Evaluation of SEAL!ND: School Year 2020-2021
North Dakota Department of Health Oral Health Program’s School-Based Dental Sealant Program

December 2021
# List of Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI/AN</td>
<td>American Indian/Alaska Native</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>DPI</td>
<td>Department of Public Instruction</td>
</tr>
<tr>
<td>FQHC</td>
<td>Federally Qualified Health Center</td>
</tr>
<tr>
<td>IRB</td>
<td>Institutional Review Board</td>
</tr>
<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>NDDoH</td>
<td>North Dakota Department of Health</td>
</tr>
<tr>
<td>NQ</td>
<td>Non-qualifying</td>
</tr>
<tr>
<td>OHP</td>
<td>Oral Health Program</td>
</tr>
<tr>
<td>PHH</td>
<td>Public Health Hygienist</td>
</tr>
<tr>
<td>Q</td>
<td>Qualifying</td>
</tr>
<tr>
<td>RMCM</td>
<td>Ronald McDonald Care Mobile</td>
</tr>
<tr>
<td>SEAL!ND</td>
<td>Name of the North Dakota school-based dental sealant program</td>
</tr>
<tr>
<td>SNAP</td>
<td>Supplemental Nutrition Assistance Program</td>
</tr>
<tr>
<td>WIC</td>
<td>Special Supplemental Nutrition Program for Women, Infant, and Children</td>
</tr>
</tbody>
</table>

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SEAL!ND: SCHOOL-BASED DENTAL SEALANT PROGRAM

The North Dakota Department of Health (NDDoH) Oral Health Program (OHP) has established a school-based dental sealant program (SEAL!ND) which has been providing dental sealants, fluoride varnish applications, oral health education, and dental screenings and referrals for students throughout North Dakota dating back to 2012. All services occur in the school during the school day. School-based sealant programs are a highly effective way to deliver preventive oral health and dental sealants to children less likely to receive private dental care.

The SEAL!ND program prioritizes providing preventive oral health care to low-income and underserved students by targeting schools with 45% or greater of their students enrolled in the free and reduced-fee school lunch program. The Prevention Coordinator identifies eligible schools utilizing data from the North Dakota Department of Public Instruction (DPI).

Although schools with a larger proportion of youth who are low-income are prioritized and covered under federal grant support, additional schools participate in SEAL!ND and receive care from local dental providers.

The Prevention Coordinator works with the public health hygienist (PHH) employed by the OHP, private practice dental providers, and local schools to identify opportunities to implement SEAL!ND. The Prevention Coordinator is responsible for developing and sharing manuals that assist schools and dental teams with implementing and participating in SEAL!ND.

The Prevention Coordinator also assists participating schools by providing:

- Educational materials on the benefits of dental sealants to administrators, staff, and parents (see Appendix A)
- Videos describing the program and how sealants work
- Invitation letters and consent forms for parents (see Appendix B)

Due to the global health pandemic (COVID-19), fewer providers and schools participated in SEAL!ND. As a result, the Prevention Coordinator redirected efforts and funding to provide dental hygiene bags to students throughout the state. The hygiene bags contained a toothbrush, travel-size tube of toothpaste, and floss. Educators were also provided a short (two to four-minute) video that could be shared in the classroom with students and/or with parents electronically.

Oral health services provided by the PHH and the local dental teams who have partnered with the NDDoH OHP utilizing Memorandums of Understanding (MOUs) include:

- Dental screening
- Fluoride varnish application
- Dental sealant application
- Oral health education
- Dental referral (as needed)
Dental Screening

Dental screening includes collecting information on the student’s dental health. The participating dental team member looks for and identifies:

- Recent dental visit
- Untreated decay
- Treated decay
- Rampant decay (seven or more teeth)
- Presence of any sealant(s)
- Number of filled or decayed molars
- Treatment urgency

Fluoride Varnish

Fluoride varnish is a sticky, colorless, and tasteless paste that contains high levels of fluoride that helps prevent cavities. If cavities are in the early stages, the fluoride can slow or even stop the cavity process. The entire process is fast, painless, and takes less than five minutes to apply. Fluoride varnish can be applied by any dental team member, doctors, pediatricians, and nursing staff. Because of this, it can be applied in numerous community and health care settings such as primary care clinics, schools, long-term care, and public health centers.

