

The Oral Health of Kansas' Third Grade Children Compared to the General U.S. Population

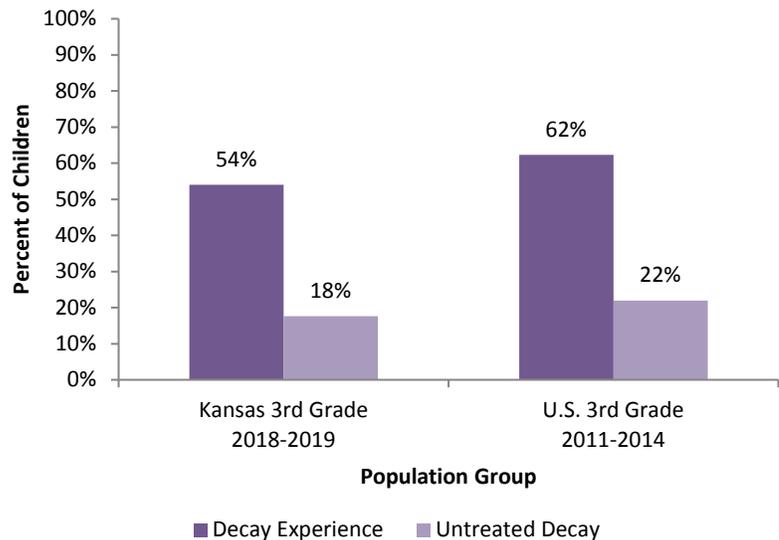
Data from the Kansas Oral Health Survey, 2018-2019

- About one-of-two third grade children in Kansas (54%) have a history of tooth decay, lower than the national average for third grade children (62%).
- Fewer than two-of-ten third grade children in Kansas (18%) have untreated tooth decay; lower than the national average of 22%.
- About one-of-three third grade children in Kansas (36%) have protective dental sealants on a permanent molar tooth; lower than the prevalence among the general third grade population in the United States (42%).
- Oral health disparities still exist in Kansas. Children attending low income schools have a higher prevalence of decay experience and untreated tooth decay.

Good oral health is important to a child's social, physical, and mental development. Even though tooth decay can be prevented, most children in Kansas still get cavities. To assess the current oral health status of Kansas' elementary school children, the Kansas Department of Health and Environment coordinated a statewide oral health survey of third grade children attending Kansas' public schools. A total of 2,435 third grade children received a dental screening at 65 schools between January 2018 and December 2019. This data brief presents information on the prevalence of tooth decay in the primary and permanent teeth of Kansas' third grade children compared to the general U.S. population screened between 2011-2014 as part of the National Health and Nutrition Examination Survey (NHANES). It also describes the prevalence of dental sealants, a plastic-like coating applied to the chewing surfaces of children's teeth to prevent tooth decay.

Prevalence of decay experience and untreated decay.

Figure 1. Prevalence of decay experience and untreated tooth decay in the primary and permanent teeth of Kansas' third grade children compared to children in the general U.S. population



Sources: Kansas Oral Health Survey, 2018-2019
National Health and Nutrition Examination Survey (NHANES), 2011-2014

