



Third Grade Oral Health Screening Survey 2017- 2018

Disparities in Oral Health

Introduction

A variety of social, environmental, and biological traits can affect your health. In the U.S., the number of oral diseases is shown to differ based on education level, income, and race and ethnicity.¹ Differences in the health status of groups of people are known as "disparities." In 2009, according to an updated federal survey finding on children's oral health and dental care, dental caries experience continued at high levels since the release of Oral Health in America: A Report of the Surgeon General in 2000, impacting 40 percent of all children aged 2 to 11 years, with greater disease and untreated disease burden borne by poor and low-income children and racial/ethnic minorities.² Additionally, disparities in dental visits continued to be evidenced by age, family income, race/ethnicity, and caregiver education.²

This data brief looks at disparities in the oral health of third grade schoolchildren in Texas, related to family income, region of residence, and race/ethnicity.

Methods

The Texas Department of State Health Services conducted an open-mouth oral health screening survey of third grade schoolchildren during the 2017-2018 school years. A randomized sample of 140 public elementary schools was selected to yield data for Texas and each of its 8 public health regions. Approximately 4,630 schoolchildren were screened.

With consent from parents, schoolchildren were screened by a trained team of dental hygienists and dentists. Four indicators of oral health were measured: history of tooth decay (cavities, fillings, crowns or teeth missing due to dental disease), untreated tooth decay, the presence of dental sealants, and early and urgent treatment needs.



The consent form asked parents questions about getting dental care for their child, such as how recently their child had been to a dentist and if they had dental insurance.

Other data collected on each child were race, ethnicity, and enrollment in the Free and Reduced Lunch Program (as an estimate of family income). Children were classified by whether they lived in a border/rural, border/urban, non-border/rural, or non-border/urban county. These data were collected so disparities in oral health status and access to dental care across different geographic locations across Texas could be studied.

For more information, please contact the Texas Oral Health Surveillance Program at (512) 776-7323 or visit our website at dshs.texas.gov/dental

Results

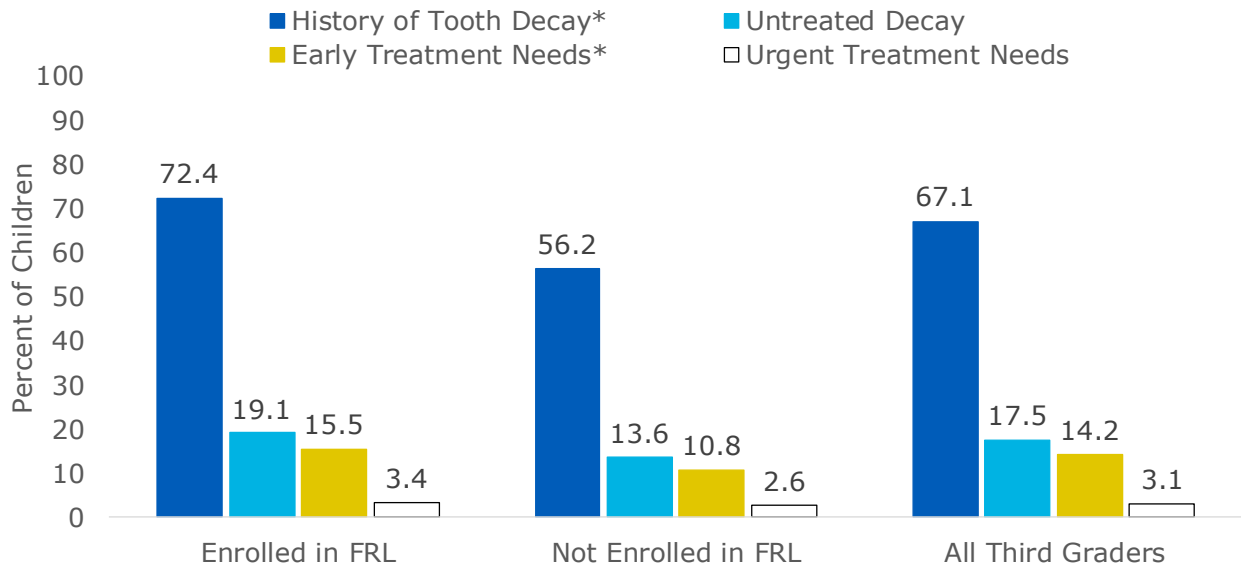
Oral Health Status and Family Income

Family income is estimated by whether a child is enrolled in the Free and Reduced Lunch Program (FRL) at school. Children qualify for this program if their family income falls below 185 percent of the federal poverty level (FPL). For the 2017-2018 school year, a household of four was eligible for reduced-price meals with an income at or below \$44,955 and free meals with an income at or below \$31,590.³

