



# Oral Health Status & Access in Rural Communities & Proposed Solutions

NOSORH Region E  
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Center *for*  
Rural Health

The University of North Dakota  
School of Medicine & Health Sciences

- Established in 1980, at The University of North Dakota (UND) School of Medicine and Health Sciences in Grand Forks, ND
- One of the country's most experienced state rural health offices
- UND Center of Excellence in Research, Scholarship, and Creative Activity
- Home to seven national programs
- Recipient of the UND Award for Departmental Excellence in Research

## **Focus on**

- Educating and Informing
- Policy
- Research and Evaluation
- Working with Communities
- American Indians
- Health Workforce
- Hospitals and Facilities



# Background & Funding

- Senate Concurrent Resolution no. 4004
  - Continue to study dental services in the state
- Pew Charitable Trusts
  - Year One – Identify needs and stakeholder solutions
  - Year Two – Update need and disseminate findings
- North Dakota Department of Health, Oral Health Program Subcontracts
  - CDC
  - DentaQuest

# Current Resources

- Fact Sheets

- Varnish application in primary care settings
- Oral health policies and procedures in long term care
- Pediatric oral health social determinants
- Pediatric oral health outcomes
- Dental workforce

- Policy Brief

- Oral health services in FQHCs

- Chartbooks

<https://ruralhealth.und.edu/what-we-do/oral-health/publications>

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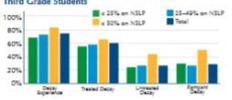
## Fact Sheet

### 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.<sup>1</sup> 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.

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



Category	25% on NSLP	25-49% on NSLP	Total
Untreated Decay	~85%	~75%	~70%
Rampant Decay	~45%	~55%	~50%
Urgent Need	~35%	~45%	~40%

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.

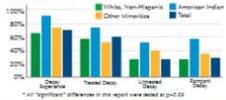
Several years of data are available through the North Dakota Department of Health. However, comparisons cannot be made because of changes in the survey methodology. Though trends are not presented, it is imperative to note that over time, American Indian, other racial minorities, and lower income students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

**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 (31%), and other minority children (31%) 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**



Category	White, Non-Hispanic	Other Minorities	American Indian	Total
Untreated Decay	~75%	~80%	~90%	~78%
Rampant Decay	~40%	~45%	~55%	~45%
Urgent Need	~30%	~35%	~45%	~35%

Likewise, children attending lower income schools (5-59% 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 3. ND Middle School Students with Dental Visit during Past 12 Months by Race: 2007-2015**



Year	White, Non-Hispanic	Other Minorities	American Indian	Total
2007	~65%	~60%	~45%	~60%
2008	~65%	~60%	~45%	~60%
2009	~65%	~60%	~45%	~60%
2010	~65%	~60%	~45%	~60%
2011	~65%	~60%	~45%	~60%
2012	~65%	~60%	~45%	~60%
2013	~65%	~60%	~45%	~60%
2014	~65%	~60%	~45%	~60%
2015	~65%	~60%	~45%	~60%

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# Dentist per 100,000 Population

\* Number of CODA Accredited Dental Schools

	2010	2011	2012	2013	2014	2015
<b>South Dakota</b>	51.7	53.7	52.7	54.1	53.9	53.6
<b>Wyoming</b>	50.2	51.8	53	53	55.3	54.1
<b>North Dakota</b>	53.7	54	54.5	54.5	54.7	55.4
<b>Idaho</b>	58.9	58.5	57.2	57.8	55.5	56.7
<b>Montana</b>	59.7	61.4	61.3	59	59.8	59.9
<b>Utah**</b>	66	65.8	65.8	65.2	63.3	62.9
<b>Oregon*</b>	68.1	68.3	67.8	68.9	68	69.1
<b>Colorado*</b>	67.6	68.1	68.6	68.7	68.9	69.7
<b>Washington*</b>	71.2	71.2	71.3	71	71.5	72.8
<b>Alaska</b>	76.9	76.8	78.1	78.2	79.8	80.9
<b>Total U.S.</b>	74.28	75.80	75.00	76.23	74.89	75.83

