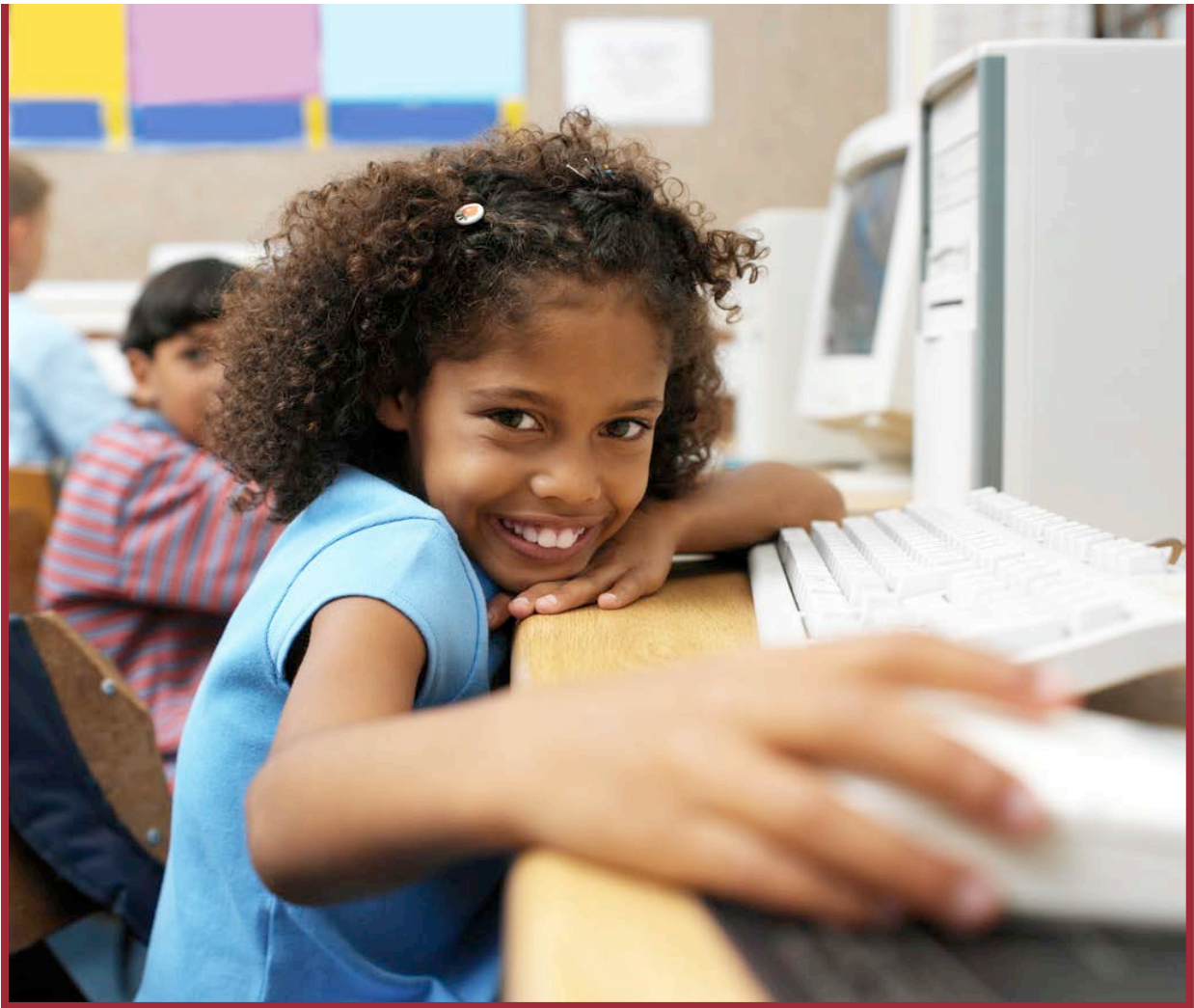


2014 ORAL HEALTH SURVEY OF SOUTH DAKOTA CHILDREN



South Dakota Department of Health
Chronic Disease Prevention and Health Promotion
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The South Dakota Department of Health sincerely thanks all of the South Dakota schools and third grade students that participated in this project. We particularly thank all of the school administrators and school nurses that assisted the oral health screeners in obtaining parental consents, organizing the screening day and helping facilitate the screening process. Without the cooperation of the schools and dental professionals this project would not have been possible.

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All school staff, parents, and third grade children that participated in the survey.

This report, as well as supplemental oral health information is available on the Department of Health website: <http://doh.sd.gov/prevention/oralhealth>

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EXECUTIVE SUMMARY

With this recent survey, the Oral Health Program takes its fourth look at the oral health status and dental treatment needs of third grade children in South Dakota. The previous oral health surveys were completed in 2003, 2006 and 2010. In 2014, more than 1,000 third grade children in 36 public elementary schools received a dental screening. To share what we learned, we have organized the information collected into seven key findings. These findings will help support development of state policies and programs to reach the goal of ensuring that all of South Dakota's children receive the preventive and restorative oral health services they need.

KEY FINDINGS

1. South Dakota's oral health programs are working. Compared to previous surveys, fewer children have experienced tooth decay and fewer have untreated decay.
2. Even though South Dakota has seen improvements in oral health, too many children in South Dakota have untreated tooth decay and are not getting the dental care they need.
3. More than half of South Dakota's children have experienced tooth decay, suggesting that South Dakota needs more primary prevention programs.
4. Over 40 percent of children in South Dakota do not have dental sealants, a well-accepted clinical intervention to prevent tooth decay on molar teeth.
5. There are significant oral health disparities in South Dakota with low-income children, children with public health insurance, and American Indian children having the highest level of tooth decay.
6. South Dakota has met the Healthy People 2010 objective for increasing the prevalence of dental sealants.
7. Children in South Dakota have more tooth decay than the general U.S. population aged 6-8 years.

NEXT STEPS

The results of this survey provide important clues to the reasons why some children in South Dakota have more decay than others. We know that poor children have more disease and find it more difficult to get dental treatment. Most children in South Dakota are covered by some type of dental insurance, either private or through the state–federal Medicaid program. But even when children have dental insurance, they often have trouble finding or getting to a dentist.

For the third graders we surveyed, it is clear that some children have continued to get disease, and much of the disease remains untreated. We have not succeeded in providing adequate interventions in public health or private health practice that affect dental disease in these children. We have provided sealants, but this preventive procedure is not applied until a child is about 7 years old. We also must work to prevent decay in primary or baby teeth.

NATIONAL STRATEGIES

Several key strategies have been identified to improve the oral health of children:

- ◆ Expand comprehensive decay prevention to include pregnant women, infants and toddlers, through the lifespan.
- ◆ Provide anticipatory guidance to prevent dental disease to parents in health and social service settings.
- ◆ Teach parents how to use the dental health care system and advocate for oral health for themselves and their children.
- ◆ Promote annual dental exams as a *minimum* standard of dental care, particularly for high–risk children by one year of age.
- ◆ Increase the number of dental providers in underserved areas and the number that participate in public insurance programs.
- ◆ Educate medical care providers about the relationship between oral health and general health.
- ◆ Increase the provision of dental sealants in schools, safety nets and private dental practices.

EXECUTIVE SUMMARY

- ◆ Develop an ongoing campaign to promote oral health as part of general health and well-being.
- ◆ Build capacity in dental public health.
- ◆ Increase private and public sector participation in mobilizing resources and developing policy to pursue *and sustain* these strategies.

QUICK FACTS

WHO WAS SCREENED?

- 1,053 third grade children were screened at 36 different elementary schools in South Dakota
- Most of the children were 8 or 9 years of age
- The majority of the children were non-Hispanic white

DECAY EXPERIENCE:

- Fifty-six percent (56%) of third grade children have experienced tooth decay in their primary or permanent teeth.

UNTREATED TOOTH DECAY:

- Twenty-two percent (22%) of third grade children have untreated tooth decay.

DENTAL SEALANTS:

- Fifty-seven percent (57%) of third grade children have dental sealants.

NEED FOR DENTAL CARE:

- Twenty-three percent (23%) of third grade children are in need of dental care including 4% that have an urgent need for dental care because of pain or infection.

DENTAL INSURANCE COVERAGE:

- Sixty-seven percent (67%) of parents report that their child has dental insurance; 46% are covered by private insurance, 20% have Medicaid and 1% are covered by Indian Health Service programs.

