

Oral Health Survey Report: FY05

Iowa Department of Public Health

Oral Health Bureau

For the seventh consecutive year, the Oral Health Bureau within the Iowa Department of Public Health (IDPH) completed an open-mouth survey of third-grade children in Iowa. During the previous six years, the survey measured the prevalence of dental sealants on permanent molars. This year, additional information was collected regarding the presence of cavitated lesions (potential tooth decay) and restored (filled) teeth. This report describes the process for conducting the 2005 oral health survey and the results.

Subjects

Based on information from the Iowa Department of Education, the number of third-graders in Iowa public schools for school year 2004-2005 was 33,588. A computerized random sample of 1,701 third-grade children from 29 schools was selected, based upon the location of 26 Title V child health centers in Iowa. This was the second year of participation in the survey for the selected schools.

Examiners and support staff

The survey was conducted in collaboration with the state's Title V child health centers. The centers contracted with dental hygienists to conduct the survey.

Because of the additional indicators to be collected in this year's survey, calibration training was held for the dental hygienists via the Iowa Communications Network (ICN). The screening protocol was sent to the hygienists prior to the ICN training. Linda Saleh, a graduate student from the University of Iowa College of Dentistry's Dental Public Health program, planned and conducted the oral health training. A videotape of the training was mailed to hygienists who were unable to attend the ICN training, and they were required to view the video prior to the date of the survey.

The school superintendents and principals were informed, and consent forms were provided to each school to be completed by parents/guardians prior to the date of the survey.

Materials and methods

The oral screenings were visual only. Mouth mirrors and dental explorers were not used. All third-grade children received toothbrushes. The brushes could be used to retract tongue and cheeks and to clean the teeth if necessary. Screeners also had the option of using a toothpick to feel the occlusal surfaces of the molars.

Data information

The screenings determined the number of children with at least one permanent first molar with a sealant, the number of children with at least one cavitated lesion in any tooth, and the number of children with at least one restored (filled) tooth. In addition, the consent forms collected information on payment source of dental care, participation in the free/reduced lunch program, recency of last dental visit, and whether each child had a dentist. Consent forms were returned to

IDPH. Data was entered and analyzed by the use of SPSS¹. Data collected is confidential. Any report or publication of this information requires permission from the Oral Health Bureau at the IDPH.

Results

The survey indicated that 43.4 percent of the children had at least one sealant on a permanent first molar, 40.4 percent had at least one filled tooth, and 17.5 percent had a cavitated lesion. Sixty-six percent of the eligible students were screened (1,115 of 1,701).

Twenty-seven percent of the students surveyed participated in the free/reduced lunch program. Of those children, 25.1 percent had at least one cavitated lesion, compared to 14.5 percent of children not in the free/reduced lunch program. Of the children surveyed, 44.9 percent had private dental insurance, 29.8 percent paid for dental care out-of-pocket, and 17.9 percent had Medicaid or *hawk-i* (Iowa's State Children's Health Insurance Program) as their payment source.

Ninety-three percent of children reported having a dentist, and 68.8 percent reported having been to the dentist within the past six months.

Discussion

This year's overall sealant rate (43.4 percent) is higher than last year's (39.9 percent). The percentage of children qualifying for the free/reduced lunch program is lower this year (27.1 percent) than last year (30.8 percent). Therefore, this year's higher percentage of children with a sealant, with a dentist, and having a recent dental visit are likely due to the decrease of low-income children in the survey. However, there are fewer children with private dental insurance this year than last (44.9 percent compared to 46.4 percent) and more children with no insurance (29.8 percent compared to 26.4 percent).

More children reported having a dentist this year, including those children with no dental insurance (91.4 percent compared to 87 percent in 2004) and those children on Medicaid or *hawk-i* (83.9 percent compared to 80 percent in 2004).

Conclusions

The collection of additional indicators this year—cavitated lesions and filled teeth—provides a more definitive picture of the oral health of third graders.

Although dental sealants are cost-effective and their preventive effects are well proven, they remain underused, particularly among children from low-income families and from racial/ethnic minority groups. Most dental sealants are placed in private dental offices, yet children and adolescents at greatest risk are least likely to receive private care.²

¹ SPSS Base 7.5 for Windows user's guide 7.5. Chicago, SPSS, Inc., 1997.

² U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

School-based sealant programs should not only impact the dental sealant rates of Iowa children, but are strongly recommended as an effective decay-prevention intervention.³ There are nine school-based sealant programs in Iowa. Currently, the IDPH funds seven programs, targeting areas with higher rates of free/reduced lunch participation or that are underserved for preventive dental care. However, budget cuts will likely impact the number of programs the IDPH will be able to fund in the next year. The IDPH is working to empower communities and community health center dental clinics to develop these programs through infrastructure-building activities.

