

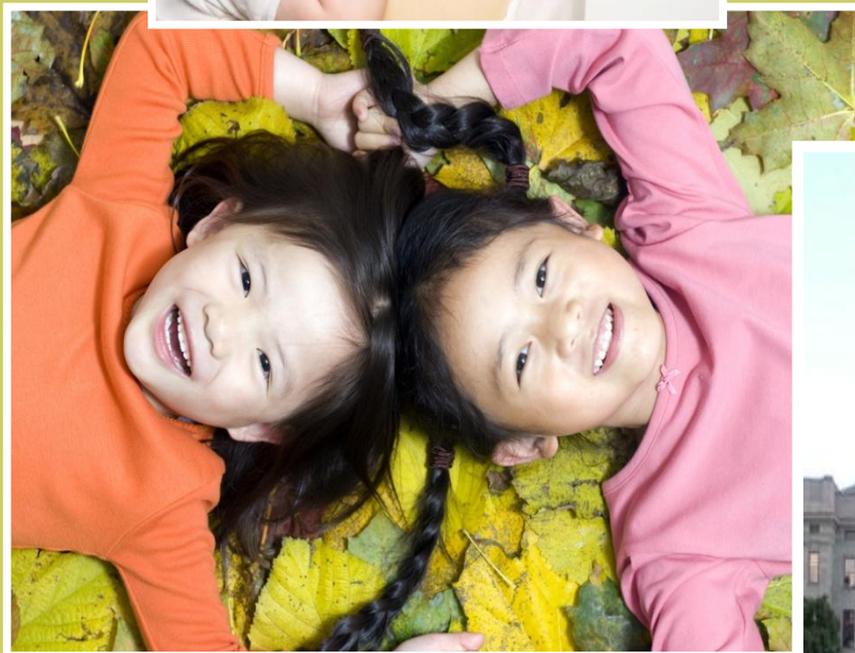
# ORAL HEALTH IN MONTANA

2005 - 2006 ORAL HEALTH STUDY  
MONTANA THIRD GRADE AND  
HEAD START CHILDREN



“What amounts to a **“a silent epidemic”** of dental and oral diseases is affecting some population groups - a burden of disease that restricts activities in school, work, and home, and often significantly diminishes the quality of life.”<sup>3</sup>

*Oral Health in America: A Report of the Surgeon General, 2000.*



AUGUST  
2010



“Dental caries (tooth decay) is the single most common chronic childhood disease - 5 times more common than asthma and 7 times more common than hay fever.”<sup>1</sup>

*Oral health in America: A report of the Surgeon General, 2000*

## **ORAL HEALTH IN MONTANA**

# ORAL HEALTH IN MONTANA

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# ORAL HEALTH IN MONTANA

## INTRODUCTION

Despite advances in modern technology and progress towards reducing oral health diseases, dental decay (dental cavities or dental caries) is still found much too often among young children. Dental caries is a chronic infectious disease that, if not treated, can cause structural damage to the tooth and can greatly affect a child's life and result in pain, tooth loss, or a serious infection.<sup>1</sup>

A report issued by the Surgeon General, "*Oral Health in America*", described poor oral health as a "silent epidemic" in some population groups. The report also recognized the oral health disparities between children from poor and wealthier households.<sup>1</sup>

In many cases, oral health is not considered a component of general health care, and dental visits or care may not be covered by a health insurance plan. Results from the 2007 National Survey of Children's Health indicate that 72% of Montana children with public health insurance and 82% with private health insurance had at least one preventive dental visit, compared to 59% of uninsured children.<sup>2</sup>

To assess and address the need for information on children's oral health, the Family and Community Health Bureau of the Montana Department of Public Health and Human Services (DPHHS) initiated a school-based statewide oral health screening project. During the 2005 – 2006 school year, oral health data were collected on third grade public school students and Head Start participants throughout Montana. A total of 1785 children were screened statewide. Of the children screened, 957 were third grade students and 828 were Head Start students. A detailed description of the study design can be found in the *Methodology* section of this document.

The objectives of the oral health screenings were to collect information on the following indicators:

- Percent of children with untreated dental cavities
- Percent of children with dental caries experience
- Percent of children with dental sealants
- Percent of children with early childhood caries
- Percent of children with dental treatment urgency

Evidence from the screenings indicates that poor oral health is a serious health concern for Montana children. Because the data from the screenings were collected in a way similar to data collected in other states, Montana data can be compared to oral health data in other states to provide a better idea of how the oral health of Montana children compares to that of children elsewhere.

The *Healthy People 2010 (HP2010)* objectives outline national oral health goals and define indicators that can be used to monitor the status of oral health among children across the nation. Montana data on children's oral health can be compared to the HP2010 targets to measure where the state is falling short.

Most importantly, information from the oral health screenings can be used to educate individuals on the oral health status of Montana children, as well as assist stakeholders, including parents, health care professionals, educators, and policy makers in planning and implementing programs to improve children's oral health.

# ORAL HEALTH IN MONTANA

## HIGHLIGHTS: MONTANA THIRD GRADE AND HEAD START CHILDREN

**A significant proportion of children suffer from untreated dental cavities.**

29% of third grade children have at least one untreated dental cavity.  
39% of Head Start children have at least one untreated dental cavity.

**Many school children have dental caries experience.**

64% of third grade children have dental caries experience.  
58% of Head Start children have dental caries experience.

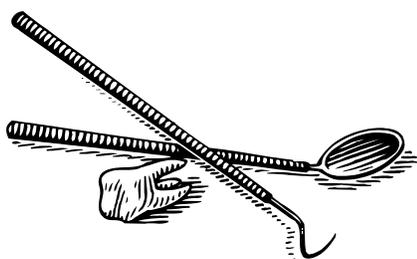


**Third grade children have a shortage of dental sealants.**

46% of third grade children have at least one dental sealant.

**Early childhood caries are a significant problem among young children enrolled in Head Start Program.**

31% of Head Start children have early childhood caries.



**Many of Montana's children need early dental treatment.**

24% of Head Start children need early dental treatment.  
15% of Head Start children need urgent dental treatment.

21% of third grade children need early dental treatment  
8% of third grade children need urgent dental treatment.

