

Rhode Island Public Health Brief

Dental Health Among Children and Adults

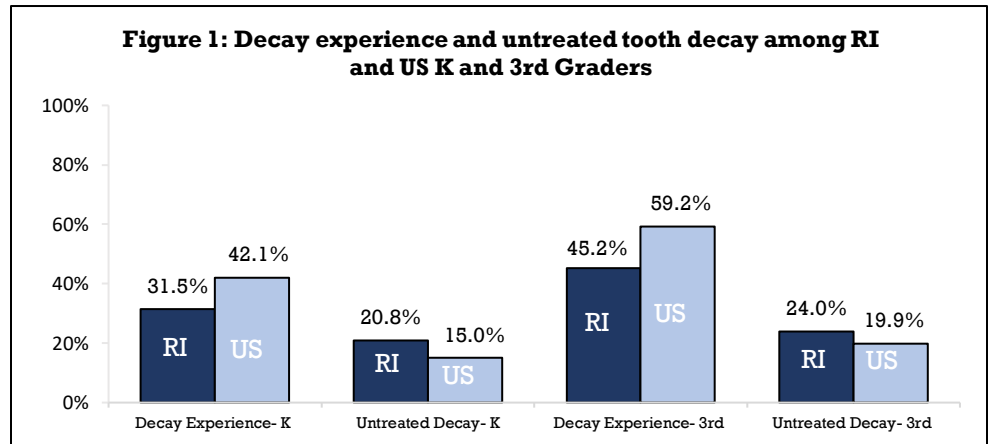


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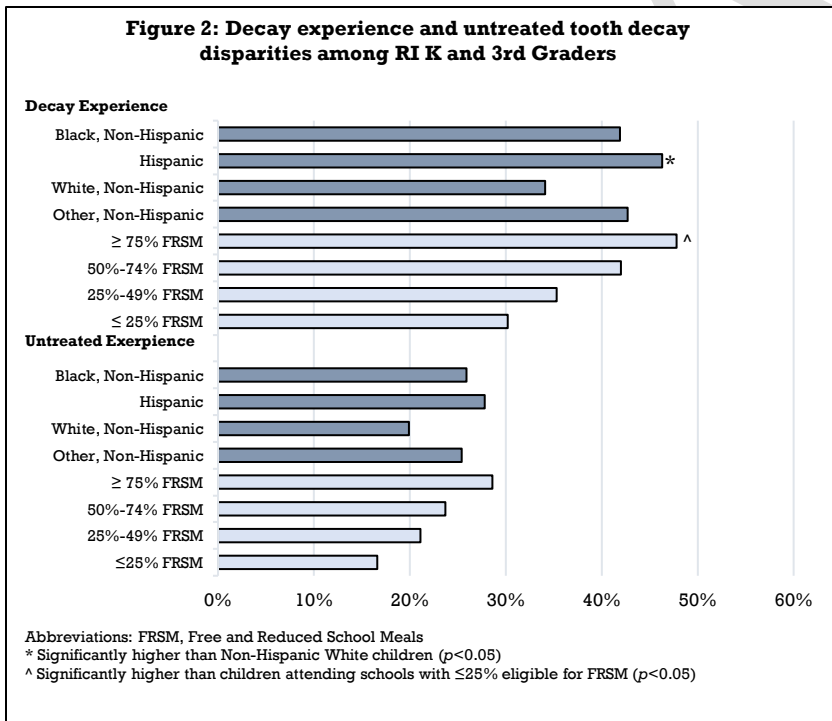
Tooth decay, also known as dental caries, is one of the most common chronic diseases among children and affects their quality of life, school performance, and success later in life.¹ Dental caries occur when acid produced by bacteria leads to mineral loss of tooth structure. Left untreated, caries reduces tooth function, and causes pain, infection, unpleasant appearance, and tooth loss.

Rates of Tooth Decay

Children in Rhode Island experience less decay but are more likely to be untreated than children across the US. In particular, the proportion of Rhode Island children in kindergarten (K) and 3rd grade with untreated tooth decay is higher than the national average (Figure 1) though those who have decay experience, including active decay and treated decay, is almost 25% lower. In Rhode Island, 21% of kindergarten children have untreated tooth decay, compared to the national average of 15%. Furthermore, 24% of third-grade children have untreated dental caries, exceeding the national average of 20%.² Lower decay experience may be a result of widespread community water fluoridation, with the untreated decay potentially reflecting lack of access to dental care.



Source: Rhode Island Department of Health (RIDOH), Basic Screening Survey 2019-22, National Health and Nutrition Examination Survey, 2016.



