

# EVALUATION OF SEAL!ND: SCHOOL YEAR 2023–2024



The North Dakota  
Oral Health Program's  
School-Based  
Sealant Program



**UND** SCHOOL OF MEDICINE  
& HEALTH SCIENCES  
UNIVERSITY OF NORTH DAKOTA



NORTH  
**Dakota** | Health & Human Services  
Be Legendary.

## List of Acronyms and Abbreviations

AI	American Indian
CDC	Centers for Disease Control and Prevention
CHC	Community Health Center
HHS	Health and Human Services
DPI	Department of Public Instruction
FQHC	Federally Qualified Health Center
FRFSL	Free and Reduced-Fee School Lunch
HRSA	Health Resources and Services Administration
MOU	Memorandum of Understanding
ND	North Dakota
NDSCS	North Dakota State College of Science
OHP	Oral Health Program
RMCM	Ronald McDonald Care Mobile
SEAL!ND	Name of the North Dakota school-based dental sealant program

## Definitions

No treatment	No obvious problem, recommend regular checkup within six months.
Early care needed	Decay present without pain or swelling. Refer to a dentist for treatment.
Urgent care needed	Pain, infection, large decay, abscess or draining. Immediate referral.
Rampant decay	Decay present on seven or more teeth.

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## SEAL!ND: School-based Dental Sealant Program

The [North Dakota Health and Human Services \(HHS\)](#)<sup>a</sup> Oral Health Program (OHP)<sup>b</sup> has established a school-based dental sealant program, [\(SEAL!ND\)](#)<sup>c</sup>, which has been providing dental sealants, fluoride varnish applications, oral health education and dental screenings and referrals for students throughout North Dakota (ND) dating back to 2012. All services occur in the school during school hours. School-based sealant programs are a highly effective way to deliver preventive oral health services 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 (FRFSL) program. The OHP prevention coordinator identifies eligible schools utilizing data from the [North Dakota Department of Public Instruction \(DPI\)](#).<sup>d</sup> Although schools with a larger proportion of youth who are living in lower-income households are prioritized and covered under federal grant support, additional schools participate in SEAL!ND and receive care from local dental providers.

The OHP prevention coordinator works with the public health hygienists (PHHs) who are employed by the OHP, community dental providers that have signed memorandums of understanding (MOU) with the OHP, and local schools to identify opportunities to implement SEAL!ND. The OHP prevention coordinator is responsible for developing and sharing manuals that assist schools and dental teams with implementing and participating in SEAL!ND.

The OHP prevention coordinator also assists participating schools by providing:

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

Due to the global health pandemic (COVID-19), fewer providers and schools participated in SEAL!ND during the 2020-21 school year. During that time, the OHP prevention coordinator redirected efforts and funding to provide dental hygiene bags to students throughout the state. These hygiene bags contained a toothbrush, travel-size tube of toothpaste, and dental floss. Educators were also provided with short, two to four-minute videos that could be shared in the classroom with students and/or with parents electronically.

Oral health services provided by the OHP, public health hygienists, and the local dental teams who partner with the OHP include dental screening, fluoride varnish application, dental sealant application, oral health education and dental referral (as needed).

## DENTAL SCREENING

The dental screening includes collecting information on the student's dental health. The participating dental team members look for and identify:

- Self-report of previously having a dental visit
- Untreated decay
- Treated decay
- Rampant decay (decay of 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 paste that contains the appropriate 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, schools, long-term care facilities 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 10 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. Sealants prevent 80% of cavities in the back teeth, where 9 out of 10 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<sup>e</sup>](#) grant and the [Health Resources and Services Administration's \(HRSA\) Grants to States to Support Oral Health Workforce Activities<sup>f</sup>](#).

## Executive Summary: Reach of SEAL!ND, 2023-24

The SEAL!ND program prioritizes providing preventive oral health care to underserved students by targeting schools with 45% or greater of their students enrolled in the free/reduced-price meals program (these are considered qualifying schools). Although schools with a larger proportion of youth who are from lower-income households are prioritized by federal funding, additional schools participate and receive care from local dental providers (these are referred to as non-qualifying). During the 2023-24 school year, 70 schools participated in SEAL!ND, including 54 qualifying schools (Q) and 16 non-qualifying (NQ).



\* Total number of referrals made between first and second visit, not total number of students with a referral. Students referred for care at visit one may again be referred to care at visit two.

During the 2023-24 school year, 35 schools that qualified for school-based sealant programming completed anonymous, electronic surveys, reporting their experience with SEAL!ND. Schools were widely satisfied with the programming, the coordination, the open communication and the provided resources.

