

2012 Iowa Third Grade Oral Health Survey Report



The Bureau of Oral and Health Delivery Systems (OHDS) within the Iowa Department of Public Health (IDPH) coordinated an open-mouth survey of third grade students during the spring of 2012. This report describes the survey process and the results.

Objectives

Tooth decay is the most common chronic childhood illness.¹ The pain associated with tooth decay can impact a child's ability to eat, sleep and learn in school.² A new study published in the American Journal of Public Health finds that school children with tooth pain have lower grade point averages than children with no pain.³

In order to learn about the oral health status of Iowa children, IDPH regularly administers open mouth surveys. Results are used to report on a national performance measure for the Title V program, the percent of third grade children who have received a protective sealant on at least one permanent molar tooth, and to assist in program and policy planning and evaluation of current public health initiatives.

Methods

According to the Iowa Department of Education, the number of third-graders in Iowa schools for the 2011-2012 school year was 38,216. A computerized random sample of 1,731 third grade children from 33 schools was selected, using a formula that considered the service areas of Iowa's Title V child health contractors and the percentage of third graders in Iowa previously found to have sealants on permanent molar teeth. In addition, schools that currently have school-based sealant programs were excluded from the sample.

Calibration training was developed using information from existing OHDS training materials. The training was held via web conference in February of 2012 for dental hygienists who would conduct the surveys. Hygienists unable to participate the day of the web conference were required to review the presentation slides, presenter notes, and the participant questions and IDPH responses to those questions from the web conference.

An email from the state dental director was sent to school superintendents to notify them of the surveys. Follow-up phone calls were made to principals for each school to confirm participation and verify enrollment numbers. All but one selected school agreed to participate; this school was replaced by one with similar demographics in the same geographic area.

¹ US Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General-- Executive Summary*. Rockville, MD: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

² Ibid

³ Hazem Seirawan, Sharon Faust, Roseann Mulligan. The Impact of Oral Health on the Academic Performance of Disadvantaged Children. *American Journal of Public Health*, 2012; 102 (9): 1729 DOI: 10.2105/AJPH.2011.300478

Consent forms in both English and Spanish were provided to each school to be sent home, completed by parents/guardians, and returned to classrooms prior to the date of the survey. For this survey, there was no need for translation to additional languages of the consent forms. Iowa-licensed dental hygienists employed or contracted by the state’s local Title V child health contractors completed the survey screenings. IDPH supplied surveyors with vinyl gloves, mouth mirrors, penlights, and hand sanitizer. All third-graders in the selected schools received toothbrushes, regardless of participation. Hygienists were instructed to use the brushes to retract tongue and cheeks and to clean the teeth if necessary.

Oral health status indicators determined were sealed permanent molars, filled (restored) teeth and cavitated lesions (untreated tooth decay) – the screeners recorded presence or absence of these on each child’s consent form. Consent forms also collected information on race/ethnicity, payment source of dental care, participation in the free and reduced lunch program, recency of last dental visit, ability to access dental care, and whether each child has a dentist.

Consent forms were returned to IDPH. Data was entered into a Microsoft Excel workbook, then IDPH staff analyzed data using SPSS.⁴

Results

The participation rate was 53.5 percent (926 of 1,731). Of children screened, 45.6 percent have at least one sealant on a permanent first molar, 14.1 percent have untreated decay and 43.9 percent have at least one filled tooth. (See Table 1.)

Based on the number of returned consent forms (960) the majority of children are White/Caucasian (86.8%); 4.9 percent are Hispanic/Latino and 2.6 percent are Black/African American.

Participation in the free and reduced lunch program is used to determine the socioeconomic status (SES) of a child’s family. For the purposes of this survey, children on the lunch program are low SES and all others are high SES. A lower percentage of children from low SES families have a preventive dental sealant compared to children of high SES families (See Table 1). A higher percentage of children from families of low SES have untreated decay and a history of decay compared to children from high SES families. (See Table 1.)

