

The Oral Health of Alabama's Kindergarten and Third Grade Children Compared to the General U.S. Population and Healthy People 2020 Targets

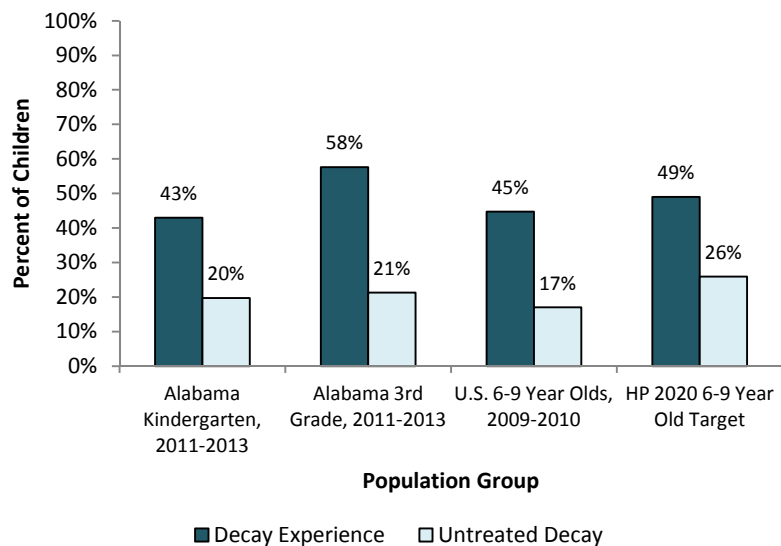
Data from the Alabama Oral Health Survey, 2011-2013

- About half of Alabama's kindergarten and third grade children (50%) had a history of decay in their primary or permanent teeth, compared to 45% of 6-9 year old children in the general U.S. population. The Healthy People (HP) 2020 for 6-9 year olds target is 49%.
- About one-fifth of Alabama's kindergarten and third grade children (20%) had untreated decay. This compares to 17% of 6-9 year-old children in the general U.S. population and a HP 2020 target of 26%.
- More than one out of four (29%) third grade children in Alabama had at least one dental sealant on a permanent tooth; similar to the prevalence among the general U.S. population and the HP 2020 target for 6-9 year olds (32% and 28% respectively).
- Some oral health disparities still exist in Alabama with low-income children having the highest prevalence of decay experience and untreated 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 Alabama still get cavities. To assess the current oral health status of Alabama's elementary school children, the Alabama Department of Public Health coordinated a statewide oral health survey of kindergarten and third grade children in Alabama's public schools. A total of 9,057 children received a dental screening at 68 schools during the 2011-2012 and 2012-2013 school years. The sampling frame for the survey consisted of all public schools in Alabama with 20 or more children in third grade. This data brief presents information on the prevalence of tooth decay in the primary and permanent teeth of Alabama's kindergarten and third grade children compared to 6-9 year old children in the general U.S. population and the targets for Healthy People 2020. 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 Alabama's kindergarten & third grade children compared to 6-9 year old children in the U.S. population and the Healthy People 2020 targets



Sources: Alabama Oral Health Survey, 2011-2013
National Health and Nutrition Examination Survey (NHANES), 2009-2010

