

WHITE PAPER

The Impact of Neglected Adolescent Dental Care on Adult Health

Despite numerous advances in healthcare, one statistic has not measurably improved in 20 years. More than half of adolescents in the U.S. have tooth decay.

SUMMARY OF CONTENTS

In this paper, Benevis discusses how many unhealthy behaviors and oral diseases make a first appearance during adolescence. The need to reinforce positive oral health habits, a healthy diet, and routine preventive dental care from the ages of 12 to 19 years old can influence oral health into adulthood. Relevant research and data points on adolescent dental care and activities that support this younger population's health are also covered.

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Introduction

The importance of dental care in teen years including orthodontics should not be overlooked, as this period forms the foundation for oral health in adulthood. But it has been overlooked. Tooth decay in adolescence has not measurably improved in the last two decades (1). There's also limited research available on pre-teens and teenagers, even though many oral diseases begin during this period of life.

A few findings are for certain, however. Having a greater number of dental caries in younger childhood years leads to more caries in adolescence. The same is true of caries in adolescence that predict the development of future caries in adult years (2). Deeper dental health disparities also exist for poor and minority adolescents (1).

Considering that many health behaviors form in adolescence, it is a vital time to develop healthy oral care habits that carry over into adulthood.



57%

of adolescents ages 12-19 have had a dental carie (3).



17% of 12-19 year olds have had *untreated* decay (1).

Importance of Oral Health in Adolescence



Adopting healthy dental care behaviors during adolescent years can have a critical impact on overall health and well-being into adulthood. From social determinants of health to family guidance, culture, community, school, and social influences, there are many factors that affect a young person's care for their oral health.

As self-care becomes more important in adolescence, most of us might expect a smile to take top priority in care. However, the lack of attention from teens themselves and researchers on this demographic is surprising, mainly because tooth decay continues to be the most common chronic disease in adolescents even though it is generally preventable (4).

- One-third of adolescents do not have access to preventive dental care in the U.S. (5).
- Among adolescents 12 to 19 years, about 57% have had caries, or tooth decay, in their permanent teeth (3).
- Older adolescents ages 16 to 19 experience 18% more decay in permanent teeth than younger adolescents (1).
- Adolescents from lower-income households are twice as likely to have untreated decay as those from higher-income households (1).



Reinforcing good oral health habits, making the right dietary choices, and ensuring access to regular and ongoing preventive dental care in adolescence can significantly influence oral health into adult years (5).

Appearance of Oral Disease in Teenage Years



Many oral diseases and harmful health behaviors managed by adults begin in adolescence, with tooth decay the most common chronic disease among them (4). It affects permanent teeth from early childhood into adolescence and beyond, including the ability to eat and speak, which are critical to physical and psychosocial health (6).

Other oral diseases carried into adulthood include (7):

- Periodontal disease and gingivitis
- Temporomandibular joint disease
- Sexually transmitted infections
- Human papillomavirus infection (HPV)

An overwhelming number (70%) of oropharyngeal cancers in the U.S. stem from HPV infection, making adolescence an ideal time to be vaccinated. However, only 51% of adolescents in the U.S. received the HPV vaccine in 2018, even though most dentists offer it as a protective measure (8).

Aside from disease, harmful behaviors with implications for adverse oral health outcomes, like dietary habits, smoking, vaping, and substance use, also become more common in adolescent years (7).

From HPV vaccinations for cancer prevention to building good oral health habits, adolescence is a crucial time for intervention.

SDOH Impact Adolescent Oral Health

The *NIH Oral Health in America Report: Advances and Challenges* cites that **“one-third of adolescents in the U.S. do not access preventive dental care (5).”** Understanding that social determinants of health (SDOH), like economic and geographic barriers, have risk factors that are directly linked to poor oral health outcomes may explain why this younger segment’s access to care is more limited (9).

1/3

U.S. adolescents do not access preventive dental care

Adolescents from low-income families experience greater barriers to care and higher rates of decay.

- Adolescents from low-income households (22%) are twice as likely to have untreated decay as those not from low-income households (11%) (1).
- Adolescents from low-income households also have more severe decay in their permanent teeth (1).
- Non-Hispanic Black (20%) and Mexican American (21%) adolescents experience more *untreated* tooth decay than non-Hispanic White (16%) adolescents (1).
- Mexican Americans ages 12 to 19 average five missing or decayed teeth per adolescent vs. one missing or decayed permanent tooth for adolescents overall (1).
- “African American, Asian, Native American, and other/multiracial adolescents receive less dental care than White adolescents, and Hispanic youth are less likely to receive dental care than non-Hispanic youth (9).”



