



## **2010 Oral Health Survey Report Infants and Toddlers in Iowa's WIC Program**

The Iowa Department of Public Health (IDPH) coordinated an open-mouth survey of children participating in the state Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)<sup>1</sup> program during the spring of 2010. This report describes the process for conducting the oral health survey and the results.

### **Objectives**

In 2009, the IDPH Oral Health Bureau (OHB) began implementation of a surveillance system for children younger than age 5, with the assistance of federal grant funding. An open mouth survey was conducted at Early Head Start and Head Start centers in the state<sup>2</sup>. This year, open mouth surveillance was completed for children enrolled in WIC.

Survey data assists the OHB in program and policy planning, as well as evaluating current public health initiatives.

### **Methods**

OHB staff worked with staff in the IDPH Bureau of Nutrition and Health Promotion to determine the sample size. Each of the 24 Title V child health (CH) contractors would be responsible for screening 50 children at WIC clinics within their service delivery areas, for a potential sample of 1,200 children ages 0-4.

Open mouth surveillance was to be completed by dental hygienists. In 2009, survey calibration training was held via the Iowa Communications Network (ICN) for hygienists participating in the Head Start/Early Head Start survey. Because all but two of the dental hygienists participating in this year's WIC survey attended the 2009 ICN training, another calibration was not held in 2010. A written protocol was provided to CH contractors to distribute to the hygienists who would be collecting surveillance data. In addition, the two hygienists who did not participate in the 2009 calibration were required to view a DVD taping of it.

WIC contractors were alerted about the surveillance project through a weekly electronic newsletter published by IDPH. OHB staff communicated with Title V CH contractors

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<sup>1</sup> WIC is a special supplemental nutrition program for women, infants, and children. WIC helps families by providing healthy foods, nutrition education, and referrals to other health care agencies.

<sup>2</sup> [http://www.idph.state.ia.us/hpcdp/common/pdf/oral\\_health/2009\\_head\\_start.pdf](http://www.idph.state.ia.us/hpcdp/common/pdf/oral_health/2009_head_start.pdf)

through electronic mail, as well as sharing information at an I-Smile™ coordinator meeting in April.

OHB policy requires consent for direct services provided by CH contractor staff. All but one of Iowa's CH contract agencies already offer oral screenings within WIC clinics, and the consent forms the contract agencies use were sufficient for the purposes of this survey. OHB provided a survey consent template to the one agency that did not currently offer screenings at WIC clinics.

The survey protocol indicated that surveyors were to use gloves, mouth mirrors, and pen lights to conduct the visual screenings. OHB supplied infant and toddler toothbrushes to give to survey participants.

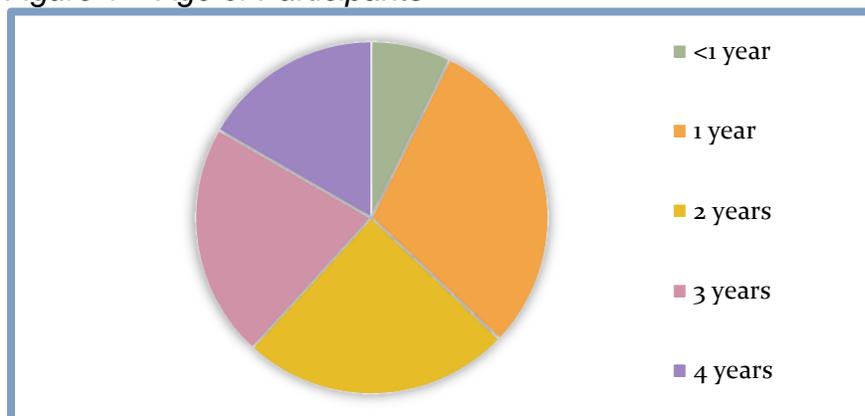
As dental hygienists completed oral screenings at WIC clinics, they each completed a hard copy Survey Data Table, which documented the child's age, if the child had a dentist, when the last dentist visit occurred, the payment source for the child's dental care, as well as oral health status indicators of the presence or absence of filled (restored) teeth, demineralization (initial tooth decay), and/or cavitated lesions (untreated tooth decay). Once information had been completed on 50 children, the Survey Data Table was mailed to IDPH to be entered into an electronic file.

After all 24 CH contract agencies had submitted survey data, IDPH staff analyzed the data by using SPSS<sup>3</sup>. Data collected are confidential. Any report or publication of this information requires permission from the Oral Health Bureau at the IDPH.

## **Results**

Participants were seen within WIC clinics in 62 of Iowa's 99 counties. Figure 1 outlines the age distribution of participants; just over half were ages 1 and 2 years old. Data on children younger than age 6 months was not included in the analysis.

*Figure 1 – Age of Participants*



<sup>3</sup> SPSS 16.0 Base for Windows. Chicago, SPSS, Inc., 2007.

Most of the children had Medicaid as their payment source for dental care (80.9%). Eleven percent of surveyed children had untreated tooth decay, 5.9 percent had at least one filled tooth, 15.3 percent had a history of tooth decay (filled tooth and/or decay), and 20.9 percent had demineralized enamel. Seventy-five percent of the children with untreated decay were age 3 or 4.

Two-thirds of children had never seen a dentist (67.8%). Of the children with untreated decay, 61.4% had never seen a dentist. No children younger than age one had seen a dentist, compared to 88.4% of one-year-olds and 70.1% of two-year-olds. Fifty-four percent of 3-year-olds had not seen a dentist, improving to 31.4% of 4-year-olds whose parents indicated they had never seen a dentist.