Dental Sealants

A dental sealant is a coating made from an adhesive material such as resin or glass ionomer, which a dental professional applies to the back teeth. Teeth can be re-sealed if the sealant falls off, but traditionally it lasts for years. This seals off the grooves in teeth that tend to collect food and protects them from the acid. The process is quick and easy, with the whole procedure taking roughly ten minutes. Sealants prevent cavities by creating a barrier between the teeth and cavity-causing bacteria. Sealants also stop cavities from growing and can prevent the need for fillings. Dental sealants prevent 80% of cavities in the back teeth, where nine out of ten cavities generally occur.

The OHP continues to administer SEAL!ND utilizing dollars from both the Centers for Disease Control and Prevention (CDC) State Actions to Improve Oral Health Outcomes grant and the Health Resources and Services Administration’s Grants to States to Support Oral Health Workforce Activities.
EVALUATION ACTIVITIES

The evaluation team at the University of North Dakota School of Medicine & Health Sciences works with the team at the OHP to collect data on the clinical reach of the SEAL!ND program, the referral practices, dental sealant cost savings, and perceptions of school personnel regarding their experiences with the program.

Site Data

Site data for all students are compiled by the PHH employed by the OHP and by additional dental providers who have signed MOUs with the OHP. The data provide performance measures to calculate and demonstrate program outcomes. The program evaluators analyze the data collected. Data collection methods employed by the PHH are consistent; however, the systems used by partnering providers and those offering school-based services on their own to non-qualifying schools do not all collect the same patient data. See Appendix C for a screenshot of the patient record utilized by the PHH.

Student data included in this report are collected and provided by:

- The PHH employed by the OHP to provide SEAL!ND in qualifying schools
- Private practice and federally qualified health center (FQHC) dental teams participating in SEAL!ND under MOUs signed with the OHP and serving qualifying schools
- Additional private providers and FQHC teams participating in SEAL!ND and providing care to non-qualifying schools (schools that do not qualify for grant-supported SEAL!ND services because less than 45% of their students are enrolled in the free and reduced-fee school lunch program)
- The Ronald McDonald Care Mobile’s (RMCM’s) school-based sealant program, which is separate and outside of SEAL!ND

School Survey

During the 2018-19 and 2019-20 school years, the evaluation team sent electronic surveys, developed with the OHP and approved by the University of North Dakota’s Institutional Review Board (IRB), to administrators and staff at every school participating in SEAL!ND. The survey was designed to gauge the schools’ experiences with both SEAL!ND and the dental providers, and to obtain data regarding challenges and barriers to participating in the program. This survey was not conducted during the 2020-21 school year because many schools fluctuated between in-person and remote learning in response to the COVID-19 pandemic. Results from the survey distributed during the 2019-20 school year are available in the report, Evaluation of SEAL!ND: School Year 2019-2020.

Additional Activities

The evaluation team also assists in the assessment of any local, state, or national presentations provided about the program and evaluates outreach, education, and dissemination strategies, including distribution of dental hygiene kits.
COMMUNITY REACH AND IMPACT

Among the 21 qualifying (Q) schools that participated in SEAL!ND during the 2020-2021 school year, 18 were served by the PHH employed by the OHP, and three were served by private practice. Nine additional schools that did not qualify for federally-funded services were served by four private practice dental teams. During this most recent school year (2020-2021), there were no participating FQHCs and the RMCM also refrained from providing services. See Table 1. The RMCM and local FQHCs had to refrain from offering school-based services due to the COVID-19 pandemic.

**Qualified (Q) Schools**: Schools meeting the criteria of high-risk, reporting at least 45% of their students enrolled in the free and reduced-fee school lunch program.

**Non-Qualified (NQ) Schools**: Any other school receiving services that had fewer than 45% of their students enrolled in the free and reduced-fee school lunch program.

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

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

The RMCM has halted all school-based dental care “indefinitely” and is now focused solely on community care; however, they have expressed interest in future opportunities for school-based offerings. RMCM’s decision is based on cost, time, increased community demand, and insufficient providers/resources. The OHP will continue communicating and working with the RMCM team to explore future opportunities to return to the school setting.

During the 2019-20 school year, one in five schools participating in a school-based sealant program were doing so in partnership with the RMCM through Bridging the Dental Gap. Even so, SEAL!ND, through the OHP, still visited a majority of the schools participating in a school-based sealant program (80%).
Through MOUs and partnerships that the OHP has developed, the percentage of schools visited by the PHH has historically decreased. In contrast, the rate of schools visited by FQHCs and private practice providers has increased. For example, the percentage of schools visited by private practice increased from 0% in 2014-15 to 37% by the 2019-20 school year. See Figure 1.

