

North Dakota Department of Health Oral Health Program

Notice of Funding Opportunity DP18-1810
Year Three Evaluation Report

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Dakota

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UND SCHOOL OF MEDICINE
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UNIVERSITY OF NORTH DAKOTA

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ACRONYMS & ABBREVIATIONS

AFS	American Fluoridation Society
AI/AN	American Indian/Alaska Native
ASTDD	Association of State and Territorial Dental Directors
BSS	Basic Screening Survey
CDC	Centers for Disease Control and Prevention
CE	Continuing Education
CRH	Center for Rural Health
CSTE	Council of State and Territorial Epidemiologists
CWF	Community Water Fluoridation
CWS	Community Water Systems
DEQ	Department of Environment Quality
DWP	Drinking Water Program
EARWF	Environmental and Administrative Recommendations for Water Fluoridation
FLO	Fluoridation Learning Online
FQHC	Federally Qualified Health Center
MOU	Memorandum of Understanding
MS	Master of Science
NACDD	National Association of Chronic Disease Directors
NDDoH	North Dakota Department of Health
NDDHS	North Dakota Department of Human Services
NDOHSS	North Dakota Oral Health Surveillance System
NDSCS	North Dakota State College of Science
NOFO	Notice of Funding Opportunity
OHP	Oral Health Program
OHSS	Oral Health Surveillance System
PCO	Primary Care Office
PHH	Public Health Hygienist
PI	Principal Investigator
PRAMS	Pregnancy Risk Assessment Monitoring Survey
RMCM	Ronald McDonald Care Mobile
SEAL!ND	Name of the North Dakota School-based dental sealant program
SMHS	School of Medicine & Health Science
WFRS	Water Fluoridation Reporting System

EXECUTIVE SUMMARY

The Mission of the North Dakota Department of Health (NDDoH) Oral Health Program (OHP) is to improve the oral health of all North Dakotans through prevention and education. Funding from the Centers for Disease Control and Prevention (CDC), State Actions to Improve Oral Health Outcomes enables the OHP to implement oral health promotion and prevention activities that address targeted need within the state. Component one of the grant addresses oral health disparities by both maintaining the existing public health capacity among the OHP, and identifying, implementing, evaluating, and disseminating best practices for oral health promotion and disease prevention among vulnerable populations.

Key Program Components & Strategies

The OHP proposed to use the CDC funding (component one) to support:

1. Reach of SEAL!ND (the school-based dental sealant program).
2. Community water fluoridation (CWF).
3. Statewide oral health surveillance.

Evaluation Methods & Analysis

The evaluation was conducted, under a subcontract with the OHP, by staff and faculty at the [Center for Rural Health](#)^a (CRH) and the [University of North Dakota School of Medicine & Health Sciences \(UND SMHS\)](#).^b All of the evaluation activities were submitted to, and approved by, the [University of North Dakota Institutional Review Board](#).^c

To measure reach of the school-based dental sealant program (SEAL!ND), the evaluation team surveyed participating schools in years one and two, interviewed OHP team members, and reviewed student data collected at the time of the dental screening. During the COVID-19 pandemic, the team also tracked educational resources and dental hygiene kits distributed to schools. To assess the efficacy of CWF activities, the evaluation team interviewed OHP staff members, reviewed policies and training on CWF, and developed evaluation tools to assess any training on the topic of water fluoridation. To assess the data surveillance plan, the evaluation team reviewed data collection procedures, interviewed OHP staff and leadership, and reviewed all dissemination materials utilized to share oral health data.

Evaluation Purpose & Dissemination Plan

The evaluation activities were intended to inform the granting agency (CDC) of the progress made and any noted barriers experienced by the OHP in working to achieve the goals set forth. However, the evaluation team also agreed to develop additional products to meet the needs of diverse audiences. For example, the evaluation team has developed a comprehensive SEAL!ND report that includes progress made utilizing funds from this award, and others. This report is updated annually and is [available online](#).^d Evaluation occurs in real-time, also providing the OHP and evaluation team the opportunity to discuss any needed work plan adjustments. Real-time results of the evaluation assist the team as they prepare future grant activities.

Key Findings

SEAL!ND

Under this funding, the OHP continues to administer SEAL!ND specifically among schools that “qualify” for series; that is, those with 45% or greater of their students enrolled in the free and reduced-fee school lunch program. However, additional funding sources support SEAL!ND efforts in additional schools that do not qualify for services (non-qualifying schools).

- School-based sealant programs took place in 30 schools throughout North Dakota in 2020-2021. Of those 30 schools, 21 of them qualified for services and nine did not.
- Among the nine non-qualifying schools, four private practice dental teams screened 326 children, placed 632 dental sealants, and referred 122 children (37%) for follow-up care.
- Among the 21 qualifying schools who were served by either the PHH or private practice:
 - 564 students received services.
 - 88% of the students screened reported a previous visit with a dental professional.
 - 97% of students received fluoride varnish at the first visit.
 - At the first visit, 605 teeth received a sealant or were resealed.
 - Between the fall (2020) and spring (2021) visits, the 564 students received 845 total applications of fluoride varnish.
 - At the time of the sealant program, 51% of students already had at least one dental sealant that had previously been placed by a dental professional outside of SEAL!ND.
- The OHP Prevention Coordinator and other team members assembled and distributed 47,778 tooth brush kits to 188 schools in North Dakota.

Community Water Fluoridation

At the time of reporting (data from calendar year 2020), 682,229 people were receiving fluoridated water in North Dakota, or roughly 96.5% of the state population was being served by public water systems receiving optimally fluoridated water (0.7 mg/L).

Oral Health Surveillance

In grant year three (2021) the team completely transformed the North Dakota Oral Health Surveillance System (NDOHSS). The new electronic oral health data monitoring system provides data in several formats and by geographic group.

Plans Developed

- Surveillance Plan [May 2021]
- Communication Plan [July 2021]
- Sustainability Plan [August 2021]

Additional Activities

The OHP participated in three other activities in this grant year that were, at least partially, supported through CDC funds. These activities included:

- Hosting a Statewide Engagement Meeting (StEM) on the topic of oral health.
- Hosting an Oral Health in Primary Care TeleECHO™ Clinic.
- Mailing of toothbrush kits to schools.

Recommendations

SEAL!ND

- Work with private providers to assess their knowledge, interest, and willingness to participate in school-based sealant programs.
- Maintain partnership with the Ronald McDonald Care mobile to determine future interest in school-based sealant programs.
- Work to create consistent data collection between provider groups.
- Fill the vacant position of the PHH.
- Promote the school-based sealant program among parents, schools, and dental providers.

Community Water Fluoridation

- Continue to train water operators and assess need for equipment.
- Continue to train on proper use of water testing equipment.
- Begin work with tribal communities to identify water quality and to implement training and education campaigns around safe drinking water.

Oral Health Surveillance

Update reports annually and implement a strong dissemination campaign.

Additional Activities

The OHP participated in three other activities in this grant year that were, at least partially, supported through CDC funds. These activities included:

- Statewide Engagement Meeting (StEM): The OHP should review the plan and implement outlined programs and goals.
- Oral Health in Primary Care TeleECHO™ Clinic. It is recommended that the OHP work to heavily promote the available clinics and consider future ECHOs that will look to train dental professionals on their role in overall patient health (to include diabetes management, blood pressure screening, and mental health and substance use disorder referrals).
- Mailing of toothbrush kits to schools. It is recommended that the OHP consider the feasibility of continuing to provide this to at least those schools that qualify for services.

PROGRAM DESCRIPTION

The mission of the [NDDoH](#)^e is to “improve the length and quality of life for all North Dakotans.” The NDDoH is committed to: excellence in providing services to the citizens of North Dakota; credibility in providing accurate information and appropriate services; respect for our employees, our coworkers, our stakeholders and the public; creativity in developing solutions to address our strategic initiatives; and, efficiency and effectiveness in achieving strategic outcomes.^f The [OHP](#)^g is situated within the Healthy and Safe Communities branch under the [Division of Health Promotion](#).^h See Appendix A for the organizational chart.

The mission of the OHP is “to improve the oral health of all North Dakotans through prevention and education.” The OHP has a primary goal of preventing and reducing oral disease by:

- Promoting the use of innovative and cost-effective approaches for oral health promotion and disease prevention.
- Fostering community and statewide partnerships to promote oral health and improve access to dental care.
- Increasing awareness of the importance of preventive oral health care.
- Identifying and reducing oral health disparities among specific population groups.
- Facilitating the transfer of new research into practice.

Funding from the CDC, State Actions to Improve Oral Health Outcomes enables the OHP to implement additional oral health promotion and prevention activities.

Key Program Components & Strategies

The OHP utilized CDC funding (component one) to support:

1. Reach of SEAL!ND (the school-based dental sealant program).
2. Community water fluoridation (CWF).
3. Statewide oral health surveillance.

Though not specific programs, three other deliverables that were completed in year three as required under the CDC award include the development of the:

- Surveillance Plan [completed May 2021]
- Communication Plan [completed July 2021]
- Sustainability Plan [completed August 2021]

School-Based Dental Sealant Program

The OHP has an established [school-based dental sealant program](#)ⁱ (SEAL!ND) which has been providing fluoride varnish and dental sealants to students throughout North Dakota since 2012. Under this funding, the OHP continues to administer SEAL!ND specifically among schools with 45% or greater of their students enrolled in the free and reduced-fee school lunch program. At the time of the initial CDC award, the SEAL!ND program was offered in 29 of 136 eligible schools primarily located in rural areas. The goal has been to expand the number of participating schools by 5% annually.

The OHP Prevention Coordinator identifies eligible schools utilizing data from the [North Dakota Department of Public Instruction](#).^j The coordinator then provides educational materials to school administrators, staff, and parents on the benefits of dental sealants and inviting participation in the program. Oral health services provided in participating schools include dental screenings, fluoride varnish application, sealant application, oral health education, and dental referral. This is completed by either the PHH employed by the OHP and supervised by one private practice dentist or by dental team members who have partnered with the OHP.

Although this particular CDC grant funds dental services provided only in qualifying schools, the program has established sustainability by coordinating SEAL!ND throughout the state. The OHP Prevention Coordinator coordinates SEAL!ND by providing oversight, scheduling, materials, and manuals for both schools and dental teams alike. In the most recent school year, the Prevention Coordinator assisted in implementing SEAL!ND in nine additional schools that did not qualify for services under this grant.