Table 1: Oral health status indicators, Iowa third grade oral health survey, 2012

	With a Sealant	Untreated Decay	Filled Tooth	History of Decay*	
Prevalence	All Children	45.6%	14.1%	43.9%	50.5%
	Low SES Children	41.0%	18.0%	50.5%	57.5%
	High SES Children	46.8%	11.4%	40.3%	46.4%

*at least one area of decay and/or at least one restored tooth

⁴ IBM SPSS Statistics Version 20

Nearly half of the children have private dental insurance (49.9%), 24.8 percent have Medicaid, 14.9 percent pay out-of-pocket for dental care, and 5.3 percent have *hawk-i* (Iowa’s Children’s Health Insurance Program). (See Table 2.)

The percent of Medicaid-enrolled children with untreated decay is the highest (18.1%), compared to children with private insurance (12.8%) or those that pay for care themselves (12.5%). A higher percentage of children with private insurance reported having a dentist (96.4%), compared to Medicaid-enrolled children (87.8%) and those without insurance (90.9%).

Also, a higher percentage of children with private dental insurance saw a dentist within the past six months (82.2%); 60.8 percent of the self-pay children and 64.3 percent of Medicaid-enrolled had seen a dentist in the same time period. Parents of children with private insurance rate their ability to access dental care as “excellent” more often (69.5%) than parents who pay out-of-pocket for care (48.2%) or parents of Medicaid-enrolled children (35%).

Table 2: *Payment sources for dental care, Iowa third grade oral health survey, 2012*

	Private Insurance	Medicaid	<i>hawk-i</i>	Self-pay
Prevalence All Children	49.25%	24.8%	5.3%	14.9%

Discussion

Although the percent of children with dental sealants and the percent with restored teeth have stayed relatively steady the past 6 years, the decrease in the rate of untreated decay from 2009 to 2012 is promising (21.9% in 2009 to 14.1% in 2012). (See Table 3.) The percent of children from low SES families with untreated decay also dropped, from 26.6 percent in 2009 to 18.0 percent in 2012. Yet, the fact that children from lower-income families have more untreated disease than higher SES children remains a concern.

To combat health inequities, IDPH and its partners must continue to offer preventive public health programs to reach families with children at greatest risk for dental disease and must find effective ways to promote the value of dental sealants to dentists and parents. Dental sealants are successful in preventing tooth decay on permanent molars,⁵ yet the overall sealant rate in Iowa remains below 50 percent. By excluding schools with school-based sealant programs from this survey, we hoped to get a clearer picture of children’s access to preventive dental services outside of public health programs. Several Title V child health contractors, as well as other private non-profit agencies, coordinate or assist with school-based sealant programs throughout the state, targeting schools with a large number of children from low-income families. It is difficult to know if a random survey sample that included some of these schools would elevate the sealant rate beyond 50 percent.

⁵ Beauchamp, J. et al: Executive Summary of evidence-based clinical recommendations for the use of pit-and-fissure sealants. A report of the American Dental Association Council on Scientific Affairs, JADA, Vol.139, March 2008

School-based dental sealant programs are strongly recommended as a way to prevent dental caries, particularly for children who are unlikely to receive regular dental care.⁶ With an anticipated decrease in the federal funding that IDPH currently receives for school-based sealant programs, IDPH and its stakeholders must seek new ways to help communities fund the start-up costs for sealant programs. Title V child health contractors are eligible to bill Medicaid for services offered through the programs, yet many report that some of the barriers to starting a sealant program are the initial startup costs and the lack of staff. Funds must be identified to overcome these barriers and increase the number of school-based sealant programs to not only provide sealants for at-risk children but also raise awareness among families and dentists about the importance of oral health and dental sealants.

The I-Smile™ dental home program, implemented since 2007 through Iowa's Title V child health program, focuses on education and coordination of care for at-risk children and families. Dental hygienists serving as local I-Smile™ Coordinators work with families, physicians, dentists, and community organizations to assure children have early and regular dental care, as soon as teeth erupt in the mouth. This year's survey results document the value of I-Smile™ and the importance to continue its activities to assist families and promote preventive care, particularly necessary for populations at highest risk of dental disease.