**Montana third grade children in communities with lower income levels have higher rates of untreated dental cavities and dental caries experience, lower rates of dental sealants, and a greater need for dental treatment compared to children in third grade in communities with higher income levels.**



STATEWIDE ORAL HEALTH FINDINGS:  
THIRD GRADE STUDENTS



# ORAL HEALTH IN MONTANA

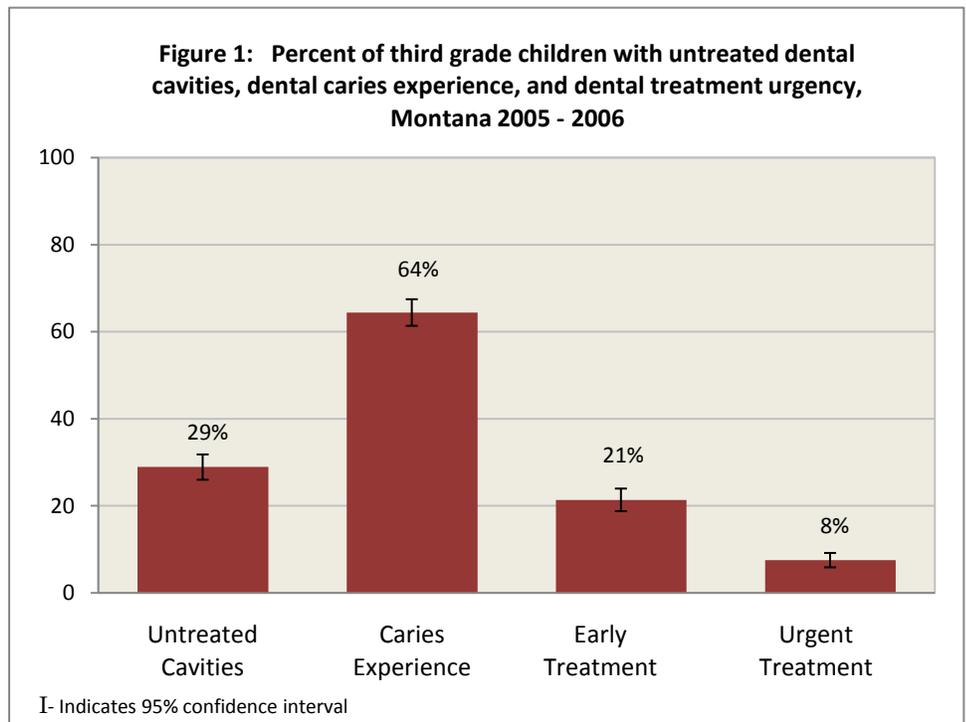
Dental caries is a chronic infectious disease that, if not treated, can cause structural damage to the tooth, along with other oral health issues. An untreated dental cavity can greatly affect a child's life and result in pain, tooth loss, or a serious infection.

Dental caries experience is indicated by the sum of treated and untreated cavities. It can be also identified by a missing, crowned, or filled tooth caused by dental cavity.

**Key findings: Third grade students**  
**Dental cavities, dental caries experience, and urgency of need for dental care**

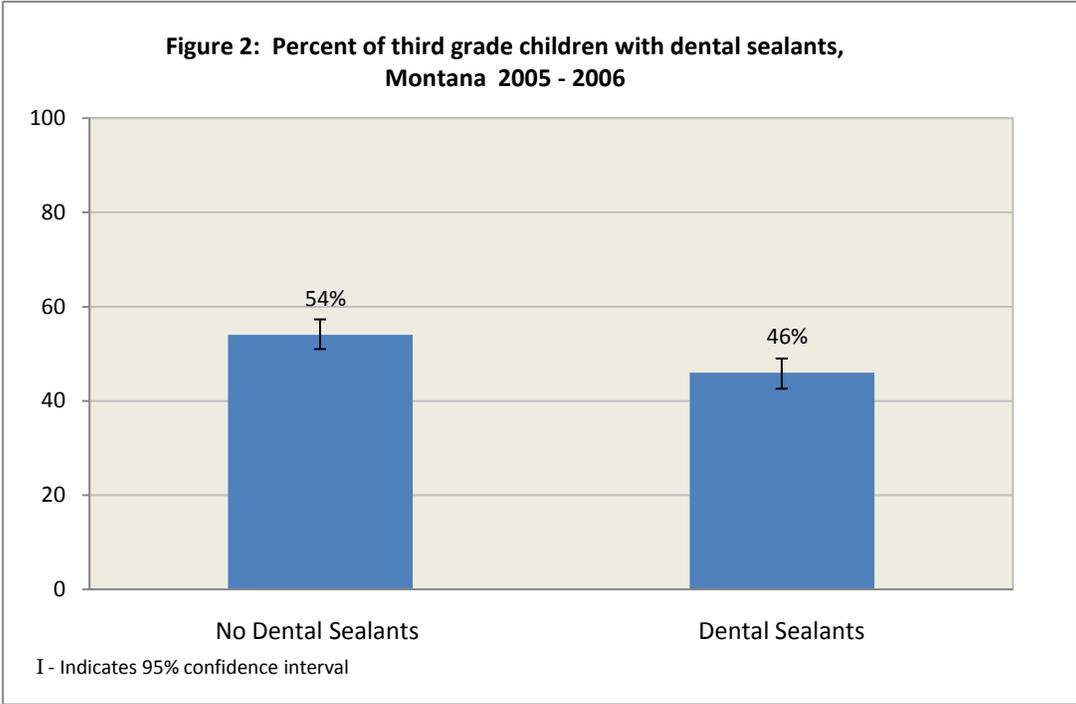
- 3 in 10 (29%) children had untreated dental cavities.
- 6 in 10 (64%) children had dental caries experience.
- 2 in 10 (21%) children needed early dental treatment.
- 1 in 10 (8%) children needed urgent dental treatment.

Schools were randomly selected to participate in the oral health screenings so that the results were representative of the state as a whole. A total of 957 third grade students were screened in 30 public elementary schools during the 2005-2006 school year. The participants' ages ranged from seven to 11 years. Children were screened for untreated cavities, dental caries experience on at least one tooth, and the urgency of need for dental care.



Results of the screenings illustrate that dental cavities and dental caries experience are too common among Montana children. **Among screened third graders, over a fourth of the children had untreated dental cavities, more than a half of the children had dental caries experience, and more than a fourth of the children needed early or urgent dental treatment due to pain or infection.**

# ORAL HEALTH IN MONTANA



Research demonstrates that permanent molars are the most vulnerable to cavities. Permanent molars can be preserved by the placement of dental sealants. A dental sealant is a transparent and opaque plastic coating applied to a child’s permanent molar teeth to prevent against harmful bacteria and plaque. Sealants can last up to several years before a reapplication is needed.<sup>6</sup> This procedure is cost effective and offers long-term protection from caries, cavity development, and infection in a child’s mouth.<sup>3</sup>

**Key finding: Third grade students  
Dental sealants**

5 in 10 (54%) children did not have dental sealants.