Community Water Fluoridation

The North Dakota water fluoridation program began in the 1950s and roughly 96.5% of the state population that are on public water systems receive optimally fluoridated water (0.7 mg/L), thereby exceeding the Healthy People 2020 objective of 79.6%. To maintain this success, the OHP has a Memorandum of Understanding (MOU) with the [Drinking Water Program \(DWP\)](#),^k which is located within the Department of Environmental Quality (DEQ), [Division of Municipal Facilities](#).^l The MOU ensures the OHP has access to information, reports, and expertise regarding the state's water fluoridation program and that the Fluoridation Coordinator is part of the task force that addresses fluoridation issues, concerns, and challenges. The Coordinator oversees the program and compiles and maintains a list of all fluoridated water systems in the state along with a list of all consecutive systems that purchase water from fluoridated water systems. Dollars have also been allocated to the American Fluoridation Society (AFS) to assist in developing educational materials, provide local training, and explore opportunities to increase access to optimally fluoridated water in tribal communities.

Statewide Oral Health Surveillance

The purpose of the statewide oral health surveillance system is to develop and execute a detailed plan for data collection, analyses, and dissemination. These activities include tracking the recommended core indicators, as identified by the [Council of State and Territorial Epidemiologists \(CSTE\)](#).^m Additionally, the OHP conducted an oral health basic screening survey (BSS) among kindergarteners in 2018-2019 and will conduct another among third grade students during the 2021-2022 school year in accordance with [Association of State and Territorial Dental Directors \(ASTDD\) guidelines](#).ⁿ The [North Dakota Oral Health Surveillance System](#)^o (NDOHSS) has also included a new indicator (dental care utilization during pregnancy) collected and analyzed by the [North Dakota Pregnancy Risk Assessment Monitoring System](#)^p (PRAMS). Additionally, the OHP is working collaboratively with North Dakota [Medicaid](#),^q the [Board of Dental Examiners](#),^r the Primary Care Office (PCO), and the CRH to collect dental

provider workforce data. In year three, the data surveillance activities included developing an entirely new website that provides free access to all of the data available in North Dakota on overall oral health, and dental care access and utilization. A year four product will include the *Oral Health in North Dakota Burden of Disease and Plan for the Future*, to be published in 2022. This product had been a year two goal, but time was reprioritized in response to the global health pandemic and the new data surveillance webpage.

Communication Plan

The purpose of the Communication Plan is to identify outreach and dissemination strategies that are necessary to share oral health information with the public, stakeholders, providers, and decision makers. The Communication Plan was submitted to the CDC in July 2021 and details communication methods for sharing oral health education, culturally responsive education, resources for providers, and reports on program activities. The plan will be reviewed on an ongoing basis.

Surveillance Plan

The purpose of the NDOHSS is to develop and execute a detailed plan for consistent data collection, analyses, and data dissemination. The NDOHSS is comprised of indicators to address federal recommendations, epidemiological inquiries, data requests, and to guide program and policy development. The state dental director, together with key partners, continue to identify gaps in data needs and data collection. As the NDOHSS has continued to mature, the data collection efforts have expanded to include policy development, surveillance, and evaluation. As of 2020, the NDOHSS contained over 30 indicators that are to be routinely updated.

The OHP seeks, collaborates, and coordinates opportunities to collect oral health data through the integration of existing surveys already conducted by state agencies and other organizations. Many partnerships have been established to leverage resources in data collection. The primary objective of the NDOHSS is to provide actionable data to inform public health programs and policy decisions. These data are only useful if they are tracked overtime, tracked consistently, and reported publicly. The Surveillance Plan, submitted May 2021, outlines all data currently collected as part of the NDOHSS, indicates when the data are updated, and clarifies who is responsible for maintaining the virtual access to the NDOHSS for the public. The plan also details partners, data sources, and dissemination strategies.

Sustainability Plan

Sustainability is imperative for the success and reach of SEAL!ND. Sustainability is a complex and dynamic process. The OHP defines sustainability as the capacity to carry on with SEAL!ND services even if a major source of funding is no longer available. This includes not only identifying additional funding mechanisms, but also identifying and working with partners who are already providing said services. Those involved with the development of the sustainability plan included both internal and external stakeholders and partners. Internal partners included

the NDDoH State Office of Epidemiologist, Department of Public Instruction (DPI), and the North Dakota Medicaid office. External partners included schools that participate in the SEAL!ND program, partnership organizations with shared goals such as the North Dakota Dental Foundation, collaborating private dental practices and Federally Qualified Health Centers (FQHCs), Ronald McDonald Care Mobile (RMCM) staff, and faculty from the North Dakota State College of Science (NDSCS). The sustainability plan was submitted August 2021.

Additional Activities in Year Three

The OHP participated in three other activities in this grant year that were, at least partially, supported through CDC funds. These activities included:

- Hosting a Statewide Engagement Meeting (SteM) on the topic of oral health.
- Hosting an Oral Health in Primary Care TeleECHO™ Clinic.
- Mailing of toothbrush kits to schools.

Data Limitations: Findings Impacted by Global Health Pandemic

In March 2020, schools, businesses, dental offices, and dental clinics closed throughout the state of North Dakota in response to the global health pandemic (COVID-19). These closures impacted dental service provision and the work of this grant. The findings presented in this report do not all reflect twelve months of service provision, though they do report all care provided in the twelve-month grant cycle. When necessary, specific dates and time frames are outlined, as are any adjustments that were made in response to the pandemic.

EVALUATION & STAKEHOLDER ENGAGEMENT

The year three evaluation of component one as described above was conducted under the leadership of Dr. Schroeder with UND SMHS under a subcontract with the OHP. The principal investigator (PI) of the evaluation ([Dr. Shawnda Schroeder](#)),⁵ has been working collaboratively with the OHP and other oral health stakeholders for several years. Key stakeholders, including but not limited to, the PHH, all OHP program staff, water fluoridation leads, state epidemiologists, and the SEAL!ND Prevention Coordinator, have all been consulted in the development of the evaluation plan and discussion around data collection strategies. In addition, the OHP team along with the evaluation team, have developed evaluation dissemination strategies to include utilizing fact sheets, data reports, webinars, and both national and state conferences to share the results of the program and its associated evaluation. Key stakeholders both within the OHP and those receiving services as a result of this funding have participated in surveys, focus groups, and/or individual interviews to better inform the evaluation. As of August 23, 2021, Dr. Schroeder no longer works at the CRH at the UND SMHS. She now works at the UND SMHS in the Department of Indigenous Health. The evaluation work will continue under Dr. Schroeder and her team.

Purpose of Evaluation

The evaluation is intended to firstly inform the granting agency (CDC) of the progress made and noted barriers experienced by the OHP. Evaluation also occurs in real-time, providing the OHP and evaluation team the opportunity to discuss any needed work plan adjustments. Real-time results assist in annual proposal review and submission, and development of future grant activities.

Evaluation Methods & Analysis

The evaluation was conducted, under a subcontract with the OHP, by staff and faculty at the UND SMHS. The UND SMHS has faculty and staff with extensive experience in program planning and evaluation for local, county, state, federal, and international programs. They evaluate services on behalf of foundations, state government agencies, and a variety of federal agencies. The evaluators have a wide network of contacts involved in rural health research across the country, as well as connections with key organizations and agencies within North Dakota. The PI of this evaluation was a Research Associate Professor at the CRH and is now faculty in the Department of Indigenous Health. She has conducted several statewide evaluations, and has been working in oral health research within North Dakota for over five years. The evaluation team worked closely with the OHP to develop the assessment tools, and to identify a timeline as well as team roles. All of the following evaluation activities were submitted to, and approved by, the [University of North Dakota Institutional Review Board](#).^c Specific evaluation details are outlined under the respective program goals.

SCHOOL-BASED DENTAL SEALANT PROGRAM

During the onset of the COVID-19 pandemic (March 2020), fewer providers were offering school-based services, and the program experienced loss of direct contact with some schools as districts moved to remote learning. In response to the loss of direct services, the OHP dedicated time and resources to the dissemination of toothbrush kits. The kits contained a toothbrush, travel size tube of toothpaste, and floss. Educators were provided with a short 2.5-4 minute video that could be played in the classroom when the bags were handed out, and/or could be shared with parents electronically.

Evaluation & Stakeholder Engagement

Process Evaluation

Process evaluation activities sought to answer these questions:

- Is SEAL!ND reaching the intended audience?
- Is there effective collaboration in SEAL!ND?
- What are significant changes that have been made to the program or workflow?
- What are barriers and challenges to achieving target outcomes?
 - a. How can those barriers and challenges be overcome?

Outcome Evaluation

Outcome evaluation activities include review of student data provided by the participating schools and the PHH and survey data. These activities sought to answer the following questions:

- How many schools meet the eligibility criteria of 45% or more of students that participate in the free and reduced-fee lunch program?
- How many students were screened?
- How many/what percent of students received sealants?
- How many/what percent of students had untreated decay?
- How many/what percent of students were referred for treatment?
- How many/what percent of cavities were averted by placement of sealants?
- What was the avoided cost from cavity prevention?
- What percent of schools are satisfied with the program?
- What are the most common tools utilized among schools to reach parents?
- What are the most common barriers among schools participating in the program?

School Survey

In year two (2019-2020), the CRH evaluation team sent electronic surveys, developed with the OHP, to administrators or non-certified staff at every school participating in SEAL!ND, whether services were provided under this grant or by outside providers. The survey was designed to gauge the schools' experience with both SEAL!ND and dental providers, and to obtain data regarding challenges and barriers. This survey was not conducted in year three because many schools were fluctuating between in-person and remote learning in response to the pandemic. The responses would not have reflected the service provision nor the work of the OHP.

