



# Third Grade Oral Health Screening Survey, 2017- 2018

## Rural/Urban and Border/Non-Border Analysis

### Overview

This data brief reports the results of the oral health screening survey for third grade schoolchildren in Texas by rural/urban and border/non-border subgroups. Counties in the rural/urban subgroup were designated in 2013 as Metropolitan or Non-Metropolitan (urban or rural) by the U.S. Office of Budget and Management.<sup>1</sup> Counties in the border/non-border subgroup are designated as Border or Non-Border according to Article 4 of the La Paz Agreement of 1983.<sup>2</sup>

All data was collected during the 2017-2018 school year by regional dental teams using the Association of State and Territorial Dental Directors Basic Screening Survey (BSS) protocol.<sup>3</sup> The BSS protocol's primary purpose is to provide a framework for obtaining consistent oral health data to allow organizations to compare their data with data collected by other organizations.

### Results

Each dental team visited third grade public schools within their region after approval of a memorandum of understanding between the educational unit and the Texas Department of State Health Services. Upon entry to the school, teams used a limited oral evaluation (LOE) to identify and diagnose symptoms such as dental pain or swelling in an area of the mouth. Parental consent was provided for all children who participated in the LOE. Because this activity is considered a standard public health practice and not research, no approval was required by the Texas Department of State Health Services Institutional Review board. During the school year 2017-2018, a total of 4,630 students, representing 381,299 third graders enrolled in public school in Texas, participated in the BSS.



Table 1 provides overall results for select demographics and dental outcomes for third grade students in Texas public schools who received a LOE during school year 2017-2018. As shown, 49.1 percent of third grade students who received a LOE were Hispanic, 33.6 percent had Medicaid, and 64.8 percent attended schools that provided a free and reduced lunch (FRL) program. The FRL program is available to qualifying students 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 ([texas-benefits.org/Free-Meal-Programs/Eligibility.html](http://texas-benefits.org/Free-Meal-Programs/Eligibility.html)).

In the 2017-2018 school year, a 75.0 percent prevalence of all third-grade students in public schools in Texas saw a dentist in the past year, 17.5 percent presented with untreated tooth decay, and 67.0 percent had a history of tooth decay in their primary (baby teeth) or permanent teeth. A history of tooth decay means they either had a filling or crown, cavity that had not yet been treated, or tooth that had been extracted due to decay. Additionally, 14.2 percent and 3.1 percent of third grade students had early and urgent treatment needs, respectively. Early treatment needs indicate untreated decay – but no pain or infection – requiring a dental visit within several weeks. 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.



Table 1: Prevalence of Select Overall Demographic Characteristics and Dental Outcomes for Third Grade Students Receiving a LOE, BSS 2017-2018

<b>Characteristic/Outcome</b>	<b>Sample size<sup>a</sup></b>	<b>Percent</b>	<b>LCL<sup>b</sup></b>	<b>UCL<sup>c</sup></b>
<b>Urbanization Status</b>				
Rural	2,243	10.8	10.4	11.2
Urban	2,287	89.2	88.8	89.6
<b>Border Designation</b>				
Border	2,540	11.4	11.0	11.8
Non-Border	2,090	88.6	88.2	89.0
<b>Child Race/Ethnicity</b>				
White	1,041	28.1	21.6	35.6
Black	370	14.6	10.3	20.3
Hispanic	2,936	49.1	42.0	56.3
Other	167	8.2	5.6	11.8
<b>Medicaid</b>				
Yes	2,000	33.6	28.9	38.7
No	2,630	66.4	61.3	71.1
<b>Free/Reduced Lunch</b>				
Yes	3,154	64.8	56.4	72.4
No	923	35.2	27.6	43.6
<b>Seen Dentist Past Year</b>				
Yes	3,288	75.0	72.0	77.9
No	956	24.9	22.1	28.0
<b>Untreated Tooth Decay</b>				
Yes	977	17.5	15.5	19.8
No	3,653	82.5	80.2	84.5
<b>History of Decay</b>				
No history of decay	1,352	32.9	28.3	37.8
History of decay	3,278	67.1	62.2	71.7
<b>Treatment Need</b>				
None	3,698	82.7	80.5	84.7
Early	837	14.2	12.7	15.9
Urgent	95	3.1	2.0	4.6
<b>1st Permanent Molar Sealants</b>				
Yes	1,948	41.4	36.0	47.1
No	2,681	58.6	52.9	64.0

<sup>a</sup> Unweighted sample size

<sup>b</sup> Lower confidence limit

<sup>c</sup> Upper confidence limit



Table 2 summarizes an analysis of select dental outcomes for third grade students in public schools in rural and urban areas of Texas.

Rural students had a prevalence rate of 71.0 percent for seeing a dentist in the past year, compared to 75.6 percent among urban students. Additionally, there was a statistically significant difference ( $p=.04$ ) difference in treatment need between rural and urban students. Rural students had a 17.9 percent prevalence for early treatment need, compared to 13.8 percent among urban students. While rural students had a 1.9 percent prevalence of urgent treatment need compared to 3.2 percent among urban student. Of note, although parents of rural students reported that their child was less likely to see a dentist in the past year compared to urban students, this difference was not significant. Furthermore, the prevalence for untreated tooth decay, history of decay, and first permanent molar sealants did not differ significantly among rural students and urban students in Texas.

