Objectives

A child's oral health is an important factor in overall health, school readiness, and even self-esteem. In Iowa, the I-Smile™ program works to assure optimal oral health for children by facilitating access to care and providing preventive services for at-risk children and families. An important partner for I-Smile™ is the Head Start program, which provides comprehensive early childhood education, health, nutrition, and parental involvement services for low-income children and families[i].

The Iowa Department of Public Health (IDPH), which oversees the I-Smile™ program, conducts routine oral health surveys of children to identify oral health status as well as other factors regarding children's access to dental care. As recommended by the Association of State and Territorial Dental Directors (ASTDD), the IDPH oral health surveillance plan includes regularly assessing the oral health status of children in Head Start. An oral health survey of Head Start children in Iowa was first conducted by IDPH in 2009; in 2015, a second survey was completed. The 2015 survey methodology, results, and discussion of those results and how they compare to the 2009 survey are included within the following summary report.

Methods

IDPH staff collaborated with Iowa's Head Start State Collaboration Office (HSSCO) to create a full roster of all Head Start locations in the state and the number of children enrolled at the beginning of the 2014-2015 school year. Home-based Head Start locations were excluded due to the potential difficulty conducting the survey in such locations. In addition, centers with only Early Head Start programs were excluded.

IDPH determined that a sample size of 1,000 children would be sufficient to gain accurate estimates of oral health status and also a feasible size for implementation of a survey. Two Head Start centers from each of the 24 I-Smile™/Title V child health service areas were selected using a computerized randomization strategy that weighted larger centers more heavily than smaller centers proportional to class size. Because some centers were so much larger than others, the screeners at sites with more than 30 students had the option to either randomly choose 30 children to screen, or to screen all students in the center. If all students were *not* screened at these larger sites, the responses for these students were assigned a weighting factor to account for the lower probability of being selected.

IDPH and the HSSCO informed the administrators of the Head Start centers about the upcoming oral health survey and requested their agreement for the participation of selected sites. Forty-three of the 44 sites agreed to participate; a replacement site was not selected for the one that did not participate.

The open mouth screenings were completed by Iowa-licensed dental hygienists. The hygienists were required to have an agreement on file with IDPH to use public health supervision to provide dental screenings. Calibration training was adapted from previous IDPH oral health screening trainings and ASTDD basic screening survey training material. In March 2015, a web-based calibration was conducted and recorded for hygienists who were unable to attend. All hygienists performing the screening were required to participate or watch the recorded training.

The three oral health indicators collected for each child were the presence or absence of: 1) cavitated lesions (untreated tooth decay), 2) filled (restored) teeth, and 3) demineralization (initial tooth decay). Screeners also used the consent form, completed by the child's parent/guardian, to document the child's age, gender, whether the child had a dentist, the time since the last dental visit, and how they pay for dental care.

All but three of the Head Start locations had existing working relationships with the I-Smile™ program that included having dental hygienists provide dental screenings for children with parent/guardian consent. For these centers, no additional consent was required. For the other three locations, IDPH provided a consent form to I-Smile™ Coordinators who then distributed them to those centers. The Head Start centers collected the consents from parents/guardians prior to the date of the screenings.

Screenings were completed using penlights and mouth mirrors. Dental explorers were not used. The hygienists could use toothbrushes to retract tongue and cheeks and to clean the teeth, if necessary.

Oral health status indicators and consent form information were entered into Microsoft Excel files and submitted to IDPH. IDPH staff analyzed the data using the R statistical program. Data collected is confidential and has no identifying information.

Results

Seventy-three percent of children had positive consent; 1,090 children were screened from 43 Head Start centers. The majority of the children were 4-5 years old (88.3%). The most common form of payment for dental services was Medicaid (83.9%). Around 8 percent of children had either private insurance or ***hawk-i*** to pay for dental care. Over 6 percent of children were uninsured.