Student (Patient) Data

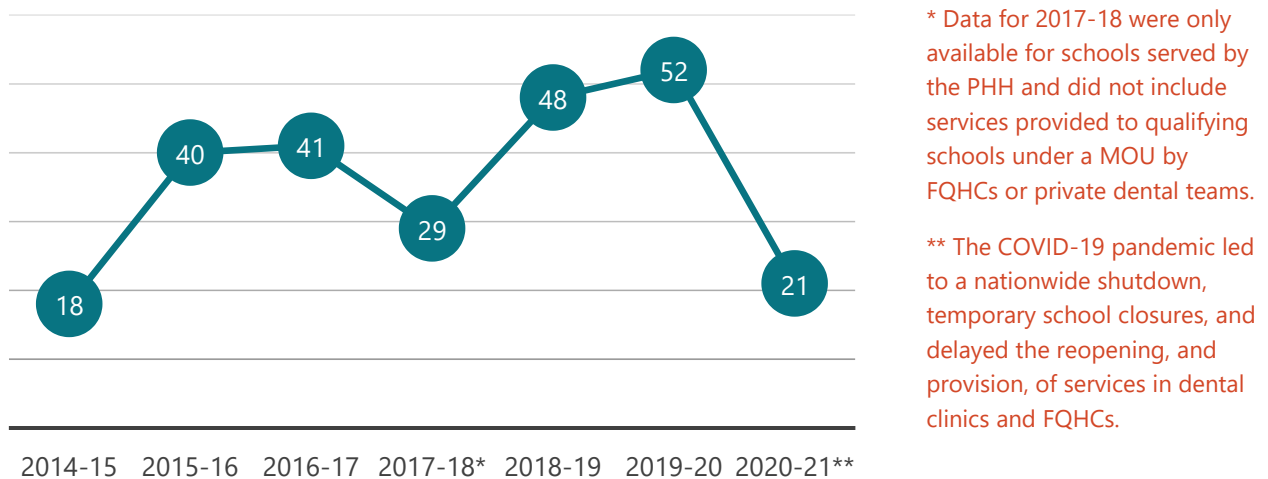
Site data for all students are compiled by the PHH employed under this grant, and by additional FQHCs and private providers with signed MOUs through the OHP. The data provide performance measures to calculate and demonstrate program outcomes. The data collected are analyzed by the program evaluators using methods that follow CDC-approved guidelines. Data collection methods employed by the PHH are consistent, however, the systems employed by partnering providers and those offering schools-based services on their own do not all collect the same patient data. These specifications are outlined in the presentation of the findings.

Findings

In the first year of tracked services (2014-15), the PHH employed by the OHP (supervised by one independent private practice dentist employed with the NDDoH) was responsible for 100% of SEAL!ND services. During the 2015-16 school year, the RMCM and FQHCs began offering school-based care and accounted for roughly 24% and 16% of services respectively. The following school year, private practice began participating in SEAL!ND and accounted for 14% of sealant programs. This illustrates growth and sustainability, bringing in dental partners and providers to offer care in school settings.

Although the CDC funds cover only those dental services provided in qualifying schools, the program has established sustainability by coordinating SEAL!ND activities throughout the state. The Prevention Coordinator provides oversight, scheduling, materials, and manuals for both schools and dental teams alike. During the 2019-2020 school year, 84 schools participated in SEAL!ND; however, only 52 “qualified” for services (reporting at least 45% of their students enrolled in the free and reduced-fee school lunch program). Prior to the 2020-2021 school year in which the COVID-19 pandemic delayed or stopped service delivery, the number of schools that qualified for, and received, services from the OHP had increased annually and greater than the 5% goal. See Figure 1 and note that the drop in services is a reflection of the pandemic: fewer schools were being held in-person learning, and there were fewer dental providers offering services.

Figure 1. Number of Qualifying Schools Participating in SEAL!ND, by Year



Clinical Reach

School-based sealant programs took place in 30 schools throughout North Dakota in 2020-2021. Of those 30 schools, 21 qualified for services and nine did not. The nine schools that did not qualify for SEAL!ND were served by four private practice dental providers in the state.

Among the nine non-qualifying schools, there were:

- 326 children who were seen by a dental professional.
- 449 total applications of fluoride varnish.
- 632 dental sealants placed.
- 122 children (37%) who were referred for follow-up dental care.

Among the 21 qualifying schools, 18 were served by the PHH and three were served by private practice. No non-qualifying schools were served by FQHCs or the RMCM in year three. The PHH employed by the OHP reported providing care for 468 students across the 18 schools served. The private practice providers visited three schools and reported a total of 96 students reached. Private practice dental offices had to close as part of the national shutdown, and slowly began to reopen. When dental offices re-opened, COVID mitigation activities slowed patient care, and reduced the number of patients that an office could see in a single day. Due to patient backlogs and risk mitigation requirements, many private practice dental offices who had participated in SEALIND in years prior did not participate during the 2020-2021 school year. See Table 1.

Table 1. Number of Schools in North Dakota with a School-Based Dental Sealant Program by Provider and School Year (Qualifying and Non-Qualifying Schools)

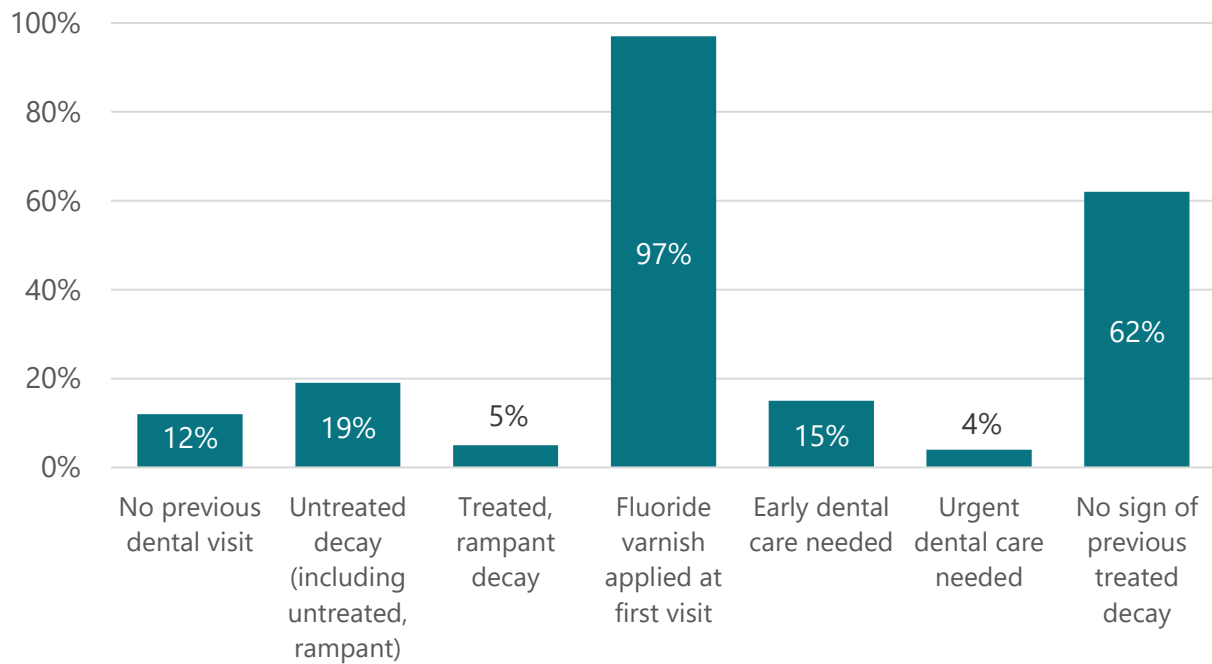
		School Year	14-15	15-16	16-17	17-18	18-19	19-20	20-21
SEALIND	Private practice providers		0	0	12	49	32	37	12
	Community Health Centers*		0	8	13	17	17	24	0
	OHP PHH		18	32	41	29	30	19	18
Ronald McDonald Care Mobile			0	12	24	18	18	20	0
TOTAL Schools			18	52	90	113	97	100	30

* This total includes FQHCs and tribal health services provided by Spirit Lake Health Center

Among the 21 Q schools served by either the PHH or private practice:

- 564 students received services.
- 88% of the students screened reported a previous visit with a dental professional.
- 97% of students received fluoride varnish at the first visit.
- At the first visit, 605 teeth received a sealant or were resealed.
- Between the fall (2020) and spring (2021), the 564 students received 845 total applications of fluoride varnish.
- 51% of students had already had a dental sealant placed by a dental team member prior to the school-based sealant program.

Figure 2. Percentage of Students Needing Treatment and Receiving Dental Services, 2020-21 School Year (n = 564)



There is concern in comparing annual data because of workflow and data management changes that have been made to ease reporting and improve data collection. One of the goals of the program includes working with private practice providers who collect data in other systems to ensure consistency between the PHH and those private practice providers. Additionally, in years prior, the dental providers would do a second visit and apply additional dental sealants as needed, but these visits were not able to be held consistently or in all participating schools.

Cost Savings

It was estimated that SEAL!ND sponsored by the OHP prevented decay in 423 permanent molars in 2014-15. Stated another way, in 2018-19 for every 3.6 molars sealed, one cavity was prevented. The ratio of molars sealed per cavities prevented was similar in 2015-16 (3.6) and 2017-18 (3.9) and lower in 2014-15 (2.2) and 2016-17 (2.5). The average cost to fill a typical cavity was based on North Dakota Medicaid private practice reimbursement rates. As of July 1, 2020, the private practice reimbursement rate for one surface amalgam was \$79.05.^v Previous years' reports were completed by an external evaluation team and data and methodologies are not available.

The OHP and the evaluation team continue to work with the CDC leads on how to calculate cost savings. There is a question as to whether to use the reimbursement rate for the one surface amalgam (as requested by CDC in cost calculations) or to use the rate for a one surface composite filling as amalgam are not very common in North Dakota dental offices.

Toothbrush Kits and Education Dissemination

During the 2020-2021 school year, the OHP Prevention Coordinator and other team members assembled and distributed 47,778 toothbrush kits to 188 schools in North Dakota. The hygiene bags contained a toothbrush, travel size tube of toothpaste, and floss. Educators were provided with two short video links. The first link was to be shared with school teachers and staff as an [informational thank-you video](#).^w This video was roughly 1.5 minutes.

The second link provided by [My Kid's Dentist](#)^x (roughly 3.5 minutes) offered an animated video about [why we brush our teeth](#).^y This was intended as a resource for the students. Educators were encouraged to share this video in class while handing out the hygiene kits and were also encouraged to share with families electronically. In addition to the above, the Prevention Coordinator spoke at the Healthy School Summit on August 4, 2021 on the reach and impact of SEALIND. See image. See Appendix B for samples of thank you notes received.

Recommendations

SEALIND has had great success in the third year of programming, even recognizing the impact of the global shut-down and the ongoing public health crisis (COVID-19). In addition to continuing school-based dental services, the OHP has strengthened their evaluation plan, developed a sustainability plan, submitted and implemented a communication plan, and began a training program to better communicate the importance of oral health among all other physical health providers. This training series specifically addressed dental sealants, their efficacy, and the importance of oral health education beginning at birth.

Unfortunately, in response to the COVID-19 pandemic, one of the partners in the state previously providing school-based services has halted all school-based care "indefinitely" and is focused now solely on community care. The RMCM does hope to provide care again in school settings but is currently limited by cost, time, increased community demand, and lack of ample providers/resources. The OHP should continue to communicate and work with the RMCM team to explore future opportunities to return to the school setting.