This trend illustrates historical growth and sustainability, bringing dental partners to work in school settings. As part of the national shutdown (March 2020), private practice dental offices had to close and slowly re-opened in summer 2020. 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 additional risk mitigation requirements, many private practice dental offices that had participated in SEAL!ND in years prior could not participate during the 2020-21 school year. The OHP will continue to work with partners in the state to increase participation among community health centers and private practice.

Figure 1. Percentage of Schools Participating in a School-Based Sealant Program Visited by Each Provider Type, by School Year

* This total includes FQHCs and tribal health services provided by Spirit Lake Health Center
Non-Qualifying Schools: Reach

As mentioned, partners who provide school-based services do not collect and report specific student data to the OHP. Nevertheless, they provide aggregate data to assist the OHP in measuring community impact. During the 2020-21 school year, dental teams in North Dakota visited nine non-qualifying schools and provided care for 326 children.

Qualifying Schools: Reach

The Prevention Coordinator provides oversight, scheduling, materials, and manuals for both Q and NQ schools and interested dental teams. Specific patient data are only provided for schools that qualify for services. During the 2019-20 school year, 80 schools had participated in SEAL!ND. Only 52 of those schools met the criteria of high-risk, reporting at least 45% of their students enrolled in the free and reduced-fee school lunch program. Before the 2020-21 school year, in which the pandemic delayed or stopped service delivery, the number of schools that qualified for and received services from the OHP had increased annually and exceeded the 5% goal. See Figure 2 and note that the drop in services reflects the pandemic when fewer schools consistently held in-person learning and there were fewer participating providers.

Figure 2. Number of Qualifying Schools Participating in SEAL!ND, by Year

* Data for 2017-18 were only available for schools served by the PHH and did not include services provided to qualifying schools under a MOU by FQHCs or private dental teams.

** COVID-19 pandemic led to a nation-wide shutdown and school closures which impacted provision of services.
Private practice providers visit the school once in the fall and once in the spring during a typical school year. During the 2020-21 school year, the PHH made both the fall and spring visits to qualifying schools, while private practice providers could only make the first fall visit. After visiting with a dental professional, students were sent home with oral hygiene supplies and a results sheet to share with their caregiver. See Appendix D for a copy of the visit results sheet.

Among the 21 Q 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 and spring, 564 students received 845 fluoride varnish applications.
- 51% of students already had a sealant placed before the school-based sealant program.

**Figure 3.** Percentage of Students Needing Treatment and Receiving Dental Services (n = 564)

* Rampant decay is indicated if the student has decay present on seven or more of their teeth.
** Decay present without pain or swelling. Refer to a dentist for treatment.
*** Pain, infection, large decay, abscess, or draining. Immediate referral for treatment.

Students Served: Data by School Year

Outside of the 2017-18 school year, generally, one in five or one in four students needed early dental care. That number decreased among students participating in SEAL!ND in 2020-21. See Figure 4. There is concern about comparing annual data because of continual workflow and data management changes. In addition, the number of participating schools and students varies. Some of the communities with the most significant need could not be served in the most recent year because of the COVID-19 pandemic. It will be important to measure the pandemic’s impact on student dental visit habits and urgency of care need.
Figure 4. Percentage of Students Needing Treatment, by School Year

* Decay present without pain or swelling. Refer to a dentist for treatment.
** Pain, infection, large decay, abscess, or draining. Immediate referral for treatment.

Of all students participating in SEAL!ND during the 2020-21 school year, only 31% received a dental sealant. The percentage decreased in the most recent school year because only the PHH was offering dental sealants. The private practice providers were providing care, screening, and varnish application but were not providing any community-based sealant applications because of the risk of aerosol spread of COVID-19. See Figure 5.

Figure 5. Percentage of Students Needing Treatment, by School Year
A majority of the students attending one of the 21 Q schools were in first grade; only 12% were in grades 6-12. More than half (65%) of students served were non-Hispanic White, and 21% of students served were American Indian/Alaska Native (AI/AN). This is notable, given only 5.6% of the total state population includes individuals who are AI/AN.\(^1\) See Table 2 for the demographic breakdown of students served.

