NYC Health

NYC Vital Signs

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Oral Health among School-aged Children in New York City

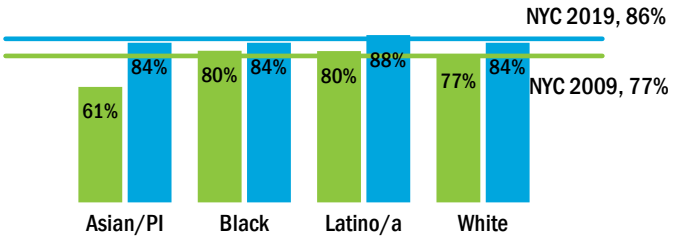
Dental caries (tooth decay) is one of the most common chronic diseases of childhood; however, it is often preventable. Prevention and early detection of tooth decay can improve a child's oral health and overall well-being.[1] Despite substantial improvements, inequities in prevention and early intervention remain.[2] High cost and lack of dental insurance, lack of access to dental services, and low oral health literacy contribute to the limited or timely use of dental care across the life span, especially among children younger than five years, children living in families with lower incomes, and children of color.

Oral health examinations coupled with application of dental sealants and fluoride are effective low-cost, evidence-based preventive dental treatments that can lower the burden of dental caries in childhood. School-based oral health programs are effective in increasing the number of children receiving sealants, early detection of tooth decay, and dental caries prevention.[3] School-based dental services in New York City (NYC) have expanded with advances in portable dental care. As of September 2022, oral health programs were offering preventive treatment in about 900 public school settings, mainly in lower income NYC neighborhoods, and many provide a range of restorative dental care as needed.

This Vital Signs will examine recent trends in oral health among NYC school-aged children. The report highlights preventive dental visits, prevalence of dental caries, and oral health disparities among children and adolescents. It also provides an overview of the reach and expansion of NYC's school-based dental programs.

Children's preventive dental visits increased from 2009 to 2019

Prevalence of preventive dental visit in the past year among children ages 2 to 12, by race and ethnicity, New York City, 2009 and 2019



White, Black, Asian/Pacific Islander (PI) race categories exclude Latino/a ethnicity. Latino/a includes Hispanic or Latino/a of any race. Other non-Latino/a race(s) not shown due to small sample size.

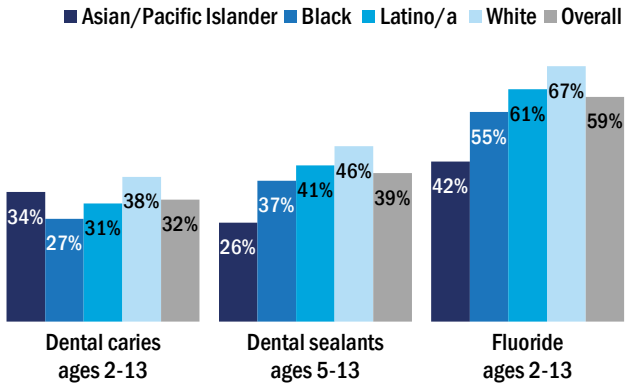
Sources: Child Community Health Survey, 2009. NYC KIDS Survey, 2019

- Almost 9 in 10 children ages 2 to 12 had a preventive dental visit in 2019. The proportion of children with a preventive dental visit increased from 2009 to 2019, overall (77% to 86%) and among White, Asian/Pacific Islander, and Latino/a children.[A,C]
- Preventive dental care visits were more common among children (86%) than among adults (62%) in 2019.[F] Insurance coverage may be a contributing factor: unlike for adults, states are required to provide dental benefits to children covered by Medicaid and the Children's Health Insurance Program.
- As preventive dental visits increased in recent years there was more opportunity to identify dental caries. The prevalence of dental caries among children ages 2 to 12 increased from 25% in 2015 to 31% in 2019.[B,C]
- Among NYC children ages 2 to 13, 32% had experienced dental caries (2019); 37% of NYC public middle school students (2018) and 45% of public high school students (2019) experienced caries.[C,D,E]
- Dental sealant applications among children ages 6 to 12 increased from 35% in 2009 to 42% in 2019.[A,C]