Private practice providers once partnering with the OHP to provide school-based dental services in either qualifying or non-qualifying schools have reduced or eliminated their school-based outreach in response to growing demand for in-clinic care following the shut-down. It is recommended that the OHP continue to work and communicate with private practice providers to identify those who may be willing to again (or for the first time) provide care in school-based settings. An additional recommendation is that the OHP consider assessing interest, knowledge, and capacity of private practice providers to participate in their own school-based sealant program. This survey could simultaneously promote school-based dental services while identifying barriers for private practice in offering these services. The full sealant report will provide additional data, figures, and tables.

COMMUNITY WATER FLUORIDATION

The water fluoridation program began in the 1950s and roughly 96.5% of the state population that are on public water systems receive optimally fluoridated water (0.7 mg/L), thereby exceeding the Healthy People 2020 objective of 79.6%. To maintain this success, the OHP has a signed MOU with the [DWP](#)^k which is located within the DEQ, [Division of Municipal Facilities](#).^l The MOU ensures the OHP has access to information, reports, and expertise regarding the state's water fluoridation program and that the Fluoridation Coordinator is part of the task force that addresses fluoridation issues, concerns, and challenges.

Evaluation & Stakeholder Engagement

Process Evaluation

Process evaluation activities sought to answer these questions:

- What are the challenges in sustaining optimally fluoridated water?
- What are key partners hearing among community members and water operators?
- What activities are necessary in the state to ensure optimally fluoridated water levels?
- Is there a state plan for community water fluoridation? If so, did the plan include diverse perspectives and address future activity?

Outcome Evaluation

Outcome evaluation measures sought to assess the efficacy of training provided on the topic, the need for future education and training, and the community impact of fluoridated water systems. Evaluation activities sought to answer these questions:

- Are the monthly reported fluoride levels within the recommended range for water system levels as reported to Water Fluoridation Reporting System (WFRS)?
- What percent of North Dakota residents are covered by fluoridated water systems?
- How effective are trainings on the topic of CWF?
- What type of outreach materials were developed/disseminated, and to which audiences?
- How many and what type of equipment was needed?
- How many and what type of equipment was replaced?

The OHP coordinated with the DEQ, Division of Municipal Facilities to report administrative records of monthly water system fluoridation levels to the WFRS. The WFRS report generated by the Fluoridation Coordinator will be included in the cooperative agreement interim progress report. The Drinking Water Program (DWP) will continue to review and follow the Environmental and Administrative Recommendations for Water Fluoridation (EARWF) for program improvement, specifically, the number of systems that conduct split sampling. The EARWF tracking tool will be used as a guide in program evaluation. Data will be collected, analyzed and reported on the percentage of people served by optimally fluoridated water systems.

Water System Operator Survey

The evaluation team, in partnership with the OHP and the DWP, developed a survey to assess CWF equipment needs, and any training needs related to water fluoridation for water system operators or community members. The survey was sent out electronically in June 2020 by the evaluation team. Results of the survey were utilized to direct future education, resource dissemination, and water fluoridation equipment purchasing proposed for the following grant year. This survey was not repeated, and results did not indicate that treatment operators needed equipment. This survey is not proposed to be implemented in the remaining grant years; instead, the OHP will continue work with AFS and Dr. Schroeder with UND SMHS to determine potential assessments of tribal community capacity to fluoridate community water systems.

Findings

Program goals and objectives as proposed in the original grant application included:

1. Maintain the number of people served by community water systems that receive optimally fluoridated water at 0.7mg/L.
2. Monitor fluoridation levels and the percentage of adjusted water systems that maintain optimally fluoridated water at 0.7mg/L.
3. Educate water treatment personnel on the importance of, and rationale for, recommended fluoridation levels.
4. Monitor fluoridation equipment.

Goals One & Two: Maintain and Monitor Fluoridation Levels

At the time of reporting (data from calendar year 2020), 682,229 people were receiving fluoridated water in North Dakota, or roughly 96.5% of the state population was being served by public water systems receiving optimally fluoridated water (0.7 mg/L).^{aa} In 2018, the most recent year reported by the CDC for state rank, North Dakota ranked five out of 51 for the percentage of the state population served by CWS with optimal levels of fluoride.^{bb} North Dakota exceeds the Healthy People 2030 objective of 77.1% for “the proportion of people whose water systems have the recommended amount of fluoride.”^{cc} The Fluoridation Coordinator monitors contaminants, provides operator certification and training, conducts inspections of the water systems and provides technical assistance.

The OHP has a MOU with the DWP which is located within the DEQ, Division of Municipal Facilities. The MOU ensures the OHP has access to information, reports, and expertise regarding the state’s CWF program and that the Fluoridation Coordinator is part of the task force that addresses fluoridation issues, concerns, and challenges. The Coordinator collaborates with CWF personnel to monitor fluoridation equipment needs.

Goal Three: Educate Water Treatment Personnel

The OHP worked with several stakeholders and partners to ensure that North Dakota residents were receiving fluoridated drinking water, and that providers are trained on how to emphasize the importance of drinking tap water. In this grant cycle, the OHP worked closely with the DWP, AFS, and the Drinking Water State Revolving Fund program.

Training activities related to fluoridated water in this grant cycle included:

- Training from the AFS.
- Trainings as part of the [TeleECHO™ clinic](#)^{dd}
 - Talking with Patients about Safe Drinking Water, Community Water Fluoridation, and Oral Health in the Pediatric and Young Adult Patient
 - Importance of Discussing and Addressing Oral Health Among Pregnant Persons
 - Included conversation about safe drinking water for pregnant persons.
 - Working with Patients Who Are American Indian or Alaska Native: Oral Health Screening, Referral, and Education
 - Included conversation around drinking bottled water, importance of drinking tap water, and where to find CWF levels.
 - Discussing Oral Health and Prevention Strategies with Patients in Non-Dental Settings
 - Included discussion on the importance of drinking fluoridated tap water.

Training Evaluations

The TeleECHO Clinic™ that was presented by Dr. Johnny Johnson with AFS, specifically on the topic of water fluoridation, was held on May 13, 2021. The recording of this training has been viewed 19 times and 12 people have completed the evaluation. Promotion has been planned for the archive of this training as well as the free one-hour continuing education credit associated. This promotion will occur in year four, along with the promotion of the other 10 TeleECHO™ Clinic topics on oral health in primary care. Roughly 73% of applicable attendees indicated that this session would be leading to professional change in their practice.

Of the 12 people who completed the evaluation for the May 13 event, all agreed or strongly agreed to the following statements:

- The training was relevant to my career.
- The training was well organized.
- The materials presented will be useful to me in my work.
- The training enhanced my skills in this topic area.
- I would recommend this training to my colleagues/peers.
- Future training and activities on the subject of oral health are necessary and/or important to clinical practice.

- The training met the specified learning objects:
 - Attendees will be able to describe benefits of CWF and safe drinking water.
 - Attendees will be able to explain with their patients the importance of oral health and fluoride in pediatric patients.
 - Attendees will be able to identify the status of CWF in North Dakota.

Although not specific to educating water operators, the OHP worked with Dr. Schroeder at UND to develop and update information on a new resource page on the OHP website. The website, [Community Water Fluoridation](#)^{ee} provides information and resources on the benefits of water fluoridation and links to external programs and reports. See Appendix C for a screen shot. The webpage also provides direct access to:

- The state Drinking Water Program.
- FLO training (fluoridation learning online from the CDC).
- Fluoridation facts from the American Dental Association.

Goal Four: Monitor Fluoridation Equipment

The OHP held several meetings with members of the North Dakota DEQ over this grant period. Meetings consisted of brainstorming training needs, identifying barriers to maintain fluoridated water levels, equipment needs, potential survey opportunities, and opportunities to speak to and address water operators directly. The survey completed in year two did not result in a high response nor did it identify significant equipment needs. As a result, years three and four placed more emphasis on partnership development, appropriate and consistent use of equipment among water operators, and education dissemination for water operators and the public. In meetings with their statewide partners and local community water operators, the OHP continues to maintain an open line of communication to identify if future equipment needs should arise.

Efforts of the American Fluoridation Society

Following is a list of the progress made by AFS in the last grant year.

Deliverable	Update on Progress
Offer two versions of a webinar on how dental/medical/non-medical providers/professionals can discuss fluoride with their patients/clients.	<ul style="list-style-type: none"> • AFS gave a presentation to the residents in the University of North Dakota Center for Family Medicine about what medical professionals need to know about fluoride and how to discuss it with their patients. Presentation was held on June 23, 2021. • Gave a presentation as part of the TeleECHO series: how providers can discuss safe drinking water with patients.
Develop a rapid response plan for dental/medical/providers/professionals and other public health stakeholders on how to raise awareness and be prepared on the effectiveness and safety of CWF, should any attacks on local CWF occur within North Dakota.	<p>AFS is in the process of developing a draft that will include:</p> <ul style="list-style-type: none"> • Statewide Water Action Team that is prepared to raise awareness of CWF and watch for threats to CWF. • Lists of the local, state, and national partners that can assist with stopping any threats to CWF. • Outline of the planning, action, and post CWF challenge phases and the activities that will take place during each.

Deliverable	Update on Progress
Work with OHP to educate the North Dakota League of Cities on the impact of dental disease and CWF.	<ul style="list-style-type: none"> • AFS proposed a conference presentation to the North Dakota League of Cities, but the proposal was not accepted.
Write an article on oral health/CWF and/or dental care during COVID for the League of Cities newsletter.	<ul style="list-style-type: none"> • AFS assisted the OHP in writing an article for the League of Cities newsletter. Submitting an article by the OHP helps solidify the program as the local resource for oral health and water fluoridation issues.
Work on an agenda for the League of Cities 2021 Annual Conference.	<ul style="list-style-type: none"> • The AFS proposal for a presentation at the League of Cities 2021 Annual conference was not approved.
Work with the OHP to provide webinar trainings focused on water fluoridation and fluoride's importance on oral health to water operators, engineers, North Dakota DEQ staff, dental and medical providers, and non-medical providers/professionals.	<ul style="list-style-type: none"> • AFS proposed a presentation for the 2021 Water and Pollution Control Conference, which has an audience of water operators and engineers. • The proposal included one hour for water engineers about the different methods of beginning and maintaining community water fluoridation. This was not approved. • The proposal also included one hour on the benefits of community water fluoridation. This was approved and will take place in October 2021.
Investigate how all communities in the state can report fluoride levels on their annual water quality reports to the public.	<ul style="list-style-type: none"> • AFS learned from Tracy Boehmer, Fluoridation Engineer at the CDC, how to change the way My Waters Fluoride reports display the fluoridation status of communities for dental and medical professionals. • AFS has been educating the DEQ about how to make the change in My Waters Fluoride and has been asking them to change it. • AFS is still hoping to be in more meetings with water stakeholders in order to earn their trust. • AFS worked on identifying how the fluoride is monitored and are continuing the discussions with the OHP, DEQ, and others. • As a part of the process of educating dental professionals about how to understand the fluoridation levels of the communities their patients live in, AFS has secured an agreement with the North Dakota Dental Association to submit an article about this subject for their member newsletter.
Explore if continuing education units for the CDC FLO module can be obtained and implemented upon approval.	<ul style="list-style-type: none"> • AFS learned that the states of Arkansas, Colorado, Iowa, Louisiana, Rhode Island, Vermont, and West Virginia offer CEs for water operators who take the FLO training. • AFS has had several conversations with the DEQ about the idea, but it has not been prioritized by DEQ yet.
Maintain and update a list of names and locations of public water systems in the state.	<ul style="list-style-type: none"> • AFS has maintained the list that was created in year two of the agreement with the OHP.
Provide technical assistance on multiple data collection and outreach strategies related to CWF.	<ul style="list-style-type: none"> • AFS advised and assisted with outreach to the Tribal Nations and is continuing to help determine who should submit an article about oral health and fluoridation to the Great Plains Good Health and Wellness Sacred Life Newsletter.