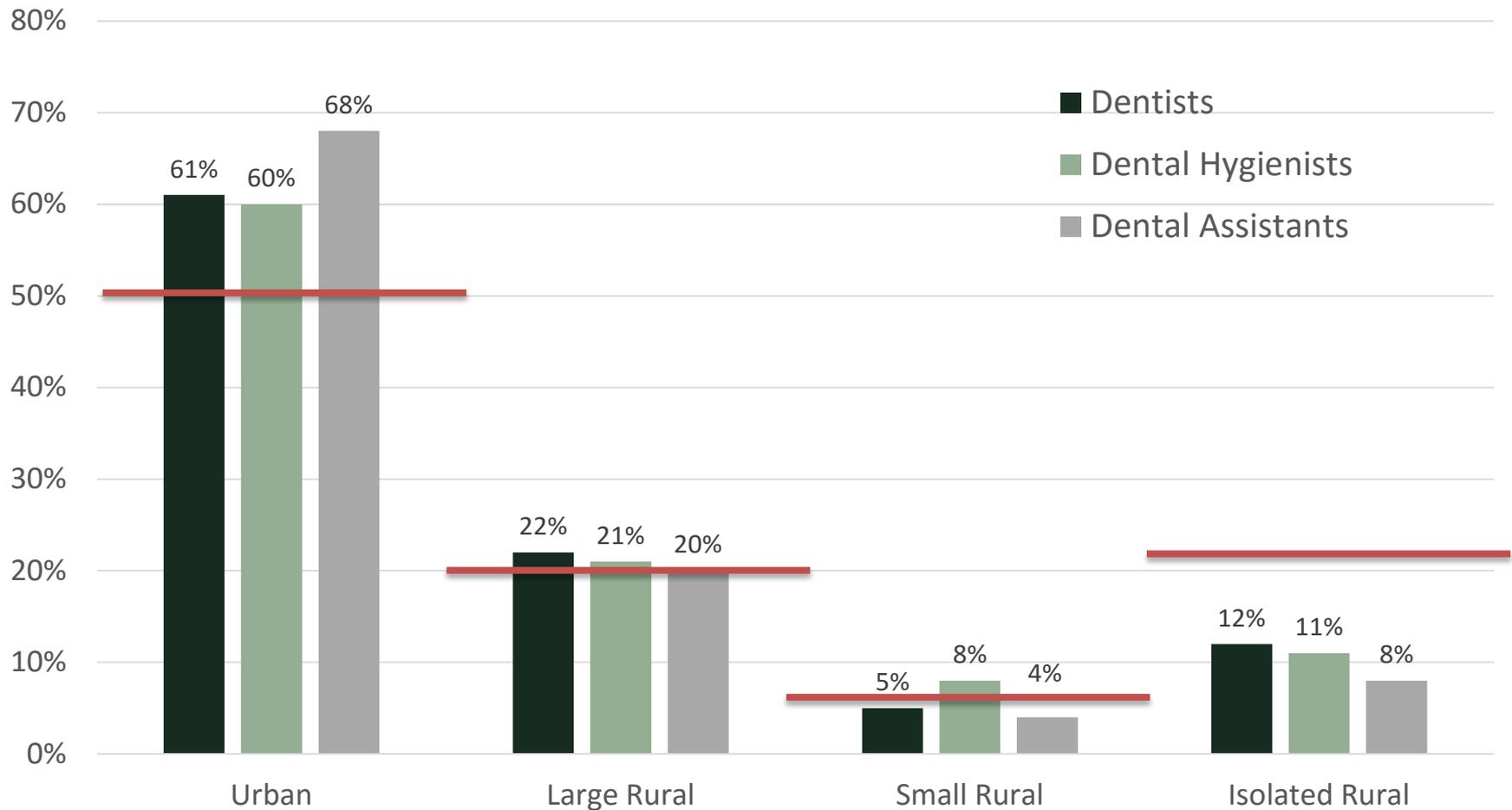


# Dental HPSAs in Region E

	D-HPSA Counties	Total Counties	Percent of D-HPSA Counties
<b>Idaho</b>	42	44	96%
<b>Oregon*</b>	32	36	89%
<b>Washington*</b>	29	39	75%
<b>Utah**</b>	19	29	66%
<b>Colorado*</b>	39	64	61%
<b>Montana</b>	27	56	48%
<b>Alaska</b>	14	29	48%
<b>South Dakota</b>	27	66	41%
<b>Wyoming</b>	8	23	35%
<b>North Dakota</b>	17	53	32%



# North Dakota Dispersion of Oral Health Workforce, 2016



The red line ( - ) indicates the percent of the state population within that geographic category