TIME SINCE LAST DENTAL VISIT:

- Sixty-seven percent (67%) of parents report that their child had visited the dentist in the last year.

THE IMPORTANCE OF ORAL HEALTH

Tooth decay (dental caries) is a bacterial disease process affecting both children and adults. It is probably the most widespread disease known to man.¹ During childhood, tooth decay is the single most common chronic disease, five times more common than asthma.² Tooth decay still affects more than half of all children by the third grade. By the time children are in high school, about 70% have tooth decay.³ The public perception is largely that tooth decay is a natural and minor occurrence that deserves little attention or dollars. If left untreated, however, tooth decay can lead to difficulty in speaking, chewing, and swallowing, increased cost of care, loss of self-esteem, needless pain, and lost school days.

The results of not treating tooth decay include:

- Pain: Tooth decay can hurt a lot and hurt constantly. Many children do not know that teeth are not supposed to hurt.
- Infection: Infected teeth are reservoirs of bacteria that flood the rest of the body, leaving the child prone to many other childhood infections, including ear infections and sinus infections.
- Nutrition problems: Chronically painful and infected teeth make chewing and swallowing an uncomfortable and difficult chore. Children with dental disease often do not get the nutrition they need to grow.
- Tooth loss: Chronic childhood tooth decay often makes children's "baby" teeth fall out before their adult teeth are ready to take their place.
- Sleep deprivation: Children with chronically painful teeth have trouble getting a good night's sleep.
- Attention problems: Children with infected and painful teeth have a hard time relaxing, sitting still and paying attention in class.
- Slower social development: Unsightly or missing teeth can make it difficult to talk and can greatly affect a child's self-esteem. When a child's front teeth are damaged or missing in their very crucial early years of development, they often can't form words correctly.
- Missed school days: Children with infected and painful teeth miss more school days than other children, disrupting their educational and social experiences and costing school districts money. In 1996, children between 5 to 17 years of

THE IMPORTANCE OF ORAL HEALTH

age missed 1,611,000 school days due to acute dental problems – an average of 3.1 days per 100 students.⁴

While the prevalence and severity of tooth decay has, in fact, declined among U.S. school-aged children, it remains a significant problem in some populations – particularly certain racial and ethnic groups and low-income children.⁵ National data indicate that 80% of tooth decay in children is concentrated in 25% of the child population, with low-income children and racial/ethnic minority groups having more untreated decay than the U.S. population as a whole.⁶

We hope that by recognizing and understanding the oral health needs of South Dakota's children, we will be able to contribute to policies that will ensure all children receive the oral health care they need. The answers to effective policies to protect children's oral health lie in a few sound principles outlined in the 2000 *Oral Health in America: A Report of the Surgeon General*. Some of the approaches to promote oral health include:

- ◆ Change perceptions regarding oral health and disease so that oral health becomes an accepted component of general health.
- ◆ Build an effective oral health infrastructure that meets the oral health needs of all Americans and integrates oral health effectively into overall health.
- ◆ Remove known barriers between people and oral health services.
- ◆ Use public-private partnerships to improve the oral health of those who still suffer disproportionately from oral diseases.

This survey demonstrates that while South Dakota has made some progress toward improving the oral health of its children, there are barriers to overcome in order to improve the oral health of all of South Dakota's children. We need more effective ways to provide essential preventive and restorative services, especially for low-income children. To continue moving forward we need to mobilize resources, including both the public and private health care sectors.

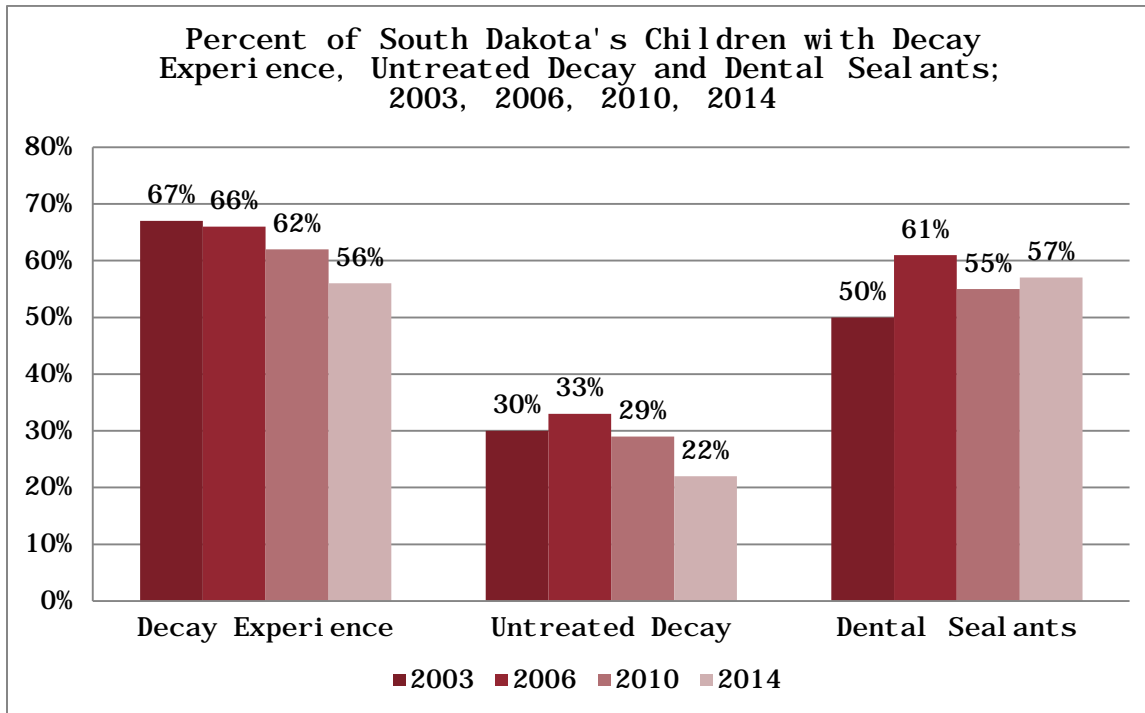
To describe the oral health of South Dakota's children, the South Dakota Department of Health conducted a statewide oral health survey of third grade children attending South Dakota's public, private and Bureau of Indian Education schools. During the 2013–2014 school year, over 1,000 third grade children in 36 different schools were screened by one of 32 volunteer screeners. Detailed information on the design of the 2014 oral health survey can be found in the Survey Methods section of this report. Findings have been organized into the following seven key findings. These findings highlight the current oral health of South Dakota's children and disparities in oral health within South Dakota. We hope that you find this information useful as well as informative.

KEY FINDINGS

1. South Dakota's oral health programs are working. Compared to previous surveys, fewer children have experienced tooth decay and fewer have untreated decay.
2. Even though South Dakota has seen improvements in oral health, too many children in South Dakota have untreated tooth decay and are not getting the dental care they need.
3. More than half of South Dakota's children have experienced tooth decay, suggesting that South Dakota needs more primary prevention programs.
4. Over 40 percent of children in South Dakota do not have dental sealants, a well-accepted clinical intervention to prevent tooth decay on molar teeth.
5. There are significant oral health disparities in South Dakota with low-income children, children with public health insurance and American Indian children having the highest level of tooth decay.
6. South Dakota has met the Healthy People 2010 objective for increasing the prevalence of dental sealants.
7. Children in South Dakota have more tooth decay than the general U.S. population aged 6–8 years.