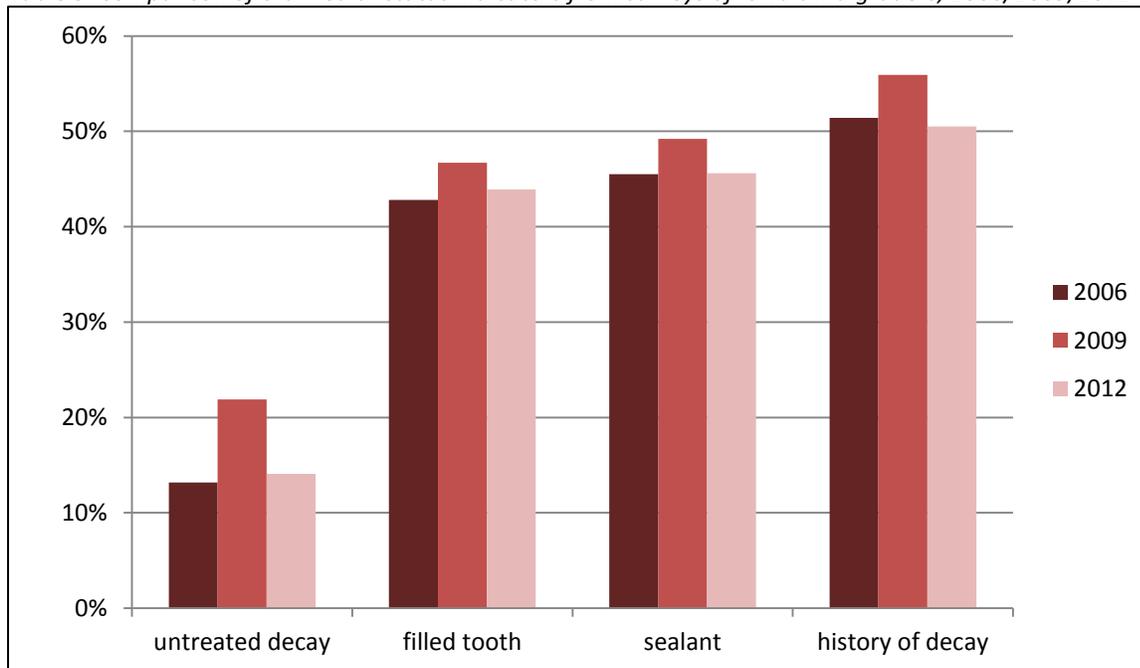
Survey results also show that more Iowa children now have a payment source for their dental care. Although there are fewer children with private insurance since 2009 (49.9% compared to 54.3%), more are enrolled on Medicaid (24.8% compared to 19.8%) and *hawk-i* (5.3% compared to 4.2%). The increase in the number of children enrolled on Medicaid and *hawk-i* is likely related to recent economic issues, as well as increased outreach efforts by the I-Smile™ program to get families enrolled. In addition, newer policies such as presumptive eligibility for Medicaid and the dental-only *hawk-i* option may play a role in the higher enrollment numbers.

Still, having a way to pay for dental care does not automatically translate into more access to preventive services – this is particularly true for those on Medicaid. Although children with private insurance and who self-pay for dental care have nearly the same likelihood to have a preventive dental sealant in 2012 as they did in 2009, there are declines in the percent of children on Medicaid with a dental sealant – from 51.9 percent in 2009 to 40.3 percent in 2012. Among families with a payment source, children enrolled on Medicaid were the least likely to have seen a dentist in the last 6 months, have a dentist of record, or describe their ability to get care as excellent. It will be important for I-Smile™ Coordinators to maintain relationships and referral systems with dental providers to ensure that the children enrolled on Medicaid and *hawk-i* have access to the services that they need, particularly as more become enrolled.

IDPH will consider additional ways to assure Iowa children are able to have early and regular dental care, particularly preventive services to stop disease before it can begin. Public health programs will continue to be critical for providing gap-filling preventive care to at-risk children, and in turn improving the oral health of Iowa children and helping Iowa reach its goal of being the healthiest state in the union.

⁶ Task Force on Community Preventive Services. Recommendations on selected interventions to prevent dental caries, oral and pharyngeal cancers, and sports-related craniofacial injuries. *Am J Prev Med* 2002;23(1S1):16-20

Table 3: Comparison of oral health status indicators from surveys of Iowa third graders, 2006/2009/2012



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