# Poorer Oral Health Care Access & Status

- Rural
- Elderly
- Medicaid Enrollees
- Low-Income
- American Indian

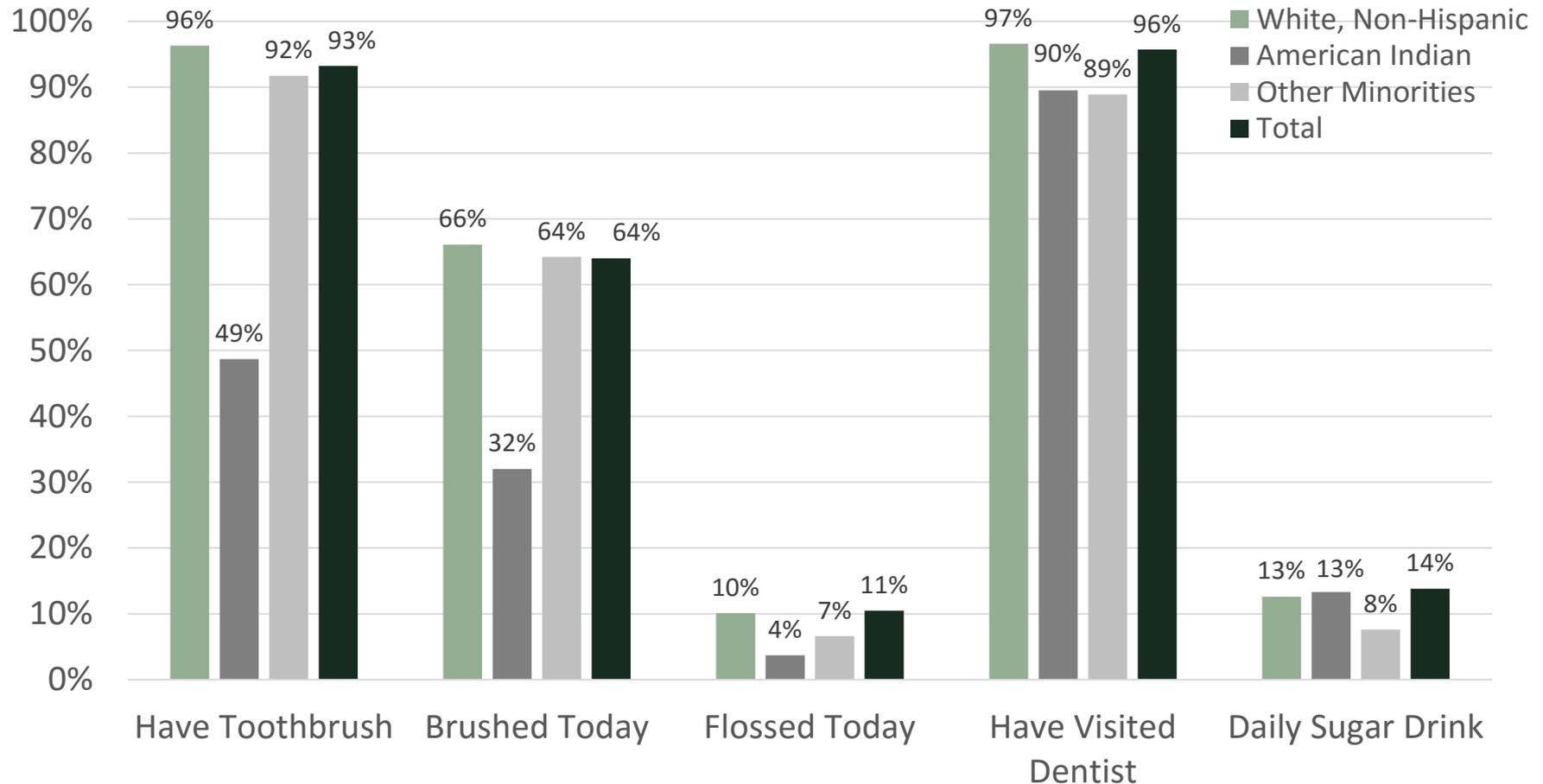


# Oral Health Access for Medicaid Enrollees

- In 2013, 249 dental practices billed for at least one Medicaid patient in the calendar year
  - 65 (26%) of those practices saw more than 100 Medicaid patients
- 58% of Providers seeing Medicaid patients only accounted for 11% of Medicaid patients seen
  - 8% of the dental practices billing Medicaid in 2013 provided care to 52% of the Medicaid enrollees accessing dental services

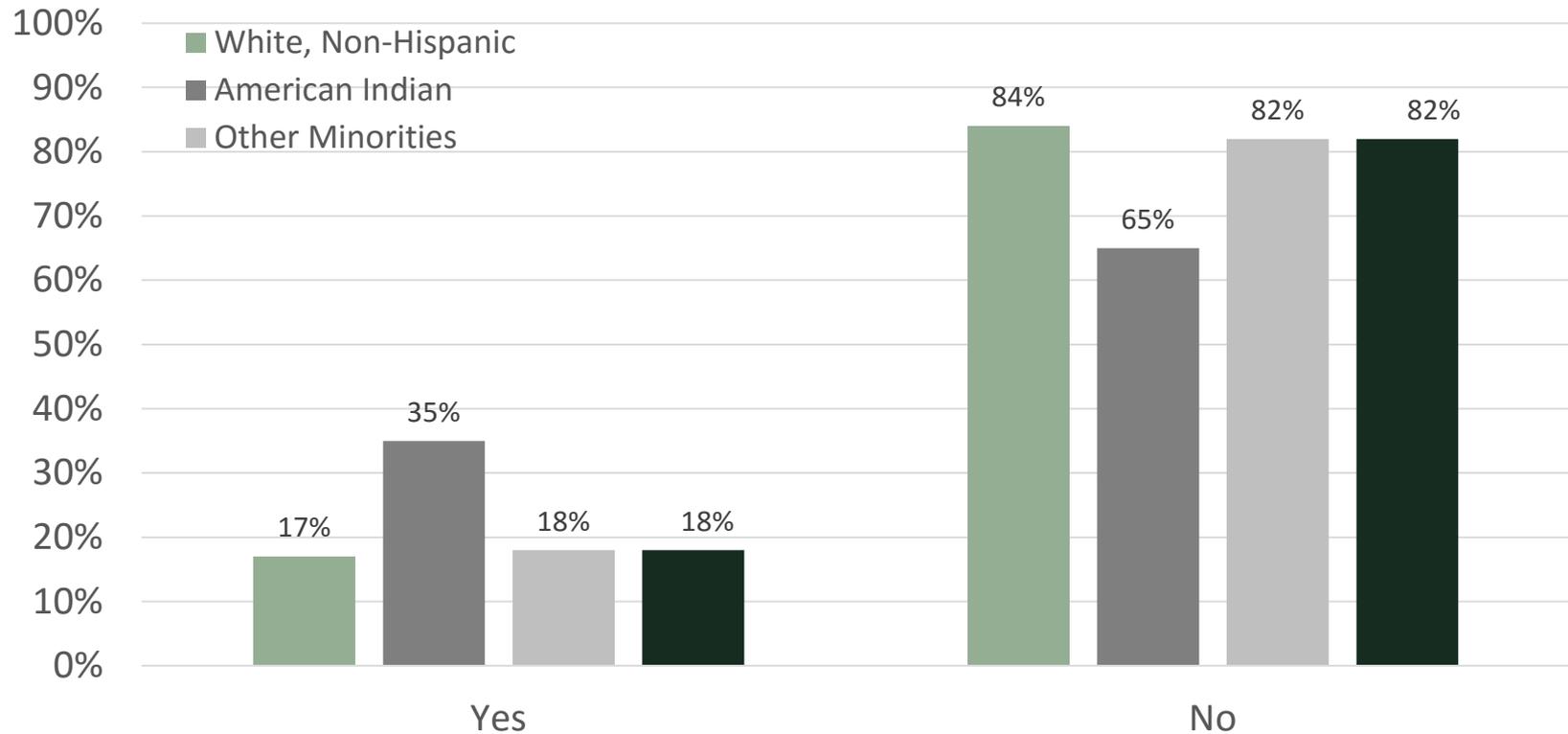
# Pediatric Oral Health: Social Determinants