Although there has been an eight percentage and five percentage point drop in the untreated tooth decay of Mexican American and non-Hispanic Black adolescents, respectively, the combination of growing up poor and in a minority makes the challenging teen years even tougher on teeth (1). Providing public initiatives that identify and support oral health disparities during this vital stage of life is essential to adolescent health and well-being.

Dental Erosion's Irreversible Effects

Acid-induced wear and tear on the hard tissues of teeth affects between 40% and 55% of teenagers 13 to 19 years old in the U.S. (10). Unfortunately, erosive tooth wear is irreversible. It can damage the appearance of teeth and cause pain, sensitivity, and even fractures in them (11,12).

Ingesting acidic drinks and foods like soda, juice, fruit, sports beverages, and sour candy can erode teeth (13). Gastric acid resulting from gastroesophageal reflux disease, bulimia nervosa, and eating disorders with vomiting can also lead to harmful dental erosion. Bulimia nervosa most commonly begins at the age of 18 and has a destructively high prevalence (90%) of erosion on adolescents' teeth (14).



40-55%

**Tooth erosion
affecting U.S.
adolescents ages
13-19**



>90%

**Prevalence of
dental erosion in
adolescents with
bulimia**



Oral Hygiene and Orthodontics in Adolescents

An Oral Hygiene in Adolescence Study conducted in 2022 uncovered oral care behaviors worthy of additional focus. Per the findings, most teenage respondents said that brushing their teeth was the only oral hygiene habit they had at home. **While 83% said they brushed their teeth at least twice a day, only 7% of the survey sample flossed daily (15).** Another study corroborated these findings, citing 76% of adolescents brushed twice daily while 4% flossed every day (16).

When asked about the most important activity they wish their adolescent patients would follow to protect their oral health, **Benevis dentists said they wished their 12 to 19-year-old patients were better educated on the importance of their oral hygiene and health.**

Adolescents in the same Oral Hygiene in Adolescence Study undergoing orthodontic treatment were even less compliant in caring for their oral hygiene than those without orthodontia. More concerning, only 54% of teens wearing braces in the study were advised to undergo professional oral hygiene during their orthodontic treatment. From the adolescent survey sample, 61% cited parents as their primary source of education on oral hygiene (15).

Straight, Bright Teeth

82% of adults regardless of income or age said they believe straight, bright teeth help you get ahead in life.

ADA.org/HPI survey (17)

65% of Adult Front Teeth are Not Well Aligned

American Assoc. of Orthodontics (18)

The importance of orthodontics is often overshadowed by the aesthetics of having straight teeth; but it's much more than that. Because they are harder to clean, crowded and crooked teeth can lead to tooth decay, gum disease, and even tooth loss over time. On top of hygiene challenges, a misaligned bite can wear down enamel of the teeth and affect the ability to speak and chew. Orthodontic issues left untreated can lead to extensive dental work and greater costs of care later (18).

It is especially important for patients in orthodontic treatment to visit a dental professional for preventive oral healthcare. While wearing braces, Benevis dentists recommend brushing teeth three times per day and flossing daily. Since a lack of knowledge on dental hygiene can increase the risk of tooth decay in adulthood, public education and communication on preventive dental health measures are imperative during adolescence.

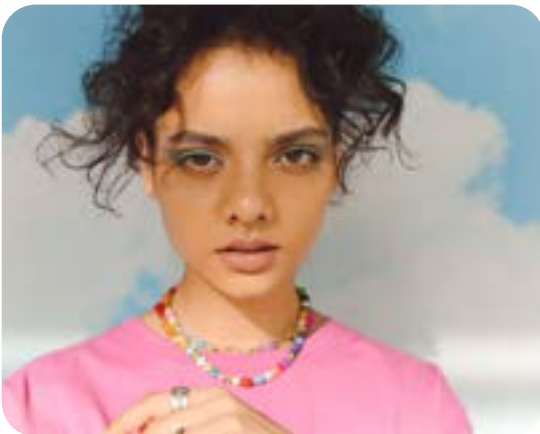
Teen Suffering Surpasses Smile Stigma

Body image can be all-consuming for many teenagers as they grow and their physical shape changes with puberty. They become more aware of every part of their body, from head to toe. Their smiles and teeth stand out as more noticeable features. Whether self-inflicted or not, there can be a stigma associated with missing, crooked, and rotten teeth, possibly because a smile is one of the first things we notice about another person.

