



Pediatric Oral Health Disparities in North Dakota

This fact sheet is Number 4 in a series of analyses regarding oral health in North Dakota.

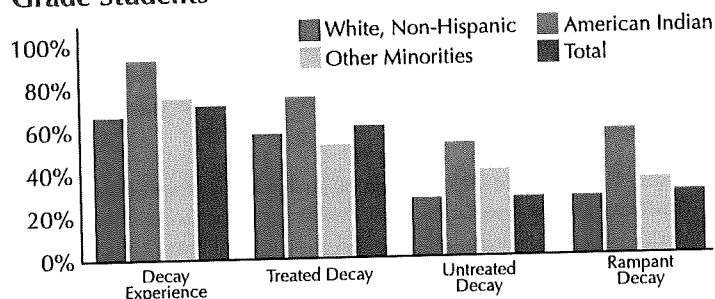
In 2013, North Dakota Medicaid reimbursement rates for child dental services were 63% of private dental benefit plan rates, compared to 49% in the U.S.¹ Though North Dakota has one of the highest pediatric reimbursement rates, adolescents continue to experience poor oral health outcomes. American Indian and low income youth are at the greatest risk of: decay experience; untreated decay; rampant decay; and, need for urgent treatment. Likewise, these populations are less likely to have dental sealants in place to prevent decay, and less likely to have visited a dentist during the past 12 months.

Third Grade Students in North Dakota

In 2015, roughly 73% of all third grade students in North Dakota had experienced decay, though only 28% had untreated decay. The rate of untreated decay was significantly* higher for American Indian (51%), and other minority children (41%) than for their Caucasian peers (24%). Compared to non-Hispanic White children, American Indian, and other minority third graders have:

- Significantly lower rates of dental sealants.
- Significantly higher prevalence of rampant decay.
- Significantly higher need for early or urgent care.

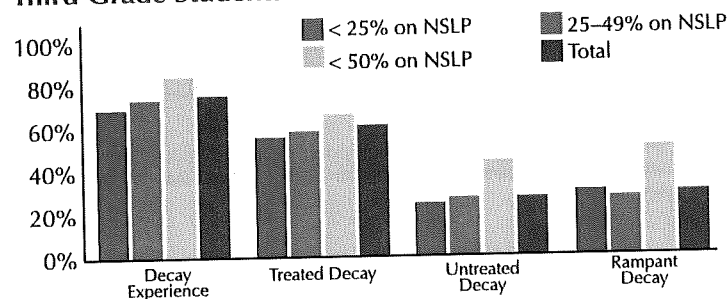
Figure 1. Rate of Tooth Decay by Race: ND Third Grade Students



* All "significant" differences in this report were tested at $p > 0.05$

Likewise, children attending lower income schools (>50% of children eligible for National School Lunch Program (NSLP)) have significantly higher rates of untreated decay, prevalence of rampant decay, and need for early or urgent dental care than students attending higher income schools. See Figure 2. Students attending lower income schools were also less likely to have dental sealants.

Figure 2. Rate of Tooth Decay by NSLP Status: ND Third Grade Students



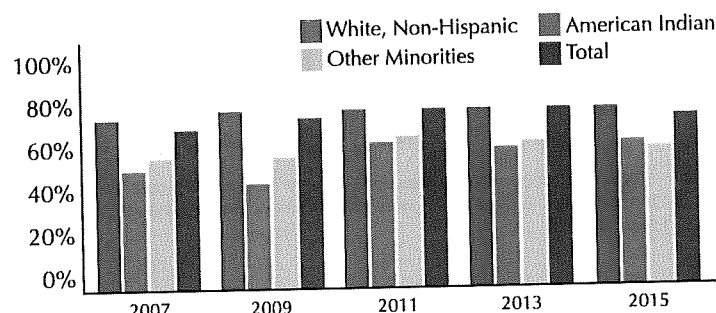
There is very little variation between rural and urban adolescents, and though not statistically significant, rural adolescents have slightly higher rates of rampant decay, untreated decay, and need for treatment.

Several years of data are available through the North Dakota Department of Health. However, comparisons cannot be made because of changes in the survey methodology. Though trends are not presented, it is imperative to note that over time, American Indian, other racial minorities, and lower income students have always reported poorer oral health.