Montana third graders were screened for the presence of a dental sealant on at least one permanent molar tooth. **The statewide findings indicate that more than half of children do not have dental sealants.**

STATEWIDE ORAL HEALTH FINDINGS:  
THIRD GRADE STUDENTS  
BY LEVEL OF SCHOOL PARTICIPATION IN THE  
FREE OR REDUCED PRICE LUNCH  
PROGRAM



# ORAL HEALTH IN MONTANA

## SELECTION OF THIRD GRADE SCHOOLS BY LEVEL OF PARTICIPATION IN THE FREE OR REDUCED PRICE LUNCH PROGRAM

Information on individual student income levels and eligibility for the free or reduced price lunch program was not available. Therefore, the school eligibility for the free or reduced price lunch program was used as a general indicator of the socioeconomic status of third graders within each school.

The public schools were categorized into two groups based on the proportion of third graders who were eligible for the free or reduced price lunch program.

Group one included schools averaging above the mean statewide proportion (39.57%) of third graders eligible for the program. In the following analysis, those schools are identified as having high participation in the free or reduced price lunch program.

Group two included schools averaging below the mean statewide proportion (39.57%) of third graders eligible for the program. Those schools are identified as having low participation in the free or reduced price lunch program.

Thirty schools participated. Half of the schools participating in the study had high participation in the free or reduced price lunch program and the other half had low participation in the free or reduced price lunch program.

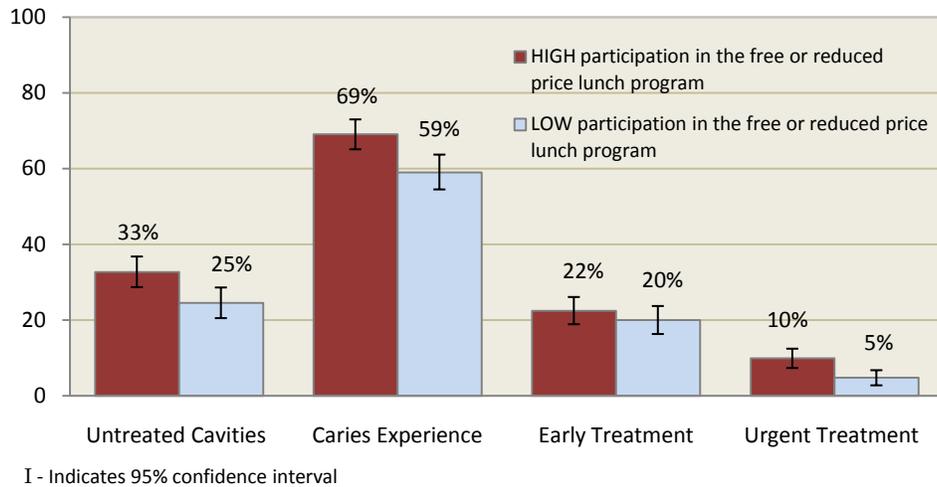
*Many schools in Montana participate in the free or reduced price lunch program, offering free or reduced price meals to children from lower income families. For a child to be eligible for the program in the 2005-2006 school year a family of four would have had an annual household income of less than \$37,000.<sup>4</sup>*



**The screening results indicate that children in schools with lower income levels experience more tooth decay and have a greater need for dental treatment.**

# ORAL HEALTH IN MONTANA

**Figure 3: Percent of third grade children with untreated dental cavities, dental caries experience, and dental treatment urgency, by level of school participation in the free or reduced price lunch program, Montana 2005 - 2006**



## Key findings: Third grade students

### Dental cavities, dental caries experience, and urgency of need for dental care by level of school participation in the free or reduced price lunch program

Children attending lower income schools had more untreated dental cavities compared to children attending higher income schools.

- 3 in 10 (33%) children attending lower income schools had at least one untreated dental cavity.
- 2 in 10 (25%) children attending higher income schools had untreated dental cavities.

Children enrolled in lower income schools had a higher prevalence of dental caries experience, whereas children enrolled in higher income schools had a lower prevalence of dental caries experience.

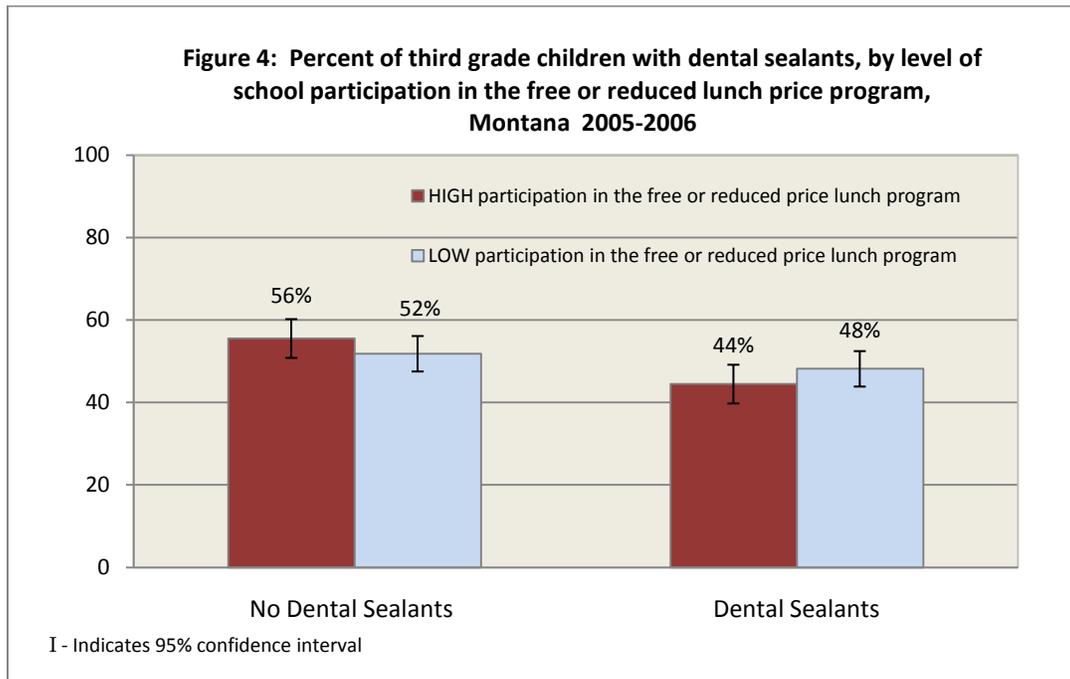
- 7 in 10 (69%) children attending lower income schools had dental caries experience.
- 6 in 10 (59%) children attending higher income schools had dental caries experience.