**Table 2.** Number and Percentage of Students Served by Race, Gender, and Grade Level

<table>
<thead>
<tr>
<th>Race</th>
<th>2020-21 (n=562)*</th>
<th>2019-20 (n=2,322)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>367</td>
<td>46%</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>119</td>
<td>27%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>22</td>
<td>10%</td>
</tr>
<tr>
<td>Asian</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Multi-Race</td>
<td>34</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>253</td>
<td>45%</td>
</tr>
<tr>
<td>Female</td>
<td>310</td>
<td>54%</td>
</tr>
<tr>
<td><strong>Grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-K</td>
<td>8</td>
<td>0%</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>76</td>
<td>19%</td>
</tr>
<tr>
<td>First grade</td>
<td>101</td>
<td>17%</td>
</tr>
<tr>
<td>Second grade</td>
<td>87</td>
<td>17%</td>
</tr>
<tr>
<td>Third grade</td>
<td>83</td>
<td>14%</td>
</tr>
<tr>
<td>Fourth grade</td>
<td>75</td>
<td>13%</td>
</tr>
<tr>
<td>Fifth grade</td>
<td>57</td>
<td>10%</td>
</tr>
<tr>
<td>Grades 6-12</td>
<td>68</td>
<td>8%</td>
</tr>
</tbody>
</table>

* In total, 564 students were served, but not all students provided their race, gender, and grade. The N reflects the response to each demographic question.

The sealant program served a similar number of females and males, and there was no variation in dental treatment need or services required/provided to students based on gender. There was variability in dental services needed and provided by grade level and race.

**Students Served: Racial Equity Concerns**

A more significant percentage of students who were AI/AN reported a previous dental visit (96%) than students who were non-Hispanic White (81%) or any other race (82%). A greater percentage of AI/AN presented with untreated decay (41%) than students in any other racial group. Similarly, while 71% and 72% of students who were White and Black/African American, respectively, reported no sign of previous decay, this was true for only 47% of students who were AI/AN. See Figures 6 and 7.
Among students who are White, only 3% were referred for urgent dental treatment at the first visit, and 14% were referred for early dental care (not urgent). At the retention check, nearly all of these students (94%) had no obvious dental problem. This trend was the opposite for those students who are AI/AN. Among these students, 7% needed urgent dental care at the time of the first visit in the fall, and 10% needed urgent care at the retention check. More startling is that 14% needed early dental care at the first visit, and 29% needed early dental care by the retention check. Only 60% of students who are AI/AN had no obvious dental problem at this second visit. See Figure 8.
Figure 8. Dental Treatment Need by Race and Visit

<table>
<thead>
<tr>
<th>Race</th>
<th>No obvious problem*</th>
<th>Early dental care**</th>
<th>Urgent care***</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>83%</td>
<td>14%</td>
<td>3%</td>
</tr>
<tr>
<td>AI/AN</td>
<td>80%</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>All other students</td>
<td>74%</td>
<td>21%</td>
<td>4%</td>
</tr>
</tbody>
</table>

* No obvious problem, recommend regular checkup within six months.
** Early dental care is needed for decay without pain or swelling. Refer to a dentist for treatment.
*** Urgent care is needed for pain, infection, large decay, abscess, or draining. Immediate referral for treatment.

Students Served: Variable Need by Grade Level

There was no significant variability by grade in the dental visit rates or care needs that could not be explained by age. See Figures 9-10 and Table 3. An important note from Figure 9 is that 32% of students in kindergarten reported no previous dental visit. This rate was higher for kindergartners than any other grade level. Related, kindergartners had the greatest proportion of students who presented with untreated and rampant decay (25%). It is clear that having a dental visit increases the likelihood that the student will have good dental hygiene and fewer instances of decay. There is a need to begin education among parents and caregivers earlier to increase the proportion of students who enter grade school having already had a dental visit.
**Figure 9.** Percentage of Students with Previous Dental Visit, by Grade Level

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>No previous dental visit</th>
<th>Yes, previous dental visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>32%</td>
<td>68%</td>
</tr>
<tr>
<td>First grade</td>
<td>11%</td>
<td>89%</td>
</tr>
<tr>
<td>Second grade</td>
<td>8%</td>
<td>92%</td>
</tr>
<tr>
<td>Third grade</td>
<td>13%</td>
<td>88%</td>
</tr>
<tr>
<td>Fourth grade</td>
<td>7%</td>
<td>93%</td>
</tr>
<tr>
<td>Fifth grade</td>
<td>4%</td>
<td>96%</td>
</tr>
<tr>
<td>Grades 6-12</td>
<td>1%</td>
<td>99%</td>
</tr>
</tbody>
</table>