Twenty-three percent of children had seen a dentist within the past 6 months and 9% between six months to a year prior. Two thirds of those children were age 3 or 4 (65.8%).

### **Discussion**

The oral health chapter of *Healthy Iowans 2010* (HI2010) is used by IDPH as a strategic plan for oral health. Although goals in HI2010 do not target the age 0-4 population specifically, there are goals targeting children ages 3-5. Those goals are used as proxy guidelines in this report, to consider how well we are achieving oral health improvements in early childhood.

Just over one in every ten children was found to have untreated decay, much higher than the HI2010 goal of one in every 50 children. In addition, nearly one of every seven children has a history of decay, also higher than the HI2010 goal of one in ten. One-fifth of children in this survey have demineralized enamel, which is an initial stage of tooth decay. (Measures for demineralization are not included in HI2010.)

*Table 1- oral health status indicators relative to Healthy Iowans 2010 goals*

	Untreated Decay	Filled Tooth	History of Decay <sup>4</sup>	Demineralization
Prevalence (ages 0-4)	11.0%	5.9%	15.3%	20.9%
<i>Healthy Iowans 2010 Goal for children age 3-5</i>	≤ 2%	NA	≤ 10%	NA

The number of 3 and 4 year olds made up just 38 percent of the children surveyed, but their untreated decay rate (21.6%) is nearly twice as high as the overall rate (11.0%), demonstrating the need and importance of preventive programs for at-risk infants and children, as well as parents.

<sup>4</sup> History of decay includes untreated decay and filled teeth.

Nearly 50 percent of all infants born in Iowa are in WIC, which makes WIC clinics opportune locations to offer gap-filling preventive dental services for at-risk children<sup>5</sup>. Through initiation and growth of the I-Smile™ dental home initiative in the past three years, nearly all of the WIC clinics in Iowa now have dental hygienists or nurses providing dental screenings and fluoride varnish applications for infants and toddlers, in addition to giving oral health counseling to mothers.

Some of Iowa's community-based Title V child health agencies began this collaboration with WIC several years ago, but the implementation of I-Smile™ has made the collaboration much stronger and more robust. Because of the large number of infants and children in Iowa on the WIC program, the partnership with I-Smile™ is an important way to prevent future disease and keep treatment costs low.

Providing preventive care through the WIC program is even more crucial due to the limited number of children who see a dentist prior to the age of 5. Tooth decay can be prevented, but in order to do so requires early and regular care, particularly for at-risk low-income children. Both the American Dental Association and the American Academy of Pediatric Dentistry recommend that children need to receive care within 6 months of the first tooth erupting or by their first birthday<sup>6, 7</sup>.

Medicaid data indicates some improvements in the number of low-income very young children receiving dental services from dentists since I-Smile™ began, likely the result of I-Smile™ Coordinators working with dental offices and families to create referral systems<sup>8</sup>. However, I-Smile™ has been operational for just three years so these improvements are slight, and are also indicated in the results of this survey, which shows that two-thirds of the children (age 6 months – 4 years) have never been to a dentist.

Pediatric dentists tend to be most willing to accept referrals of children younger than age 5 – regardless of payment source – from I-Smile™ Coordinators, but there are a limited number of pediatric dentists in the state. Although improvements to Medicaid reimbursement may encourage more dentists to treat low-income children, if general dentists are not likely to see very young children, those improvements may have marginal effect on oral health status.

State policy changes may be necessary to ensure all children have access to dental care, which includes not only increasing reimbursement for dental services, but possibly scope of practice changes and new provider types to ensure children younger than age 5 have access to treatment and prevention.

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<sup>5</sup> Iowa WIC Story. Iowa Department of Public Health, July 2010.

<sup>6</sup> For the dental patient... baby's first teeth. Journal of the American Dental Association, Vol 133. February 2002.

<sup>7</sup> Policy on the Dental Home. American Academy of Pediatric Dentistry. Reaffirmed 2010.

<sup>8</sup> Inside I-Smile™ 2009: An Update on Iowa's Dental Home Initiative for Children. Iowa Department of Public Health. January 2010.

## **Conclusion**

The results of this survey will be used to plan future I-Smile™ strategies as IDPH works to ensure that all Iowa children are healthy and successful beginning at birth.

The I-Smile™ project is reaching at-risk children at a very young age, particularly through partner programs such as WIC. During the next year, I-Smile™ will continue to emphasize preventive services for at-risk children ages 0-5 by dental hygienists and nurses in settings such as WIC clinics, Head Start centers, preschools, and day cares. Prevention within public health settings is one facet of the I-Smile™ dental home and sometimes serves as low-income families' only access to dental care.

I-Smile™ Coordinators will also continue their work with local dental offices to improve dentists' willingness to accept referrals for children younger than age 5, as well as work with physician offices to encourage oral screenings and referrals for infants and toddlers. Coordinators and their colleagues will also provide care coordination for families, to help assure compliance and to enhance parents' understanding of the importance of children's oral health.

Another component of I-Smile™ includes 2008 legislation that requires dental screenings prior to school enrollment. This requirement serves as an important step to close the gap in access to dental care for underserved children, with the goals of increasing early detection and referral for treatment of dental disease and encouraging the establishment of effective oral health practices early in life.

As the I-Smile™ dental home system grows, it is anticipated that the oral health status of low-income children will improve, through increasing opportunities to provide preventive care within public health settings, a demand by the public for dental care, and a larger number of dental providers willing to see low-income and very young children.

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