As seen in Figure 1, children from families with lower incomes were more likely to have a history of tooth decay (blue bars) and early and urgent treatment needs (yellow and green bars). A history of tooth decay means the child had cavities, fillings, crowns, or teeth missing due to oral disease.



Figure 1: Percentage of Third Grade Schoolchildren with History of Tooth Decay, Untreated Tooth Decay, and Early and Urgent Treatment Needs, by Family Income, 2017-2018



*Statistically significant in history of tooth decay and early treatment needs at $p \leq 0.05$ between children enrolled in FRL compared to those not enrolled in FRL.

Oral Health Status and Region of Residence

The 254 counties in Texas are assigned to one of eight regional public health offices identified as public health regions (PHR). PHR labels are defined as follow: PHR 1 - Texas Panhandle, PHR 2/3 - North Texas, PHR 4/5N - East Texas, PHR 1/5S - Houston Area, PHR 7 - Central Texas, PHR 8 - San Antonio Area, PHR 9/10 - West Texas, PHR 11 - South Texas.

Figure 2 shows that oral health in third graders varies by PHR. PHR 4/5N, 9/10, and 11 have significantly higher percentage of tooth decay (blue bars) than PHR 1.

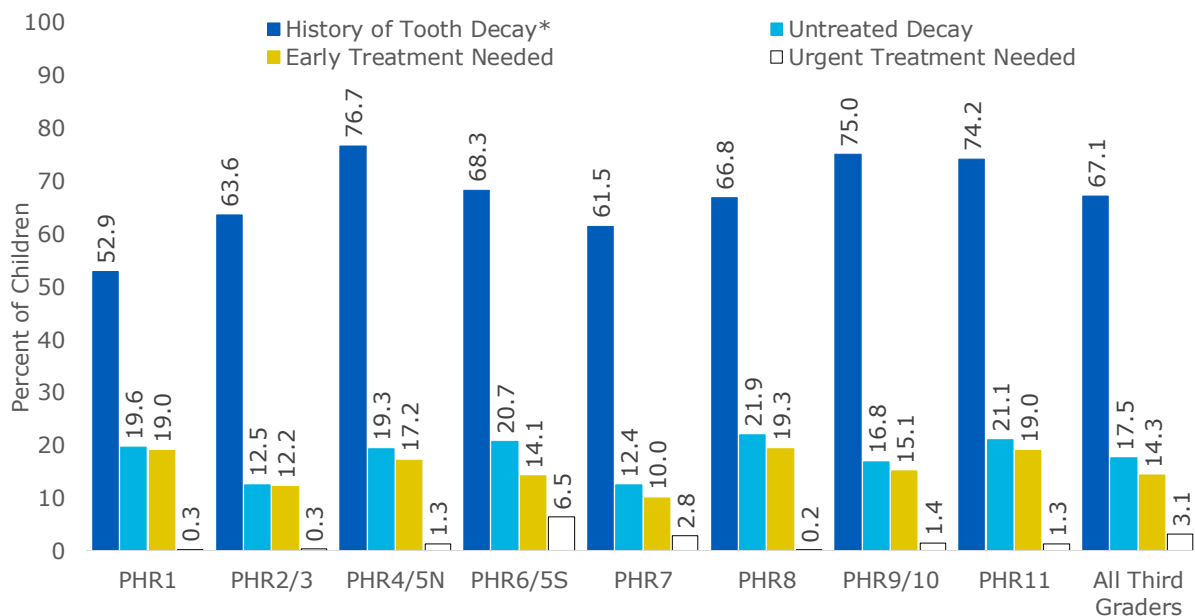
The percent of untreated decay (red bars) was also highest in PHR 6/5S, 8, and 11 and lowest in PHR 2/3 and 7.

