Child and Adolescent Oral Health in Alaska

Despite dramatic reductions in tooth decay over the past century, dental decay remains one of the most common childhood diseases in the United States. According to the Centers for Disease Control and Prevention, dental decay is the second most common chronic disease among U.S. children. Dental decay is 5 times more common than asthma and 7 times more common than hay fever. In the United States, 25% of children and adolescents experience 80% of all dental decay occurring in permanent teeth. Fluoridated water, toothpastes, supplements and topical rinses/gels along with dental sealants have decreased the extent of decay in children. However, children in low-income families are disproportionately affected by dental decay.

Seriousness

Healthy People 2010 Targets and National Data

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Alaska 2004†</th>
<th>Nation 2000‡</th>
<th>Healthy People 2010 Goal§</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of 3rd graders with at least one sealant on a permanent molar tooth</td>
<td>52.4%</td>
<td>28%</td>
<td>50%</td>
</tr>
<tr>
<td>Proportion of 3rd graders that have experienced tooth decay</td>
<td>65.1%</td>
<td>50%</td>
<td>42%</td>
</tr>
<tr>
<td>Proportion of 3rd graders with untreated decay</td>
<td>28.0%</td>
<td>26%</td>
<td>21%</td>
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</tbody>
</table>

1 National data is for children ages 8 years only  
2 National data is for children ages 6-8 years only

- Alaska has achieved the Healthy People 2010 (HP2010) goal for sealant utilization among 3rd graders; furthermore, the proportion of Alaskan 3rd graders with at least one sealant on a permanent tooth was nearly 2 times higher than that of eight year olds in the Nation as a whole.
- The proportion of Alaskan 3rd graders that have experienced dental caries is more than 1.5 times higher than the HP2010 goal and 1.3 times higher compared to children ages 6-8 years nationally.
- Untreated dental decay among Alaskan 3rd graders is slightly higher than both the HP2010 goal and the proportion of 6-8 year olds with untreated dental decay in the Nation as a whole.

Severity

Dental decay is a preventable health problem; however, left untreated it can significantly affect health, ability to concentrate in school, and quality of life. Nationally, children miss almost 52 million school hours annually because of oral health problems. Extensive tooth decay, pain, or infection can cause eating, learning, and speech problems for children. Furthermore, many adolescents with oral problems such as decayed or missing teeth suffer embarrassment and diminished self-esteem.

Urgency

- An oral health screening of Alaska Native dental clinic users during 1999 indicated Alaska Native children experienced 3 to 4 times the amount of dental decay as their national counterparts. Additionally, severe early childhood caries was found in 59.7% of 2-4 year old Alaska Native children screened during the project.
- Medicaid/Denali KidCare is the dental coverage source for many of the children and adolescents with special health care needs. Only about 1 in 3 children enrolled in Medicaid/Denali KidCare receive an annual dental service. Furthermore, many dentists are not accepting new Medicaid clients in their practices and the state has only 14 pediatric dental specialists. Compounding the problem, the Alaska dental labor force is aging: during Fiscal Year 2002 more than 25% of active, licensed dentists were age 55 years and older and 39% were age 45-54 years.

Disparities

Children in families with low incomes have 5 times more untreated decay than children in higher income families. Data from the 2001 National Health Interview Survey found that problems related to oral health are more common among black, Hispanic, and low-income children in the United States. Nearly 80% of children living at or above the Federal Poverty Level (FPL) had seen a dentist in the past year of the survey, compared to 62% of children below 200% of the FPL.

Data from the 2004 Oral Health Assessment of Alaskan 3rd graders indicated that race was significantly associated with oral health issues. Among 3rd grade children in the
State, Alaska Natives were significantly more likely to have experienced dental caries and to have untreated dental caries than white children.

- The prevalence of Alaska Native 3rd graders with a history of dental caries was 1.6 times higher than that of either white or black children – 87.3%, 54.7% and 53.7%, respectively.†

- Among Alaskan 3rd graders, Alaska Native children were 2.3 times more likely to have untreated dental caries compared to white children – 43.5% and 18.6%, respectively.†

- A history of dental sealants was more common among Alaska Native children (67.8%) than white (51.0%), black (29.6%), or Asian/Pacific Islander children (33.3%).†

**Economic Loss**

Nationally, an estimated 5-10% of preschool-age children have baby bottle tooth decay (early childhood caries). The cost of treating early childhood caries is $1,000 – 2,000 per child and if hospitalization is required that cost is doubled. Further, children with early childhood caries may be highly susceptible to future caries development.11

**Interventions & Recommendations**

- The primary public health measures for reducing caries risk, from a nutrition perspective, are the consumption of a balanced diet and adherence to dietary guidelines and the dietary reference intakes; from a dental perspective, the primary public health measures are the use of topical fluorides and consumption of fluoridated water.14

- Support efforts to optimally fluoridate community water systems or increase use of fluoride supplements in areas where fluoridated water is not available. Currently, the Alaska Oral Health Program along with staff from the Alaska Native Tribal Health Consortium and regional tribal dental programs are promoting water fluoridation where it can be done in a safe and cost-effective manner.

- Increase education and support efforts to increase utilization of dental sealants.

- Increase and promote efforts to reduce the frequency and overall consumption of soda, juice, sugared drinks and diets high in sugar – and to increase water consumption as a healthy alternative to sugared drinks. This should include limiting access to high sugar drinks and foods in public schools.

- Support efforts to increase dental access in the Medicaid/Denali KidCare program.

- Support education and intervention efforts to screen infants for dental decay and early referral for infants with early signs of early childhood caries (e.g., change Medicaid guidance for a dental referral from age 3 to age 1).

- Support education and training opportunities to increase the number of pediatric dentists in Alaska and/or education of general dentists in treating young children. During the fall of 2005 the Alaska Native Medical Center will start a hospital-based pediatric residency program – this program offers hope to increase the number of pediatric specialists practicing in Alaska.

- Continue to monitor trends in oral disease, especially caries activity, among Alaskan children. During 2005, the Alaska Oral Health Program will be conducting an oral health assessment of kindergarten age children and children enrolled in Head Start.

**Intervention Effectiveness**

Fluoridation is the most efficient way to prevent dental caries in all children, regardless of socioeconomic status, race, or ethnicity. Water fluoridation can reduce cavities by up to 40%. Providing fluoridated water costs about 50 cents per person per year – much less than the cost of a single filling.12

Dental sealants (thin plastic coatings) protect the pit and fissures of teeth from decay. Dental sealants typically cost less than half of the average cost of a one-surface filling.13

**Capacity**

**Propriety**

Oral health among children and adolescents is an important issue among the Maternal and Child Health (MCH) population. Several national objectives have been set forth to address access, disparities, and general oral health (HP 2010) and the Maternal and Child Health Bureau requires sealant utilization among 3rd graders be monitored and assessed on a yearly basis (NPM #9).

**Economic Feasibility**

Economic feasibility was not evaluated.

**Acceptability**

Although acceptability was not evaluated, given the impact on the quality of life and health, it is an issue that would most likely be accepted among the target population.

**Resources**

Data sources: Alaska Oral Health Program; Medicaid.

**Legality**

Not an issue.

**References**


Data Sources