Children attending lower income schools needed urgent dental treatment twice as often as children from higher income schools.

- 2 in 10 (22%) children attending lower income schools needed early dental treatment.
- 1 in 10 (10%) children attending lower income schools needed urgent dental treatment.

- 2 in 10 (20%) children attending higher income schools needed early dental treatment.
- 1 in 20 (5%) children attending higher income schools needed urgent dental treatment.

# ORAL HEALTH IN MONTANA



Third grade students were screened for dental sealants on at least one permanent molar tooth.<sup>3</sup> Children from higher income schools were more likely to have dental sealants than children from lower income schools. **The results for dental sealants indicate that not enough children in Montana have dental sealants and that children in lower income schools may have a higher risk of continued or future oral health disease because they are less likely to have sealants.**

## Key findings: Third grade students

### Dental sealants by level of school participation in the free or reduced price lunch program

Fewer children enrolled in lower income schools had dental sealants compared to children attending higher income schools.

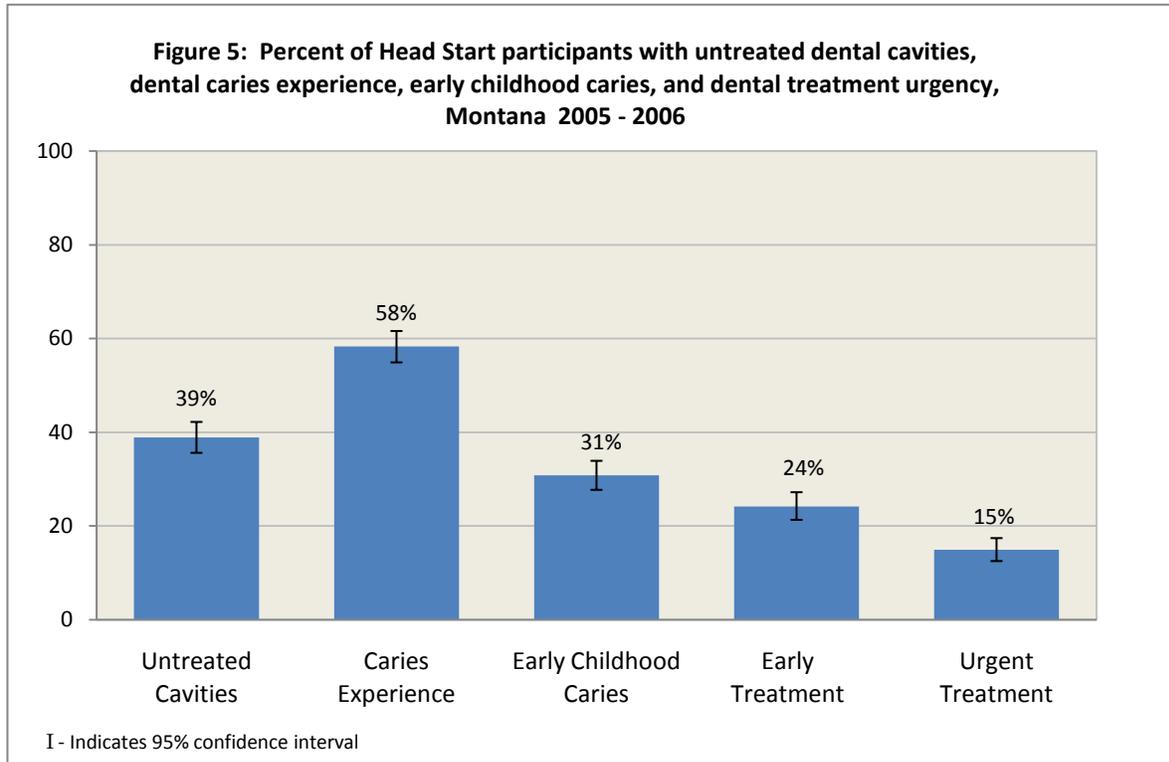
4 in 10 (44%) children attending lower income schools had dental sealants.

5 in 10 (48%) children attending higher income schools had dental sealants.



STATEWIDE ORAL HEALTH FINDINGS:  
HEAD START PARTICIPANTS

# ORAL HEALTH IN MONTANA



Children participating in Head Start were found to have relatively high rates of untreated dental cavities, dental caries experience, and need for dental treatment. Unlike the third grade children, the Head Start participants were also screened for signs of early childhood caries, since early childhood caries are only found in toddlers and preschool children.<sup>5</sup> Early childhood caries can form as soon as an infant's teeth erupt. The presence of early childhood caries in a child's mouth may cause pain and contribute to speech problems and overall well-being.<sup>6</sup>

*Head Start is a federally funded preschool program for children from low income households. A total of 828 children enrolled in Head Start from 20 Head Start centers were screened during the 2005-2006 school year. The participants' ages ranged from two to six years.*

## **Key findings for Head Start children Dental cavities, dental caries experience, early childhood caries, and urgency of need for dental care**

- 4 in 10 (39%) Head Start children had untreated dental cavities.
- 6 in 10 (58%) Head Start children had dental caries experience.
- 3 in 10 (31%) Head Start children had early childhood caries.
- 2 in 10 (24%) Head Start children needed early dental treatment.
- 1 in 10 (15%) Head Start children needed urgent dental treatment.



ORAL HEALTH STATUS OF MONTANA  
CHILDREN COMPARED TO  
NEIGHBORING STATES  
AND  
HEALTHY PEOPLE 2010 OBJECTIVES



# ORAL HEALTH IN MONTANA

## MONTANA'S PROGRESS TOWARD ACHIEVING HEALTHY PEOPLE 2010 ORAL HEALTH GOALS

The Healthy People (HP) 2010 objectives provide a framework for identifying health goals and showing progress in improving health.