Recommendations

A majority of North Dakota communities had access to optimally fluoridated water. What North Dakota has not yet explored is the:

- Use and impact of well water across the state.
- Level of access to fluoridated water among tribal reservations in the state.
- Proportion of the state's population that drinks water from the tap, uses tap water for infants and children, or uses tap water in their cooking.

It is recommended that the OHP consider a community survey, poll, and/or focus group to identify the general use of tap water in the state. There has been growing popularity in refrigeration systems that filter water with families no longer drinking from the tap and an increase in sales of bottled water. Following the Flint, Michigan water crisis, there has also been an increase in families that no longer drink from the tap. Having optimal levels of fluoride in the water will not have the added oral health benefit if community members are not drinking tap water. Any assessment conducted among tribal communities must also include an assessment of the quality of the drinking water and the perception of faucet water. Additionally, the state has already begun working with the NDDoH tribal health liaisons and AFS in an attempt to quantify the number of tribal communities who are and are not served by CWS.

Informing the Community

Water system operators identified that it would be helpful to provide more information for community members on the role of water systems and their responsibilities around water fluoridation. It is recommended the OHP work with the DWP to develop a one-page infographic or factsheet that describes the role of state water systems as it relates to CWF. Following feedback from the AFS, an additional product that would benefit the community is a resource highlighting key myths and facts around drinking fluoridated water. It would be beneficial to use a local pediatrician and dentist to feature on the product, highlighting the safety of drinking tap water and the need to maintain optimal water fluoridation levels for good oral health.

Training Water Operators

The OHP should speak at (or contract someone to speak at) the water system's annual meeting as permitted, and work with partners to develop training opportunities that carry continuing education credits for water system operators (approved by their licensing board). There is specific interest among operators to attend training on water fluoridation guidelines and recommendations, and the importance and health impact of water fluoridation.

In the survey of water operators, roughly 84% indicated they had not taken the CDC's [Fluoridation Learning Online \(FLO\) training](#).^{ff} The online FLO course is a free resource designed to build the capacity of state fluoridation programs, and to help increase knowledge and refine skills to implement and maintain CWF. It is recommended that the OHP work with the state partners to better promote this training among water operators.

Identifying Need and Behavior Among Tribal Communities

Following conversation with the NDDoH tribal liaisons, as well as with Dr. Timothy Ricks, it was clear that North Dakota has a lot of work to do in order to better measure the impact of CWF among persons living on the local reservations. It is generally understood that there is a high reliance on bottled water among persons living on reservations in North Dakota, and that there is not consistent and reliable data on the water quality and fluoridation levels of faucet water. In a recent internal meeting held with state partners, it was noted that some communities are still struggling to maintain consistent access to tap water, relying heavily on bottled water. Specific recommendations include:

- Identify the fluoridation level of the water that is accessed by local tribal communities.
- Review other state/tribal programs that have increased CWF levels on reservations.
- Identify the steps that would need to be taken to increase the CWF levels for reservations in North Dakota.
- Assess the quality of the drinking water and reliance on bottled water among persons living on reservations in North Dakota.
- Partner with local community/tribal leaders to identify opportunities to improve safe drinking water and prevent dental decay.

STATEWIDE ORAL HEALTH SURVEILLANCE

The purpose of the statewide oral health surveillance is to develop and execute a detailed plan for data collection, analyses, and dissemination. These activities include tracking the recommended core indicators as identified by the [CSTE](#).^m

Evaluations & Stakeholder Engagement

The NDOHSS is comprised of indicators to address federal recommendations, epidemiological inquiries, data requests, and to guide program and policy development. The state dental director, together with key partners, continue to identify gaps in data needs and data collection. As the NDOHSS has continued to mature, the data collection efforts have expanded to include policy development, surveillance, and evaluation. As of 2021, the NDOHSS contains over 30 indicators that are routinely updated by OHP staff, the evaluation team, and key stakeholders.

The goals of the OHP that are evaluated in relation to data surveillance include:

- Maintaining and enhancing the oral health surveillance system.
- Disseminate findings from the oral health surveillance system.

The data system is also utilized to track the overall efficacy of the OHP by measuring progress toward two distinct goals set by the OHP team:

1. Demonstrate reduction in dental caries and untreated decay in third grade children.
2. Demonstrate increase in number of third grade children with dental sealants.

Findings

Goal One: Maintain & Enhance the NDOHSS

The OHP seeks, collaborates, and coordinates opportunities to collect oral health data through the integration of existing surveys already conducted by state agencies and other organizations. Many partnerships have been established to leverage resources in data collection for the NDOHSS. In the last grant year (year three) the oral health evaluation team, under Dr. Schroeder's leadership and in partnership with the epidemiologist from the Office of State Epidemiologist (Anastasia Stepanov), completely transformed the NDOHSS. The new [web oral health data monitoring system](#)⁰ provides data in several formats and by geographic group. Screen shots of the old and new web surveillance systems are available in Appendix D. To ensure that the data are routinely updated, the evaluation team worked with the epidemiologist to create an internal form that lists all available data sets, the date of new release, and which variables/reports must be updated annually. Moving forward, data provided on the NDOHSS website will be updated at least annually by the NDDoH's team of epidemiologists. This work also included the development and submission of the Statewide Oral Health Surveillance Plan, which was submitted to the CDC in May 2021. Please see that complete report for further detail on the NDOHSS.

Partners/stakeholders include:

- Coordinated School Health Interagency Workgroup (Youth Risk Behavior Survey data)
- North Dakota Department of Health, Behavioral Risk Factor Surveillance System coordinator
- North Dakota Department of Public Instruction, Youth Risk Behavior Survey coordinator
- North Dakota Department of Human Services (NDDHS) (North Dakota Medicaid and State Children's Health Insurance Program data)
- North Dakota Department of Health, Division of Vital Records (cleft lip/cleft palate data, oral cancer mortality)
- Head Start Programs (Program Information Report data)
- Schools (Basic Screening Survey data)
- North Dakota Dental Association (state survey data)
- North Dakota Department of Health, Office of the State Epidemiologist (New Mothers'/Pregnancy Risk Assessment Monitoring System data)
- North Dakota State Board of Dental Examiners (licensure workforce data)
- University of North Dakota Center for Rural Health (Dental Workforce Survey)
- North Dakota DEQ, Division of Municipal Facilities (community fluoridation data)
- North Dakota Department of Health, Cancer Registry (oral cancer incidence)
- North Dakota Department of Health, Tobacco Prevention and Control Program (Youth Tobacco Survey and adult tobacco use and cessation data)
- North Dakota Department of Health, Data Advisory Group
- North Dakota State Data Center (demographic data)

Goal Two: Disseminate Findings from the NDOHSS

The OHP wants to improve the dissemination of oral health data and look for unique partnerships to share the work. In response to COVID-19, epidemiologists who had been identified to share data were required to reallocate time to COVID response. The evaluation team absorbed some of this responsibility in the current grant year. To date, they have shared oral health data through:

- Poster presentations
- Fact sheet development
- National, state, and local conference presentations
- Reports
- Infographics
- Website content for the NDDoH

Recommendations

The OHP has developed and maintained strong collaborative relationships with partners and stakeholders dedicated to compiling data on oral health. However, the data are not fully utilized. The new web-based NDOHSS was finalized in this grant year and it is recommended that there be significant communication and promotion campaigns in year four. The OHP can also work with partners to identify questions that remain and potential data sources not yet included in the NDOHSS.

ADDITIONAL ACTIVITIES

The OHP participated in three other activities in this grant year that were, at least partially, supported through CDC funds. These activities included:

- Hosting a Statewide Engagement Meeting (StEM) on the topic of oral health.
- Hosting an Oral Health in Primary Care TeleECHO™ Clinic.
- Mailing of toothbrush kits to schools.

Oral Health Statewide Engagement Meeting (StEM)

The OHP contracted with the [National Association of Chronic Disease Directors](#) (NACDD)⁹⁹ to host an Oral Health Statewide Engagement Meeting (StEM). The purpose of the meeting was:

“To bring together key partners from across the state to create momentum, identify strategies for implementation, and foster partnerships that will lead to increased availability, accessibility, and utilization of oral health services for Medicaid-eligible children and adults in North Dakota. By working with fellow stakeholders and sharing professional insights and at the meeting, participants will help create a tailored, collaborative blueprint for a sustainable action plan that can be implemented in collaboration with partners over the next 12-18 months.”

The meeting occurred May 6 and May 7, 2021 over Zoom (videoconference). During the StEM action planning process, the partners shared their professional insights and recommendations about key activities that could facilitate the implementation of a tailored action plan containing a series of specific strategies to accomplish the meeting purpose. Invited participants focused their discussions on the following pillar areas:

- Increased awareness among providers about oral health inequities in North Dakota.
- Increased uptake of oral health services for North Dakota Medicaid recipients in the state.
- Improved North Dakota Medicaid reimbursement and claims submission and review process to increase participation by providers.
- Increased partnerships to improve uptake of oral health services for North Dakota Medicaid recipients in the state.

Collectively, the strategies contained in the action plan are intended to foster partnerships that will lead to increased availability, accessibility, and utilization of oral health services for underserved populations and communities throughout the state.

Evaluation of the Oral Health StEM

Roughly 40 partners from across the state attended the action planning portion of the meeting on May 7, 2021. These individuals represented local foundations, research, academics, North Dakota Medicaid officials, FQHCs, public health providers, private dental clinics, the NDDoH, Indian Affairs Commission, and Quality Healthcare Associates among others. Roughly 78% of those who completed an evaluation from day two of the Oral Health StEM indicated that they would be making changes to their professional practice as a result of this meeting.