### COMMENTS FROM SCHOOL PERSONNEL 2023-24

- "She does an amazing job when she comes out. Our kids love her. [The OHP] does a great job of communicating and getting everything set up for us."
- "This takes a little effort but is so worthwhile as our students need this service! We are happy to put in the little extra for our students. The staff that come to our school are so professional and independent we don't even know they are here. They ask very little from us. Emails are answered promptly if I need to get hold of someone. Please continue this service as it is so badly needed in my school!"
- "We are grateful for this program and look forward to participating in the program again in the future."
- "It is appreciated and good for our students."
- "We love this program!! We are pushing 60% poverty rate. Much needed!!"



## 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 OHP public health hygienists and 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 OHP public health hygienists 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. Through strong partnership, these providers continue to share the data they do collect with the OHP to measure community impact. See Appendix D for an example of the patient record utilized by the OHP public health hygienists. Student data included in this report are collected and provided by:

- The public health hygienists employed by the OHP to provide SEAL!ND in qualifying schools,
- Dental teams participating in SEAL!ND under MOUs signed with the OHP and serving qualifying schools,
- Additional dental 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/reduced-fee meals program), and
- The [Ronald McDonald Care Mobile's \(RMCN's\)](#)<sup>9</sup> school-based sealant program, which is separate from SEAL!ND.

### SCHOOL SURVEY

During the 2018-19, 2019-20, and 2023-24 school years the evaluation team sent electronic surveys to administrators and staff at every qualifying school participating in SEAL!ND. The survey was designed to explore the schools' experiences with both SEAL!ND and the dental providers, as well as to obtain data regarding challenges and barriers to participating in the program. This survey was not conducted during the 2020-21, 2021-22, 2022-23 school years because of competing school demands during and following the COVID-19 global health 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](#).<sup>h</sup> Current data (2023-24) are presented in this report.



## Community Reach and Impact

Among the 70 schools that participated in SEAL!ND during the 2023-24 school year, 35 were served by OHP public health hygienists and the remaining 35 were served by partnering dental teams that included community health centers (CHCs) and private practices. See Table 1.

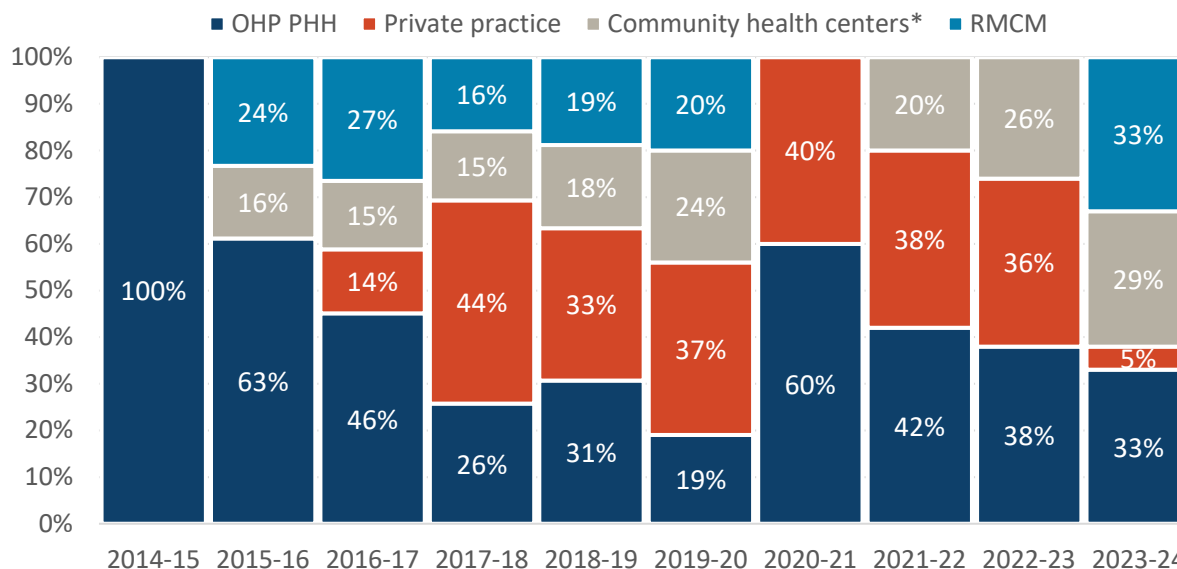
**Table 1. Number of Schools in North Dakota with a School-Based Dental Sealant Program by Provider and School Year (Qualifying and Non-Qualifying Schools)**