PHR 1, 8, and 11 had the highest prevalence of early treatment needs (yellow untreated decay, but no pain or infection, requiring a dental visit within several weeks).



The highest prevalence of urgent treatment needs (green bars) was seen in PHR 6/5S. Urgent treatment need indicates the need for care within 24-48 hours, because of signs or symptoms that include pain, infection, or swelling in the mouth.

Figure 2: Percentage of Third Grade Schoolchildren with History of Tooth Decay, Untreated Tooth Decay, and Early and Urgent Treatment Needs, by Public Service Region (PHR), 2017-2018

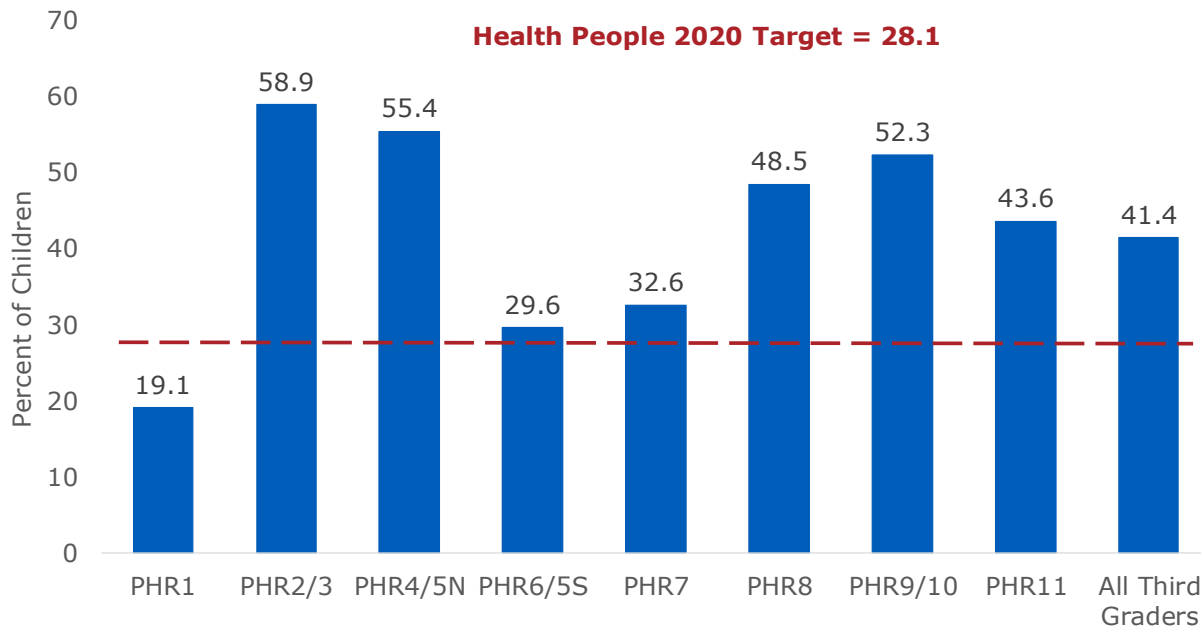


*Statistically significant in history of tooth decay at p≤0.05 between children in PHR 1 compared to those in PHR 4/5N, 9/10, and 11.

Our goal is to achieve health equity, eliminate disparities, and promote good oral health for all. One strategy to reduce dental tooth decay is applying dental sealants. Figure 3 gives the prevalence of dental sealants across all health service regions in Texas.



Figure 3: Percentage of Third Grade Schoolchildren with One or More Dental Sealants*, by Public Health Region (PHR), 2017-2018



*Statistically significant difference in dental sealants in PHR1, 6/5S, and 7 compared to the remaining regions at p≤0.05.

All regions, except PHR 1, meet the Health People 2020 objective for proportion of children aged 6 to 9 years who received dental sealants on one or more of their permanent first molars.

There were also significant discrepancies among various regions with PHR 1, 6/5S, and 7 having a significantly lower prevalence of dental sealants than the remaining regions.