Abbreviations: FRSM, Free and Reduced School Meals
* Significantly higher than Non-Hispanic White children ($p < 0.05$)
[^] Significantly higher than children attending schools with $\leq 25\%$ eligible for FRSM ($p < 0.05$)

Disparities in Oral Health by Race/Ethnicity and Socioeconomic Status (SES)

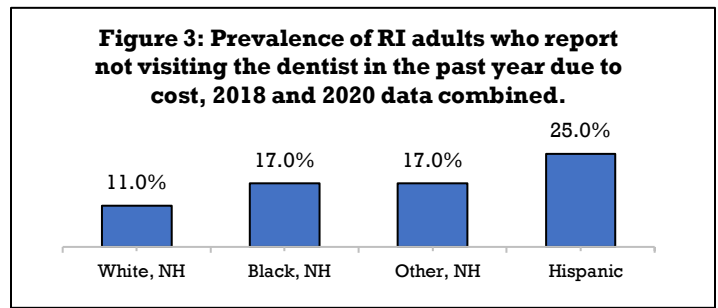
The risk for tooth decay overall and untreated tooth decay is higher for children of lower SES and of Hispanic ethnicity. Children in schools with a high proportion of students in free or reduced school meal programs (FRSM) have a significantly higher prevalence of decay experience and untreated caries compared to children from schools with low FRSM rate. In addition, Hispanic children are more likely to have caries when compared to Non-Hispanic White children. Though similar patterns exist for untreated decay, differences are not statistically significant. See Figure 2.

Adult Dental Care Access

Cost is a barrier to oral health access among RI adults. In Rhode Island, 13.9% of adults self-reported that they were unable to visit the dentist due to cost according to RI's 2018-2020 Behavioral Factor Risk Surveillance System (BRFSS) survey. Hispanic Rhode Islanders are significantly more likely to not have an annual dental visit due to cost (25%) (Figure 3)

In addition, the following disparities impacting populations unable to obtain dental care due to cost were noted:

- Insurance: no dental insurance (29%) vs commercial insurance (7%)
- Education: less than high school (27%) vs college graduate (7%)
- Sex: female (15%) vs male (13%)
- Age: younger 18-44 years (18%) vs older 65+ (9%)
- Disability—reporting one of six physical/mental impairments: yes (25%) vs no (10%)
- Smoking: yes (27%) vs no (12%)

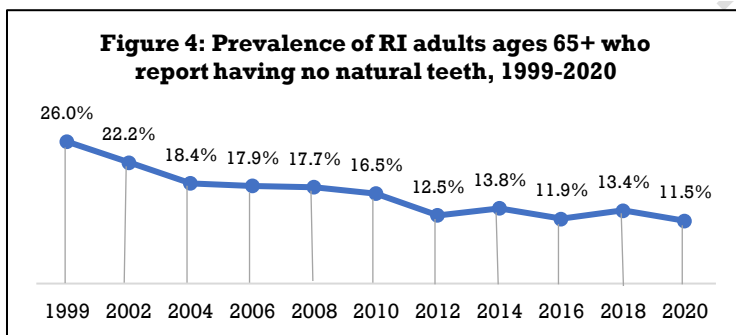


Source: RIDOH, Behavioral Risk Factor Surveillance Survey, 2018-2020

Abbreviations NH: Non-Hispanic

Tooth Loss among Older Adults

Tooth loss can affect a person's ability to chew and speak and may interfere with social functioning.³ Great strides have been made over the last 20 years in reducing the proportion of adults aged 65 and over in Rhode Island missing all teeth with the prevalence falling from 26% to 11.5%. This may be largely attributed to community water fluoridation and greater use of dental services (Figure 4). But the news is not good when it comes to racial and ethnic disparities: for combined 2018 and 2020 data, only 11.6% of White elders were missing all teeth, compared to 13.4% of Black and 18.0% of Hispanic elders. Only 2.3% of elders who graduated college are missing all teeth, compared to 12.4% who only graduated high school, and 33.7% of those with less than a high school diploma.



Source: RIDOH, Behavioral Risk Factor Surveillance Survey, 1999-2020

Addressing Social Determinants of Health to Achieve Oral Health Equity

Healthy People 2030 categorizes social determinants of health into five domains. These domains, and examples of initiatives to foster change that can promote oral health equity, are listed below:

- Health Care Access and Quality: Support policies that increase dental participation in Medicaid to enhance access for patients⁵; Work towards a more racially/ ethnically diverse dental workforce to reflect the state.⁶

- Neighborhood and Built Environment: Fund development of community health centers in neighborhoods with low access⁷; assure access to safe and effective fluoridated tap water.⁸
- Economic Stability: Support inclusion of dental insurance in all employer-based programs/assure wages are adequate to allow inclusion.⁹
- Education Access and Quality: Support school-based preventive dental programs,¹⁰ Begin education of parents and children early by including oral health risk assessment, screening, and education in primary care settings.¹¹
- Social and Community Context: Use community health workers with oral health knowledge to facilitate successful dental appointments and to support use of evidence-based preventive practices.¹²

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