School Year:		14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
SEAL!ND	Private practice providers	0	0	12	49	32	37	12	19	21	5
	Community Health Centers*	0	8	13	17	17	24	0	10	15	30
	OHP PHH	18	32	41	29	30	19	18	21	22	35
Ronald McDonald Care Mobile		0	12	24	18	18	20	0	0	0	35
TOTAL Schools		18	52	90	113	97	100	30	50	58	105

The RMCM has historically provided school-based sealant programming, outside of SEAL!ND. Although they are not a contractual partner with SEAL!ND, the RMCM and the OHP work together closely to ensure no redundancies in services, and to coordinate care in local schools. The observed decline in school-based services among CHCs and the RMCM beginning in 2020 is a response to the COVID-19 global health pandemic, and the high demand for other community-based dental services following the pandemic. During the 2019-20 school year (prior to the COVID-19 global health pandemic), one in five schools participating in a school-based sealant program were doing so in partnership with the RMCM through Bridging the Dental Gap; the OHP public health hygienists were responsible for only 19% of schools. The OHP stepped in to meet demand in 2020 providing care for 60% of participating schools. This rate has been declining since 2020 (Figure 1).

Through MOUs and partnerships developed by the OHP, the percentage of schools visited by OHP public health hygienists has historically decreased. In contrast, the rate of schools visited by CHCs, Federally Qualified Health Centers (FQHCs), and private practice providers has increased. See Figure 1. This trend illustrates historical growth and potential sustainability as the OHP identifies partners willing to serve in school settings.

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




\* This total includes FQHCs, tribal health services provided by Spirit Lake Health Center and the Dental Hygiene Program at North Dakota State College of Sciences. Note: Totals may equal greater than 100% because of rounding to the nearest whole percentage.

## QUALIFYING AND NON-QUALIFYING SCHOOLS

The program reached 54 schools that qualified for services (qualifying schools). These are schools meeting the criteria of high-risk, reporting at least 45% of their students enrolled in the free/reduced-fee meals program. Partners with signed MOUs provided dental screening and prevention for an additional 16 schools, or non-qualifying schools. These are schools receiving services that had fewer than 45% of their students enrolled in the free/reduced-fee meals program. Collectively, 70 schools participated in SEAL!ND.




**70**  
schools visited  
through SEAL!ND



**3,070**  
students screened by  
a dental provider



**5,006**  
applications of  
fluoride varnish



**8,531**  
teeth protected with  
dental sealants



**1,817**  
referrals for  
follow-up care\*

\* Total number of referrals made between 1st and 2nd visit, not total number of students with a referral. Students referred for care at visit one may again be referred to care at visit two.

**Table 2. Student Reach of Non-Qualifying and Qualifying Schools Participating in SEAL!ND**

	Non-Qualifying	Qualifying	Total
<b>Schools</b>	16	54	70
<b>Students screened</b>	645	2,425	3,070
<b>Fluoride varnish applications (visit 1 and 2)</b>	978	4,028	5,006
<b>Sealants placed (visit 1 and 2)</b>	1,116	7,415	8,531
<b>Total number of student referrals made</b>	246	1,571*	1,817

\* At the first visit, a total of 889 students were referred for either urgent (134) or early (755) dental care need. At the second visit, 682 students were referred for either urgent (133) or early (549) dental care need. The total includes duplicate students who received a referral at both the first and second visits. This is the total of referrals made, not the total number of students who received a referral.

## Non-Qualifying Schools: Reach

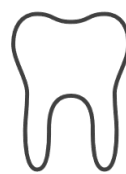
One challenge of the federally funded programming is that it limits the OHP to serve only schools that qualify for services based on the free/reduced-fee meals program. For example, a qualifying school with 150 K-5 students where 75% of the students (112) qualify for the free/reduced-fee meal program will serve fewer under-resourced children than if the OHP were to visit a school with 1,500 K-5 students where only 44% of the children (660) were covered by the meals program (not qualifying for services). Fortunately, there are dental teams in ND who participate in SEAL!ND and offer their time and resources to serve students in non-qualifying schools. During the 2023-24 school year, these partners visited 16 non-qualifying schools, sharing their local impact with the OHP.