THE ORAL HEALTH OF SOUTH DAKOTA'S CHILDREN

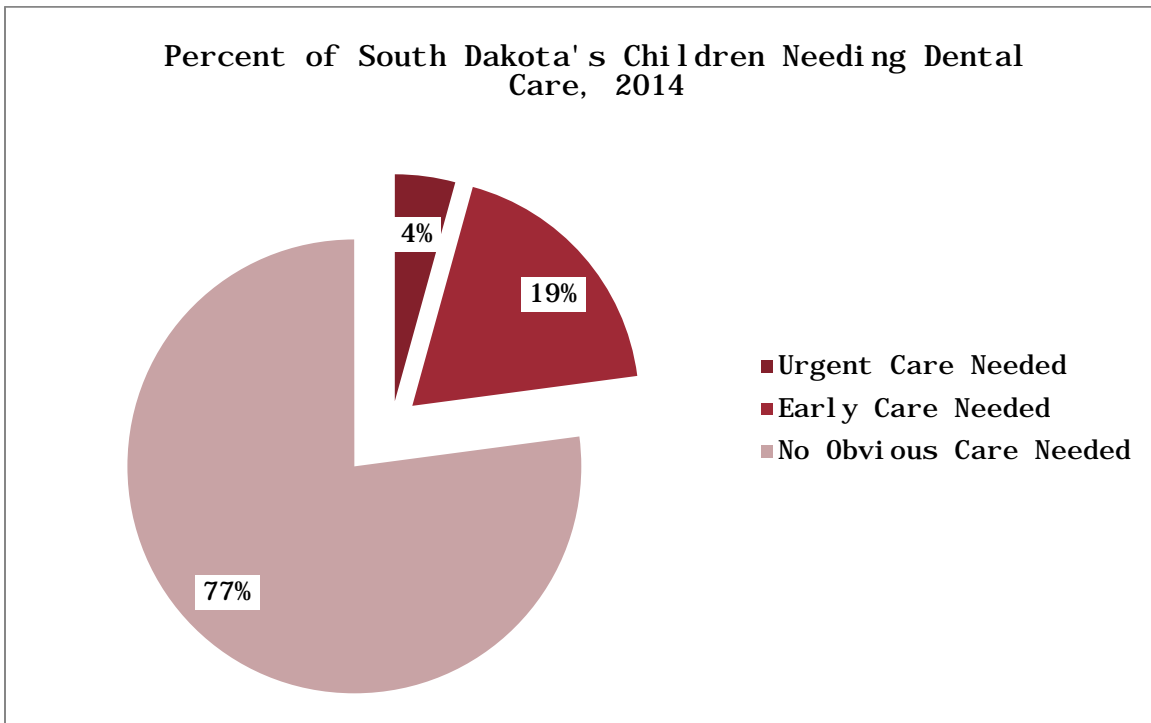
KEY FINDING #1: SOUTH DAKOTA'S ORAL HEALTH PROGRAMS ARE WORKING. COMPARED TO PREVIOUS SURVEYS, FEWER CHILDREN HAVE EXPERIENCED TOOTH DECAY AND FEWER HAVE UNTREATED DECAY.



In recent years many different organizations in South Dakota, including the Oral Health Program, have worked on improving access to preventive and restorative dental care for children. The efforts are paying off - compared to the baseline oral health survey in 2003, fewer children had decay experience and untreated decay and slightly more had protective dental sealants in 2014.

THE ORAL HEALTH OF SOUTH DAKOTA'S CHILDREN

KEY FINDING #2: EVEN THOUGH SOUTH DAKOTA HAS SEEN IMPROVEMENTS IN ORAL HEALTH, TOO MANY CHILDREN IN SOUTH DAKOTA HAVE UNTREATED TOOTH DECAY AND ARE NOT GETTING THE DENTAL CARE THEY NEED.



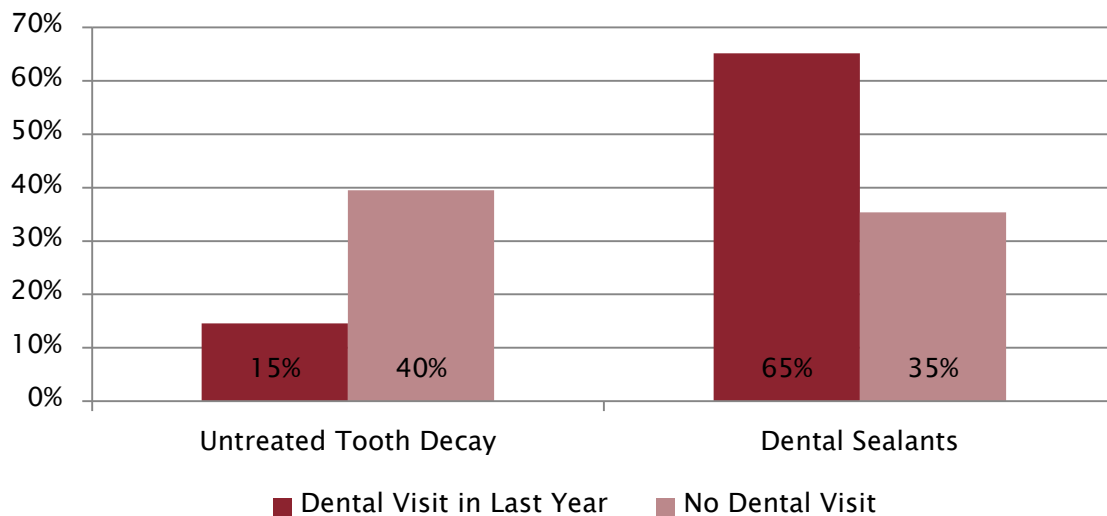
Almost 23% of the third grade children screened had a need for dental care – with about 4% needing urgent dental care because of pain or infection. In 2013–2014 there were about 11,500 third grade children in South Dakota. If 23% need dental care, this means that 2,645 third grade children are in the classroom with a cavity and about 460 may be in pain or have an oral infection. Untreated tooth decay can hurt and if left untreated has serious consequences, including needless pain and suffering, difficulty chewing, difficulty speaking, and lost days in school.

For this oral health survey we did not do complete diagnostic dental examinations. We did dental screenings – a visual look with a dental mirror, a set of questions, no x-rays, none of the more advanced diagnostic tools. So we probably missed some problems. It is reasonable to assume that these numbers actually *underestimate the proportion of children needing dental care.*

THE ORAL HEALTH OF SOUTH DAKOTA'S CHILDREN

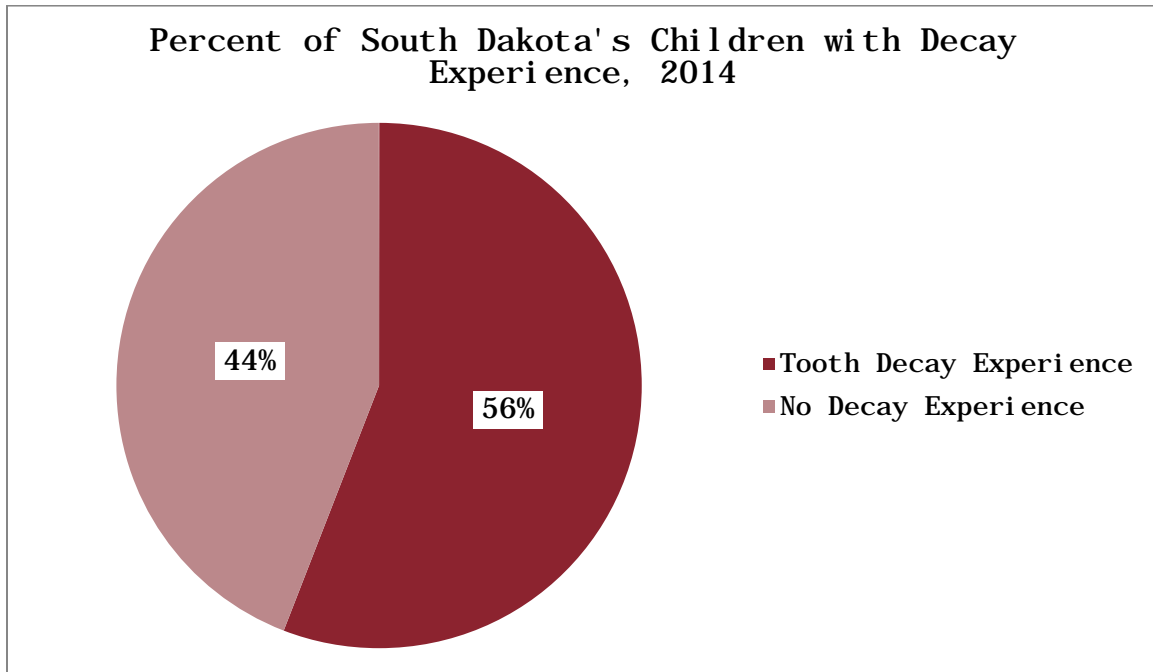
KEY FINDING #2 (CONTINUED): EVEN THOUGH SOUTH DAKOTA HAS SEEN IMPROVEMENTS IN ORAL HEALTH, TOO MANY CHILDREN IN SOUTH DAKOTA HAVE UNTREATED TOOTH DECAY AND ARE NOT GETTING THE DENTAL CARE THEY NEED.