## North Dakota Third Grade Students by Race



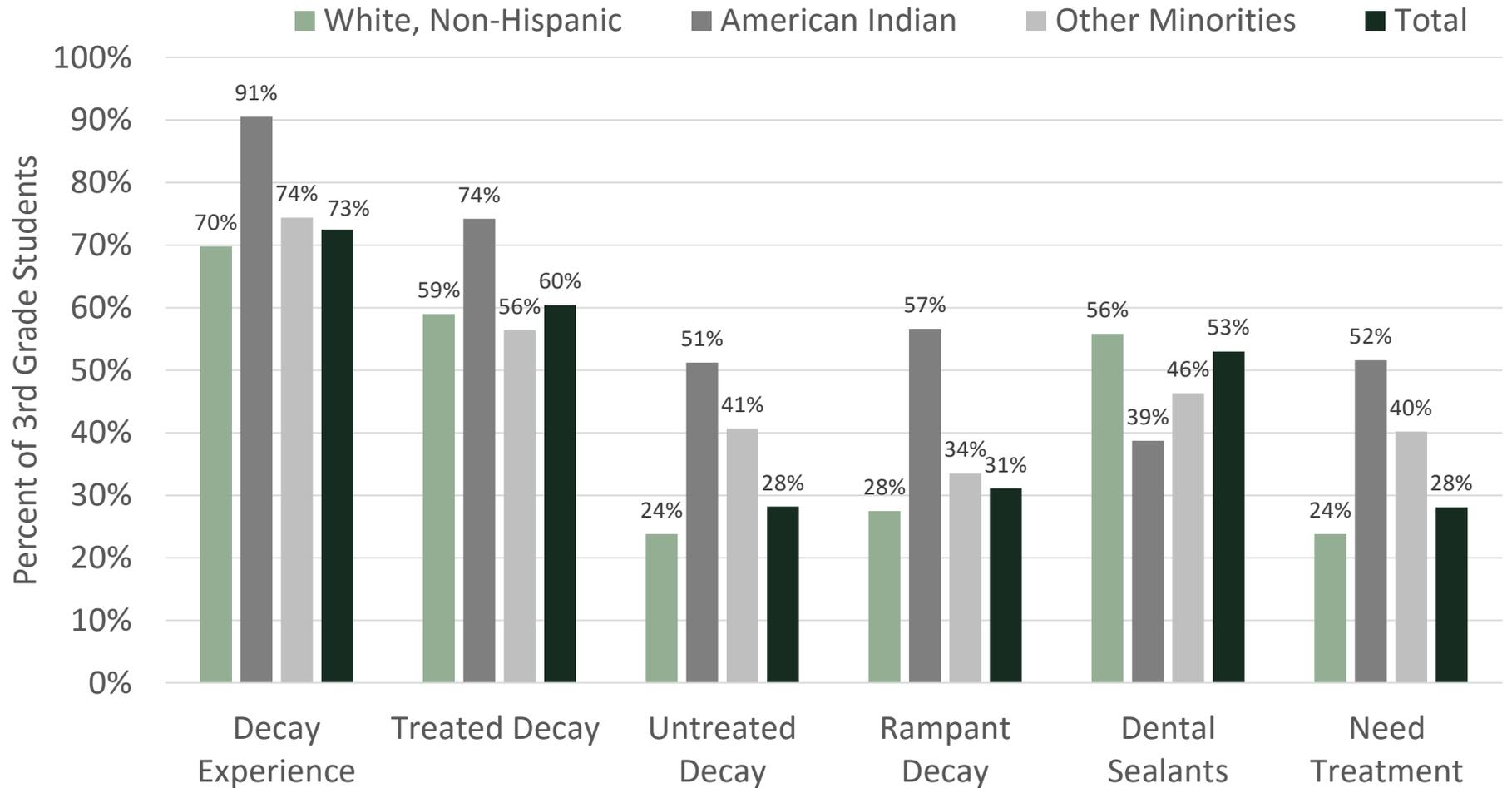
# Pediatric Oral Health: Social Determinants