The oral health goals outlined in HP 2010 include:

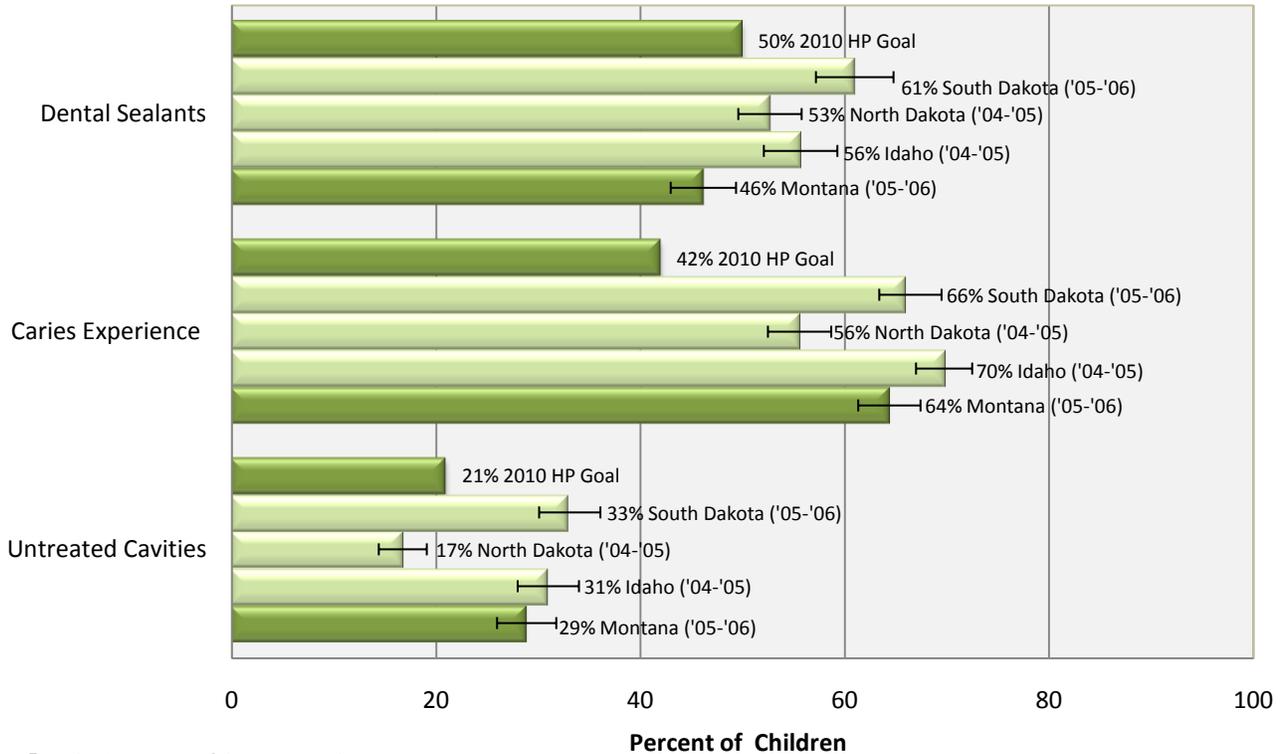
- Increase the proportion of children aged 8 years with dental sealants to 50%.
- Reduce the proportion of children aged 6 to 8 years with dental caries experience to 42%.
- Reduce the proportion of children aged 6 to 8 years with untreated cavities in their primary and permanent teeth to 21%.<sup>8</sup>



| <u>Measure</u>                                 | <u>HP2010 Target</u> | <u>Montana Status</u> |
|--|----------------------|-----------------------|
| Dental sealants                                | 50%                  | 46%                   |
| Caries experience                              | 42%                  | 64%                   |
| Untreated dental cavities (untreated cavities) | 21%                  | 29%                   |

# ORAL HEALTH IN MONTANA

**Figure 6: Oral health of Montana's third grade children compared to neighboring states and Healthy People 2010 Objectives ,**



I - Indicates 95% confidence interval  
 Source: www.cdc.gov/nohss (Wyoming data were not available).

Montana has not yet met the objectives for any of the HP 2010 oral health measures. (Figure 6) However, by most measures the oral health of Montana third graders is similar to the oral health of third graders from neighboring states such as Idaho, South Dakota, and North Dakota. Montana, Idaho, and South Dakota all reported higher rates of untreated dental cavities than the HP 2010 goal. Only North Dakota had a prevalence of untreated dental cavities lower than the HP 2010 target of 21%. The prevalence of dental caries experience is also similar in Montana, Idaho, and South Dakota. A lower proportion of children in North Dakota have dental caries experience.

One very critical area where Montana differs from other regional states is the reported rate of dental sealants. **Montana has the lowest rate of dental sealants among all four states in the region.** Idaho, South Dakota, and North Dakota have all met or exceeded the Healthy People 2010 objective for dental sealants, while Montana has not yet met the target.

**MONTANA HAS NOT MET THE HEALTHY PEOPLE 2010 ORAL HEALTH OBJECTIVES FOR CHILDREN.**

## ORAL HEALTH PROGRAMS AND SERVICES IN MONTANA

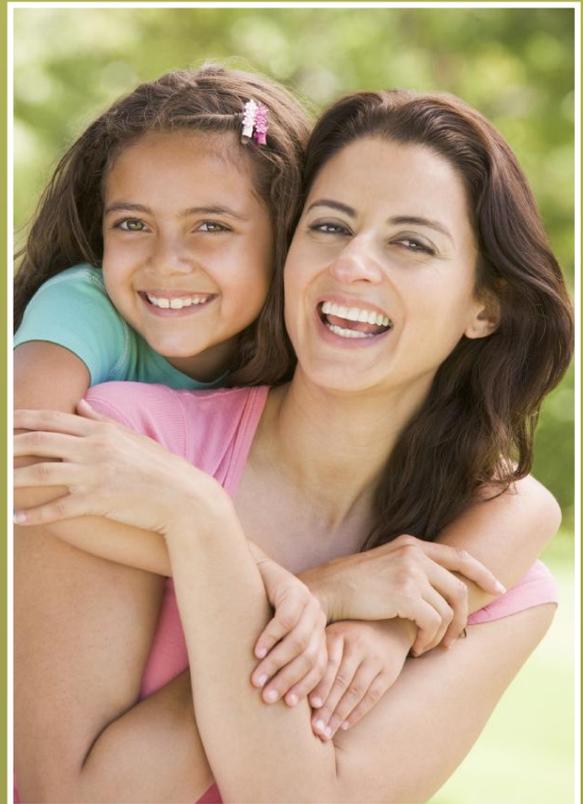
The Montana Department of Public Health and Human Services (DPHHS) Oral Health Program (OHP) has promoted oral health among school-aged and preschool children for many years. The following are some of the information and services offered by the Montana DPHHS OHP:

- Oral Health Screening Program for schools
- Oral Health Education Program, available online
- Open Wide, On-line Training Program, available online

To learn more about the programs go to

<http://www.dphhs.mt.gov/PHSD/family-health/oral-health/family-oralHealth-index.shtml>

**Oral health is essential to overall health. Dental caries, another name for dental decay, are considered a chronic, infectious disease that, if not treated, can have an adverse impact on a child's development.<sup>1</sup>**



## **ORAL HEALTH RECOMMENDATIONS**

Brush twice a day with a fluoridated toothpaste (for infants, wipe gums with a clean, soft cloth).

