving at least six well-child visits within the first 15 months of life

2010: 64% 2020 Goal: 80%

Healthy Weight

% of Arizona children age 2-4 with body mass index (BMI) in healthy weight range

2010: 65% 2020 Goal: 75%

Dental Health

% of Arizona children age 5 with untreated tooth decay

2007: 35% 2020 Goal: 32% or less

FAMILY SUPPORT & LITERACY

Confident Families

% of Arizona families report they are competent and confident about their ability to support their child's safety, health and well being

2012: 42% 2020 Goal: 52%

CHILD DEVELOPMENT & EARLY LEARNING

School Readiness

Benchmark related to developmental domains of social-emotional, language and literacy, cognitive, and motor and physical to be recommended in FY17 based on baseline data from Arizona kindergarten developmental inventory

Quality Early Education

% of Arizona children enrolled in an early care and education program with a Quality First rating of 3-5 stars

2013: 9% 2020 Goal: 29%

Quality Early Education – Special Needs

% of Arizona children with special needs/rights enrolled in an inclusive early care and education program with a Quality First rating of 3-5 stars

2013: 53% 2020 Goal: 73%

Affordability of Quality Early Education

Benchmark related to Arizona families that spend no more than 10% of the regional median family income on quality early care and education programs to be recommended in FY16

Developmental Delays Identified in Kindergarten

Benchmark related to early screening and intervention for children with developmental delays to be recommended in FY16

Transition from Preschool Special Education to Kindergarten

% of Arizona children exiting preschool special education enrolled in kindergarten regular education

2010: 22% 2020 Goal: 30%

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Appendix B: Healthy Smiles Healthy Bodies Screening Recording Form

2014-2015 Healthy Smiles Healthy Bodies Screening Recording Form

Survey ID# _____
(for office use only)

1. Survey Information

School Name: _____ Grade:_____

Child Name: _____

2. Oral Health Survey Information

1. Untreated Decay	❒ 0-No ❒ 1-Yes _____ # teeth	**1-Yes=** At least one tooth with loss of at least ½ mm of tooth structure at the enamel surface
2. Treated Decay	❒ 0-No ❒ 1-Yes _____ # teeth	**1-Yes=** At least one tooth: - has fillings, crowns or other restoration due to decay **OR** - is missing due to decay.
3. Sealants Present	❒ 0-No ❒ 1-Yes	**1-Yes=** At least one permanent molar tooth has a dental sealant **OR** part of a dental sealant.
4. Sealants Needed	❒ 0-No ❒ 1-Yes	**1-Yes=** At least one permanent molar tooth needs a dental sealant on a fully erupted, virgin **AND** sound occlusal surface.
5. Treatment Urgency	❒ 0-None ❒ 1-Early ❒ 2-Urgent	**0-None=** Routine dental care **1-Early=** Dental visit within next several weeks **2-Urgent=** Dental visit within 24 hours

3. Height/Weight

Height – in cm's	Weight – in kg's
____ ____ ____ • ____	____ ____ • ____

4. Signature

Provider	ID #	Signature	Date
RDH			
ASST			
ASST			
Comments:			❒ Summary of Findings Form

Appendix C: Healthy Smiles Healthy Bodies Parent/Caregiver Questionnaire

Healthy Smiles Healthy Bodies Questionnaire

1. Child's Name: _____ 2.Child's Date of Birth: _____ / _____ / _____
(month) (day) (year)

3. Teacher's Name: _____ Grade: _____

4. Gender: ☐ (1) Male ☐ (2) Female

Additional Information: The following questions will help in developing programs for children with the most need.

5. What race is your child? (Check all that apply):
☐ Asian
☐ Black/African American
☐ Native American/Alaskan Native
☐ Pacific Islander/Native Hawaiian
☐ White

5a. Is your child Hispanic? (Check one)
☐ (1) Yes ☐ (0) No

6. Has a doctor or nurse ever told you that your child has asthma? (Check one)
☐ (1) Yes ☐ (0) No

7. How often are your child's teeth brushed? (Check one)
☐ (1) More than once a day
☐ (2) Once a day
☐ (3) Every few days
☐ (4) Every few weeks
☐ (5) Never

8. About how long has it been since your child last visited a dentist or dental clinic? (Check one)
Include all types of dentists such as pediatric dentists or any other dental specialists; also dental hygienists
☐ (1) Never (*go to 8a*)
☐ (2) Within the past year
☐ (3) 1-3 years ago
☐ (4) More than 3 years ago

8a. Never: what is the main reason your child has never visited a dentist? (Check all that apply)
☐ (1) Cannot afford it
☐ (2) No dental insurance
☐ (3) No reason to go/no problems
☐ (4) My doctor or dentist/dental provider indicates my child does not need to be seen
☐ (5) Other reason (please specify _____

9. Has your child received a dental screening or fluoride varnish through one of the following within the last year? (Check all that apply)
☐ (1) WIC Clinic
☐ (2) Immunization Clinic
☐ (3) Child Care Center
☐ (4) Pediatrician/personal doctor or medical care provider (e.g. family practice)
☐ (5) Other (please specify _____

10. What kind of health/medical insurance does your child have? (Check all that apply)
☐ (1) Employer provided
☐ (2) Privately purchased
☐ (3) AHCCCS (Medicaid or Kids Care)
☐ (4) Indian Health Service (IHS)
☐ (5) Military
☐ (6) None (does not have health insurance)