*Rampant decay is indicated if the student has decay present on seven or more of their teeth.*

**Figure 10.** Percentage of Students with Untreated Decay Present at First Visit, by Grade Level

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>No untreated decay</th>
<th>Untreated Decay</th>
<th>Rampant decay present*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>73%</td>
<td>19%</td>
<td>1%</td>
</tr>
<tr>
<td>First grade</td>
<td>76%</td>
<td>18%</td>
<td>1%</td>
</tr>
<tr>
<td>Second grade</td>
<td>79%</td>
<td>14%</td>
<td>1%</td>
</tr>
<tr>
<td>Third grade</td>
<td>84%</td>
<td>13%</td>
<td>1%</td>
</tr>
<tr>
<td>Fourth grade</td>
<td>84%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Fifth grade</td>
<td>89%</td>
<td>16%</td>
<td>3%</td>
</tr>
<tr>
<td>Grades 6-12</td>
<td>84%</td>
<td>6%</td>
<td>6%</td>
</tr>
</tbody>
</table>

* Rampant decay is indicated if the student has decay present on seven or more of their teeth.
Table 3. Dental Treatment Need by Grade Level and Visit

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>1st Visit n=526*</th>
<th>2nd Visit n=333*</th>
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</thead>
<tbody>
<tr>
<td>Kinder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No treatment(^a)</td>
<td>76% 78% 78% 84% 82% 89% 85%</td>
<td>83% 83% 86% 86% 91% 97% 82%</td>
</tr>
<tr>
<td>Early treatment(^b)</td>
<td>18% 15% 16% 11% 15% 9% 15%</td>
<td>17% 7% 12% 14% 9% 0% 19%</td>
</tr>
<tr>
<td>Urgent care(^c)</td>
<td>6% 7% 7% 5% 3% 2% 0%</td>
<td>0% 9% 2% 0% 0% 3% 0%</td>
</tr>
<tr>
<td>First</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>78% 78% 84% 82% 89% 85%</td>
<td>86% 86% 91% 97% 82%</td>
</tr>
<tr>
<td>Third</td>
<td>84% 82% 89% 85%</td>
<td>86% 91% 97% 82%</td>
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<tr>
<td>Fourth</td>
<td>82% 89% 85%</td>
<td>91% 97% 82%</td>
</tr>
<tr>
<td>Fifth</td>
<td>89% 85%</td>
<td>97% 82%</td>
</tr>
<tr>
<td>Grades 6-12</td>
<td>85%</td>
<td>82%</td>
</tr>
</tbody>
</table>

\(^a\) No obvious problem, recommend regular checkup within six months. \(^b\) Early dental care needed (decay without pain or swelling). Refer to a dentist for treatment. \(^c\) Urgent care needed (pain, infection, large decay, abscess, or draining). Immediate referral for treatment.

* 526 students were seen during the 1\(^{\text{st}}\) visit (fall), and 333 were seen during the 2\(^{\text{nd}}\) (spring) visit.

Additional Activities

During the 2020-2021 school year, the Prevention Coordinator and other team members assembled and distributed 47,778 toothbrush kits to 188 schools in North Dakota. Schools receiving supplies included those participating in SEAL!ND (Q and NQ) and those with the greatest percentage of their student body on the free and reduced-fee lunch program. 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. This video was roughly 1.5 minutes.

The second link provided by My Kid’s Dentist (roughly 3.5 minutes) offered an animated video about why we brush our teeth. 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 it with families electronically. See Appendix E for samples of thank you notes received. In addition to the above, the Prevention Coordinator spoke at the Healthy School Summit on August 4, 2021, about the reach and impact of SEAL!ND. See image.

Toni Hruby
Prevention Coordinator
August 4, 2021
RECOMMENDATIONS

The SEAL!ND program had a significant impact on the health and well-being of more than 500 students in North Dakota during the 2020-2021 academic year, a year in which many students were fortunate enough to be attending school in person. The Prevention Coordinator and SEAL!ND team served students, provided 864 varnish applications, and distributed 47,778 toothbrush kits to 188 schools in a state with a population of only 756,927.