Clean between your teeth daily with dental floss.

Limit snacks, starch, and sweets that stick to your teeth.

Eat nutritious, well-balanced meals.

To quench your thirst – drink water!

Limit fruit juice and sports drinks.

Visit your dentist regularly  
(establish a dental home by age 1).

Discuss with your dentist whether prevention options such as sealants or fluoride varnish treatment are appropriate for your child.

## **ORAL HEALTH RESOURCES**

Healthy Montana Kids: <http://hmk.mt.gov/abouthmk.shtml>

Medicaid: <http://www.dphhs.mt.gov/programsservices/medicaid.shtml>

FCHB: <http://www.dphhs.mt.gov/PHSD/family-health/FCHB-index.shtml>

Montana Dental Association: <http://mtdental.com>

Primary Care Association Dental Clinic: <http://www.mtpca.org/dental.htm>

# ORAL HEALTH IN MONTANA

## METHODS

### **Sampling and Participation**

During the 2005-2006 school year, the Family and Community Health Bureau within the Montana Department of Public Health and Human Services conducted statewide oral health screenings of third graders and Head Start participants. The schools that participated in the screenings were stratified by approximate socioeconomic status and then randomly selected. The schools were chosen to be representative of the state population of third graders.

Demographic data from the Montana Office of Public Instruction (OPI) were used to determine two categories of public elementary schools: those that had high levels of participation in the free or reduced price lunch program and those with low levels of participation in the free or reduced price lunch program.

The two groups were defined by determining the mean participation percentage from all the free or reduced price lunch program eligible students in public elementary schools in the state. The mean participation was calculated to be 39.57%. Schools above the mean participation were classified as having high participation in the free or reduced price lunch program. Schools averaging below the mean participation were classified as having low participation in the free or reduced price lunch program.

After stratifying each school by its mean participation in the free or reduced price lunch program, 15 schools were randomly sampled from the high participation group and 15 were randomly selected from the low participation group. This allowed for a total of 30 public schools to participate in the study. If a school chose not to participate, a replacement school within the same sampling strata was selected.

Within the 30 sampled schools, a total of 957 third grade students were screened. Five hundred and seventeen children were in the high participation in the free or reduced price lunch program group, and 440 were in the low participation in the free or reduced price lunch program group. The 957 third grade participants account for approximately 9% of the total third grade population enrolled in Montana public schools during the 2005-2006 school year.

In addition to the third grade students, some Head Start participants were also screened. Head Start locations that were invited to participate were selected because of their proximity to the schools where third graders were being screened. Twenty Head Start Agencies took part and a total of 828 Head Start children were screened. The 828 Head Start participants account for approximately 15% of the total population enrolled in Montana Head Start Centers during the 2005-2006 school year.

### **Data Collection and Analysis**

The data collection process was based on the Association of State and Territorial Dental Director's (ASTDD) national guidelines and standards. The State of Montana contracted with three registered dental hygienists who traveled to the selected third grade schools and neighboring Head Start schools. The registered dental hygienists were trained in using the Oral Health Screening Form, Montana's version of the ASTDD Basic Screening Survey (BSS). Data assessment and collection standards were taught through an ASTDD "Train-the-Trainer" video and other materials.

The Oral Health Screening Form collected almost the same data from both the third grade and Head Start students. Information on each child's race, gender, age, untreated dental cavities, dental caries experience, and dental treatment urgency were collected for both groups. In addition, the Head Start screening form collected data on the presence of early childhood caries, and the third grade form collected data on the presence of sealant on at least one permanent molar tooth.

Parental consents were obtained for all children before the screenings took place. Additionally, passive consent was obtained from each child before the hygienist actually began the screening. If a child felt uncomfortable or scared, no screening took place regardless of parental consent.

# ORAL HEALTH IN MONTANA

## ACRONYMS

|               |   |
|---------------|---|
| <b>ASTDD</b>  | Association of State and Territorial Dental Directors |
| <b>BSS</b>    | Basic Screening Survey                                |
| <b>DPHHS</b>  | Department of Public Health and Human Services        |
| <b>HP2010</b> | Healthy People 2010                                   |
| <b>MCHB</b>   | Maternal and Child Health Bureau                      |
| <b>OPI</b>    | Office of Public Instruction                          |

## GLOSSARY

**Caries Experience** The presence of an untreated cavity, a filling, or a permanent molar tooth that is missing because it was extracted as a result of caries.

**Dental Cavity (Caries)** A dental disease that is formed by bacterial presence in the mouth which causes structural damage to the teeth.

**Dental Sealants** Transparent, opaque plastic coating applied to permanent molar teeth to protect the tooth against bacteria and plaque.

**Early Childhood Caries** A form of dental caries that occurs in preschool children and toddlers. Identified as the presence of caries (teeth that are decayed, missing, or have a filling) on any primary teeth.

**Free or Reduced Price Lunch** Under the National School Lunch Act established in 1946, schools participate in a program that provides free or reduced price lunches to children from economically disadvantaged families.

**Head Start and Early Head Start** Federally funded preschool program for children from low income families. Children participating in the Head Start program receive comprehensive medical, dental, and nutritional services.

**Early Dental Treatment** Indicated by untreated cavities, spontaneous bleeding of gums, or suspicious white or red soft tissue areas in a child's mouth. Next dental visit should take place within several weeks.

**Urgent Dental Treatment** The presence of signs or symptoms that include pain, infection, swelling, or soft tissue ulceration for more than two weeks duration. Next dental visit should take place within 24 hours.

**Untreated Cavities** A hole in the tooth at least ½ mm in size with brown to dark-brown coloration on the wall of the cavity.