Attendees agreed or strongly agreed that:

- The meeting led to the identification of strategies that will lead to increased availability, accessibility, or utilization of oral health services (94% agreed/strongly agreed).
- The meeting led to a draft sustainable action plan to address availability, accessibility, or utilization of oral health services (100% agreed/strongly agreed).
- The strategies and action plan developed can be implemented throughout North Dakota over the next 12-18 months (100% agreed/strongly agreed).

Feedback included:

- "Great to have a diverse group of professionals in the awareness group."
- "For future planning, it would be ideal to have baseline data a few weeks prior to planning."
- "Excellent process to accomplish action planning virtually!"
- "Small group sessions were far too long. Good process but was far too much time in my opinion."
- "Well done. Thank you."
- "I am disappointed in the low number of dentists that participated in the event."

- “Organization could have been a bit stronger but I am very excited to move forward with action plans. Time management is important and when organizing the event maybe asking for bios prior to function would be helpful. There was a lot of time spent on introductions that it did not allow for more time on what is needed to be accomplished. There are still some missing pieces that were overlooked and I would have like to addressed those but was not able to because of time management. I enjoyed this and can see some great things coming out of this. It would be interesting to structure the event a bit different. The second day was 100% better than the first day. There were definite time management issues with day one. It felt more like I was observing a meeting rather that participating or that my attendance was even important. Second day brought more satisfaction because there is some forward movement.”
- “Kudos to the planning team. This will lead to more action to address oral health in ND.”
- “At the next meeting, I would like to see more stakeholders attend (i.e. medical centers, insurance companies, dental professionals, etc...)”
- “Just wonderful to have so many people come together to talk about oral health and have new energy in the state on oral health from many stakeholders.”
- “Outstanding 2 days.”
- “Excellent meeting. I enjoyed the rich conversation and have renewed energy for the topic!”
- “It was not super clear to me what our end goal was.”

The OHP has been provided the final report and next steps from NACDD. The OHP is now tasked with setting measurable objectives and working with partners to achieve the goals set forth in the plan. Most immediate, the OHP is working to develop a new Oral Health Coalition in the state.

Oral Health in Primary Care TeleECHO™ Clinic

Many individuals in North Dakota lack access to, or do not regularly utilize, dental care. The CDC’s Division of Oral Health has stated that there are opportunities to integrate medical and dental services in different healthcare and public health settings to support populations with unmet oral health needs and associated chronic diseases. In response, the OHP worked with Dr. Schroeder and the CRH to host eleven virtual TeleECHO™ clinics.

According to the Project ECHO webpage: ^{hh}

“The Project ECHO® (Extension for Community Healthcare Outcomes) model was established in 2003 at the University of New Mexico, School of Medicine, to develop the capacity to demonopolize knowledge and amplify the capacity to provide best practice care for underserved populations. The ECHO model™ develops knowledge and capacity amongst rural community-based providers through:

- Using technology
- Improving outcomes
- Case-based learning
- Tracking data

This model is committed to addressing the needs of the most vulnerable populations by equipping rural community providers with the right knowledge, at the right place, and at the right time to locally deliver high-quality care. The ECHO model does not actually “provide” care to patients. Instead, it dramatically increases access to specialty treatment expertise in rural and underserved areas by providing front-line clinicians with the knowledge and ongoing support they need to manage patients with complex conditions.”

The *Oral Health in Primary Care TeleECHO™* was focused on improving access to oral health care for patients in rural and underserved communities throughout North Dakota.^{dd} By building and strengthening capacity among primary care and other providers responsible for supporting patient well-being, we can improve oral health among the most disparate populations.

Oral Health in Primary Care TeleECHO™ Model

The TeleECHO model follows that a group of health professionals come together virtually at a scheduled date and time to discuss a specific topic in healthcare, followed by a patient case presentation. Topics, schedules, and case presentations were identified by a group of volunteers recognized as the Advisory (Hub) Team. See Appendix E for the list of Hub Team Members for this Oral Health TeleECHO™ Clinic series. Each session offered free continuing education (CE) credits for medical and dental professionals. The intended audience included any individuals in North Dakota providing clinical care in a primary care setting, family medical center, Rural Health Clinic, FQHC, local public health unit, community health center, or pediatrician’s office.

TeleECHO clinics were held virtually on the second and fourth Thursday of the month. They ran one hour with a lecture on a given topic followed by a patient case presentation and question and answer. All sessions were recorded and continue to be available for viewing with CE credit. See Appendix F for a screen shot of one promotion example and the webpage. The program was also heavily promoted through mailing lists, social media, and organizations’ newsletters.

The eleven sessions presented during this grant year included:

- The Need to Address Oral Health in Primary Care Settings
- Completing Pediatric Dental Screens in Primary Care Settings
- Applying and Billing for Fluoride Varnish Application in a Health Care Setting
- Talking with Patients about Safe Drinking Water, Community Water Fluoridation, and Oral Health in the Pediatric and Young Adult Patient
- Screening for, and Discussing Oral Health Concerns Among Older Adults
- Importance of Discussing and Addressing Oral Health Among Pregnant Persons
- Providing Oral Health Care for Adults Who Are Covered by Medicaid or Uninsured
- Preventing Use of Non-Dental Facilities for Dental Care in North Dakota
- Implementing Medical-Dental Integration in North Dakota
- Working with Patients Who Are American Indian or Alaska Native: Oral Health Screening, Referral, and Education
- Discussing Oral Health and Prevention Strategies with Patients in Non-Dental Settings

Evaluation Results

Roughly 140 individuals attended the events live, and as of August 31, 2021, 138 providers viewed the recordings. Evaluation results indicate a majority believed the information presented would lead to personal and professional change in their clinical practice. The OHP will be participating in promotional campaigns to encourage viewing the recorded clinics. This promotion campaign will occur after all of the TeleECHO recordings have been uploaded to the CE website. Next year's evaluation report will provide a comprehensive review of the clinic data and the efficacy of the TeleECHO™ to train primary care providers on conducting dental screens and appropriate dental referral.

School Toothbrush Kits

During the 2020-2021 school year, the OHP Prevention Coordinator and other team members assembled and distributed 47,778 toothbrush kits to 188 schools in North Dakota. The hygiene bags contained a toothbrush, travel size tube of toothpaste, and floss. Educators were provided with two short video links. Read full description of this activity and its measured outcomes under the school-based sealant report above.

EVALUATION USE, DISSEMINATION & SHARING PLAN

Evaluation results are used for:

- Real-time performance improvement.
- Work plan development for future grant continuations.
- Informing stakeholders and the public on the progress and activities of the OHP.

Performance Improvement

As the contracted evaluation team (UND) conducts surveys, focus groups, and/or review of primary and secondary data, results are shared back with members of the OHP team. The UND team will share results verbally on monthly check-in calls, via email with interested partners/stakeholders, and formally in reports or fact sheets. Specifically, the evaluation team shares results in real-time to improve the grant activities. For example, schools were surveyed at mid-point in the school year so results of the survey could inform ongoing work, communication with the schools, and future resource development. Similarly, the OHP invites the evaluation team to be part of all future planning calls to consider data collection strategies prior to the implementation of new work.

Work Plan Development

Evaluation results, and recommendations taken from the evaluation report help inform future activities at the OHP. For example, the evaluation results indicated a need to redesign the NDOHSS and to ensure that the data presented were accurate, current, and comprehensive. Additionally, it was a priority to ensure the data were accessible. In response, the OHP team worked collaboratively with the evaluation team to create a new web-based NDOHSS. Additionally, as evaluation data have indicated a need for additional training or information, the OHP and the evaluation team have worked together to develop resources, infographics, webpages, and presentations to include the TeleECHO™ clinic on oral health in primary care.

Dissemination of Results

It is important that the community, state provider groups, and other state-based oral health programs know what the OHP has done in the last year. It is imperative to share lessons learned, as well as success stories, so that other states can learn from North Dakota and so other statewide partners know where to go for collaboration. In the last grant year, the contracted evaluation team have worked with the OHP to develop several products, presentations, and posters to highlight the work of the OHP. Below is a sample of the evaluation products that have been developed and the applications that have been submitted to national conferences.

- Infographic: [Blood Pressure Screening at Your Dental Office](#)
- Infographic: [Dental Sealants](#)
- Infographic: [Follow-Up Hypertension](#)
- Infographic: [North Dakota Oral Health: Pre-Kindergarten](#)
- Infographic: [Protect Your Baby's Teeth and Gums](#)
- Report: [Evaluation of SEAL!ND: School Year 2019-2020](#)
- Policy Brief: [Impact and Reach of SEAL!ND: 2019-2020 School Year](#)
- Policy Brief: [North Dakota School Personnel's Experience with SEAL!ND 2019-2020 School Year](#)
- Policy Brief: [North Dakota School-Based Sealant Programs: 2019-2020](#)
- Report: [North Dakota Department of Health, Oral Health Program: Year Two Evaluation Report](#)
- Policy Brief: [Evaluation of Medical-Dental Integration at the University of North Dakota Center for Family Medicine](#)
- Report: [Evaluation Report: Medical-Dental Integration at the University of North Dakota Center for Family Medicine](#)
- Presentation: [Evaluation of a Comprehensive Program Addressing Oral Health in Multiple, Diverse Community Settings](#)
- Presentation: [Benefits of Medical-Dental Integration for Medical Residents, Providers, and Patients](#)