Figure 1: Age of Participants

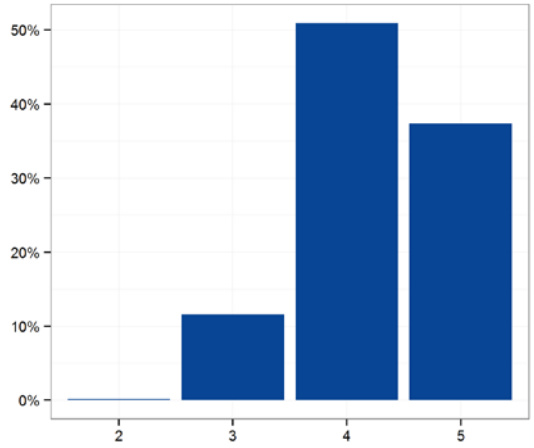
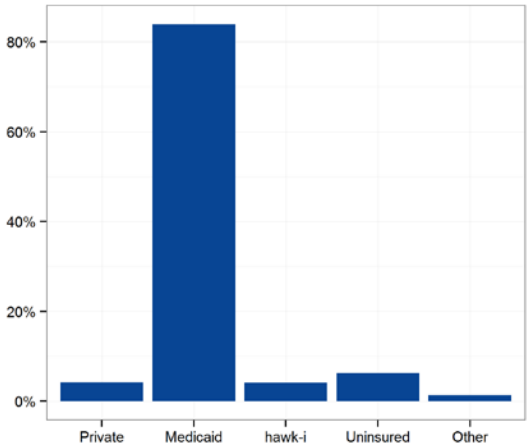


Figure 2: Payment Source for Dental Care



Overall, 17.2 percent of children had untreated tooth decay (cavitated lesion), 29.9 percent had at least one restored (filled) tooth and 36.5 percent had demineralization (early tooth decay/white spot lesions). Forty-three percent had a history of decay (untreated tooth decay and/or presence of a restoration).

Figure 3: Oral Health Status

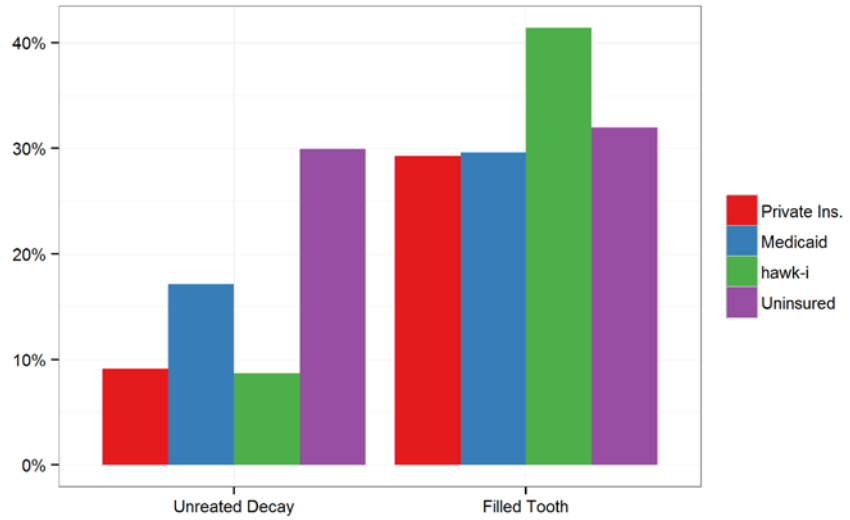
Untreated Tooth Decay	Filled Tooth	Demineralization	History of Decay (Untreated Decay and/or Filling)
17.2%	29.9%	36.5%	43.3%

Ninety percent of children had a dentist of record. Of those who responded to a consent form question about the child's last dental visit, 89.5 percent had a visit within the past year; 72.2 percent had a dental visit within the past six months. However, 6.7 percent of the children did not have a response regarding last dental visit on consent forms.

Of children on Medicaid, 17.1 percent had untreated decay, compared to 29.9 percent of uninsured. Nine percent of children with private dental insurance and 8.7 percent of children with ***hawk-i*** coverage had untreated decay.

Children on Medicaid, those who were uninsured, and also those with private insurance had similar rates of having at least one restored (filled) tooth (around 30%). This was higher, 41.4 percent, for children with ***hawk-i*** coverage.

Figure 4: Oral Health Indicators by Payment Source for Dental Care



Discussion

IDPH last conducted an oral health survey of Head Start children in 2009. Although this year's results found higher rates of untreated decay and demineralization than in 2009, the differences are not statistically significant. Conversely, a comparison of the rate of children with restored (filled) teeth in 2015 to 2009 is statistically significant. In 2015, 29.9 percent of children had at least one filled tooth compared to 19.2 percent in 2009. This presents a mixed story regarding the oral health of Iowa's

children within Head Start. Although there may be slightly more children with untreated decay, they appear to be receiving dental care, evidenced by the higher number with restorations and the number who have seen a dentist within the past year. Furthermore, the percent of children with untreated decay is still below the Healthy People 2020 goal of 21.4 percent, even within this underserved population.