Definitions: Preventive dental visit recommended to begin by age one includes check-ups, cleanings, sealants, or fluoride treatments. **Dental caries or tooth decay** are interchangeable terms, both refer to the disease process. **Dental cavity** describes the outcome of the disease process, a damaged area in the teeth which can lead to tooth loss. **Dental sealants:** a protective coating applied to the teeth to prevent cavities. **Fluoride treatment**: applied by a dental or medical professional to prevent cavities. **Sugary drinks**: average daily consumption of soda and other sugar-sweetened drinks. **Race/ethnicity**: For the purpose of this publication, Latino/a includes persons of Hispanic or Latino/a origin, as identified by the survey question "Are you Hispanic or Latino/a?" and regardless of reported race. Black, White and Asian/Pacific Islander race categories exclude those who identified as Latino/a. Other non-Latino/a race(s) not shown due to small sample size.

Dental caries and preventive dental treatments among children vary by race and ethnicity

Prevalence of dental caries and preventive dental treatments among children, by race and ethnicity, New York City, 2019



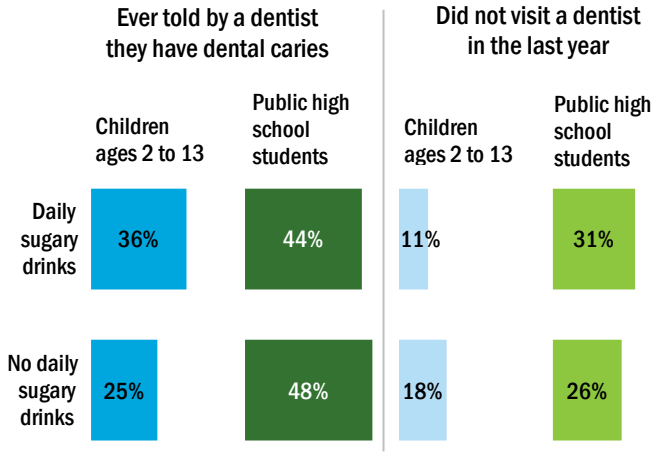
White, Black, Asian/Pacific Islander race categories exclude Latino/a ethnicity. Latino/a includes Hispanic or Latino/a of any race. Other non-Latino/a race(s) not shown due to small sample size.
Sources: NYC KIDS Survey, 2019

- Preventive treatments such as dental sealants and fluoride applications are effective in preventing and reducing the progression of dental caries. Toothbrushing, diet, oral health literacy, parental education, and genetics are also important factors associated with dental caries.[4,5]
- Dental caries prevalence among NYC children ages 2 to 13 was 32% in 2019. Caries were more common among White (38%) and Asian/Pacific Islander (34%) children than among Black (27%) children.[C]
- Overall, 39% of children ages 5 to 13 received dental sealants in 2019. The prevalence of dental sealants was highest among White (46%) and Latino/a (41%) children compared with Asian/Pacific Islander (26%) children.[C]
- Overall, 59% of children ages 2 to 13 had a fluoride treatment in 2019. The prevalence of fluoride treatment was higher among White (67%) than among Latino/a (61%), Black (55%) or Asian/Pacific Islander (42%) children.[C]

Behaviors such as regular consumption of sugary drinks increase the risks for oral health problems and lead to dental caries.[6]

- Annual dental visits are important to receive preventive or needed restorative dental care, particularly for children who consume sugary drinks.
- In 2019, the prevalence of dental caries was higher among children ages 2 to 13 who drank sugary drinks compared with children who did not (36% vs. 25%).[C] The prevalence of public high school students who were told by a dentist they had dental caries was similar among those who drank sugary drinks and those who did not (44% vs. 48%).[E]
- Among children ages 2 to 13 who drank sugary drinks, 11% did not visit the dentist in the past year compared with 18% who did not drink sugary drinks.[C]
- Overall, 30% of high school students did not visit a dentist in the past year in 2019. The prevalence of not visiting the dentist in the past year was higher among high school students who reported sugary drink consumption compared with students who did not (31% vs. 26%).[E]

Prevalence of dental caries and no dental visits in the past year among children and teens, by daily sugary drink consumption, New York City, 2019