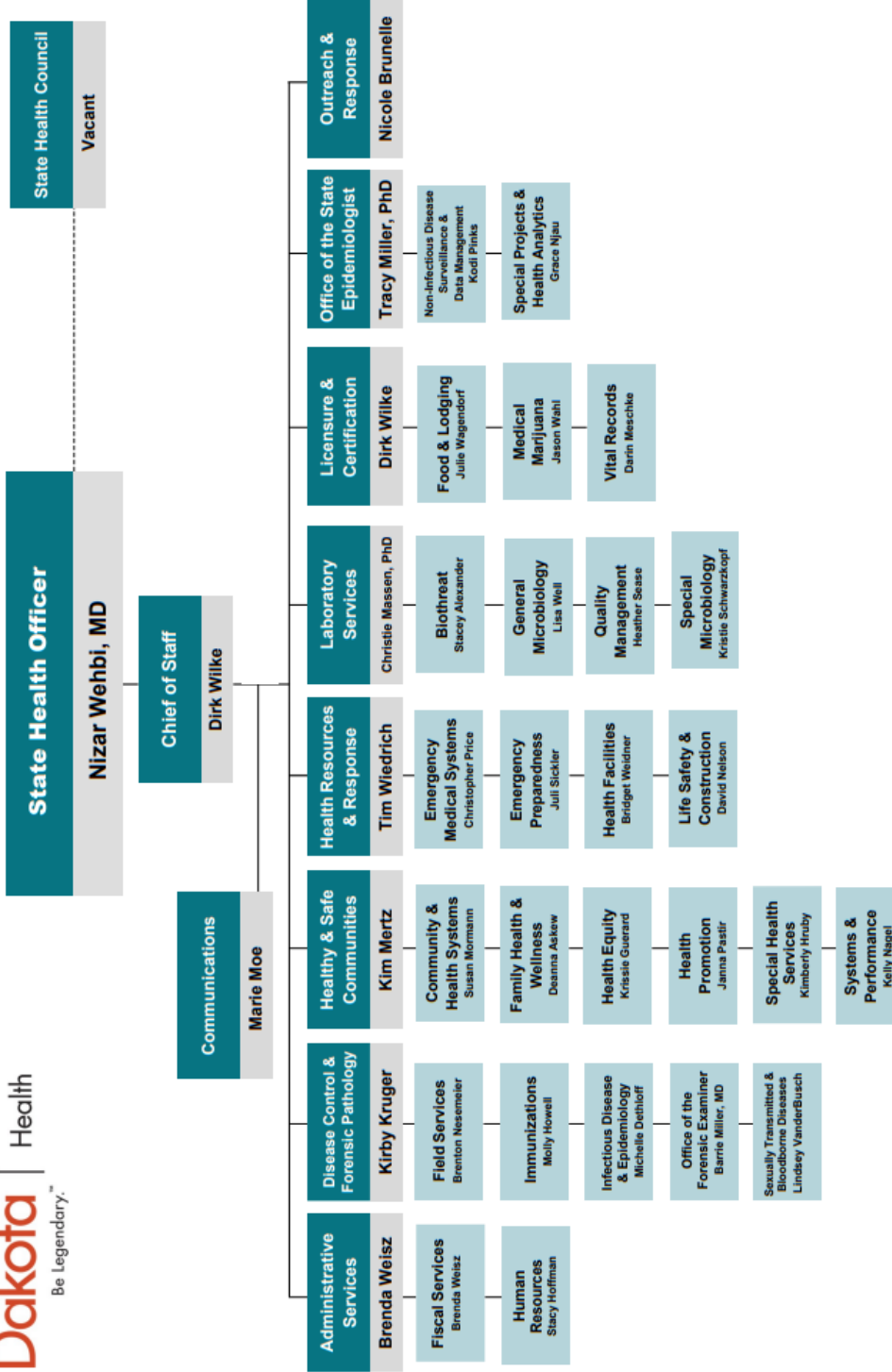
Under funding from both this award and an award through the Health Resources and Services Administration, Dr. Schroeder has been working with local graduate students in the Masters of Public Health Program to develop infographics intended for specific audiences in North Dakota. These were begun in the last grant cycle (year three). Five were published at the end of grant year three (listed above) and the following will be released in Winter of 2021 (year four).

- Blood Pressure Screening at Your Dental Office
- Protect your Baby's Teeth and Gums
- Promoting Healthy Smiles in Grade K-5
- North Dakota Oral Health: Pre-Kindergarten
- Protecting Your Adult Smile
- Protecting Your Smile in Middle and High School
- Taking Care of your Teeth Later in Life
- Follow-up Hypertension
- Ingenious Oral Health
- Traditional Oral Health for Indigenous Baby's
- Traditional Oral Health for Indigenous Children
- Traditional Oral Health for Indigenous Teen
- Traditional Oral Health for Indigenous Adults

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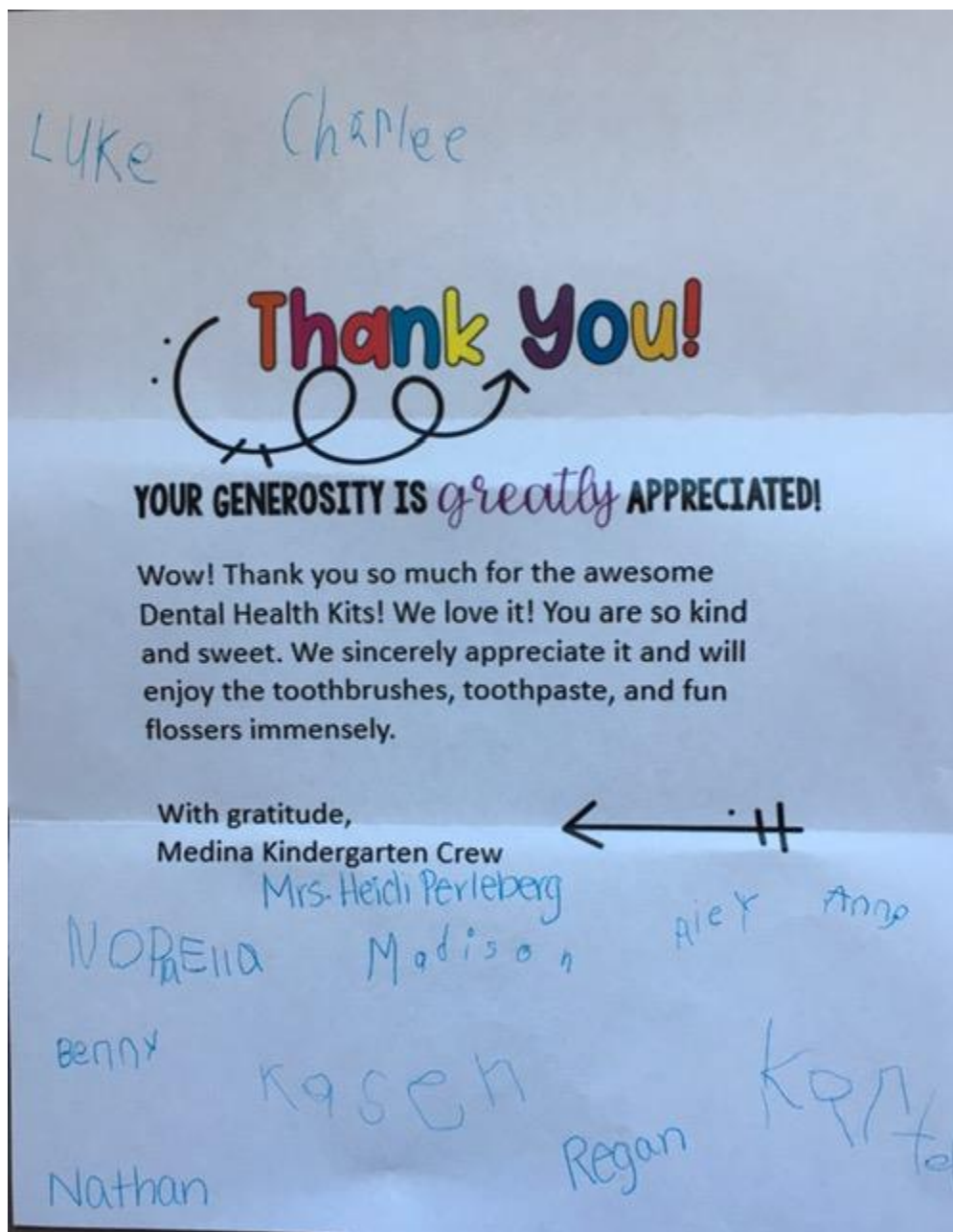
Appendix A: North Dakota Department of Health Organizational Chart



September 2021

Available at health.nd.gov/sites/www/files/documents/Webpage%20Updates/Org_Chart_9_22_21.pdf

Appendix B: Samples of School Thank You Notes for Hygiene Bags



North Border Elementary

students say,

"THANK YOU!"



Toni Hruby, Oral Health Prevention Coordinator, and North Dakota's Division of Health Prevention, provided our PK-6 grade students with oral hygiene kits and resources for dental health month!



Appendix C: OHP Community Water Fluoridation Webpage

Community Water Fluoridation

Fluoride is naturally found in most all water sources, rivers, lakes, wells and even the oceans. For the past 75 years, fluoride has been added to public water supplies to bring fluoride levels up to the amount necessary to help prevent tooth decay.

Community water fluoridation is like drinking milk fortified with Vitamin D or eating bread and cereals enriched with folic acid. Before water fluoridation, children had about three times as many cavities. Because of the important role it has played in the reduction of tooth decay, the Centers for Disease Control and Prevention has proclaimed community water fluoridation one of ten great public health achievements of the 20th century. Studies prove water fluoridation continues to help prevent tooth decay by at least 25% in children and adults, even with fluoride available from other sources, such as toothpaste. Today, almost 75% of the U.S. population is served by fluoridated community water systems. In North Dakota, 96.5% of the total state population is served by fluoridated community water systems. Access data, infographics, and learn more about Basics of Community Water Fluoridation from the Centers for Disease Control and Prevention.



Drinking Water Program
The North Dakota Drinking Water Program (DWP) works with all public water systems in North Dakota to ensure that they provide safe drinking water and are meeting the requirements of the Safe Drinking Water Act.



Fluoridation Learning Online
Fluoridation Learning Online (FLO) is a free resource designed to build the capability of state fluoridation programs, and to help increase knowledge and refine skills to implement and maintain community water fluoridation.



Fluoridation Facts
This product from the American Dental Association contains answers to frequently asked questions regarding community water fluoridation. The booklet contains information regarding the latest scientific research in an easy to use question and answer format to assist policy makers and the general public in making informed decisions about fluoridation.

Appendix D: NDOHSS 2020 and 2021

The North Dakota Oral Health Surveillance System webpage as of May 2021 (before the overhaul).