# ORAL HEALTH IN MONTANA

### DATA TABLE 1

| Participation/Demographics | Third Grade |      | Not Free or Reduced Price Lunch |      | Free or Reduced Price Lunch |      | Head Start |      |
|----------------------------|-------------|------|---------------------------------|------|-----------------------------|------|------------|------|
|                            | #           | %    | #                               | %    | #                           | %    | #          | %    |
| Schools                    | 30          | -    | 15                              | -    | 15                          | -    | 20         | -    |
| Children Screened          | 957         | -    | 440                             | -    | 517                         | -    | 828        | -    |
| Age:                       |             |      |                                 |      |                             |      |            |      |
| Range                      | 7-11        | -    | 7-10                            | -    | 8-11                        | -    | 2-6        | -    |
| Mean                       | 8.7         | -    | 8.7                             | -    | 8.7                         | -    | 4.1        | -    |
| Median                     | 9           | -    | 9                               | -    | 9                           | -    | 4          | -    |
| Mode                       | 9           | -    | 9                               | -    | 9                           | -    | 4          | -    |
| Gender:                    |             |      |                                 |      |                             |      |            |      |
| Female                     | 458         | 47.9 | 213                             | 48.4 | 245                         | 47.4 | 375        | 45.3 |
| Male                       | 499         | 52.1 | 227                             | 51.6 | 272                         | 52.6 | 451        | 54.5 |
| Other/Unknown              | 0           | 0    | 0                               | 0    | 0                           | 0    | 2          | 0.2  |
| Race:                      |             |      |                                 |      |                             |      |            |      |
| White                      | 855         | 89.3 | 394                             | 89.5 | 461                         | 89.2 | 476        | 57.5 |
| Native American            | 41          | 4.3  | 19                              | 4.3  | 22                          | 4.3  | 239        | 28.9 |
| Other/Unknown              | 61          | 6.4  | 27                              | 6.2  | 34                          | 6.5  | 113        | 13.6 |

### DATA TABLE 2

| Oral Health Indicators        | Third Grade |                         | Not Free or Reduced Price Lunch |                         | Free or Reduced Price Lunch |                         | Head Start |                         |
|-------------------------------|-------------|-------------------------|---------------------------------|-------------------------|-----------------------------|-------------------------|------------|-------------------------|
|                               | %           | Confidence Interval 95% | %                               | Confidence Interval 95% | %                           | Confidence Interval 95% | %          | Confidence Interval 95% |
| Untreated Cavities:           |             |                         |                                 |                         |                             |                         |            |                         |
| Yes                           | 28.9        | 26.1-31.9               | 24.5                            | 20.5-28.6               | 32.7                        | 28.6-36.7               | 38.9       | 35.6-42.2               |
| No                            | 71.0        | 68.1-73.8               | 75.2                            | 71.2-79.3               | 67.3                        | 63.3-71.4               | 61.1       | 57.8-64.4               |
| Other/Unknown                 | 0.1         | -                       | 0.3                             | -                       | 0.0                         | 0.0                     | 0.0        | 0.0                     |
| Untreated Cavities by Race:   |             |                         |                                 |                         |                             |                         |            |                         |
| White                         | 89.5        | 85.9-93.1               | 90.7                            | 85.3-96.2               | 88.8                        | 84.0-93.5               | 46.0       | 40.5-51.4               |
| Native American               | 2.9         | 0.9-4.9                 | 2.8                             | -0.3-5.9                | 3.0                         | 0.4-5.5                 | 43.5       | 38.1-48.9               |
| Other/Unknown                 | 7.6         | 4.5-10.7                | 6.5                             | 1.8-11.1                | 8.2                         | 4.1-12.4                | 10.5       | 7.2-13.9                |
| Untreated Cavities by Gender: |             |                         |                                 |                         |                             |                         |            |                         |
| Female                        | 44.4        | 38.6-50.3               | 46.3                            | 36.9-55.7               | 43.2                        | 35.7-50.7               | 44.4       | 39.0-49.8               |
| Male                          | 55.6        | 49.7-61.4               | 53.7                            | 44.3-63.1               | 56.8                        | 49.3-64.3               | 55.3       | 49.8-60.7               |
| Other/Unknown                 | 0.0         | 0.0                     | 0.0                             | 0.0                     | 0.0                         | 0.0                     | 0.3        | -                       |
| Caries Experience:            |             |                         |                                 |                         |                             |                         |            |                         |
| Yes                           | 64.4        | 61.3-67.4               | 58.9                            | 54.3-63.5               | 69.1                        | 65.1-73.0               | 58.3       | 55.0-61.7               |
| No                            | 35.6        | 32.6-38.7               | 41.1                            | 36.5-45.7               | 30.9                        | 27.0-34.9               | 41.7       | 38.3-45.0               |
| Caries Experience by Race:    |             |                         |                                 |                         |                             |                         |            |                         |
| White                         | 88.6        | 86.1-91.1               | 90.3                            | 86.8-93.9               | 87.4                        | 84.0-90.8               | 47.4       | 43.0-51.9               |
| Native American               | 4.7         | 3.0-6.4                 | 4.6                             | 2.1-7.2                 | 4.8                         | 2.6-7.0                 | 40.8       | 36.4-45.2               |
| Other/Unknown                 | 6.7         | 4.7-8.6                 | 5.1                             | 2.4-7.7                 | 7.8                         | 5.1-10.6                | 11.8       | 8.9-14.7                |
| Caries Experience by Gender : |             |                         |                                 |                         |                             |                         |            |                         |
| Female                        | 45.5        | 41.5-49.5               | 46.7                            | 40.6-52.8               | 44.5                        | 39.4-49.7               | 44.5       | 40.1-48.9               |
| Male                          | 54.5        | 50.6-58.6               | 53.3                            | 47.2-59.4               | 55.5                        | 50.3-60.3               | 55.1       | 50.6-59.5               |
| Other/Unknown                 | 0.0         | 0.0                     | 0.0                             | 0.0                     | 0.0                         | 0.0                     | 0.4        | -                       |