The OHP has had a tremendous positive impact on the state; however, opportunities remain to ensure children in North Dakota have equitable access to good oral health. In no particular order, it is recommended that the OHP and SEAL!ND teams:

1. Identify opportunities to reach children before kindergarten
2. Continue communication and partnership with providers and schools who stopped services
3. Educate private dental teams on the need for and benefits of school-based sealant programs
4. Ensure consistency in data collection and reporting

1. Identify Opportunities to Reach Children Before Kindergarten

The primary focus of SEAL!ND is to provide dental services and education in K-12 settings; however, the data indicate a need for the broader OHP to identify community partnerships and opportunities to increase the dental visit rate among children under age five. Nearly one in three kindergartners had never visited a dental professional, and relatedly, roughly one out of every four presented with untreated decay or rampant decay. Good dental hygiene habits can begin in infancy, with caregivers cleaning a baby’s gums after each feeding and before bed. The OHP can share SEAL!ND data with programs that work to provide health education to new caregivers, childcare centers, and other community-based programs like Head Start, the Women Infant and Children (WIC) program, families utilizing the Supplemental Nutrition Assistance Program (SNAP), local public health units, pediatric clinics, and others.

2. Continue Communication and Partnership with Providers and Schools who Stopped Services

The COVID-19 pandemic has significantly impacted nearly all aspects of our daily lives. In relation to the SEAL!ND program, many schools stopped or delayed participation in SEAL!ND because of risk of aerosol spread and school closures. In addition to fewer schools indicating interest in SEAL!ND, the number of providers willing or able to provide school-based services declined. This is a result of workforce challenges for dental care provision more broadly and existing providers having deep patient loads and waitlists for both preventive and treatment-based services. Additionally, the RMCM has stopped school-based sealant services indefinitely due to the growing need for community-based care.
It is recommended that the OHP and SEAL!ND team assess private dental team interest in and perceived barriers to participating in a school-based sealant program. Additionally, it would be important to hold a listening session or survey school staff and administration (among schools eligible but not participating) to identify concerns or barriers to participating in SEAL!ND. It is also important that SEAL!ND remains a priority for schools as they return to traditional school-based services. There is concern among the OHP team that schools that have taken one to two academic years off of providing school-based sealant services will be hesitant to return to the program. OHP should share data back with the schools to illustrate the crucial role they play in pediatric health, sharing stories from schools that continue to participate in SEAL!ND.

**Opportunities with the K-12 school system may include:**

- Presenting a poster or an oral presentation at state-based conference or meeting for school administrators and educators.
- Hosting a listening session with eligible (qualifying) schools that have stopped previous participation in SEAL!ND.
- Creating and disseminating a brief video spotlighting a school that continues to participate in SEAL!ND and sharing the impact these services have for the students and their families.
- Creating infographics for both past and future participating schools illustrating the immediate and long-term impact SEAL!ND may have for students’ health and learning.

**Opportunities with dental providers may include:**

- Hosting listening sessions with providers who have stopped services to determine barriers to participating in future programming.
- Giving presentations at dental conferences and meetings to demonstrate the impact of school-based sealant programs and reimbursement practices.
- Holding quarterly check-ins with past and current participants to assess future interest and current barriers (this includes check-ins with the RMCM).

3. Educate Private Dental Teams on the Need For and Benefits of School-Based Sealant Programs

Outside of continuing partnership and communication with dental teams who have participated in SEAL!ND in previous years, it is important to educate other private practice dental teams on the benefits of school-based sealant programs. The OHP recognizes that many dental practices are experiencing an increase in demand for services while simultaneously facing workforce shortages. However, the OHP can begin outreach, pull together dental providers, and brainstorm local solutions to providing school-based sealant programs. As new dental professionals join practices in the state, this is also an excellent opportunity to make sure they know about this program.

Additionally, roughly 200 dental professionals participated in Mission of Mercy in October 2021. These professionals provided free dental care to more than 700 individuals living in North Dakota during this event. Reaching these 200 professionals and sharing with them the impact they can have in their local schools may be a great place to begin outreach related to SEAL!ND.
4. Ensure Consistency in Data Collection and Reporting

In the summer of 2021, the OHP lost an outstanding and dedicated PHH in a tragic car accident. As the OHP works to fill this position, there will be a need to focus on clear and consistent data collection for all students participating in SEAL!ND. Data collection processes have improved, but there is an opportunity to train a new PHH on the specific measures to collect and handle outlier cases (for example, students who were not present for the first visit but were for the second). Additionally, it was identified in the last academic year that data are not exported with clear data labels. It is recommended that the OHP work with their vendor (Maven) to ensure that future data exports will include accurate data labels.