[GET DENTAL CARE](#)
 [STAY HEALTHY](#)
 [RESOURCES](#)
 [PROGRAMS](#)
 [DATA](#)

Surveillance System

Home / Data / Surveillance System

North Dakota Oral Health Program Surveillance System Indicators 2000 - 2020

INDICATOR	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Notes:	
Children and Youth																							
Head Start Program Information Report (PIR)																							
Percentage of Head Start children who had a dental examination in the past year									96.9	92.8	96.2	96.3	93.2	92.8									Data collected during following school year
Percentage of Head Start children examined who need dental treatment									22.0	18.1	19.4	17.5	15.5	17.6									Data collected during following school year
Percentage of Head Start children examined and needing dental treatment who receive treatment									93.8	86.7	94.5	90.5	81.8	74.8									Data collected during following school year
Percentage of Head Start children examined who received preventive care									63.8	86.7	82.6	84.8	86.4	86.3									Data collected during following school year
Basic Screening Survey (BSS) For Children Attending Head Start																							
Percentage of Head Start students with decay experience (treated or untreated)																							NA
Percentage of Head Start students with untreated tooth decay																							NA
Percentage of Head Start students in need of dental treatment																							NA
Basic Screening Survey (BSS) For Children Attending Kindergarten																							
Percentage of Head Start students with decay experience																							NA

Oral Health - Data & Statistics

Monitoring dental care access and oral health status data is important to the people of North Dakota, to public and private oral and primary health care providers, to government agencies, and to those working in oral health prevention. The North Dakota Oral Health Program's Oral Health Surveillance System is dedicated to:

- Reporting annual oral health workforce data.
- Conducting, and reporting the results of, oral health basic screening surveys among specific subpopulations of the state. Surveys have assessed the oral health status of:
 - Nursing home residents.
 - Third-grade students.
 - Kindergarten students.
- Reporting annual oral health data provided through Medicaid.
- Annually updating and tracking public-use data on oral health.

Under funding from the Centers for Disease Control and Prevention, the Oral Health Program monitors the burden of oral disease, use of the oral health care delivery system, and the status of community water fluoridation at a state level. [Learn more about the National Oral Health Surveillance System](#). One of the efforts undertaken by the Oral Health Program is to complete a Basic Screening Survey among various subsets of the state's population. For more information on [Basic Screening Surveys](#), access information provided by the [Association of State & Territorial Dental Directors](#).



[Adolescent Reports](#)

Adolescent dental visit rates and oral health status reports



[Adult Reports](#)

Adult (ages 18-64) dental visit rates and oral health status reports



[Older Adult Reports](#)

Older adults (ages 65+) dental visit rates and oral health status reports



[Cancer Data](#)

Oral and Pharyngeal cancer incidence and mortality rates



[Dental Workforce Reports](#)

Access to care, retirement plans, and workforce distribution reports



[Oral Health by Race](#)

Data on oral health status and dental visit rates by race in North Dakota



[Oral Health Program Reports](#)

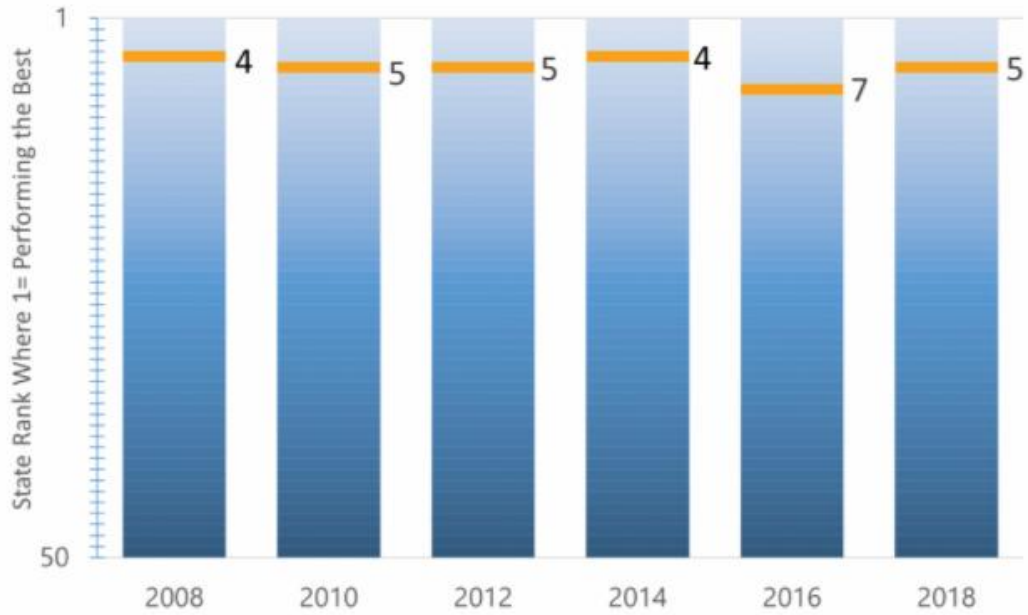
Reach and impact of the Oral Health Program's activities



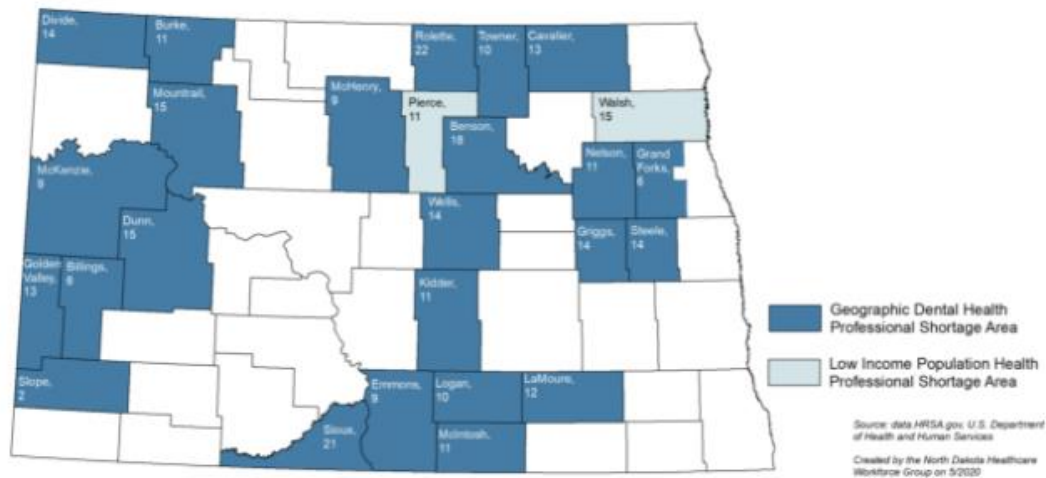
[Healthy People 2030](#)

Measures collected nationally to improve health and well-being

North Dakota's National Rank for the Percentage of the State's Population Served by Community Water Systems Receiving Fluoridated Water



Data source: Centers for Disease Control and Prevention



Appendix E: Advisory (Hub) Team Members: Oral Health in Primary Care TeleECHO™ Clinic

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Quality Health Associates North Dakota

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Oral Health Prevention Coordinator
North Dakota Department of Health Oral Health Program

JODI HULM, BS
Medicaid Administrator North Dakota Department of Human Services
Medical Services Division

VANESSA BOPP, RDH
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DR. JACKI NORD, DDS
Dental Director
Spectra Health

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Pediatrician
Trinity Health, Minot

DR. CHRISTINA DASILVA, DO
Pediatrician and Pediatric Clinic Chair
Sanford Health, Bismarck University of North Dakota

DR. SHAWNDA SCHROEDER, PHD, MA
Assistant Professor
Department of Indigenous Health, University of North Dakotas

JULIE REITEN
Project ECHO Coordinator
Center for Rural Health, University of North Dakota

Appendix F: Promotion of the Oral Health in Primary Care TeleECHO™ Clinic



Hello!

Thank you for registering for the **Screening for, and Discussing Oral Health Concerns Among Older Adults** TeleECHO session. This one-hour ECHO is scheduled for today, May 27 at 12:00 – 1:00 pm Central. Attached are the slides that will be shared during this TeleECHO Clinic.

You will also receive another registration confirmation email following this email, which contains the link to join today's Zoom session.

To receive continuing education credit, you **must** complete the evaluation found [here](#).

Visit the [Oral Health in Primary Care TeleECHO Clinic](#) website for information on upcoming clinics, and previously recorded sessions – all of which have continuing education credits.

Thank you,



Oral Health in Primary Care
Center for Rural Health
University of North Dakota



Hello,

Please **forward this invitation on** to members, colleagues, and peers in North Dakota!

Our free, one-hour, TeleECHO clinics (with continuing education credit) are in full swing. Please join us on the second and fourth Thursday of the month as we hear from local dental providers, primary care providers, and state Medicaid on how to address oral health in clinical healthcare settings (primary care, pediatrics, family medicine, public health, and community health centers).

Visit the [Oral Health in Primary Care TeleECHO Clinic](#) website for information on upcoming clinics, and previously recorded sessions.

Upcoming Clinics

Applying and Billing for Fluoride Varnish Application in a Health Care Setting

- April 22, 7:00 – 8:00 am Central
- [REGISTER Now](#)

Talking with Patients about Safe Drinking Water, Community Water Fluoridation, and Oral Health in the Pediatric and Young Adult Patient

- May 13, 7:00 – 8:00 am Central
- [REGISTER Now](#)

Previous Clinics

The Need to Address Oral Health in Primary Care Settings

- [Read Instructions](#) on how to review the recording with free continuing education credits
- Or, view the slides and the archive recoding [HERE](#)

Completing Pediatric Dental Screens in Primary Care Settings

- [Read Instructions](#) on how to review the recording with free continuing education credits **[CME recording coming soon]**
- Or, view the slides and the archive recoding [HERE](#)

If you have more questions about Project ECHO, please contact Julie Reiten and Julie.a.reiten@UND.edu. For questions about the oral health topics or future clinics, please contact me, Shawnda Schroeder, at the information below.

Oral Health in Primary Care TeleECHO

Join a Virtual Learning Network

Many individuals in North Dakota lack access to, or do not regularly utilize, dental care. The Centers for Disease Control and Prevention's Division of Oral Health has stated that there are opportunities to integrate medical and dental services in different healthcare and public health settings to support populations with unmet oral health needs and associated chronic diseases.

- [Training Topics and Facilitators Flyer](#)

Goals

The goal of this teleECHO™ is to improve access to oral health care for patients in rural and underserved communities throughout North Dakota. The focus is to build and strengthen capacity among primary care and other providers responsible for supporting patient well-being.



Objectives

Learn about best practices in oral health screening, fluoride varnish application, oral health case management, and billing for these services in primary care settings through didactic and case presentations.



Oral Health in Primary Care
Center for Rural Health
University of North Dakota



Previous Clinics

If you want to earn CME credit, [read the instructions](#) on how to view the online recordings.

- **The Need to Address Oral Health in Primary Care Settings**
March 25, 2021
[Slides](#) | [Video](#)
- **Completing Pediatric Dental Screens in Primary Care Settings**
April 8, 2021
[Slides](#) | [Video](#)
- **Applying and Billing for Fluoride Varnish Application in a Health Care Setting**
April 22, 2021
[Slides](#) | [Video](#)
- **Talking with Patients about Safe Drinking Water, Community Water Fluoridation, and Oral Health in the Pediatric and Young Adult Patient**
May 12, 2021