# ORAL HEALTH IN MONTANA

**DATA TABLE 2 Cont.**

| Oral Health Indicators            | Third Grade |                         | Not Free or Reduced Price Lunch |                         | Free or Reduced Price Lunch |                         | Head Start |                         |
|-----------------------------------|-------------|-------------------------|---------------------------------|-------------------------|-----------------------------|-------------------------|------------|-------------------------|
|                                   | %           | Confidence Interval 95% | %                               | Confidence Interval 95% | %                           | Confidence Interval 95% | %          | Confidence Interval 95% |
| Early Childhood Caries:           |             |                         |                                 |                         |                             |                         |            |                         |
| Yes                               | NA          | NA                      | NA                              | NA                      | NA                          | NA                      | 30.8       | 27.7-33.9               |
| No                                | NA          | NA                      | NA                              | NA                      | NA                          | NA                      | 69.2       | 66.1-72.3               |
| Early Childhood Caries by Race:   |             |                         |                                 |                         |                             |                         |            |                         |
| White                             | NA          | NA                      | NA                              | NA                      | NA                          | NA                      | 37.3       | 31.3-43.2               |
| Native American                   | NA          | NA                      | NA                              | NA                      | NA                          | NA                      | 52.2       | 46.0-58.3               |
| Other/Unknown                     | NA          | NA                      | NA                              | NA                      | NA                          | NA                      | 10.5       | 6.8-14.4                |
| Early Childhood Caries by Gender: |             |                         |                                 |                         |                             |                         |            |                         |
| Female                            | NA          | NA                      | NA                              | NA                      | NA                          | NA                      | 43.9       | 37.8-50.0               |
| Male                              | NA          | NA                      | NA                              | NA                      | NA                          | NA                      | 55.7       | 49.6-61.8               |
| Other/Unknown                     | NA          | NA                      | NA                              | NA                      | NA                          | NA                      | 0.4        | -                       |
| Dental Sealants:                  |             |                         |                                 |                         |                             |                         |            |                         |
| Yes                               | 46.2        | 43.0-49.4               | 48.2                            | 43.5-52.9               | 44.5                        | 40.2-48.8               | NA         | NA                      |
| No                                | 53.8        | 50.7-57.0               | 51.8                            | 47.1-56.5               | 55.5                        | 51.2-59.8               | NA         | NA                      |
| Dental Sealants by Race:          |             |                         |                                 |                         |                             |                         |            |                         |
| White                             | 91.9        | 89.3-94.4               | 92.0                            | 88.3-95.6               | 91.7                        | 88.2-95.3               | NA         | NA                      |
| Native American                   | 2.9         | 1.4-4.5                 | 2.8                             | 0.6-5.1                 | 3.0                         | 0.8-5.3                 | NA         | NA                      |
| Other/Unknown                     | 5.2         | 3.1-7.3                 | 5.2                             | 2.2-8.2                 | 5.3                         | 2.3-8.1                 | NA         | NA                      |
| Dental Sealants by Gender :       |             |                         |                                 |                         |                             |                         |            |                         |
| Female                            | 45.5        | 40.8-50.1               | 46.2                            | 39.5-52.9               | 44.8                        | 38.4-51.2               | NA         | NA                      |
| Male                              | 54.5        | 49.9-59.2               | 53.8                            | 47.1-60.5               | 55.2                        | 48.8-61.6               | NA         | NA                      |
| Dental Treatment Urgency:         |             |                         |                                 |                         |                             |                         |            |                         |
| Regular dental care               | 71.1        | 68.2-73.9               | 75.0                            | 71.0-79.0               | 67.7                        | 63.7-71.7               | 60.6       | 57.3-64.0               |
| Early dental care needed          | 21.3        | 18.7-23.9               | 20.0                            | 16.3-23.7               | 22.4                        | 18.8-26.0               | 24.2       | 21.2-27.1               |
| Urgent dental care needed         | 7.5         | 5.9-9.2                 | 4.8                             | 2.8-6.8                 | 9.9                         | 7.3-12.4                | 14.9       | 12.4-17.3               |
| Other/Unknown                     | 0.1         | -                       | 0.2                             | -                       | 0.0                         | 0.0                     | 0.4        | 0.0-0.8                 |
| Regular Dental Care by Race:      |             |                         |                                 |                         |                             |                         |            |                         |
| White                             | 89.4        | 87.1-91.7               | 89.4                            | 86.1-92.7               | 89.4                        | 86.2-92.6               | 65.3       | 61.2-69.5               |
| Native American                   | 4.7         | 3.1-6.3                 | 4.5                             | 2.3-6.8                 | 4.9                         | 2.6-7.1                 | 18.9       | 15.5-22.4               |
| Other/Unknown                     | 5.9         | 4.1-7.7                 | 6.1                             | 3.5-8.6                 | 5.7                         | 3.3-8.1                 | 15.8       | 12.6-18.9               |
| Early Dental Care by Race:        |             |                         |                                 |                         |                             |                         |            |                         |
| White                             | 92.2        | 88.5-95.8               | 93.2                            | 87.9-98.4               | 91.4                        | 86.3-96.5               | 59.0       | 52.2-65.8               |
| Native American                   | 2.0         | 0.1-3.9                 | 2.3                             | -0.8-5.4                | 1.7                         | -0.6-4.1                | 28.0       | 21.8-34.2               |
| Other/Unknown                     | 5.8         | 2.7-9.1                 | 4.5                             | 0.2-8.9                 | 6.9                         | 2.3-11.5                | 13.0       | 8.3-17.7                |
| Urgent Dental Care by Race:       |             |                         |                                 |                         |                             |                         |            |                         |
| White                             | 81.9        | 73.1-90.8               | 81.0                            | 64.2-97.7               | 82.4                        | 71.9-92.8               | 24.4       | 16.8-32.0               |
| Native American                   | 5.6         | 0.3-10.8                | 4.8                             | -43-13.9                | 5.9                         | -0.6-12.3               | 69.1       | 60.9-77.3               |
| Other/Unknown                     | 12.5        | 4.9-20.1                | 14.2                            | -                       | 11.7                        | 2.9-20.6                | 6.5        | 2.1-10.9                |
| Regular Dental Care by Gender:    |             |                         |                                 |                         |                             |                         |            |                         |
| Female                            | 49.9        | 46.1-53.6               | 49.7                            | 44.3-55.1               | 50.0                        | 44.8-55.2               | 45.6       | 41.3-50.0               |
| Male                              | 50.1        | 46.4-53.9               | 50.3                            | 44.9-55.7               | 50.0                        | 44.8-55.2               | 54.2       | 49.8-58.5               |
| Other/Unknown                     | 0.0         | 0.0                     | 0.0                             | 0.0                     | 0.0                         | 0.0                     | 0.2        | -                       |
| Early Dental Care by Gender:      |             |                         |                                 |                         |                             |                         |            |                         |
| Female                            | 43.6        | 36.8-50.4               | 40.9                            | 30.6-51.2               | 45.7                        | 36.6-54.8               | 43.0       | 36.1-49.0               |
| Male                              | 56.4        | 49.6-63.2               | 59.1                            | 48.8-69.4               | 54.3                        | 45.2-63.4               | 56.5       | 49.6-63.4               |
| Other/Unknown                     | 0.0         | 0.0                     | 0.0                             | 0.0                     | 0.0                         | 0.0                     | 0.5        | -                       |
| Urgent Dental Care by Gender:     |             |                         |                                 |                         |                             |                         |            |                         |
| Female                            | 41.7        | 30.3-53.1               | 61.9                            | 41.1-82.7               | 33.3                        | 20.4-46.3               | 46.3       | 37.5-55.2               |
| Male                              | 58.3        | 46.9-69.7               | 38.1                            | 17.3-58.9               | 66.7                        | 53.7-79.6               | 53.7       | 44.8-62.5               |

\*NA = Not Applicable

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# ORAL HEALTH IN MONTANA

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