Based on these results, third grade students from rural areas saw a dentist less than those from urban areas of Texas. Furthermore, rural third grade students have a higher early treatment need than urban students in Texas. These data indicate that more attention to oral health may be needed in for students in rural Texas.



Table 2: Comparison of Prevalence of Select Dental Outcomes for 3rd Grade Students Receiving a LOE, BSS, by Urbanization Status, BSS 2017-2018

Dental Outcome	Rural				Urban			
	n <sup>a</sup>	% <sup>b</sup>	LCL <sup>c</sup>	UCL <sup>d</sup>	n <sup>e</sup>	% <sup>b</sup>	LCL <sup>c</sup>	UCL <sup>d</sup>
<b>Seen Dentist Past Year</b>								
Yes	1556	71.0	66.8	74.9	1732	75.6	72.2	78.6
No	514	29.0	25.1	33.2	442	24.4	21.4	27.8
<b>Untreated Tooth Decay</b>								
Yes	556	20.1	17.4	23.0	421	17.2	14.9	19.8
No	1687	79.9	77.0	82.6	1966	82.8	80.2	85.1
<b>History of Decay</b>								
No history of decay	633	30.5	25.7	35.7	719	33.2	28.1	38.7
History of decay	1610	69.5	64.3	74.3	1668	66.8	61.3	71.9
<b>Treatment Need*</b>								
None	1723	80.3	77.4	82.9	1975	83.0	80.6	85.2
Early	484	17.9	15.4	20.6	353	13.8	12.1	15.6
Urgent	36	1.9	0.9	3.8	59	3.2	2.1	5.0
<b>First Permanent Molar Sealants</b>								
Yes	900	41.1	35.9	46.5	1048	41.5	35.5	47.8
No	1343	58.9	53.5	64.1	1338	58.5	52.2	64.5

<sup>a</sup> Unweighted sample size; <sup>b</sup> Weighted percent; <sup>c</sup> Lower confidence limit; <sup>d</sup> Upper confidence limit; <sup>e</sup> Unweighted sample size; \* Statistical significance difference determined using the Chi-Square test with an alpha level of .05.

Table 3 summarizes an analysis of select dental outcomes for third grade students in public schools in border versus non-border areas of Texas for school year 2017-2018.

Among border students, 82.8 percent saw a dentist in the past year, compared to 74.0 percent of non-border students ( $p < .0001$ ). Additionally, there was a statistically significant ( $p = .04$ ) difference in treatment need as 1.7 percent of border students needed urgent treatment, compared to 3.3 percent of non-border student. Of note, the prevalence for untreated tooth decay, history of decay, and first permanent molar sealants did not differ significantly among border students compared to non-border students in Texas.

These results indicate that seeing a dentist in the past year is higher among third grade students in border versus non-border areas of Texas. Furthermore, urgent treatment need is lower among third grade border students than in non-border students in Texas. These data may suggest that more attention to oral health is needed for students in non-border areas of Texas.



Table 3: Comparison of Prevalence of Select Dental Outcomes for 3rd Grade Students Receiving a LOE, BSS, by Border Status, BSS 2017-2018

Dental Outcome	Border				Non-Border			
	n <sup>a</sup>	% <sup>b</sup>	LCL <sup>c</sup>	UCL <sup>d</sup>	n <sup>e</sup>	% <sup>b</sup>	LCL <sup>c</sup>	UCL <sup>d</sup>
Seen Dentist Past Year*								
Yes	1808	82.8	80.4	85.0	1396	74.0	70.5	77.1
No	440	17.2	15.0	19.6	498	26.0	22.9	29.5
Untreated Tooth Decay								
Yes	532	18.2	15.9	20.7	419	17.4	15.1	20.0
No	1893	81.8	79.3	84.1	1671	82.6	80.0	84.9
History of Decay								
No history of decay	674	27.3	23.3	31.8	634	33.6	28.4	39.1
History of decay	1751	72.7	68.2	76.7	1456	66.4	60.9	71.6
Treatment Need*								
None	1930	82.2	79.8	84.4	1676	82.8	80.3	85.0
Early	457	16.1	13.9	18.7	358	13.9	12.2	15.8
Urgent	38	1.7	1.0	2.7	56	3.3	2.1	5.1
First Permanent Molar Sealants								
Yes	1048	45.4	42.3	48.5	846	40.9	34.8	47.3
No	1376	54.6	51.5	57.7	1244	59.1	52.7	65.2

<sup>a</sup> Unweighted sample size; <sup>b</sup> Weighted percent; <sup>c</sup> Lower confidence limit; <sup>d</sup> Upper confidence limit; <sup>e</sup> Unweighted sample size; \* Statistical significance difference determined using the Chi-Square test with an alpha level of .05.

## References

- 2010 Office of Management and Budget (OMB) Standards  
<https://www.census.gov/programs-surveys/metro-micro/about/omb-standards.html>. Accessed Apr 2019.
- LaPaz Agreement – US Embassy Mexico City.  
<https://www.utexas.edu/law/centers/humanrights/borderwall/communities/mexico-La-Paz-Environmental-Agreement.pdf>. Accessed Apr 2019.
- Association of State and Territorial Dental Directors. (2017). *Basic screening surveys: an approach to monitoring community oral health*.  
<http://www.astdd.org/basic-screening-survey-tool/>