Percent of South Dakota Children with Untreated Decay and Dental Sealants Stratified by Dental Visit in Last Year, 2014



About 15% of the parents reported that their child had NOT visited the dentist in the last year. If a child had not been to the dentist in the last year, they were significantly more likely to have untreated decay and significantly less likely to have protective dental sealants. If a child had not been to the dentist in the last year, parents were asked the primary reason why their child had not been to the dentist. The primary reason listed was cost.

KEY FINDING #3: MORE THAN HALF OF SOUTH DAKOTA'S CHILDREN HAVE EXPERIENCED TOOTH DECAY, SUGGESTING THAT SOUTH DAKOTA NEEDS MORE PRIMARY PREVENTION PROGRAMS.



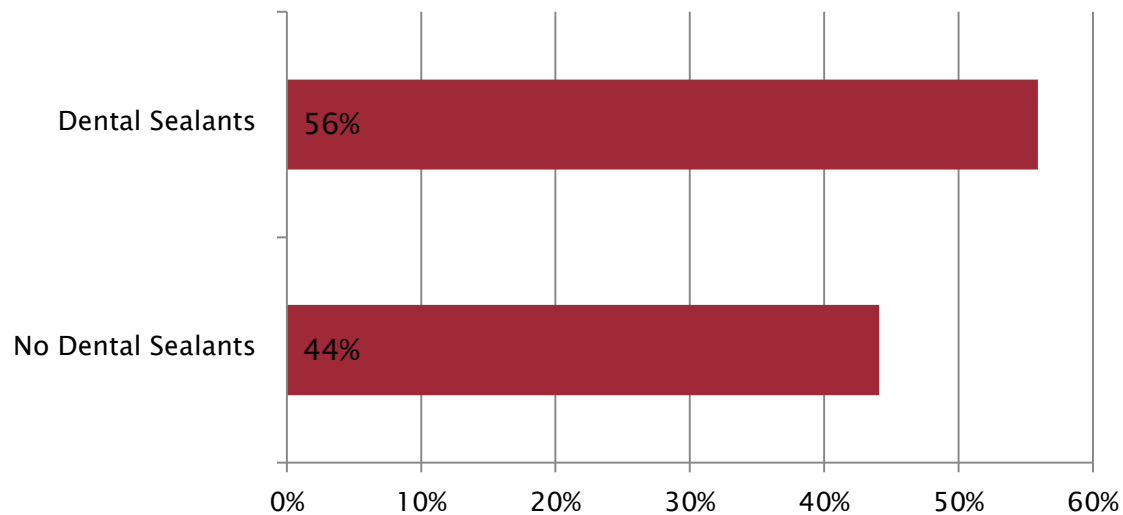
Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his or her lifetime. Decay experience can be past (fillings, crowns, or teeth that have been extracted because of decay) or present (untreated tooth decay or cavities). In South Dakota, about 56% of third grade children have experienced tooth decay.

If we want to eradicate tooth decay in South Dakota's children, we have to get them started right with early prevention efforts. Medical, dental and public health professionals must focus dental disease prevention efforts on children less than 2 years of age because *two is too late*. The American Dental Association, the American Academy of Pediatric Dentistry and the American Association of Pediatricians all recommend preventive dental care and parent education by age one.

THE ORAL HEALTH OF SOUTH DAKOTA'S CHILDREN

KEY FINDING #4: OVER 40 PERCENT OF CHILDREN IN SOUTH DAKOTA DO NOT HAVE DENTAL SEALANTS, A WELL-ACCEPTED CLINICAL INTERVENTION TO PREVENT TOOTH DECAY ON MOLAR TEETH.

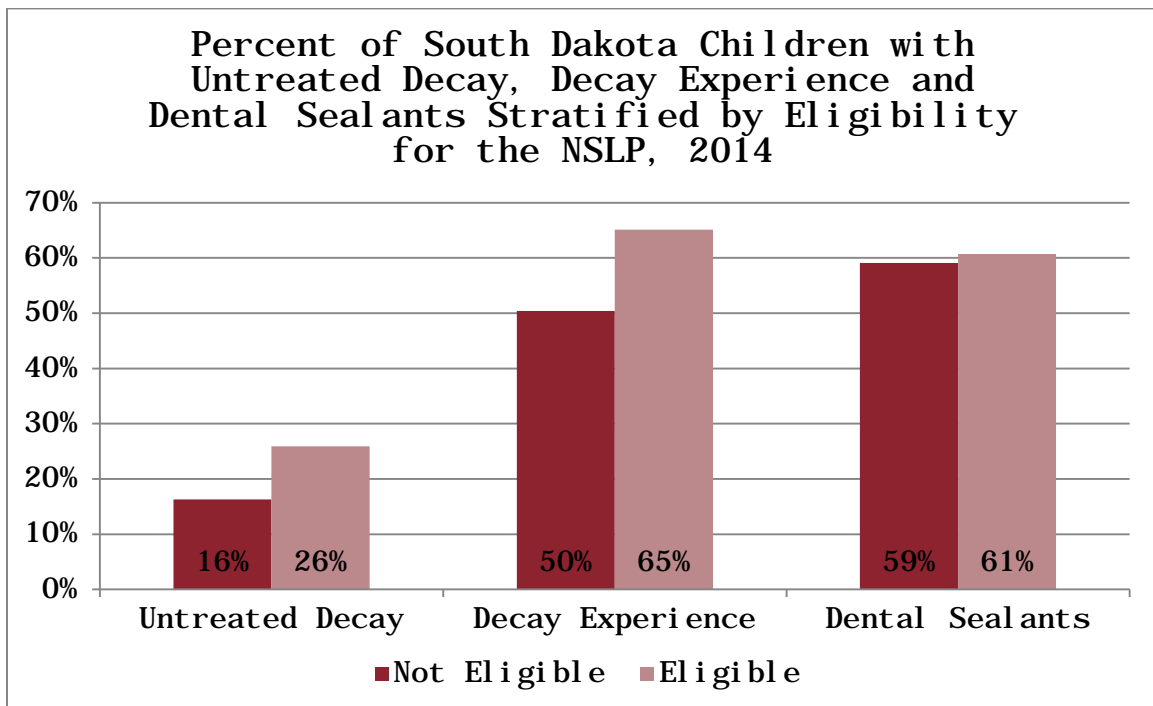
Percent of South Dakota Children with and without Dental Sealants, 2014



Dental sealants are a plastic coating applied to the chewing surfaces of the back teeth. They are a safe, effective way to prevent tooth decay among schoolchildren. Sealants have been shown to significantly reduce a child's risk for having untreated decay, In some cases, sealants can even stop tooth decay that has already started.⁷ In South Dakota, 56% of the third grade children screened had dental sealants while 44% could potentially benefit from this preventive service.

THE ORAL HEALTH OF SOUTH DAKOTA'S CHILDREN

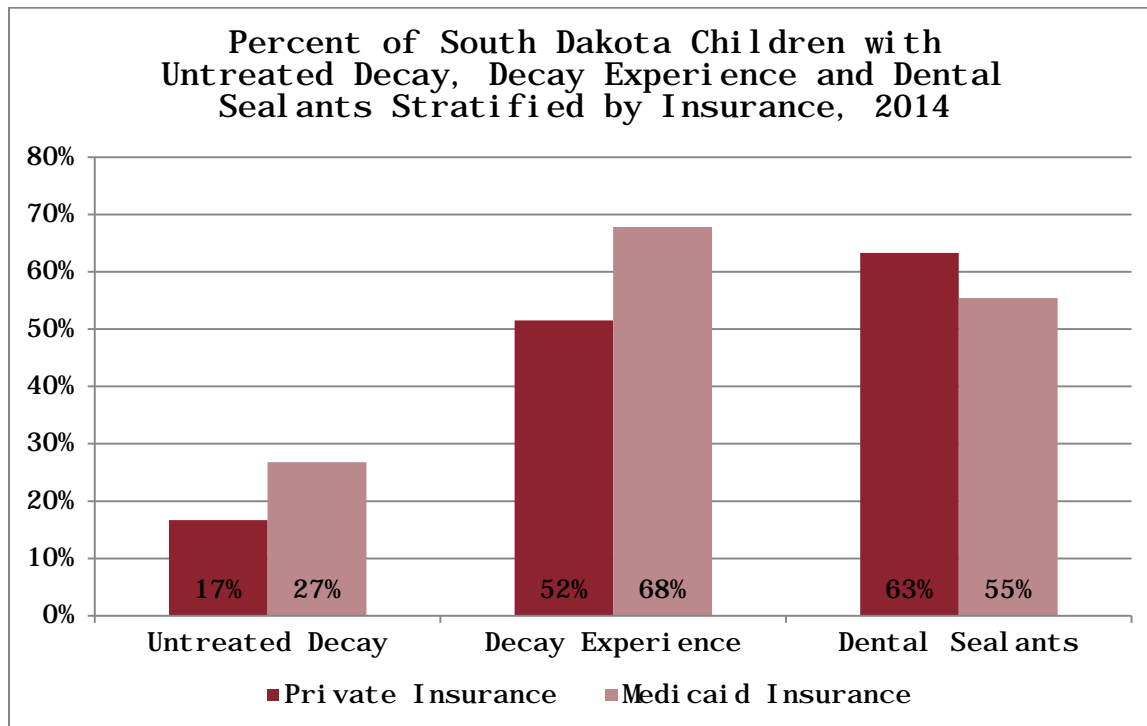
KEY FINDING #5: THERE ARE SIGNIFICANT ORAL HEALTH DISPARITIES IN SOUTH DAKOTA WITH LOW-INCOME CHILDREN, CHILDREN WITH PUBLIC HEALTH INSURANCE AND AMERICAN INDIAN CHILDREN HAVING THE HIGHEST LEVEL OF TOOTH DECAY.