Percent of ND High School Students Drinking 1 or More cans of Soda/day by Race



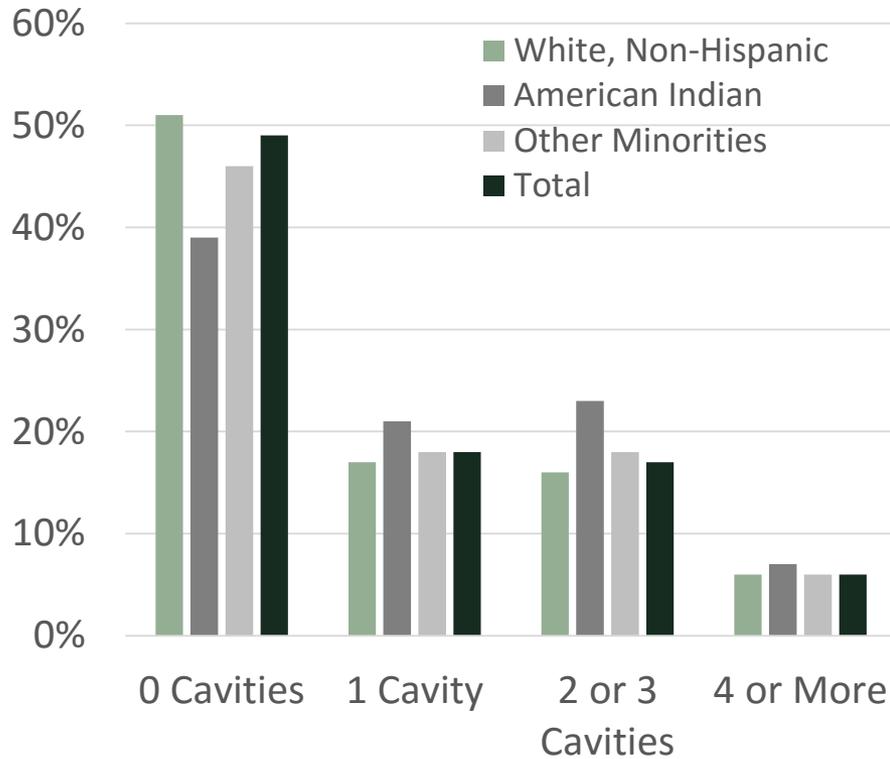
# Pediatric Oral Health Outcomes

# North Dakota Third Grade Students

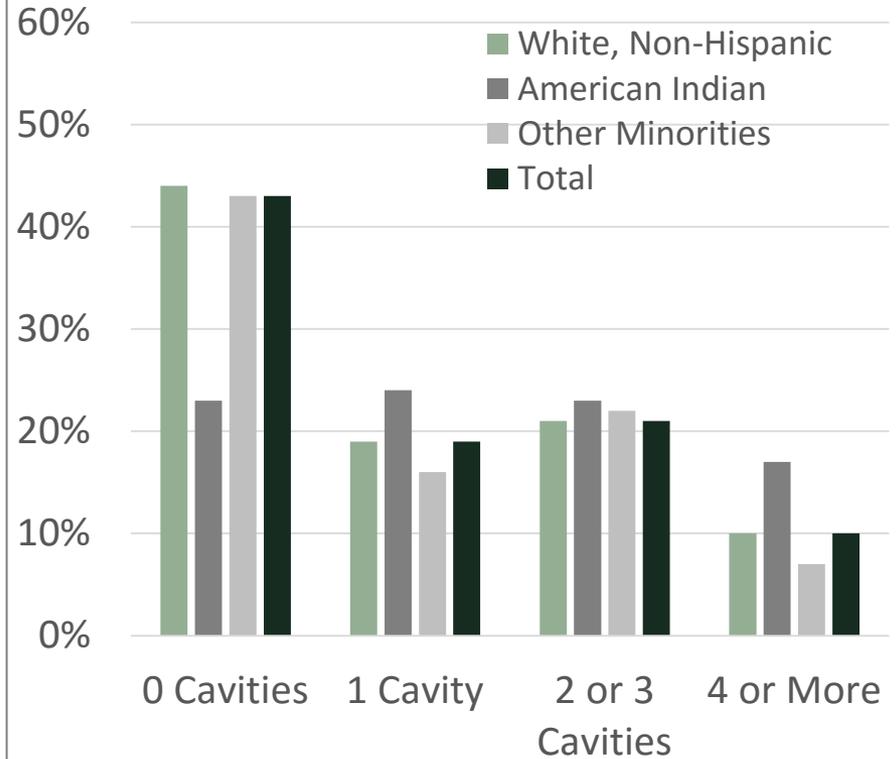


# Number of Cavities by Race

## ND Middle School Students

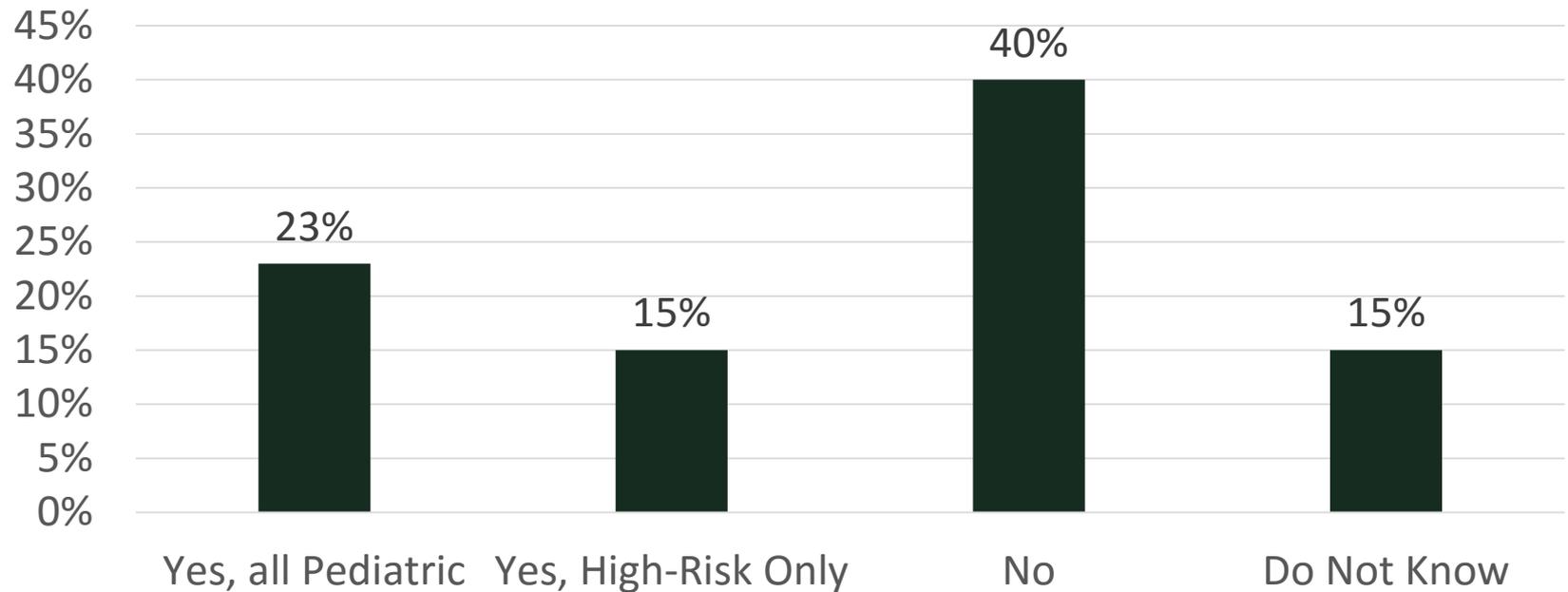


## ND High School Students



# Varnish Application in Clinical Settings

Percent of Practices where Providers Conduct Oral Health Risk Assessments



Conduct Oral Health Risk Assessment in Clinic



# Primary Care Varnish Application

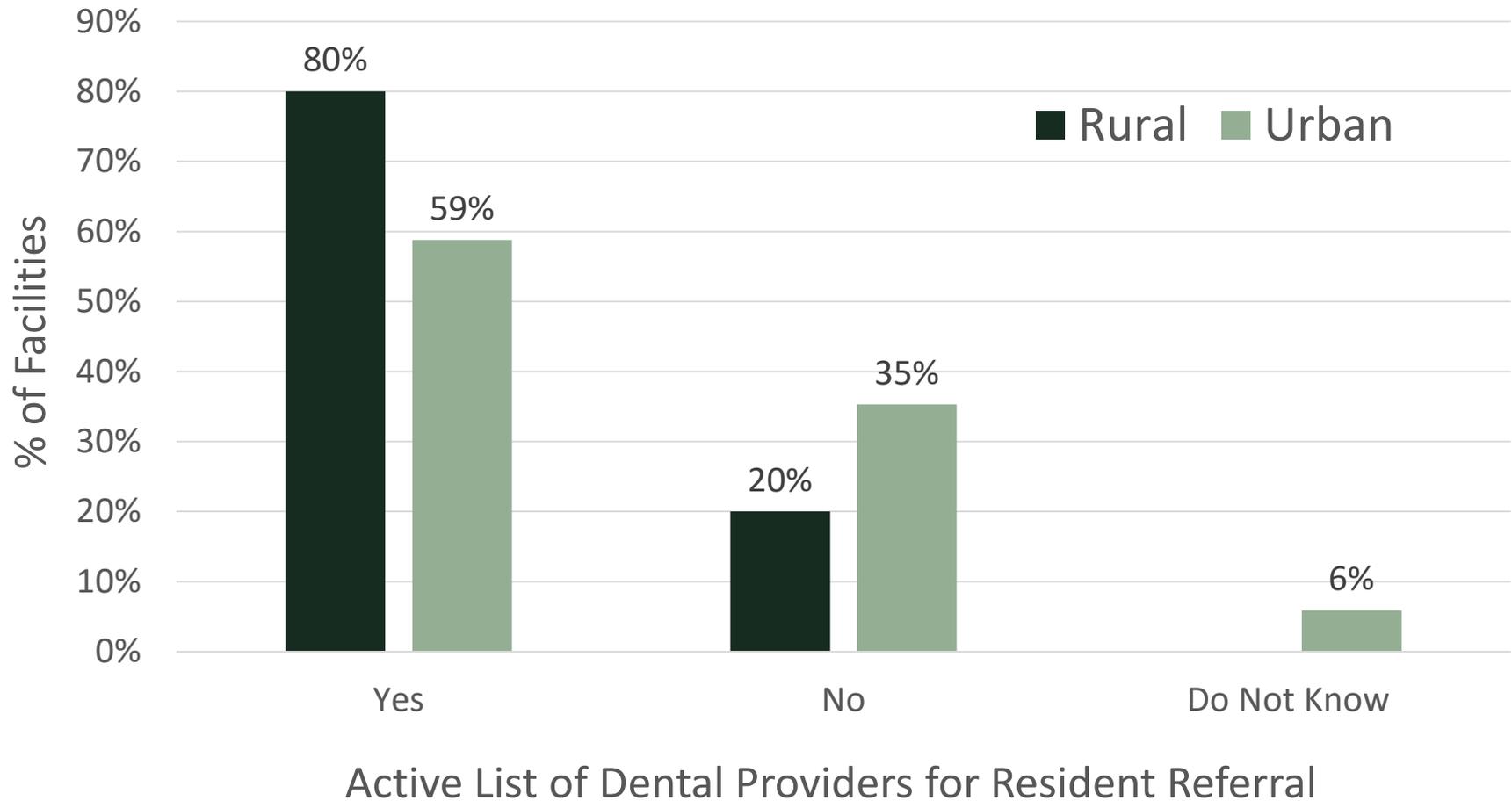
- A majority of pediatricians (60%) and family practice physicians (82%) replied that no one within the clinic provided varnish.
- Only 31% believed that other physicians were aware that it was a reimbursable service.
- 90% of pediatricians and 82% of family practice physicians either agreed or strongly agreed that fluoride varnish was an effective preventative oral health care measure .
- Providers agreed/strongly agreed that well-child visits were an appropriate time for both varnish application (60%) and the oral health risk assessment (86%).
- If required as part of the well-child checklist, many also believed they would be done.