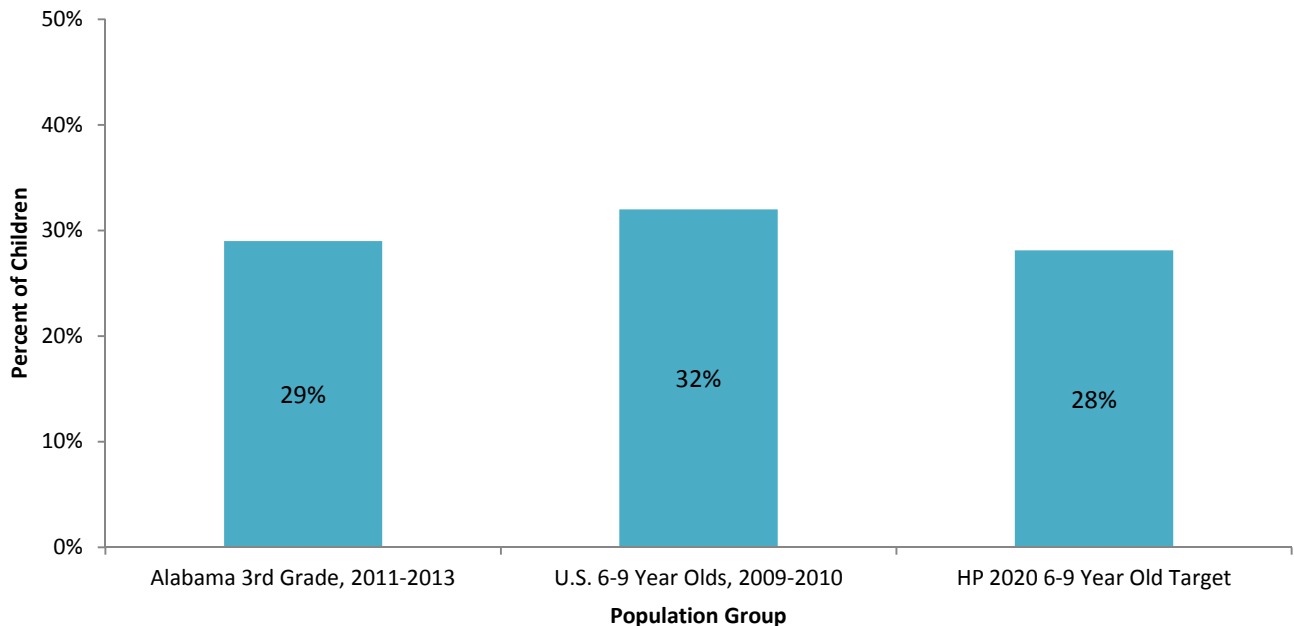
Decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his or her lifetime. Decay experience can be past (fillings, crowns, or teeth that have been extracted because of decay) or present (untreated tooth decay or cavities). In 2011-2013, about half (50%) of Alabama’s kindergarten and third grade children attending public schools had decay experience; compared to 45% of the general U.S. population 6-9 years of age (NHANES, 2009-2010). The Healthy People 2020 target for decay experience in 6-9 year olds is 49%.

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 one-fifth of Alabama’s kindergarten and third grade children (20%) had untreated decay. This compares to 17% of 6-9 year-old children in the general U.S. population (NHANES, 2009-2010) and a Healthy People 2020 target of 26%.

Prevalence of dental sealants.

Dental sealants are thin plastic coatings that are applied to the grooves on the chewing surfaces of the back 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 29% of Alabama’s third grade children had at least one dental sealant; compared to 32% of the general U.S. population aged 6-9 years (NHANES, 2009-2010). The Healthy People 2020 target for dental sealants in 6-9 year olds is 28%.

Figure 2. Prevalence of dental sealants in the permanent teeth of Alabama’s third grade children compared to the general U.S. population 6-9 years of age and the Healthy People 2020 target for 6-9 year olds