Eligibility for the National School Lunch Program (NSLP) is often used as an indicator of overall socioeconomic status. To be eligible for the NSLP during the 2013–2014 school year, annual family income for a family of four could not exceed \$43,568.⁸ Compared to children not eligible for the NSLP, children that participate in the NSLP had a significantly higher prevalence of untreated decay and decay experience. There was no difference in the prevalence of dental sealants. This suggests that lower income children are getting the benefit of school- or community-based dental sealant programs but are not getting the benefit of early preventive services and are not able to access a dentist or dental clinic for restorative treatment.

THE ORAL HEALTH OF SOUTH DAKOTA'S CHILDREN

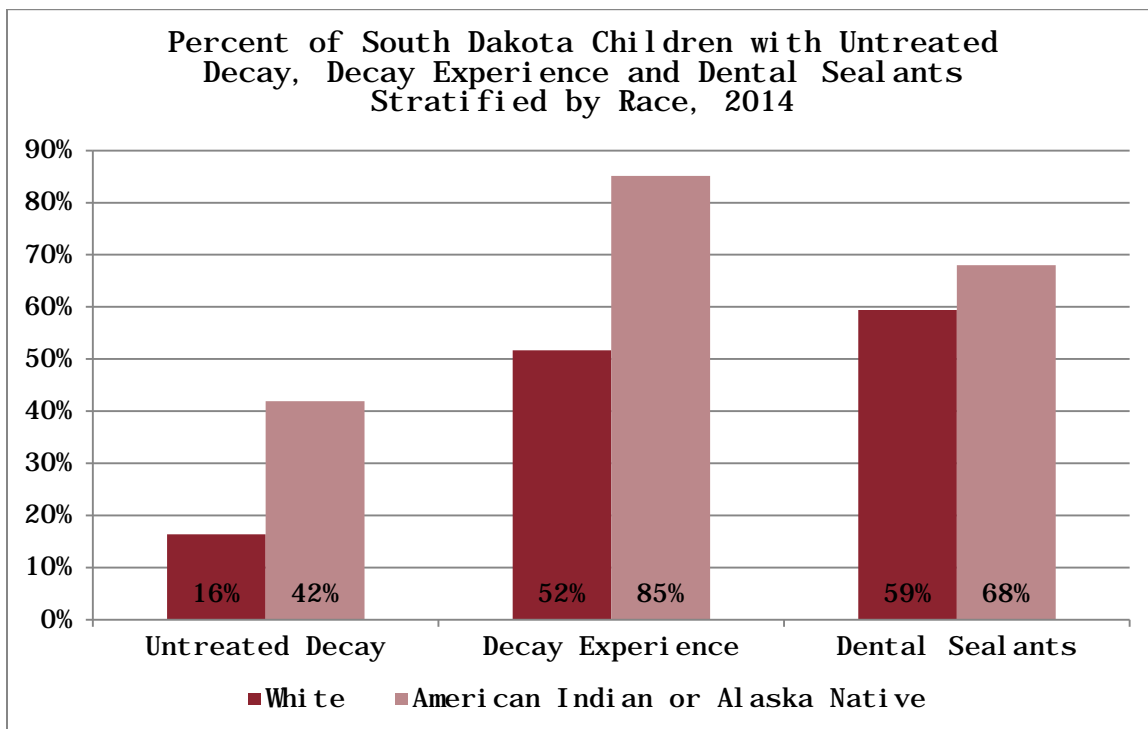
KEY FINDING #5 (CONTINUED): THERE ARE SIGNIFICANT ORAL HEALTH DISPARITIES IN SOUTH DAKOTA WITH LOW-INCOME CHILDREN, CHILDREN WITH PUBLIC HEALTH INSURANCE AND AMERICAN INDIAN CHILDREN HAVING THE HIGHEST LEVEL OF TOOTH DECAY.



Medicaid is a social health care program for families and individuals with low income and resources. It is a means-tested program jointly funded by state and federal governments and managed by the state. As with eligibility for the NSLP, having Medicaid insurance is an indicator of overall socioeconomic status. Children with Medicaid insurance are significantly more likely to have untreated decay and decay experience. Medicaid eligible children had a slightly lower prevalence of dental sealants but the difference was not statistically significant.

THE ORAL HEALTH OF SOUTH DAKOTA'S CHILDREN

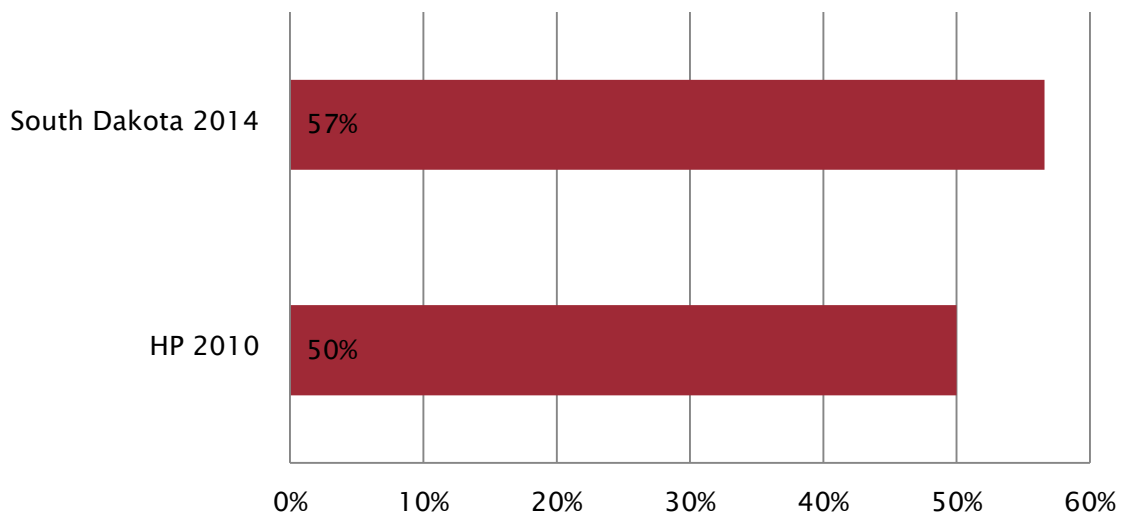
KEY FINDING #5 (CONTINUED): THERE ARE SIGNIFICANT ORAL HEALTH DISPARITIES IN SOUTH DAKOTA WITH LOW-INCOME CHILDREN, CHILDREN WITH PUBLIC HEALTH INSURANCE AND AMERICAN INDIAN CHILDREN HAVING THE HIGHEST LEVEL OF TOOTH DECAY.



According to the U.S. Census, the majority (86%) of South Dakota's population is non-Hispanic white while approximately 9% is American Indian or Alaska Native (AI/AN). Compared to white children, AI/AN children are almost three times more likely to have untreated decay and 1.6 times more likely to have decay experience. There was no difference in the prevalence of dental sealants. This suggests that AI/AN children are getting the benefit of school- or community-based dental sealant programs but are not getting the benefit of early preventive services and are not able to access a dentist or dental clinic for restorative treatment. It should be noted that in South Dakota there is a direct relationship between race and income; 24% of white children are eligible for the NSLP compared to 81% of AI/AN children.