# Long Term Care Oral Health Policies & Procedures

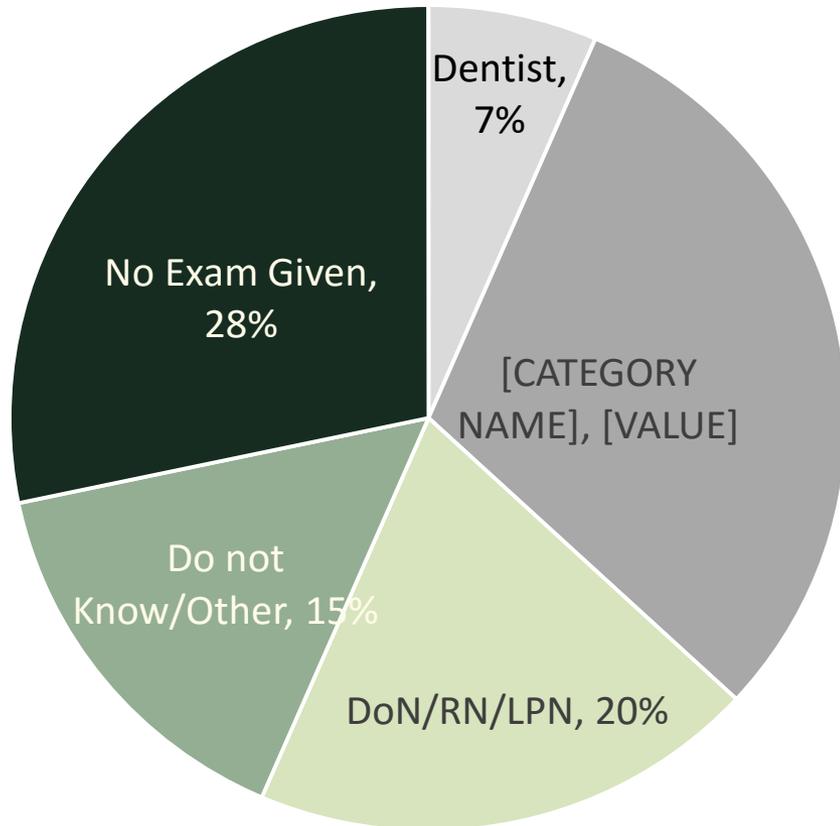
# Rural LTC Facilities Have Better Oral Health System Indicators than Urban

- Rural were more likely to have an oral health provider complete the initial oral health screen for new residents (30%) than urban (18%)
- Rural residents had a shorter wait time to see a dentist for non-emergent dental problems
- Rural were more likely to have an active list of dental professionals for referral
- A greater percentage of rural LTC residents were responsible for their own daily oral health care than urban residents

# Percent of Facilities with List of Dental Providers for Referral by Rural-Urban Status ( $n = 42$ )



# Provider Responsible for Initial Oral Health Exam of New LTC Residents



Oral health was a high or essential priority for 72% of LTC facilities.