Middle School Students in North Dakota

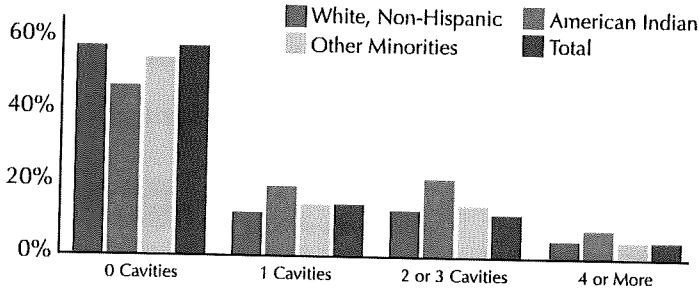
American Indian middle school students are less likely than their non-Hispanic White peers to have visited a dentist during the past 12 months, and more likely to have never been to a dentist. This trend has been consistent for eight years. See Figure 3.

Figure 3. ND Middle School Students with Dental Visit during Past 12 Months by Race: 2007-2015



American Indian and other minority middle school students also report more cavities than their non-Hispanic White peers. See Figure 4. This disparity has presented in the data every year, beginning in 2007.

Figure 4. Number of Cavities among ND Middle School Students by Race*



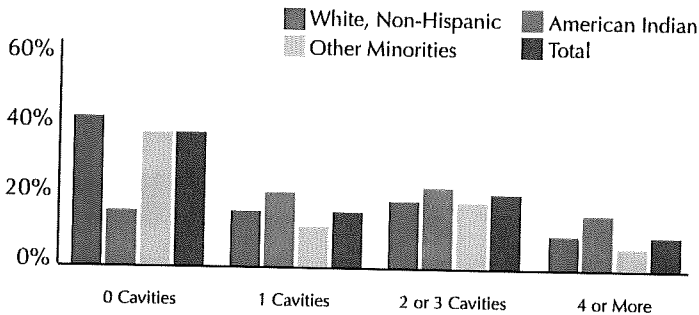
*Totals will not equal 100% because response category "not sure" has been omitted from the Figure; 11% of all middle school students reported "not sure" in 2015.

High School Students in North Dakota

American Indian high school students are also below the state average for the percent of students who have visited a dentist during the past 12 months. However, the percent has been steadily increasing from 2007 (55%) to 2013 (62%). See Figure 5.

The percent of both middle and high school students who have visited a dentist during the past 12 months has been steadily increasing over the last eight years. Likely as a result of these preventative dental visits, and other oral health interventions (dental sealants and fluoride varnish) North Dakota adolescents have also seen an increase in the percentage of youth with no cavities. However, this trend is not evident among American Indian high school students. This population has yet to have more than 23% of individuals be cavity free.

Figure 5. ND High School Student Cavity Rates by Race*



*Totals will not equal 100% because response category "not sure" has been omitted from the Figure; 11% of all middle school students reported "not sure" in 2015.

Conclusions

Tooth decay (cavities) is one of the most common chronic childhood conditions in the United States. Untreated tooth decay can cause pain and infections that may lead to problems with eating, speaking, playing, and learning while also influences other aspects of overall health.² In North Dakota, American Indian, other minority, and low income youth are at the greatest risk of decay and untreated decay. They are also the populations least likely to have visited a dentist during the last 12 months, and less likely to have received fluoride varnish, or dental sealants.

Recommendations

Two effective methods for preventing decay include application of fluoride varnish, and dental sealants. Though a reimbursable service, fluoride varnish is not being applied to even at-risk patients in the primary care setting. See *Fluoride Varnish Application in Primary Care Settings* fact sheet at ruralhealth.und.edu/pdf/fluoride-varnish-application-primary-care.pdf. Primary care providers should take an active role in the prevention or tooth decay among their youngest and most at-risk pediatric patients.

In 2015-16, 3,124 students saw a public health hygienist through the Seal!ND program; 1,495 of those students received dental sealants. If North Dakota's goal is to improve the oral health of its youth, this program requires additional funding, and more significant support and workforce from local dental clinics in order to reach a larger number of students. If resources remain limited, programs and efforts like Seal!ND should focus on providing preventive care to those pediatric populations at high-risk of decay: American Indian; other minority; and, low-income.

Data

Data were provided by the North Dakota Department of Health, taken from the *Basic Screening Survey of Third Grade Children, 2014-2015*. Middle school and high school data were taken from the *Youth Risk Behavior Surveillance System, 2007-2015*.

1. Health Policy Institute. North Dakota's oral health and well-being. American Dental Association. <http://www.ada.org/en/science-research/health-policy-institute/oral-health-and-well-being/North-Dakota-facts>.
2. Centers for Disease Control and Prevention. Children's oral health. http://www.cdc.gov/oralhealth/children_adults/child.htm#1.

For more information, contact

Shawnda Schroeder, PhD
701.777.0787 • shawnda.schroeder@med.und.edu

Center for Rural Health

University of North Dakota School
of Medicine & Health Sciences
1301 North Columbia Road, Stop 9037, Suite E231
Grand Forks, ND 58202-9037

701.777.3848 • ruralhealth.und.edu