KEY FINDING #6: SOUTH DAKOTA MET THE HEALTHY PEOPLE 2010 OBJECTIVE FOR INCREASING THE PREVALENCE OF DENTAL SEALANTS.

Prevalence of Dental Sealants Among South Dakota's 3rd Grade Children and the HP 2010 Objective for 8 Year Olds



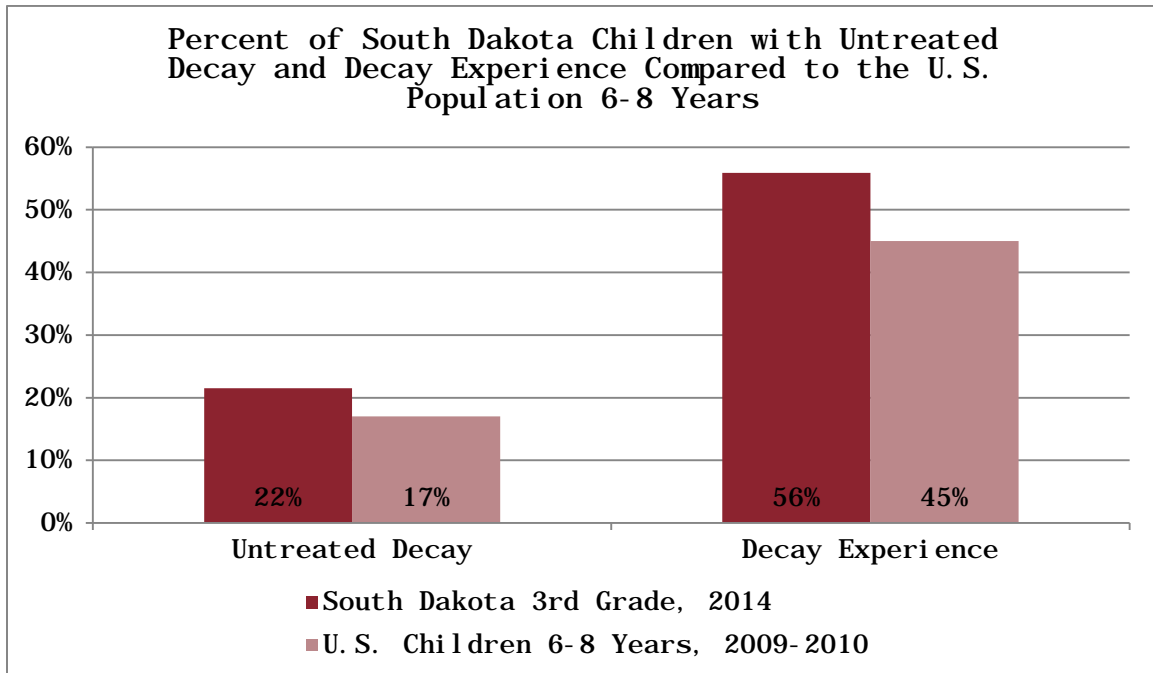
Healthy People 2010 (HP 2010) had one oral health objective that compares directly with South Dakota's oral health survey:

- Increase the proportion of 8 year olds with dental sealants to 50%.

South Dakota met, and slightly exceeded the HP 2010 objective for dental sealants. It should be noted that the HP 2010 objective is for children 8 years of age while most of the South Dakota children screened were either 8 or 9 years of age.

THE ORAL HEALTH OF SOUTH DAKOTA'S CHILDREN

KEY FINDING #7: CHILDREN IN SOUTH DAKOTA HAVE MORE TOOTH DECAY THAN THE GENERAL U.S. POPULATION AGED 6–8 YEARS.



Information on the oral health of children throughout the United States is collected through the National Health and Nutrition Examination Survey (NHANES). Data from NHANES is presented by age group rather than by grade. In 2009–2010, the prevalence of untreated decay and decay experience among the 6–8 year old children examined by NHANES was 17% and 45% respectively.¹⁰ When compared to the 3rd grade children screened by South Dakota, South Dakota’s children have a higher prevalence of tooth decay.

ORAL HEALTH RESOURCES IN SOUTH DAKOTA

South Dakota is in an excellent position to make long lasting and profound improvements in the oral health status of children. Recent initiatives concerning oral health in the state include continued data collection and surveillance, technical assistance and training opportunities, development of a State Oral Health Plan and an active Oral Health Coalition.

Recommendations:

- 1) Target oral health interventions at children with disparities and at high risk of dental disease.
- 2) Oral health interventions should focus on disease prevention.
- 3) South Dakota children should have access to and drink optimally fluoridated water.
- 4) Increase the number of school-based/school-linked dental programs.

The 2014 Oral Health Survey sampled children in third grade. All public, private and Bureau of Indian Education elementary schools with at least four children in third grade were included in the sampling frame (309 schools with about 11,050 third grade students). The sampling frame was stratified by urban or rural status of the county then ordered within the urban/rural strata by the percent of children that participate in the National School Lunch Program (NSLP). A systematic sampling scheme was used to select 40 schools. If a school refused to participate, a replacement school within the same sampling strata was randomly selected. Of the 40 selected schools, 29 participated and 11 opted not to participate. Seven of the 11 schools were replaced while four were not replaced. Data is missing for following four sampling intervals:

- Rural, 27% NSLP (data lost in mail)
- Rural, 34% NSLP
- Rural, 90% NSLP
- Urban, 79% NSLP

Of the 2,219 third grade children enrolled in the 36 participating schools, 1,053 were screened for a response rate of 47%.

Letters were sent home to parents explaining the goals of the survey. Parents were asked to complete a short questionnaire and return a signed consent form. Only those children whose parents returned a positive consent form were screened. Thirty-two volunteer dental professionals completed all of the screenings using head lamps, gloves, and disposable mirrors while following standard precautions for infection control. If necessary, a Q-tip was used to remove excess debris, as well as to check for the presence of dental sealants. The diagnostic criteria outlined in the Association of State and Territorial Dental Director's publication *Basic Screening Surveys: An Approach to Monitoring Community Oral Health* were used.⁹

Microsoft Access was used to enter the data. All statistical analyses were performed using the SAS software complex survey procedures (Version 9.3; SAS Institute Inc., Cary, NC). Sample weights were used to produce population estimates based on selection probabilities and indicating the number of children in the sampling interval each screened child represents.

DATA TABLES

Table 1: Age, gender, race/ethnicity, National School Lunch Program participation, time since last dental visit, and dental insurance coverage for children with a parent questionnaire and/or a dental screening, 2014

Demographic Characteristic	All Children with Data (N=1,280)		Children with Dental Screening (N=1,053)	
	Number of Children	Weighted Percent	Number of Children	Weighted Percent
Age (% of children)				
7 years	1	0.1	0	0.0
8 years	360	31.5	290	31.9
9 years	633	51.1	508	50.4
10 years	22	1.6	16	1.4
Missing/Unknown	264	15.6	239	16.3
Gender (% of children)				
Female	523	43.0	401	41.0
Male	509	42.9	419	43.5
Missing/Unknown	248	14.2	233	15.4
Race/Ethnicity (% of children)				
White	748	64.9	643	67.4
Black	27	1.7	25	1.9
Hispanic	39	2.9	31	2.8
Asian	16	1.7	13	1.7
American Indian	98	7.5	72	7.6
Other Race	11	0.9	10	0.9
Multi-Racial	9	0.7	8	0.8
Unknown/missing	332	19.7	251	16.8
Participates in NSLP (% of children)				
No	621	52.9	521	53.7
Yes	320	26.4	274	28.4
Missing/Unknown	339	20.7	258	17.9
Time since last dental visit (% of children)				
Within last 12 months	796	66.4	654	66.7
1-2 years ago	125	11.6	117	13.3
3 or more years ago	16	1.4	14	1.5
My child has never been to dentist	24	1.8	22	1.9
Unknown/missing	319	18.9	246	16.5
Dental insurance coverage (% of children)				
Private insurance	552	46.1	455	46.2
Medicaid	236	18.5	204	20.1
Indian Health Service	19	1.2	11	1.1
No insurance	109	10.5	95	10.8
Other	29	3.1	28	3.6
Unknown/missing	335	20.5	260	18.2

DATA TABLES

Table 2: Percent of South Dakota’s 3rd graders with **decay experience** (treated and/or untreated decay) by selected characteristics, 2014

Characteristic (number with data)	Percent with decay experience	Lower 95% confidence limit	Upper 95% confidence limit
All Children (n=1,052)*	55.9	49.5	62.4
Gender (% of children)			
Female (n=400)	50.8	43.3	58.4
Male (n=419)	59.2	51.1	67.4
Unknown/missing (n=233)	60.1	36.2	83.9
Race/Ethnicity (% of children)			
White (n=642)	51.7	45.0	58.5
American Indian (n=72)	85.1	76.3	94.0
Other minority (n=87)	58.8	43.2	74.5
Unknown/missing (n=251)	58.0	36.0	80.0
Participates in NSLP (% of children)			
No (n=521)	50.4	43.7	57.1
Yes (n=273)	65.1	57.0	73.2
Unknown/missing (n=258)	57.9	36.8	78.9
Dental visit in last year (% of children)			
Yes (n=653)	54.8	48.3	61.2
No (n=153)	59.5	49.8	69.3
Unknown/missing (n=246)	56.9	34.5	79.2
Dental insurance coverage (% of children)			
Private insurance (n=454)	51.5	44.0	59.0
Medicaid (n=204)	67.8	58.5	77.2
No insurance (n=95)	54.6	40.5	68.7
Other/unknown/missing (n=299)	54.9	36.9	72.9

*Information on decay experience was missing for 1 child.