“Although adolescent studies are hard to find on this topic, in my experience, the well-being of my teen patients is deeply affected by dental impairments. I watched one of my patients navigate some of her toughest teenage years with a missing front tooth. After repeated insurance denials and dental work too costly for her family to afford out-of-pocket, she stopped smiling at 13 and it was heartbreaking. Fortunately, our team persisted and we were able to complete all of her dental treatment before she began high school. For the first time in years, she’s smiling again.”



Dr. Latoya Colenberg Eakins
BENEVIS DENTIST



During this stage of life, concerns of sports injuries, tooth erosion, gum disease, and misalignment of the top and bottom teeth make their first appearances. Mental health issues and risk-taking behaviors like tobacco and substance use are also common occurrences in adolescence that can negatively impact oral health in the long term (5).

As adolescents move closer to adulthood and further away from the support of their parents’ dental insurance coverage, establishing strong oral health habits that they can maintain over a lifetime becomes even more important.

About 25% of adults avoid smiling due to the condition of their mouth and teeth.

ADA.org/HPI survey (17)

Sealant Use Gains Popularity



The use of dental sealants on adolescent teeth has nearly tripled in popularity in the past 20 years (7).

Based on the latest 2016 data, 48% of adolescents between the ages of 12 and 19 have sealants versus nearly 38% in 2004. The greatest improvement in sealant use has occurred in non-Hispanic Black and Mexican American adolescents, increasing by 12% and 18%, respectively, between 2004 and 2016 (3).

Since Mexican American and non-Hispanic Black adolescents have also experienced the largest decreases in untreated dental decay (1) at 8% and 5% respectively (3), there may be a positive correlation with the increased use of sealants on their teeth.

- Among adolescents with sealants, the mean number of teeth sealed has risen from 5 to 6 between 1999 and 2016 (1).
- 51% of 12 to 15-year-olds have sealants vs. 45% of 16 to 19-year-olds (3).
- Among adolescents with sealants, 53% are non-Hispanic White, 45% are Mexican American, and 37% are non-Hispanic Black (3).
- 51% of adolescents 200% above the Federal Poverty Level have sealants vs. 42% of the poorest adolescents 100% below it (3).



Despite the improvement in sealant use, dental disparities remain high for adolescents who are non-Hispanic Black, Hispanic, and from low-income families. Adolescents who fall into these socioeconomic groups have fewer sealants than other adolescents (1).

Integrating Medical-Dental Care for Better Health



The more recent recognition that integrated medical and dental care will help to improve overall patient health outcomes is slowly beginning to happen.

Given the connection between oral health and overall health and well-being, health systems are investing in dental service organizations and they are starting to form partnerships that support whole person care.

Northwell Health recently acquired two dental practices in New York, and Memorial Care and Pacific Dental Services, located in California, opened their first integrated office in December of 2023 (19).

Benevis is actively collaborating with primary care providers across 100 plus communities in 13 states and the District of Columbia to support children’s oral healthcare. The company has provided physicians and clinicians with a Dental Home Playbook to help assess risk for caries and guide patient resources and education for better dental health.

Another important area for improving oral health in teens includes a focus on opportunities to deliver dental care in schools. The Centers for Medicare and Medicaid Services Chief Dental Officer Dr. Natalia Chalmers discusses this as something on the horizon for CMS during *The Visible Voices Smile Wellness podcast*. [Dr. Chalmers emphasizes in the podcast, “you cannot be healthy if you have poor oral health \(20\).”](#)



Preserving Oral Health through Education

“The younger we can educate kids on how to care for their teeth, the better chance they have of preserving their oral health as adults. We have an opportunity and responsibility to make sure fewer adolescents experience decay, and we can do that by teaching them earlier in life. In school, at home, and across every healthcare setting, dental education is vital to our children’s health.”



Dr. Brad Bryan, BENEVIS DENTIST
Vice President, Clinical Operations

Benevis Orthodontic Service Growth

Recognizing the need to better support orthodontia treatment and care for children and teens, Benevis opened 8 new orthodontic offices in 2023 expanding the organization’s services to 90 locations nationwide.

Core to its mission, Benevis makes high-quality, affordable orthodontic and oral healthcare possible for patients with or without insurance and accepts most plans, including Medicaid and CHIP.



“From my personal practice experience, the well-being of my teen patients is deeply affected by these types of dental impairments. Some (kids) have so much crowding that their teeth can't come in, or there are impacted teeth, or some growth of the jaw is needed to correct occlusion. I recently had a patient in tears because she was so excited to get her braces on. There were some things to correct that were getting her bullied in school.”