However:

- Only 50% had a written plan of care for dental needs
- A dental professional reviewed/assisted with the written plan of care among only 3 facilities
- Only 6% of facilities indicated the initial oral health exam was completed by a dental professional

# Solutions



# Preventative Oral Health Services for Rural Residents

- Sealant programs
- Varnish application and oral health screening in primary care offices
- Public health hygienists
- Mobile oral health care services
- Strong referral networks in rural
- Indirect supervision for dental hygienists for preventative services
- Rural residencies
- Loan repayment programs for rural practice
- Oral health literacy

# North Dakota FQHCs

	ND CHC Population	ND Population
<b>Health Insurance</b>		
Uninsured	34%	9%
Medicaid	23%	9%
Medicare	10%	13%
<b>Race/Ethnicity</b>		
Hispanic	6%	3%
African American	10%	2%
Asian/Pacific Islander	5%	1%
American Indian/Alaska Native	7%	5%
White	73%	89%
<b>Income Status</b>		
≤100% FPL	61%	10%
<200% FPL	91%	24%

CHCs located in rural areas also served 58% of the total CHC patient population in North Dakota



# Loan Repayment Info

- State Loan Repayment Program
- Public Health and Nonprofit Dental Loan Repayment Program administered by the state
- Federal Student Loan Repayment Program (SLRP) administered by the state
- Nonprofit Clinic Dental Access Project, North Dakota Department of Human Services
- Western Interstate Commission for Higher Education(WICHE) Grant
- New Practices Grants (currently unavailable)

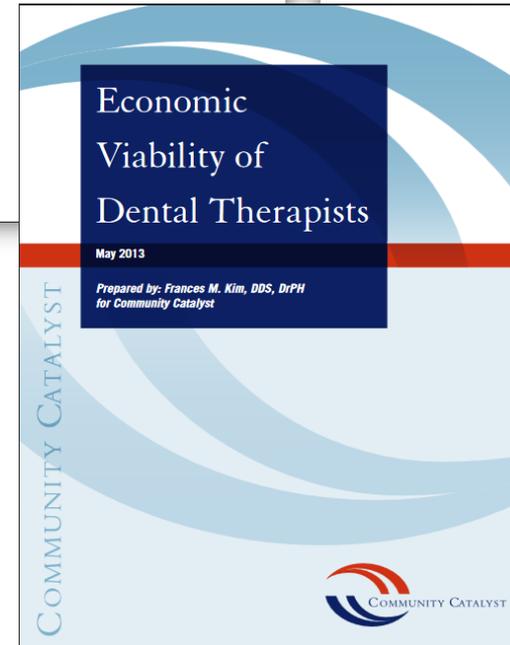
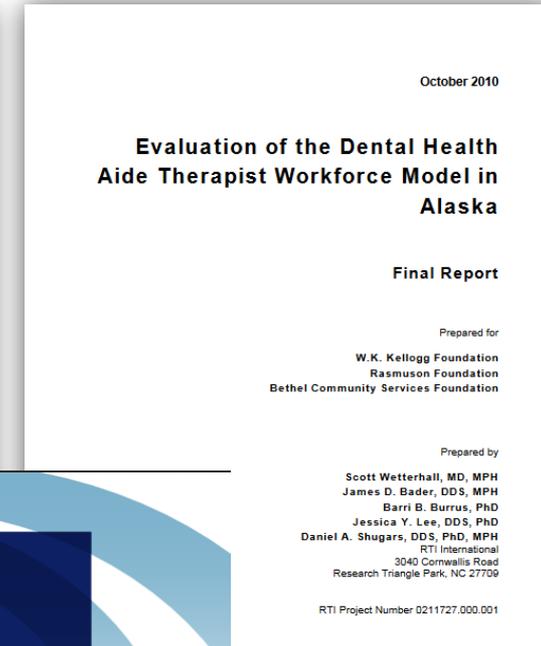
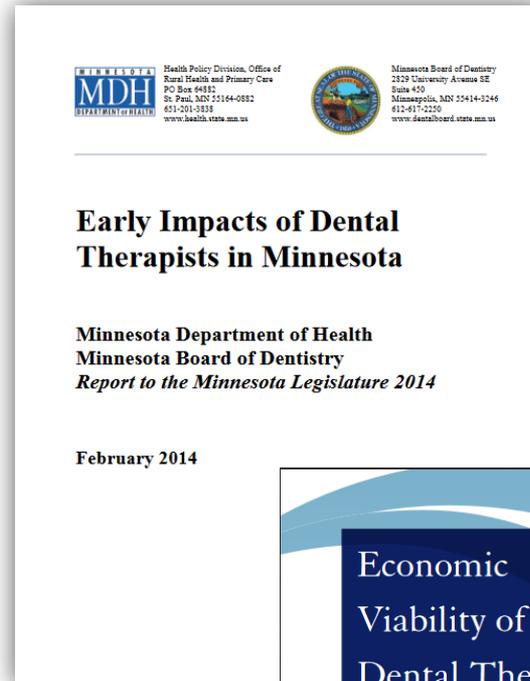


# Other North Dakota Programs

- Ronald McDonald Care Mobile
- State Sealant Program (SealND!)
- Long Term Care Oral Health Program
- Mission of Mercy

# Dental Therapy

- CODA Accreditation
- State Participation
  - Alaska
  - Minnesota
  - Maine
  - Vermont
  - Kansas
  - New Mexico
  - Washington



# Types of New Provider Types

- Dental Health Aide Therapist (DHATs)
- Advanced Dental Therapist
- Dental Therapists

*How do we incentivize practice in rural communities?*



## Contact us for more information!

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