Decay experience: Refers to having untreated decay or a dental filling, crown, or other type of restorative dental material. Also includes teeth that were extracted because of tooth decay.

Related Healthy People 2020 Objective

OH-1.2: Reduce the proportion of children aged 6–9 years who have dental caries experience in their primary or permanent teeth

- Baseline: 54.4% of children aged 6 to 9 years had dental caries experience in at least one primary or permanent tooth in 1999–2004
- Target: 49.0%

Current National Estimate (NHANES, 1999–2004)¹¹

- 58% of children in 3rd grade had decay experience in 1999–2004

Disparities (highlighted in red, p<0.05)

- In South Dakota, American Indian and low-income children have a higher prevalence of decay experience

DATA TABLES

Table 3: Percent of South Dakota's 3rd graders with **untreated decay** by selected characteristics, 2014

Characteristic (number with data)	Percent with untreated decay	Lower 95% confidence limit	Upper 95% confidence limit
All Children (n=1,053)	21.5	16.3	26.8
Gender (% of children)			
Female (n=401)	19.1	13.9	24.3
Male (n=419)	19.6	14.3	24.8
Unknown/missing (n=233)	33.6	14.1	53.1
Race/Ethnicity (% of children)			
White (n=643)	16.4	12.0	20.7
American Indian (n=72)	41.9	31.7	52.0
Other minority (n=87)	23.7	10.6	36.8
Unknown/missing (n=251)	32.0	13.7	50.3
Participates in NSLP (% of children)			
No (n=521)	16.3	11.7	20.8
Yes (n=274)	25.9	18.6	33.2
Unknown/missing (n=258)	30.4	12.8	48.0
Dental visit in last year (% of children)			
Yes (n=654)	14.6	10.3	18.8
No (n=153)	39.5	31.1	48.0
Unknown/missing (n=246)	31.5	12.9	50.1
Dental insurance coverage (% of children)			
Private insurance (n=455)	16.7	11.4	21.9
Medicaid (n=204)	26.8	18.0	35.7
No insurance (n=95)	20.1	10.6	29.6
Other/unknown/missing (n=299)	27.4	12.5	42.3

Untreated decay: Dental cavities or tooth decay that have not received appropriate treatment

Related Healthy People 2020 Objective

OH-2.2: Reduce the proportion of children aged 6–9 years with untreated dental decay

- Baseline: 28.8% of children aged 6 to 9 years had untreated dental decay in at least one primary or permanent tooth in 1999–2004
- Target: 25.9 %

Current National Estimates (NHANES, 2009–2010 and 1999–2004)^{10, 11}

- 17% of children **aged 6–9 years** had untreated decay in **2009–2010**
- 29% of **3rd grade children** had untreated decay in **1999–2004**

Disparities (highlighted in red, p<0.05)

- In South Dakota, American Indian, low-income children and children that have not been to the dentist in the last year have a higher prevalence of untreated decay.

DATA TABLES

Table 4: Percent of South Dakota’s 3rd graders with dental sealants on their permanent molar teeth by selected characteristics, 2014

Characteristic (number with data)	Percent with dental sealants	Lower 95% confidence limit	Upper 95% confidence limit
All Children (n=1,052)*	56.6	50.6	62.5
Gender (% of children)			
Female (n=401)	56.5	48.8	64.3
Male (n=418)	61.6	55.2	67.9
Unknown/missing (n=233)	42.6	23.5	61.6
Race/Ethnicity (% of children)			
White (n=642)	59.4	52.8	66.0
American Indian (n=72)	68.0	61.8	74.2
Other minority (n=87)	49.3	35.1	63.4
Unknown/missing (n=251)	43.8	25.8	61.8
Participates in NSLP (% of children)			
No (n=520)	59.1	52.7	65.4
Yes (n=274)	60.7	54.4	67.0
Unknown/missing (n=258)	42.6	25.8	59.3
Dental visit in last year (% of children)			
Yes (n=653)	65.2	58.3	72.2
No (n=153)	35.4	26.6	44.3
Unknown/missing (n=246)	43.1	24.9	61.4
Dental insurance coverage (% of children)			
Private insurance (n=454)	63.3	56.2	70.3
Medicaid (n=204)	55.4	46.5	64.2
No insurance (n=95)	55.2	41.8	68.7
Other/unknown/missing (n=299)	44.8	29.8	59.8

*Information on dental sealants was missing for 1 child.

Related Healthy People 2020 Objective

OH-12.2: Increase the proportion of children aged 6 to 9 years who have received dental sealants on one or more of their permanent first molar teeth

- Baseline: 25.5% of children aged 6 to 9 years received dental sealants on one or more of their first permanent molars in 1999–2004
- Target: 28.1 %

Current National Estimates (NHANES, 2009–2010 and 1999–2004)^{10, 11}

- 32% of children aged 6–9 years had dental sealants in 2009–2010
- 33% of 3rd grade children had dental sealants in 1999–2004

Disparities (highlighted in red, p<0.05)

- In South Dakota, children that have not been to the dentist in the last year have a lower prevalence of dental sealants

DATA TABLES

Table 5: Percent of South Dakota's 3rd graders needing early or urgent dental care by selected characteristics, 2014

Characteristic (number with data)	Percent with decay experience	Lower 95% confidence limit	Upper 95% confidence limit
All Children (n=1,052)*	22.9	17.8	28.0
Gender (% of children)			
Female (n=401)	19.7	14.2	25.2
Male (n=418)	22.7	17.5	27.9
Unknown/missing (n=233)	31.9	13.9	49.9
Race/Ethnicity (% of children)			
White (n=642)	18.0	13.2	22.7
American Indian (n=72)	45.7	37.5	53.9
Other minority (n=87)	25.9	11.2	40.5
Unknown/missing (n=251)	30.9	14.1	47.8
Participates in NSLP (% of children)			
No (n=520)	17.6	12.3	23.0
Yes (n=274)	28.7	20.7	36.6
Unknown/missing (n=258)	29.4	13.2	45.7
Dental visit in last year (% of children)			
Yes (n=653)	16.7	11.9	21.5
No (n=153)	40.1	31.4	48.7
Unknown/missing (n=246)	30.4	13.2	47.6
Dental insurance coverage (% of children)			
Private insurance (n=454)	18.5	12.9	24.0
Medicaid (n=204)	29.3	19.5	39.2
No insurance (n=95)	21.9	11.6	32.2
Other/unknown/missing (n=299)	26.6	12.9	40.4

* Information on treatment urgency was missing for 1 child.

Disparities (highlighted in red, p<0.05)

- In South Dakota, American Indian children, low-income children and children that have not been to the dentist in the last year have a higher prevalence of dental treatment needs

DATA TABLES

Table 6: Percent of South Dakota’s 3rd graders needing **urgent** dental care by selected characteristics, 2014

Characteristic (number with data)	Percent with decay experience	Lower 95% confidence limit	Upper 95% confidence limit
All Children (n=1,052)*	4.3	1.8	6.8
Gender (% of children)			
Female (n=401)	3.2	0.0	6.7
Male (n=418)	4.4	1.8	7.1
Unknown/missing (n=233)	6.9	0.0	15.3
Race/Ethnicity (% of children)			
White (n=642)	2.5	0.7	4.3
American Indian (n=72)	16.6	8.4	24.7
Other minority (n=87)	3.5	0.0	8.2
Unknown/missing (n=251)	6.3	0.0	14.1
Participates in NSLP (% of children)			
No (n=520)	3.3	0.8	5.8
Yes (n=274)	5.1	0.4	9.8
Unknown/missing (n=258)	5.9	0.0	13.3
Dental visit in last year (% of children)			
Yes (n=653)	1.8	0.8	2.7
No (n=153)	12.3	3.4	21.1
Unknown/missing (n=246)	6.4	0.0	14.3
Dental insurance coverage (% of children)			
Private insurance (n=454)	3.2	0.8	5.6
Medicaid (n=204)	5.4	0.3	10.6
No insurance (n=95)	1.5	0.0	3.8
Other/unknown/missing (n=299)	6.8	0.4	13.1

* Information on treatment urgency was missing for 1 child.