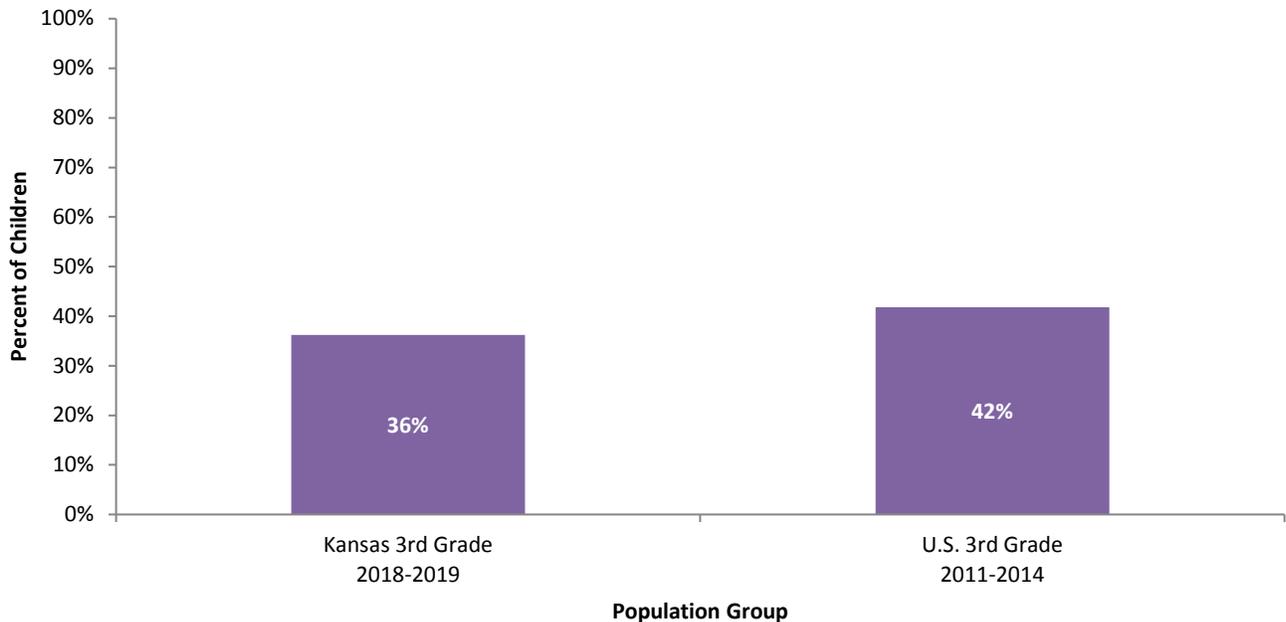
Decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his or her lifetime. Decay experience can be past (fillings, crowns, or teeth that have been extracted because of decay) or present (untreated tooth decay or cavities). In 2018-2019, more than five-of-ten third grade children in Kansas (54%) had decay experience; compared to 62% of third grade children in the general U.S. population (NHANES, 2011-2014).

Left untreated, tooth decay can have serious consequences, including needless pain and suffering, difficulty chewing (which compromises children’s nutrition and can slow their development), difficulty speaking and lost days in school. About two-of-ten third grade children in Kansas (18%) had untreated tooth decay. This compares to 22% of third grade children in the general U.S. population (NHANES, 2011-2014).

Prevalence of dental sealants.

Dental sealants are thin plastic coatings that are applied to the grooves on the chewing surfaces of the adult molar teeth to protect them from tooth decay. Most tooth decay in children occurs on these surfaces. Sealants protect the chewing surfaces from tooth decay by keeping germs and food particles out of these grooves. Only one-of-three (36%) third grade children in Kansas had at least one protective dental sealant; compared to 42% of the general U.S. population in third grade (NHANES, 2011-2014).

Figure 2. Prevalence of dental sealants in the permanent molar teeth of Kansas’ third grade children compared to the general U.S. population in third grade



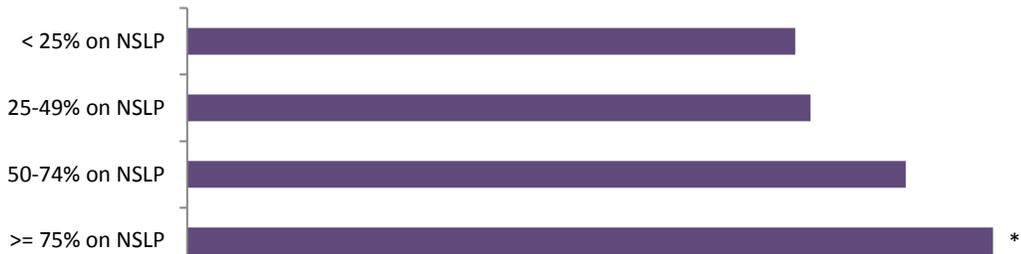
Sources: Kansas Oral Health Survey, 2018-2019
National Health and Nutrition Examination Survey (NHANES), 2011-2014

Oral health disparities.

Influential sociodemographic indicators for oral health disparities in the United States include poverty status and race and ethnicity. In Kansas, low income schools (schools with a high percentage of the students eligible for the national school lunch program)¹ have a significantly higher prevalence of decay experience and untreated decay compared to higher income schools with a low percent of students eligible for the national school lunch program.