11. Does your child have insurance that pays for dental care?
☐ (1) Yes ☐ (0) No

12. What is the highest degree or level of school that you (the parent/guardian) have completed? (Check one)
☐ (1) Less than high school (12 or less)
☐ (2) High school graduate (includes GED)
☐ (3) Some college or associates degree
☐ (4) Bachelor degree or higher

For Program Use Only

School ID # _____ School Name _____ Record #: _____

Appendix D: Demographic Characteristics of the Kindergarten Children Participating *Healthy Smiles Healthy Bodies* Including Children with Missing or Unknown Data

Demographic Characteristic	Number of Children with Data (Unweighted)	Weighted Percent
Gender		
Female	1,792	49.7
Male	1,838	50.3
Rural/Urban status		
Rural	1,861	31.6
Urban	1,769	68.4
School participation in NSLP		
< 25% are eligible	150	10.7
25-49% are eligible	787	19.2
50-74% are eligible	839	18.4
≥ 75% are eligible	1,854	51.7
Race		
White	866	22.5
Black/African American	99	4.2
Asian	36	1.1
American Indian/Alaska Native	185	2.6
Pacific Islander/Native Hawaiian	9	0.2
Multi-Racial	18	0.5
Missing/Unknown	2,417	68.9
Ethnicity (% of children)		
Not Hispanic	654	18.5
Hispanic	800	22.0
Missing/Unknown	2,176	59.5
Race & Ethnicity		
Non-Hispanic White	436	13.4
Non-Hispanic Black/AA	48	2.0
Non-Hispanic AI/AN	117	1.5
Non-Hispanic Other Race	45	1.4
Hispanic (any race)	800	22.0
Missing/Unknown	2,184	59.7
Child has asthma		
No	1,275	35.2
Yes	154	3.9
Missing/Unknown	2,201	60.9
Tooth brushing frequency		
More than once a day	791	21.7
Once a day	568	15.7
Every few days	67	1.6
Every few weeks	9	0.3
Never	2	0.1
Missing/Unknown	2,193	60.6
Time since last dental visit		
Never been	153	3.8
Within the last year	1,066	29.7
1-3 years ago	183	4.7
More than 3 years ago	16	0.6
Missing/Unknown	2,212	61.2
Health insurance coverage		
Employer or private	567	17.2
AHCCCS (Medicaid)	703	17.7
Other (IHS or military)	49	0.9
None	98	2.8
Missing/Unknown	2, 213	61.4

Demographic Characteristic	Number of Children with Data (Unweighted)	Weighted Percent
Dental insurance		
No	335	9.2
Yes	1,059	28.9
Missing/Unknown	2,236	61.9
Parent education		
Less than high school	156	4.3
High school graduate	406	10.8
Some college/associate degree	512	12.4
Bachelor degree or higher	319	10.5
Missing/Unknown	2,237	62.0

Note: Race/ethnicity, asthma, tooth brushing, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire.
Weighted percent: Percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

Appendix E: Demographic Characteristics of the Kindergarten Children Participating in *Healthy Smiles Healthy Bodies* Excluding Children with Missing or Unknown Data

Demographic Characteristic	Number of Children with Data (Unweighted)	Weighted Percent
Gender		
Female	1,792	49.7%
Male	1,838	50.3%
Rural/Urban status		
Rural	1,861	31.6%
Urban	1,769	68.4%
School participation in NSLP		
< 25% are eligible	150	10.7%
25-49% are eligible	787	19.2%
50-74% are eligible	839	18.4%
≥ 75% are eligible	1,854	51.7%
Race		
White	866	72.4%
Black/African American	99	13.4%
Asian	36	3.7%
American Indian/Alaska Native	185	8.4%
Pacific Islander/Native Hawaiian	9	0.7%
Multi-Racial	18	1.5%
Ethnicity		
Not Hispanic	654	45.6%
Hispanic	800	54.4%
Race & Ethnicity		
Non-Hispanic White	436	33.2%
Non-Hispanic Black/AA	48	5.0%
Non-Hispanic AI/AN	117	3.7%
Non-Hispanic Other Race	45	3.5%
Hispanic (any race)	800	54.6%
Child has asthma		
No	1,275	90.1%
Yes	154	9.9%
Tooth brushing frequency		
More than once a day	791	55.1%
Once a day	568	40.0%
Every few days	67	4.0%
Every few weeks	9	0.8%
Never	2	0.1%
Time since last dental visit		
Never been	153	9.7%
Within the last year	1,066	76.7%
1-3 years ago	183	12.1%
More than 3 years ago	16	1.5%
Health insurance coverage		
Employer or private	567	44.6%
AHCCCS (Medicaid)	703	45.9%
Other (IHS or military)	49	2.2%
None	98	7.3%
Dental insurance		
No	335	24.1%
Yes	1,059	75.9%
Parent education		
Less than high school	156	11.3%
High school graduate	406	28.3%
Some college/associate degree	512	32.7%
Bachelor degree or higher	319	27.7%

Note: Race/ethnicity, asthma, tooth brushing, time since last dental visit, insurance coverage, and parent education were obtained from the optional parent/caregiver questionnaire.

Weighted percent: Percent of children that accounts for the complex cluster sampling scheme. Calculating percent directly from the number of children will not yield the weighted percent.

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