Oral Health Status and Race/Ethnicity

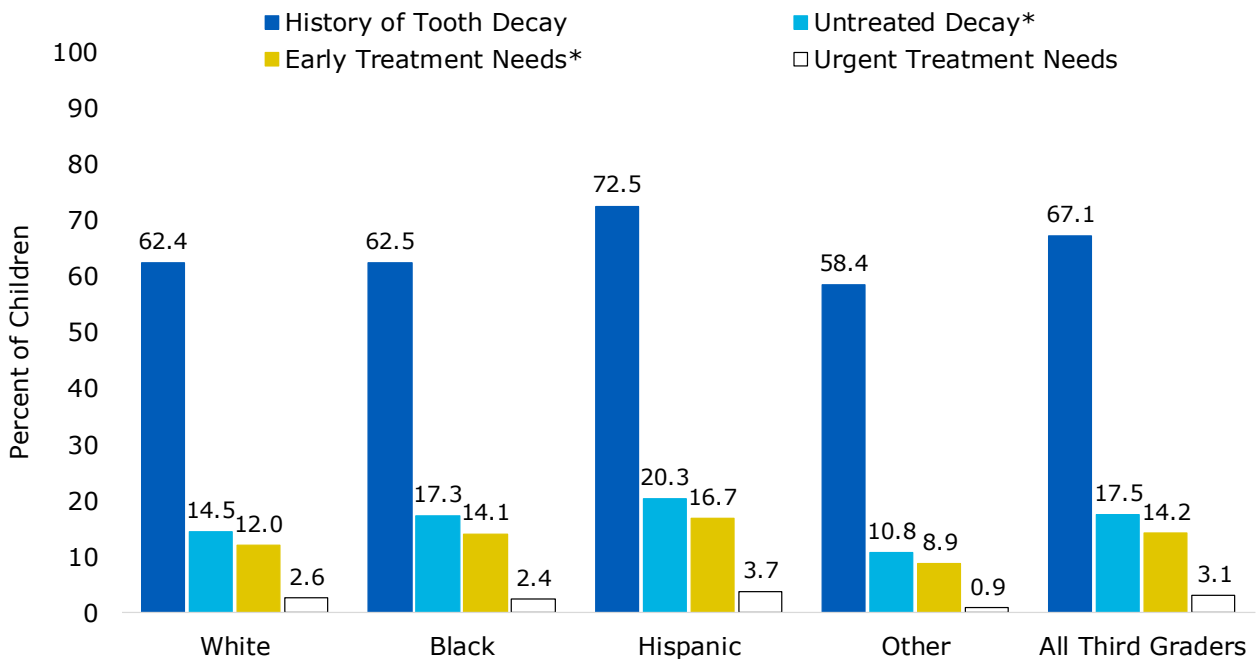
Hispanic children had a higher prevalence of history of tooth decay, untreated decay, and early and urgent treatment needs than children of any other race/ethnic group (Figure 4).

No significant differences were seen in the history of tooth decay (blue bars) or urgent treatment needs (green bars) between any of the racial/ethnic groups.



Compared to Hispanics, children classified as Other race/ethnicity were significantly less likely to experience untreated decay (red bars) and early treatment needs (yellow bars). There were no significant differences between Hispanic children versus White or Black children on untreated decay or early treatment needs.

Figure 4: Percentage of Third Grade Schoolchildren with History of Tooth Decay, Untreated Tooth Decay, and Early and Urgent Treatment Needs, by Race/Ethnicity, 2017-2018



*Statistically significant difference in untreated tooth decay and early treatment needs in Hispanic third grade children compared to third grade children classified as 'Other' race/ethnicity at p≤0.05.



Reference

1. US Department of Health and Human Services, Public Health Service, Office of the Surgeon General. Oral health in America: A report of the Surgeon General. Rockville, MD: National Institutes of Health, National Institute of Dental and Craniofacial Research; 2000, p. 1-322.
2. Edelstein BL, Chinn CH. Update on disparities in oral health and access to dental care for America's children. *Acad Pediatr*. 2009; 9(6): 415-419.
3. Texas benefits at <https://texas-benefits.org/free-meal-programs/eligibility/> Accessed July 2018.