Figure 3. Prevalence of decay experience, untreated tooth decay and dental sealants among Kansas’ third grade children by percent of children in a school eligible for the national school lunch program (NSLP), 2018-2019

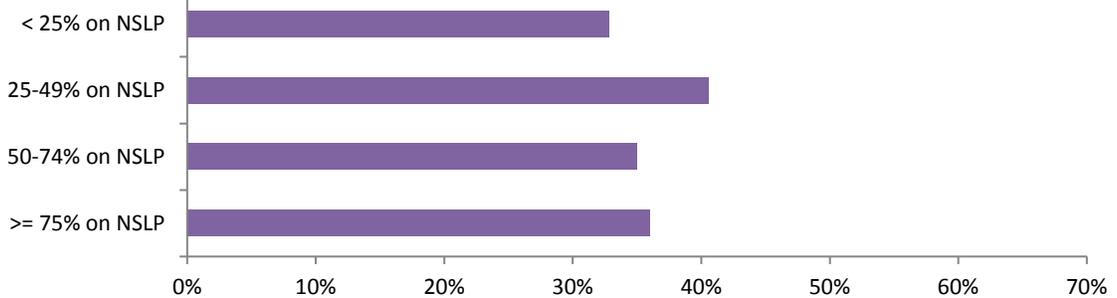
Decay experience



Untreated decay



Dental sealants



* Significantly different than < 25% on NSLP (p<0.05)

Data source and methods.

This data brief is based on data from the Kansas Oral Health Survey which was conducted between January 2018 and December 2019. The survey screened children in third grade from a representative sample of public elementary schools in Kansas. The sampling frame consisted of all public non-virtual schools with 10 or more

¹ To be eligible for the NSLP, the child must be from a household whose income is below 185% of the federal poverty level.

children in third grade. The sampling frame was ordered by population density of the county (frontier, rural, densely populated rural, semi-urban, urban) then percent of the school's students eligible for the national school lunch program. A systematic probability proportional to size sampling scheme was used to select 65 schools. If a school refused to participate, a replacement school from the same sampling interval was selected. Data are available for all 65 sampling intervals. Of the 4,221 third grade children enrolled in the participating schools, based on 2016-2017 enrollment data, a total of 2,435 were screened for a response rate of 58%.

Trained dental professionals completed the screenings at the participating schools. The following information was collected for each child: age, gender, presence of untreated decay in the primary (baby) or permanent (adult) teeth, presence of treated decay in the primary or permanent teeth, urgency of need for dental care, and presence of dental sealants in the permanent first molar teeth. We used the Association of State and Territorial Dental Director's *Basic Screening Survey* clinical indicator definitions and data collection protocols.²

All statistical analyses were performed using the complex survey procedures within SAS (Version 9.4; SAS Institute Inc., Cary, NC). Sample weights were used to produce population estimates based on selection probabilities. It should be noted that the National Health and Nutrition Examination Survey (NHANES) data for third grade children is from 2011-2014.

Definitions.

Untreated decay: Describes dental cavities or tooth decay that have not received appropriate treatment.

Decay experience: Refers to having untreated decay or a dental filling, crown, or other type of restorative dental material. Also includes teeth that were extracted because of tooth decay.

Dental sealants: Describes plastic-like coatings applied to the chewing surfaces of back teeth. The applied sealant resin bonds into the grooves of teeth to form a protective physical barrier.

² Association of State and Territorial Dental Directors. Basic screening surveys: an approach to monitoring community oral health. (WWW document). URL: <http://www.astdd.org/basic-screening-survey-tool>.

Data table.

Prevalence of decay experience and untreated tooth decay in the primary and permanent teeth and prevalence of dental sealants on permanent molar teeth among Kansas' third grade children by selected characteristics, 2018-2019

Characteristic	Decay Experience*			Untreated Decay*			Dental Sealants*		
	Percent	Lower CL	Upper CL	Percent	Lower CL	Upper CL	Percent	Lower CL	Upper CL
All 3 rd grade children (n=2,435)	54.0	50.2	57.9	17.6	14.4	17.6	36.2	32.0	40.4
Sex*									
Female (n=1,256)	56.2	51.2	61.1	19.5	15.2	19.5	36.4	31.6	41.2
Male (n=1,169)	51.4	47.1	55.6	15.3	11.7	15.3	36.0	31.3	40.7
Percent eligible for NSLP									
< 25% eligible (n=395)	47.3	37.6	57.0	12.4	4.7	12.4	32.8	22.9	42.6
25-49% eligible (n=508)	48.5	40.8	56.2	12.5	8.5	12.5	40.6	33.1	48.1
50-74% eligible (n=932)	55.9	50.0	61.9	17.8	13.2	17.8	35.0	29.5	40.5
≥ 75% eligible (n=600)	62.7	56.9	68.4	27.4	19.8	27.4	36.0	24.4	47.6

NSLP: National school lunch program; Lower CL: Lower 95% confidence limit; Upper CL: Upper 95% confidence limit

* Information on decay experience was missing for 5 children, information on untreated decay was missing for 6 children, information on dental sealants was missing for 1 child, and information on sex was missing for 10 children,