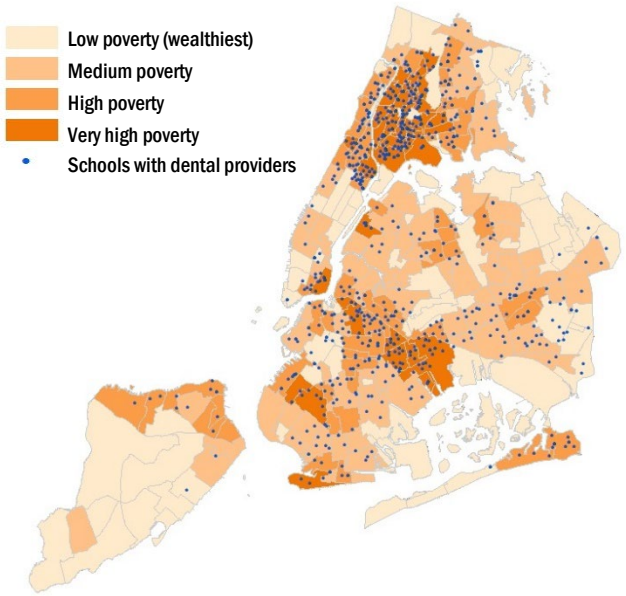
Sources: NYC KIDS Survey, 2019. NYC Youth Risk Behavior Survey, 2019

Data sources: (A)**2009 Child Community Health Survey (CCHS),** (B)**2015 Child Health, Emotional Wellness and Development Survey (CHEWDS),** (C)**2019 NYC KIDS Survey:** population-based telephone surveys conducted by the Health Department in the years noted (2009 survey conducted with support from the Children's Health Fund). A parent, guardian or other knowledgeable adult was interviewed about the health of one child in the selected household: in 2009 and 2015, 3000 children ages 12 years or younger were sampled; in 2019, 8,289 children ages 1 to 13 years were sampled. Survey data are weighted to the NYC population of children in the age ranges sampled, per American Community Survey.
(D)**2018 NYC Youth Risk Behavior Survey Middle School (MS-YRBS),** (E)**2019 NYC Youth Risk Behavior Survey (YRBS):** YRBS is a biennial self-administered, anonymous survey conducted in NYC public middle and high schools, respectively, by the Health Department and the NYC Department of Education .
(F)**2019 Community Health Survey (CHS):** CHS is conducted annually by the Health Department with approximately 9,000 -10,000 non-institutionalized adults ages 18 and older. The 2019 survey was conducted by telephone. Estimate is age-adjusted to the U.S. 2000 standard population.
For more details about each survey, visit https://www.nyc.gov/site/doh/data/data-sets/data-sets-and-tables.page.

New York City school-based dental program expanded in recent years

Dental services expanded in schools mainly in lower income neighborhoods^

Location of schools by dental provider status and neighborhood



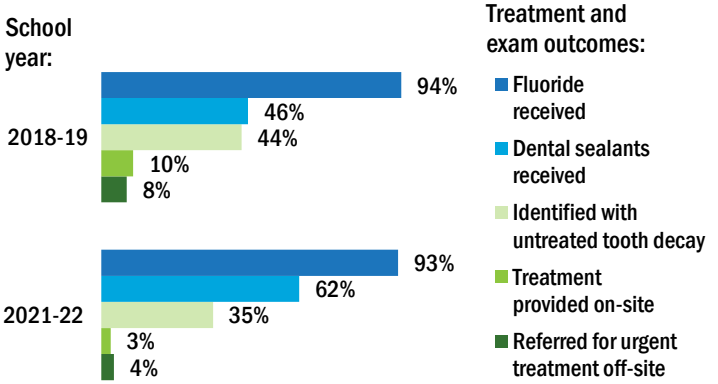
^Neighborhood poverty (by Neighborhood Tabulation Area) is defined as the percentage of the population living below the Federal Poverty Line (FPL) based on the American Community Survey (2011-2015),categorized into four groups: "Low poverty" neighborhoods are those with <10% of the population living below the FPL; "Medium poverty," 10-<20% below FPL; "High Poverty," 20-<30% below FPL; "Very high poverty," ≥30% of the population living below the FPL.

Source: Office of School Health Oral Health Program, School Year 2021-22

- Among children and youth who were examined in 2021-22, 62% (35,047) received dental sealants, and 93% (52,621) received fluoride.
- One-third (35%) of children who received a dental exam in 2021-22 had untreated dental caries.
- School-based dental providers often have limited capacity to offer a full range of restorative services in school settings. Among children who were examined in 2018-19, about 10% of children received restorative treatments on-site, and 49% were referred for treatment off-site because urgent or comprehensive dental care was needed. Among examined children, 8% were referred for urgent treatment.