Dr. Grant Zakhar
BENEVIS ORTHODONTIST

Orthodontic Cost Calculator



In the same year Benevis expanded its orthodontic services, it introduced an [Ortho Cost Calculator](#) to give patients, families, and caregivers a visual tool for better understanding of potential payment and financing options. The calculator delivers cost transparency, clearly articulates customized payment plan timelines, and is easy to access on Benevis-affiliated dental websites.

Oral Health in Adolescence

BY THE NUMBERS

Adolescence is a critical time in the development of healthy dental habits. Many oral diseases and harmful health behaviors managed by adults begin between the ages of 12 and 19, and tooth decay is among the most common chronic diseases in the U.S. (4). Despite this, there has been no noticeable change in the prevalence of tooth decay for this age group since 1999 (1).

57% CARIES

Over half (57%) of 12 to 19-year-olds will have caries (3).

17% UNTREATED DECAY

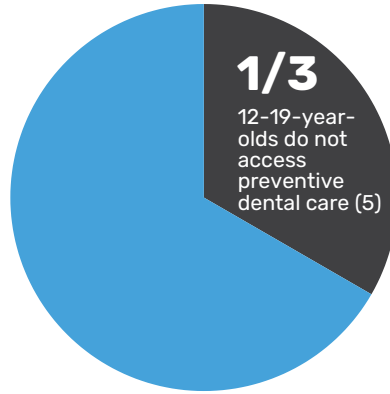
17% of 12 to 19-year-olds have had *untreated* tooth decay (1).

POOR / 2X DECAY

Adolescents from low-income households twice as likely to have *untreated* decay as those from high-income households (1).

51% HPV VACCINATED

70% of oropharyngeal cancers in the U.S. stem from HPV infection, but only half of adolescents receive the vaccine (8).



Oral diseases carried from adolescence into adulthood include (7):

- Periodontal disease
- Temporomandibular joint disease
- Sexually transmitted infections
- Human papillomavirus infection (HPV)

>90% do not floss daily

Only 7% of teens in a 2022 Oral Hygiene Study said they flossed daily, and only 54% with braces were advised to undergo professional oral hygiene during their orthodontic treatment (15).

40-55% erosion

Dental erosion from acidic drinks and foods affects between 40% to 55% of 13 to 19-year-olds in the U.S. (10).

Most Bulimia nervosa begins at 18 years old and has a high prevalence (90%) of tooth erosion (14).

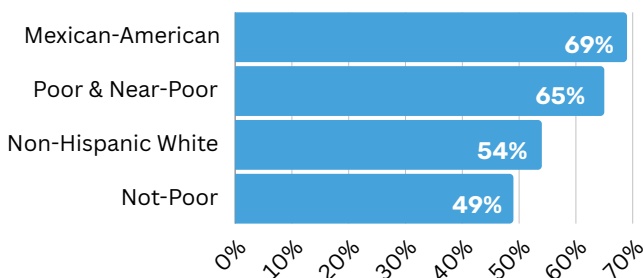
48% sealants

Use of dental sealants in the U.S. on adolescent teeth has nearly tripled in popularity in the past 20 years (7). Per 2016 data, 48% of adolescents aged 12-19 have sealants (3).

GREATER DENTAL DISPARITY for Poor & Minorities

Poor oral health is a primary marker of social inequality, and the disparity is greater for poorer and minority adolescents. Prevalence of cavities remains the highest for Mexican American and poor and near-poor teens per 2011-2016 data (1).

TOOTH DECAY PREVALENCE [Adolescents aged 12 to 19]



There's some good news. The prevalence of *untreated* tooth decay decreased 3% between 2004 and 2016. The biggest drops occurred in Mexican American (8%), near-poor (6%), and non-Hispanic Black adolescents (5%). Conversely, the use of sealants to protect teeth from decay increased more for non-Hispanic Black (12%) and Mexican American adolescents (18%) between 2004 and 2016 (3).

Even with these improvements, Mexican American (21%) and non-Hispanic Black (20%) adolescents continue to experience higher rates of *untreated* tooth decay than non-Hispanic White (16%) adolescents (1).

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Benevis is a leading dental healthcare organization for practices focused on delivering critical oral care and orthodontics to underserved communities. Through comprehensive care and operational services that expand access to dentistry, Benevis has a 20-year history of providing the highest quality care to approximately 5 million children and adults. Its network reaches more than 100 dental offices across the U.S. that deliver treatment during 1.4 million visits each year. Benevis also advocates for programs and legislation that ensure all families have access to the oral healthcare they need and deserve.

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