Urgent dental care: Child had pain or infection at the time of the screening

Disparities (highlighted in red, p<0.05)

- In South Dakota, American Indian children and children that have not been to the dentist in the last year have a higher prevalence of **urgent** dental treatment needs

DATA TABLES

Table 7: Reasons for not visiting the dentist in the last year among children who reported not visiting the dentist in the last year or did not answer the question regarding dental visit (n=484), 2014. **Not adjusted for the complex sampling scheme.**

Reason	Number that Reported Yes
Cost	62
No reason to go (no dental problems)	37
My child is too young to see a dentist	0
I do not have or know a dentist	16
Difficulty in getting appointment	25
Fear, apprehension, pain or dislike going	12
Cannot get to the dental office	12
Other reason	27

Note: Parents could report more than 1 reason

DATA TABLES

Table 8: Prevalence of decay experience, untreated decay and dental sealants among South Dakota's 3rd grade children by school (unadjusted).

SCHOOL	Number Screened	% with Decay Experience	% with Untreated Decay	% with Dental Sealants	NSLP% of School
All City Elementary	11	27.3	0.0	9.1	11
American Horse	26	88.5	57.7	30.8	99
Brandon Valley	57	60.7	17.5	71.4	25
Britton-Hecla	23	65.2	13.0	82.6	38
Dell Rapids Public	24	41.7	20.8	70.8	24
Ethan School	10	20.0	0.0	60.0	30
Explorer Elementary	26	69.2	23.1	57.7	14
General Beadle	86	20.9	20.9	0.0	90
Grandview Elementary	27	59.3	18.5	63.0	40
Harvey Dunn Elementary	35	40.0	2.9	68.6	20
Highmore-Harrold	7	57.1	14.3	57.1	36
Hill City Elementary	5	60.0	20.0	60.0	44
Holy Spirit	26	26.9	3.9	61.5	Not applicable
Horace Mann	7	28.6	0.0	42.9	68
Hot Springs Elementary	28	60.7	21.4	57.1	40
Jefferson	37	67.6	35.1	64.9	17
John Paul II	20	55.0	15.0	65.0	Not applicable
Jolley Elementary	11	27.3	0.0	54.6	44
Kadoka	9	66.7	33.3	55.6	66
Lake Preston	5	60.0	20.0	60.0	46
Laura Wilder	45	51.1	15.6	64.4	58
Laura B Anderson	33	69.7	48.5	45.5	88
Liberty Elementary	30	40.0	10.0	63.3	17
Lincoln	41	75.6	39.0	58.5	23
Little Wound	35	91.4	25.7	65.7	100
Mark Twain Elementary	18	33.3	16.7	33.3	21
Martin Grade	17	88.2	41.2	64.7	75
McKinley	20	85.0	35.0	75.0	58
North Elementary	73	84.9	67.1	71.2	90
OM Tiffany	48	50.0	18.8	56.3	50
Oscar Howe	50	72.0	30.0	68.0	39
Rosa Parks	42	50.0	4.8	54.8	29
South Park Elementary	42	64.3	26.2	52.4	52
Tri-Valley School	23	60.9	34.8	69.6	30
Valley View	27	63.0	11.1	74.1	47
Webster	29	31.0	13.8	27.6	31

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APPENDIX 1 – LETTER TO PARENT



615 East 4th Street | Pierre, SD 57501 P605.773.3737 F605.773.5509

Division of Health and Medical Services
Community Health Services
Disease Prevention
Family Health
Health Promotion
State Epidemiologist

January 29, 2014

Dear Parent or Guardian:

Your child's school has been chosen to participate in the State Health Department's dental health survey project. The purpose of the survey is to learn about & improve the oral health of South Dakota children and to assist in planning future dental health programs. Your child's health information is confidential; no names or identifiers will be used to report the screening data.

With your consent, a dentist will look at your child's teeth to check for and record tooth decay or other dental problems. If dental problems are detected, you will receive a note informing you of the findings. **This is a simple screening, it does not include x-rays nor does it take the place of a regular dental check-up.**

Please read and sign the attached Consent Form. The Parental Consent Form must be returned to the classroom teacher whether or not your child will be taking part in the screening. Please return the form to your child's teacher tomorrow or as soon as possible.

Thank you for considering this opportunity for a free dental screening for your child. If you have any questions about the information in this letter, please contact me at 1-800-738-2301 or email me at julie.ellingson@state.sd.us.

Sincerely,

A handwritten signature in black ink that reads 'Julie Ellingson'.

Oral Health Coordinator
SD Department of Health

APPENDIX 2 – SCREENING FORM

FOR OFFICE USE ONLY

DENTAL SCREENING FORM

Date of Screening _____ / _____ /2014

These four boxes must contain a valid code (either 0, 1, or 2)

Untreated Cavities: <input style="width: 30px; height: 20px;" type="checkbox"/> <div style="margin-left: 100px;"> 0=No untreated decay 1=Untreated decay </div>	Treated Cavities: <input style="width: 30px; height: 20px;" type="checkbox"/> <div style="margin-left: 100px;"> 0=No treated cavities 1=Treated cavities </div>
Sealants on 1st Molars: <input style="width: 30px; height: 20px;" type="checkbox"/> <div style="margin-left: 100px;"> 0=No sealants present 1=Sealants present </div>	Treatment Urgency: <input style="width: 30px; height: 20px;" type="checkbox"/> <div style="margin-left: 100px;"> 0=No obvious problem 1=Early dental care 2=Urgent care </div>

Staple this screening form to the appropriate child's consent form OR fill out the following:

Child's Name: _____ Date of Birth: _____

School's Name: _____

Return these forms (this screening form stapled to the parents consent form) to:

Julie Ellingson
 Oral Health Coordinator
 South Dakota Dept. of Health
 615 East 4th Street
 Pierre, SD 57501

APPENDIX 3 – CONSENT FORM & PARENT QUESTIONNAIRE

South Dakota Department of Health Dental Health Screening Parental Consent Form

Return this form to school as soon as possible.

Only children that return this signed form may participate in the free dental health screening.

Child's Name: _____ Gender: _____ Male _____ Female

Child's Birth Date (Month/Day/Year): _____ Child's Age: _____

Teacher's Name: _____ School's Name: _____

_____ **YES**, I give permission for my child to participate in the South Dakota Department of Health dental screening. I understand that the information is being collected to assist the Department of Health to improve the health of South Dakota children. My child's health information will be confidential, and no names or identifiers will be used to report the screening data.

_____ **NO**, I do not give permission for my child to have a dental screening.

Signature of Parent or Guardian Phone Number Date

Please answer the following questions to help us learn more about children's dental health in our state. If you do not want to answer the questions your child may still participate in the screening.

1. When was your child's most recent dental visit? (Check one)
 Within the last 12 months (skip to #3) 3 or more years ago (go to #2)
 1-2 years ago (go to #2) My child has never been to a dentist (go to #2)
2. What are the main reasons your child has not visited the dentist in the last year? (Check all that apply)
 Cost Difficulty in getting appointment
 No reason to go (no dental problems) Fear, apprehension, pain, or dislike going
 My child is too young to see a dentist Cannot get to the dental office/clinic
 I do not have or know a dentist Other reason: _____
3. Is your child's dental care paid for by: (Check all that apply)
 Cash Private dental insurance
 Medicaid/Medical Assistance Other
 Indian Health Service Don't know
4. Of the following, which best describes your child? (Please check all that apply)
 White Asian
 Black or African American American Indian
 Hispanic Other
5. Does your child receive free or reduced price school lunches? No Yes

THANK YOU FOR PARTICIPATING IN THE SOUTH DAKOTA CHILD DENTAL HEALTH SURVEY.