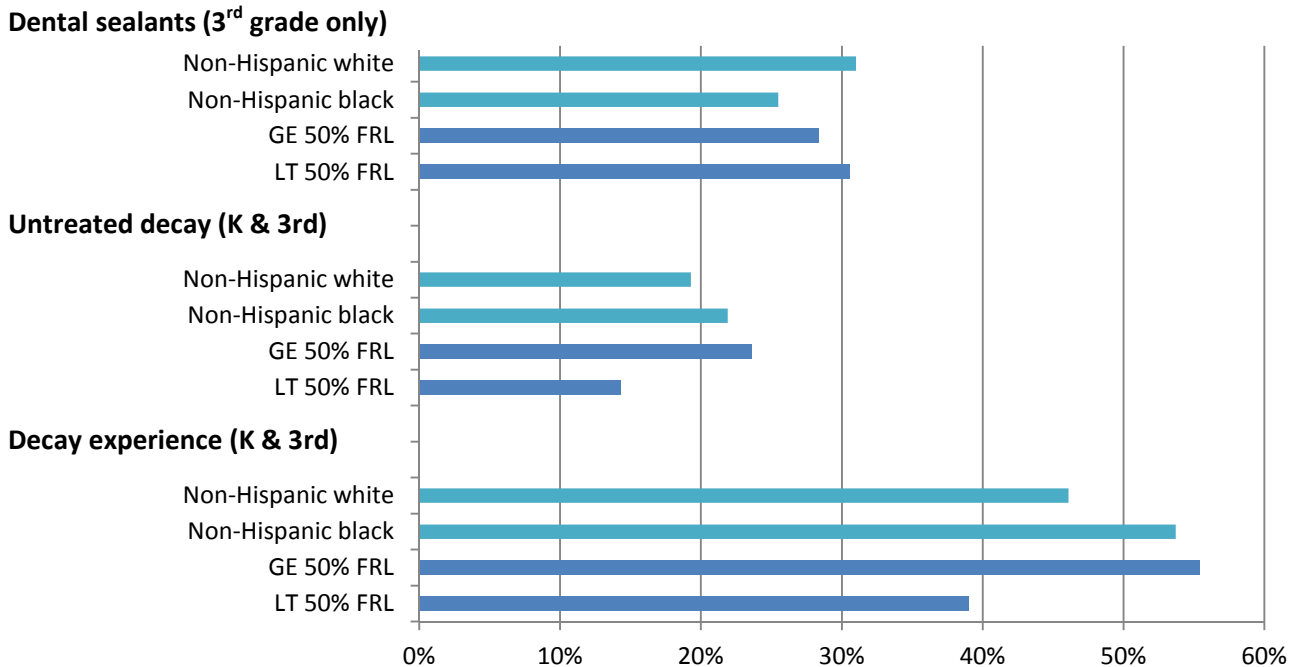


Sources: Alabama Oral Health Survey, 2011-2013
National Health and Nutrition Examination Survey (NHANES), 2009-2010

Oral health disparities.

Influential sociodemographic indicators for oral health disparities in the United States include poverty status and race and ethnicity. In Alabama, children that attend a school where 50% or more of the children are eligible for the free or reduced price lunch program have a significantly higher prevalence of decay experience and untreated decay compared to children attending schools where less than 50% of children are eligible. There was no difference in the prevalence of decay experience or untreated decay among racial/ethnic groups. There was no difference in the prevalence of dental sealants in third grade children among racial/ethnic groups or by poverty status.

Figure 3. Prevalence of decay experience and untreated decay among Alabama’s kindergarten and third grade children and dental sealants among Alabama’s third grade children by race/ethnicity and percent of children eligible for the free/reduced price lunch program (FRL), 2011–2013



Data source and methods.

This data brief is based on data from the Alabama Oral Health Survey which was conducted during the 2011-2012 and 2012-2013 school years. The Alabama survey screened children in kindergarten and third grade from a representative sample of 68 public elementary schools in Alabama. The sampling frame consisted of all public elementary schools with 20 or more students in third grade. The sampling frame was stratified by the nine dental districts in Alabama and schools were sorted within each district based on percent of children participating in the free or reduced price school lunch (FRL) program. A systematic sampling scheme was used to select the schools. If a school refused to participate, a replacement school was randomly selected from the same sampling strata.

Dental examiners completed the dental screenings in the schools using a light source and disposable dental mirrors. The following information was collected for each child: grade, age, sex, presence of untreated decay, presence of treated decay, presence of dental sealants on permanent first molars and urgency of need for dental care. We used the *Basic Screening Survey* clinical indicator definitions and data collection protocols.¹

Examiners collected data using paper forms which were entered using Microsoft Access. All statistical analyses were performed using the complex sampling procedures within SAS (Version 9.3; SAS Institute Inc., Cary, NC). Sample weights were used to produce population estimates based on selection probabilities. It should be noted that Alabama's survey design screened kindergarten and third grade children only while data from the National Health and Nutrition Examination Survey (NHANES) and the Healthy People 2020 targets are for children 6-9 years of age.

Data table.

Prevalence of decay experience and untreated tooth decay in the primary and permanent teeth of Alabama's kindergarten and 3rd grade children and prevalence of dental sealants on permanent molars among Alabama's third grade children by selected characteristics, 2011-2013

Characteristic	Decay Experience			Untreated Decay			Dental Sealants 3 rd Grade Only		
	Percent	Lower CL	Upper CL	Percent	Lower CL	Upper CL	Percent	Lower CL	Upper CL
Grade									
Kindergarten	43.1	38.7	47.5	19.7	16.8	22.5	NA	NA	NA
3 rd grade	57.6	54.2	61.0	21.3	18.8	23.8	29.0	25.7	32.4
Kindergarten & 3 rd grade	49.7	45.9	53.6	20.4	18.0	22.8	NA	NA	NA
Race/ethnicity									
White non-Hispanic	46.1	41.3	51.0	19.3	16.4	22.2	31.0	26.5	35.5
African-American/Black	53.7	50.4	56.9	21.9	19.3	24.5	25.5	21.5	29.6
Percent eligible for FRL									
Less than 50%	39.0	32.8	45.1	14.3	10.8	17.9	30.5	24.9	36.1
50% or more	55.4	52.4	58.8	23.6	21.6	25.6	28.3	24.0	32.6

Lower CL: Lower 95% confidence limit

Upper CL: Upper 95% confidence limit

NA: Not applicable

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. Because most kindergarten children do not have permanent molars, this indicator is only presented for third grade children.

¹ 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>.