The IDPH will use survey data to develop strategies to decrease the number of children with tooth decay. This survey indicates that nearly half of third graders have already experienced tooth decay in at least one tooth. Because tooth decay is largely preventable, it will be important to collaborate with early childhood programs to prevent disease at as early an age as possible. Possible strategies include further program integration with WIC, Head Start, and other programs targeting pregnant women and early childhood, in addition to collaborating with medical providers to do oral assessments for infants and toddlers and to make referrals to dentists by the age of one year.

The IDPH also continues efforts to increase the number of children with a payment source for dental care. Children with no dental insurance are less likely to access important preventive and restorative dental care, such as sealant application.⁴ The Oral Health Bureau will continue to partner with the Covering Kids and Families program within the IDPH for improved outreach to families without health insurance. Identification of families that are eligible for Medicaid or *hawk-i*, enrolling families in those programs, and care coordination efforts through Iowa's Title V child health contractors will play a role in increased sealant use and access to routine and preventive dental care.

Addendum

The collection of heights and weights was also new this year. This information will be used by the Bureau of Nutrition and Health Promotion to calculate body mass indices for health assessment purposes. The dental hygienists were taught to use digital scales and stadiometers at the ICN calibration training, and each third grader received a jump rope to promote physical activity.

³ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. *Promoting Oral Health: Interventions for Preventing Dental Caries, Oral and Pharyngeal Cancers, and Sports-Related Craniofacial Injuries, A Report on Recommendations of the Task Force on Community Preventive Services*. Morbidity and Mortality Weekly report, November 30, 2001/Vol. 50/No. RR-21.

⁴ U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

FY05 Oral Health Survey Summary

	OVERAL L TOTAL	Children on Free/Reduced Lunch	Children not on Free/Reduced Lunch	No dental insurance	Medicaid or <i>hawk-i</i>	Private dental insurance
Children with a Sealant	43.4%	42.0%	43.8%	41.6%	43.8%	45.8%
Children with a Cavitated Lesion	17.5%	25.1%	14.48%	17.7%	20.1%	14.8%
Children with a Filled Tooth	40.4%	45.6%	39.0%	39.1%	41.4%	42.2%
Children with a Dentist	93.2%	85%	96.5%	94%	87.1%	96.8%
Time since last dental visit						
6 months	68.8%	59.0%	74.4%	63.8%	61.5%	78.2%
1 year	20.6	23.8%	19.9%	25.9%	25.5%	16.3%
3 years	5.2%	10.4%	3.5%	7.1%	8.2%	3.6%
5 years	0.9%	2%	0.5%	0.9%	1.9%	0.6%
Never	2.4%	4.2%	1.7%	2.3%	2.9%	1.3%
Free/Reduced Lunch Participation						
		Payment Source for Dental Care				
Yes	No	Private Insurance	Medicaid / <i>hawk-i</i>	No Insurance		
27.1%	72.9%	44.9%	17.9%	29.8%		

COUNTY	DISTRICT	SCHOOL	STUDENTS	SURVEYED	SEALANTS
Wapello	OTTUMWA	James	36	12	1
Grundy	GRUNDY CENTER	Grundy Center	40	32	6
Warren	INDIANOLA	Emerson	88	56	28
Sac	WALL LAKE VIEW AUBURN	Wall Lake View Auburn	47	27	10
Shelby	HARLAN	West Ridge	46	33	22
Shelby	HARLAN	New Park	58	46	26
Des Moines	WEST BURLINGTON	West Burlington	53	37	10
Allamakee	ALLAMAKEE	East	52	47	24
Dubuque	WESTERN DUBUQUE	Drexler	78	55	20
Poweshiek	GRINNELL	Davis	138	55	20
Linn	MARION	Starry	72	42	23
Linn	MOUNT VERNON	Washington	77	72	11
Iowa	WILLIAMSBURG	Mary Welsh	84	47	36
Johnson	IOWA CITY	Weber	77	32	24
Lee	FORT MADISON	Richardson	70	34	2
Adair	NODAWAY VALLEY	Nodaway Valley East	48	32	14
Story	GILBERT	Gilbert	65	47	23
Benton	BENTON	Norway	32	30	10
Ida	GALVA-HOLSTEIN	Galva-Holstein	35	20	13
Mitchell	OSAGE	Lincoln	66	59	20
Worth	NORTH CENTRAL	North Central	38	27	12
Scott	PLEASANT VALLEY	Bridgeview	39	21	17
Woodbury	SIOUX CITY	Leeds	78	50	19
Page	ESSEX	Essex	27	25	10
O'Brien	HARTLEY-MELVIN-SANBORN	Hartley-Melvin-Sanborn	45	42	23
Buena Vista	SIOUX CENTRAL	Sioux Central	35	31	14
Pottawattamie	COUNCIL BLUFFS	Roosevelt	52	22	12
Wright	BELMOND-KLEMME	Parker	47	26	10
Clinton	CLINTON	Bluff	84	56	14

The results on this table do not consider all consent form information and are based strictly on the raw count provided by the survey examiners. See the written report for the actual statistical data.