- The NYC Office of School Health oversees a school-based dental program which offers dental care services in school settings and refers children in need of additional dental care to community providers.
- Signed parental consent is required to participate in the school-based dental program. Typically, about 30% of enrolled students have consent to receive dental services.
- During the 2017-18 school year, five dental providers delivered services to 355 schools and about 60,000 children were examined. In the 2018-19 school year, the number of providers expanded to 18 and about 83,000 children in 630 schools received a dental exam.
- After being impacted by school closures in the 2020-21 school year due to COVID-19, 16 dental providers returned to schools at the beginning of the 2021-22 school year. Approximately 56,000 dental exams were delivered to 621 schools by June 2022.
- Among children and youth who had consent to receive in-school dental services, 79% received an exam in the 2018-19 school year. Among children who were examined, more than 90% received oral health education, fluoride application and dental cleaning.

Prevalence of treatment and exam outcomes among children who received a dental exam in a New York City school-based dental program, 2018-19 and 2021-22



Notes: Percentage of services is among children who have parent/caregiver consent to receive services and had an exam. In 2018-2019, 79% of children with consent received a dental exam; in 2021-22, 62% of children with consent received an exam.

Sources: Office of School Health Oral Health Program, School Year 2018-19 and 2021-22.

Definitions: School-based dental program schools: Dental providers deliver services to NYC public schools citywide for all grades Pre-Kindergarten through 12th grade. Dental providers must be approved by the NY State Department of Health for each school where services are delivered. **Dental treatment**: restorations, crowns, tooth extractions, gingivectomy or gingivoplasty and periodontal scaling and root planing. **Treatment off-site**: dental services received by the Article 28 operator or community dental provider. **Urgent treatment:** five or more restorations; two or more extractions; pain/abscess in one or more teeth.

Data sources: (G)**NYC Office of School Health Oral Health Program 2017-18, 2018-19, and 2021-22** receives data reports about the type and volume of services delivered in schools from school-based dental providers on a quarterly and annual basis. Data about SBDP measures comes from SBDP annual reports. In 2021-22, 90,838 consent forms were received, and 56,342 children received an exam. In 2018-19, there were 104,786 consented children, and 83,239 children were examined.

Recommendations

Community-based dental providers:

- Preventive and restorative dental care for children is covered by Medicaid. If a child is uninsured, inform parents and caregivers about how to enroll children into Medicaid.
- Assist parents to establish an ongoing relationship with a primary dentist for their child; this provides an opportunity for prevention and early intervention for their child's dental care needs.
- Encourage parents to complete a consent form for in-school dental services.
- Recommend the use of fluoride treatments up to four times per year and promote the use of silver diamine fluoride (SDF) for caries arrest, which can benefit children when restorative care is not possible.

Parents and caregivers:

- Start regular dental visits by age one to reduce your child's long-term risk for tooth decay.
- Find NYC low-cost dental providers through the NYC Health Department's Oral Health Program website NYC HealthMap (Search "Health Map" at NYC.gov and filter for "Dental Services").
- Access dental services delivered in school – complete a consent form as soon as possible.
- Avoid sugary drinks and serve healthier beverages, like NYC tap water, to children.

Schools and policy makers:

- Continue support for incentive programs for school-based dental providers to expand preventive services, such as sealant application.
- Continue to support programming for schools to increase parental consent for in-school services.
- Schools should promote oral health education in curriculum as well as the benefits of in-school dental care to parent support staff, teachers, and caregivers.
- Strengthen support of school nurses for follow-up of students in need of urgent dental care.

Pediatricians and primary care providers:

- Advocate for a child's first dental visit before age one and advise to begin brushing with fluoride-containing toothpaste as early as the eruption of the first tooth.
- Encourage parents to have their child/children visit the dentist at least annually and take advantage of preventive treatments including sealants starting around 6 years of age, and fluoride applications.
- Promote and apply fluoride treatment during well-child medical visits in pediatric settings.
- Examine child's mouth and teeth, and screen for caries during well-child visits.

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