ABOUT THE ORAL HEALTH PROGRAM

The mission of the NDDoH 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.

The Mission of the OHP is “to improve the oral health of all North Dakotans through prevention and education.” The primary goal of the OHP is to prevent and reduce 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

The OHP is located in section two, Healthy and Safe Communities, under the Division of Health Promotion. See Appendix F for the organizational charts.
ACKNOWLEDGEMENTS

The research and evaluation team would like to extend special thanks to all of the school personnel who assisted with participation in this program. Additionally, thank you to the following for their assistance with this evaluation to include data collection, data analysis, interviews, and document review:

- Cheri Kiefer, Oral Health Program Director, North Dakota Department of Health
- Toni Hruby, Oral Health Prevention Coordinator, North Dakota Department of Health
- Janna Pastir, Director, Division of Health Promotion, North Dakota Department of Health
- Blake Greiner, Research Specialist with the Center for Rural Health

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Any questions regarding this product or the data presented can be directed to:
Shawnda Schroeder, PhD, MA | Educator Scholar, Faculty
Department of Indigenous Health | UND School of Medicine & Health Sciences
Shawnda.schroeder@UND.edu | 701-777-0787

CITATIONS

c. School-Based Sealant Program (SEAL!ND). Retrieved from health.nd.gov/prevention/oral-health-program/school-based-fluoride-varnish-sealant-program
d. North Dakota Department of Public Instruction. Retrieved from nd.gov/dpi/
e. Centers for Disease Control and Prevention (CDC) State Actions to Improve Oral Health Outcomes. Retrieved from cdc.gov/oralhealth/funded_programs/cooperative_agreements/index.htm
g. Ronald McDonald Care Mobile. Retrieved from rmhcbsmarck.org/caremobile/
i. United States Census Bureau. Retrieved from census.gov/quickfacts/ND
j. NDDoH video for school staff. Retrieved from youtube.com/watch?app=desktop&v=VUCAcYXANcc
k. My Kid’s Dentist. Retrieved from mykidsdentistonline.com/
l. How to Brush Your Teeth Properly – For Kids. Retrieved from youtube.com/watch?app=desktop&v=hDZXSMU2lAk
m. North Dakota Department of Health, Division of Health Promotion. Retrieved from health.nd.gov/health-promotion
APPENDIX A: CONSENT COVER SHEET

WE ARE COMING TO YOUR SCHOOL!
SEAL! North Dakota Dental Sealant & Fluoride Varnish Program

The North Dakota Department of Health’s SEAL! North Dakota Program will be visiting your child’s school this year to keep your children’s teeth healthy! If your child gets their teeth cleaned at least once a year at a regular dental office, this program is not intended for them. Keep seeing your regular dentist!

Services provided include:

- Checking your child’s teeth for cavities
- Putting dental sealants on the back teeth to prevent cavities
- Applying fluoride varnish, a natural vitamin for teeth, to keep them strong

We will also be teaching your child how they can prevent cavities by regularly brushing and flossing their teeth and visiting the dentist!

Both fluoride varnish and sealants are safe, easy to apply and painless! Fluoride varnish can be painted onto teeth to protect them from cavities; it can be applied up to four times per year. Because it’s so easy to apply fluoride varnish and sealants, we will not need to give your child anything to relax them or any shots, medications or x-rays.

Complete the consent form and return it to your child’s homeroom teacher; we need your permission for your child to participate.

We encourage all children to have regular dental care. This program does NOT take the place of seeing your family dentist. A results form will be sent home with your child after we see them; we recommend your child see a dentist regarding any concerns we find with their teeth. Your child’s smile is important!

If you don’t have a current dentist or if you have any questions, contact the Oral Health Program at 701-328-2356.
APPENDIX B: CONSENT FORM

PARENT CONSENT
NORTH DAKOTA DEPARTMENT OF HEALTH
ORAL HEALTH PROGRAM
SFN 01600 (6-2018)

SEALING: North Dakota Dental Sealant and Fluoride Varnish Program

<table>
<thead>
<tr>
<th>Name of Child (First, Middle, Legal Last)</th>
<th>Age</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Name of Teacher</th>
<th>Grade</th>
</tr>
</thead>
</table>

[ ] YES, I give my permission for my child to receive the following treatments:
- [ ] Oral Screening
- [ ] Sealants
- [ ] Fluoride Varnish

[ ] NO, I do not give my permission for my child to receive treatment. Specify reason:
- [ ] My child already has sealants and/or receives varnish.
- [ ] My child regularly sees a dentist.
- [ ] Other (describe): 

* If you checked no, please return the form to the teacher. You do not need to complete the rest of the form.