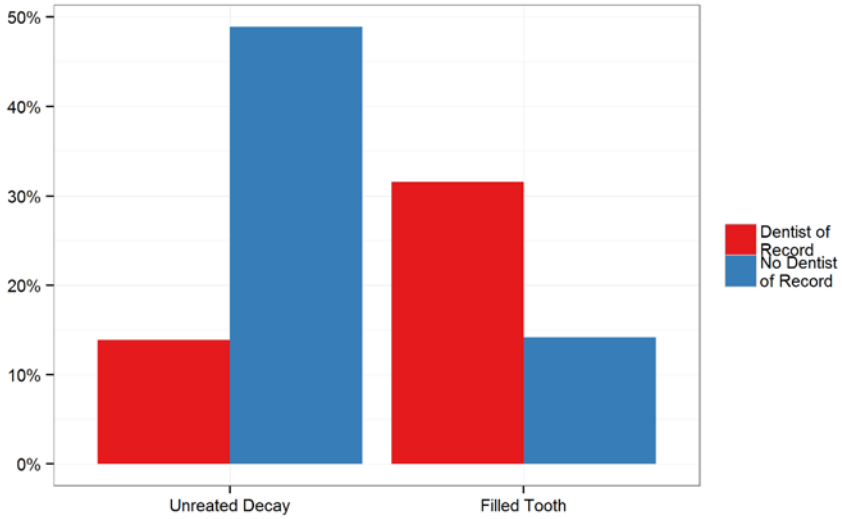
Figure 5: Oral Health Status Indicators, 2009 and 2015 Surveys

	Untreated Tooth Decay	Filled Tooth	Demineralization	History of Decay (Untreated Decay and/or Filling)
2009	14.1%	19.2%	34.9%	28.5%
2015	17.2%	29.9%	36.5%	43.3%

This year, uninsured children had the highest rate of untreated decay (29.9%), indicating that uninsured children are not getting dental care at the same rate as those who do have a payment source, even for children on Medicaid. Though it is a small sample size, children with ***hawk-i*** had some of the lowest rates of untreated decay and highest rates of restored teeth, suggesting that the program is successful helping children get needed dental care.

Both the Head Start and I-Smile™ programs strive to help families with access to dental care. This is evident upon review of the rate of children whose parents identified a dentist of record (90.4%) and also the rate for children who have seen a dentist within the past year (89.5%). Not having a dentist of record was associated with untreated decay and a reduced likelihood of having restored teeth. Nearly half of children with no dentist had untreated decay, compared to 13.9 percent of children with a dentist, and just 14.2 percent had at least one restored tooth, compared to 31.6 percent of children with a dentist.

Figure 6: Oral Health Indicators and Dentist of Record



The 72.2 percent of children who have seen the dentist in the last 6 months is an improvement from 2009, when only 65.6 percent did. However, the consent form question about the last dental visit was the most frequently unanswered question, which could indicate that those children without a response may have never been to a dentist. It will be important for I-Smile™ and Head Start programs to continue to facilitate the referral of families to dental providers to assure that all children are receiving the care that they need.

The results of this survey are important regarding the health status of Iowa children as well as to consider whether dental care is being impacted by the Affordable Care Act. Children whose families have some assistance paying for dental care, through Medicaid or dental insurance, have less untreated decay and more restorative care. It will be critical that we work to encourage and assist families to understand the importance of seeking dental insurance through the marketplace or enrolling on Medicaid or ***hawk-i*** when eligible.

The I-Smile™ and Head Start programs will build on the existing strong working relationship. Survey results will help identify successes, challenges, and future collaborative opportunities to achieve optimal oral health for children within Head Start. IDPH will encourage I-Smile™ programs to provide preventive services for Head Start children as well as to provide education about oral health for parents/guardians. Preventive services will also be critical within other public health settings, such as WIC[ii] clinics, to reach children as soon as teeth erupt and throughout early childhood so that the risk of dental disease and the costs to restore teeth will be reduced.

Although Iowa is fortunate to have oral health status indicators for children ages 3-5 at rates that are exceeding Healthy People 2020 targets, there is much work that needs to be done to further improve the health of Iowa children.

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[i] http://www.acf.hhs.gov/programs/ohs
[ii] Special Supplemental Nutrition Program for Women, Infants, and Children