If you answered yes to the above, complete the rest of the form.

<table>
<thead>
<tr>
<th>Name of Parent/Guardian</th>
<th>Preferred Telephone Number</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>ZIP Code</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Child’s Date of Birth (MM/DD/YYYY)</th>
<th>Gender</th>
<th>Primary Language (if not English)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race of Child (check one)</th>
<th>Male</th>
<th>Female</th>
<th>Multi-racial</th>
<th>Asian</th>
<th>American Indian/Alaskan</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Yes | No

[ ] Is your child allergic to anything? If yes, what?

[ ] Is your child taking any medications? If yes, what?

[ ] Does your child have any medical conditions such as heart disease, asthma, hay fever, hepatitis, cancer, diabetes, etc.? Or any other medical condition? If yes, specify:

[ ] Has your child ever needed dental services but was unable to receive services or denied services? If yes, explain:

[ ] Does your child have a dentist? If yes, answer below:

<table>
<thead>
<tr>
<th>Name of Child’s Dentist</th>
<th>Date of Last Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[ ] My child has no dental insurance

Medicaid Number (if child has Medicaid) - Medicaid insurance will be billed. No family or child will receive a bill for services provided.

Photo Consent/Release: I consent to the use of pictures, video or audio recordings of my child for program promotion: [ ] Yes [ ] No

Signature of Parent/Guardian | Date
|-----------------------------|-----|

*This consent will be valid for the 12-month period of this program. By signing above, indicates that you have read and understand the contents of the general information and medical history form. You understand the terms of the consent agreement and that you have legal authority to give consent for this child. Your child’s personal information will be kept confidential and will not be shared with any person who is not directly involved in the care of your child as part of the Health Insurance Portability and Accountability Act (HIPAA) without written authorization.*
APPENDIX C: ELECTRONIC STUDENT DENTAL RECORD
<table>
<thead>
<tr>
<th>Number of teeth sealed</th>
<th>1st molars:</th>
<th>2nd molars:</th>
<th>3rd molars:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st premolars:</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fluoride varnish treatment received today:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes: fluoride varnish was applied today</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment urgency:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No obvious problem. Treatment: Next regular checkup within six months.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early dental care (decay w/out pain or swelling). Treatment: Refer to dentist.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urgent care (pain, infection, large decay, abscess or drainage). Treatment: Immediate referral.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment complete:</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Notes:</td>
<td>baby teeth possible decay</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX D: VISIT RESULTS SHEET

VISIT RESULTS
SEAL! North Dakota Dental Sealant & Fluoride Varnish Program

To the Parent/Guardian of: ________________________________
Date: __________________

We were happy to see your child today
to help keep their teeth healthy!

Your child had the following mouth care services today:
_____ Teeth cleaning
_____ Visual mouth check
_____ Fluoride treatment - fluoride varnish is a natural vitamin that is painted on the teeth to keep them strong (see instructions below)
_____ Sealants placed on the chewing surfaces of these teeth to prevent cavities.

NOTES regarding your child: ____________________________________________
______________________________________________________________________
______________________________________________________________________

If your child had a fluoride treatment:
• Don’t brush teeth until bedtime.
• They can eat and drink right away.
  For just today they should not have anything chewy like gummy bears or gum and nothing crunchy like chips.

Your child should see a dentist:
_____ Right away because of possible cavities and/or infection in his/her mouth
_____ Every six months for a cleaning and x-rays

All children should see their dentist every 6 months for teeth cleanings and x-rays!

If you have any questions or need help finding a dentist, please contact:

NORTH Dakota | Health
Be Legendary™
701-328-2356

Staff signature: ________________________________
APPENDIX E: THANK YOU LETTERS FROM SCHOOLS

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!

Luke
Chadlee

Thank you!
YOUR GENEROSITY IS greatly APPRECIATED!

Wow! Thank you so much for the awesome Dental Health Kits! We love it! You are so kind and sweet. We sincerely appreciate it and will enjoy the toothbrushes, toothpaste, and fun flossers immensely.

With gratitude,
Medina Kindergarten Crew
Mrs. Heidi Perieberg

Norelia  Madison  Riley  Anne

Benny  Kasey  Regan  Kory

Nathan
APPENDIX F: ORGANIZATIONAL CHART