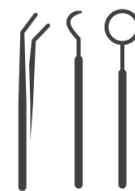
**645**  
children screened  
by a provider



**978**  
applications of  
fluoride varnish



**1,116**  
teeth protected  
with dental sealants



**246**  
dental referrals  
made

Partners who participate in SEAL!ND, providing oral health screenings and preventive services among non-qualifying schools, do not report student-level data to the OHP. However, they do provide aggregate data (totals) to assist the OHP in measuring community impact. During the 2022-23 school year, dental teams in ND visited 18 non-qualifying schools (four more than the year before) and provided care for 630 children. This is a notable increase from the 2020-21 school year but not at the level of participation prior to the COVID-19 global health pandemic. See Table 3.

**Table 3. Student Reach of Non-Qualifying Schools Participating in SEAL!ND**

	2019-20	2020-21	2021-22	2022-23	2023-24
Participating schools	28	9	14	18	16
Students screened (unduplicated)	1,191	326	525	630	645
Fluoride varnish applications*	1,349	449	974	1,009	978
Dental sealants placed*	1,864	632	942	1,322	1,116
Students referred for follow-up care	319	122	154	203	246

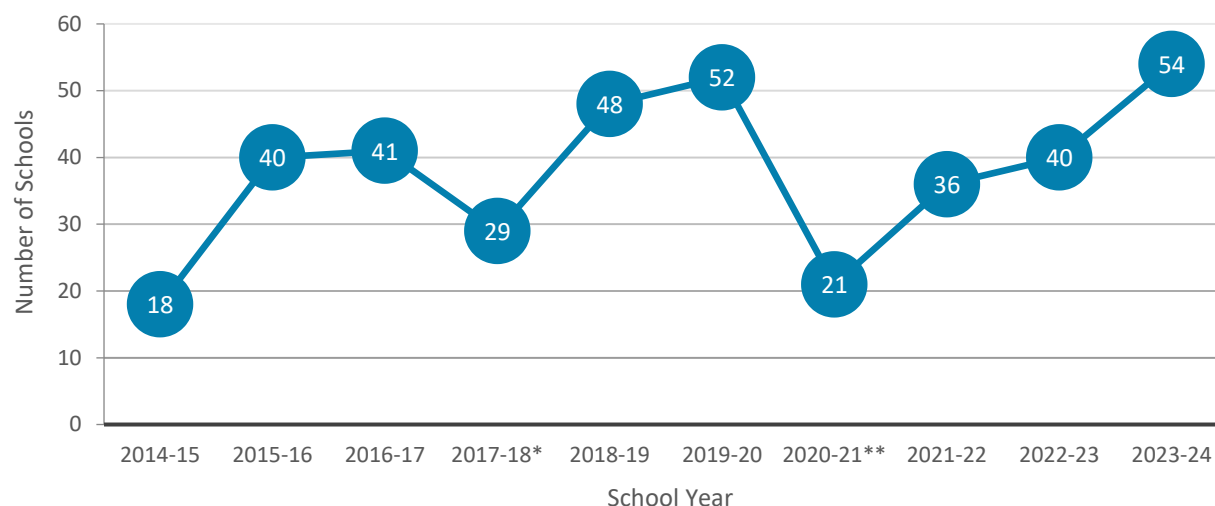
\* These numbers include duplicate applications; many students receive fluoride varnish at both visits, and several teeth are resealed or newly erupted (a tooth that had grown in that was not present at first visit) between the first and second visits.

## Qualifying Schools: Reach

The OHP prevention coordinator provides oversight, scheduling, materials and manuals for both qualifying and non-qualifying schools, and interested dental teams. Specific patient data are only provided for qualifying schools. During the 2023-24 school year, 70 schools participated in SEAL!ND. Only 54 of the 70 schools met the criteria of high-risk, reporting at least 45% of their students enrolled in the FRFSL meals program.

Among the 54 qualifying schools, 54 had both a fall and a spring visit. Before the 2020-21 school year, in which the COVID-19 global health pandemic delayed or stopped service delivery, the number of schools that qualified for and received services from the OHP had increased annually. The noted increase exceeded the goal of increasing the number of schools by 5% each year. See Figure 2. The program continues to see an increase in the number of qualifying schools participating following the COVID-19 pandemic and has returned to pre-COVID reach.

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



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

\*\* The COVID-19 global health pandemic led to temporary school closures and delayed the reopening and provision of services in dental clinics and FQHCs.

Among the 54 qualifying schools, 2,425 students were screened, and 7,415 teeth were sealed between the fall and spring visits.



**2,425**

children screened  
by a provider



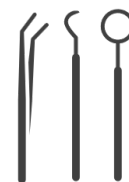
**4,028**

applications of  
fluoride varnish



**7,415**

teeth protected  
with dental sealants

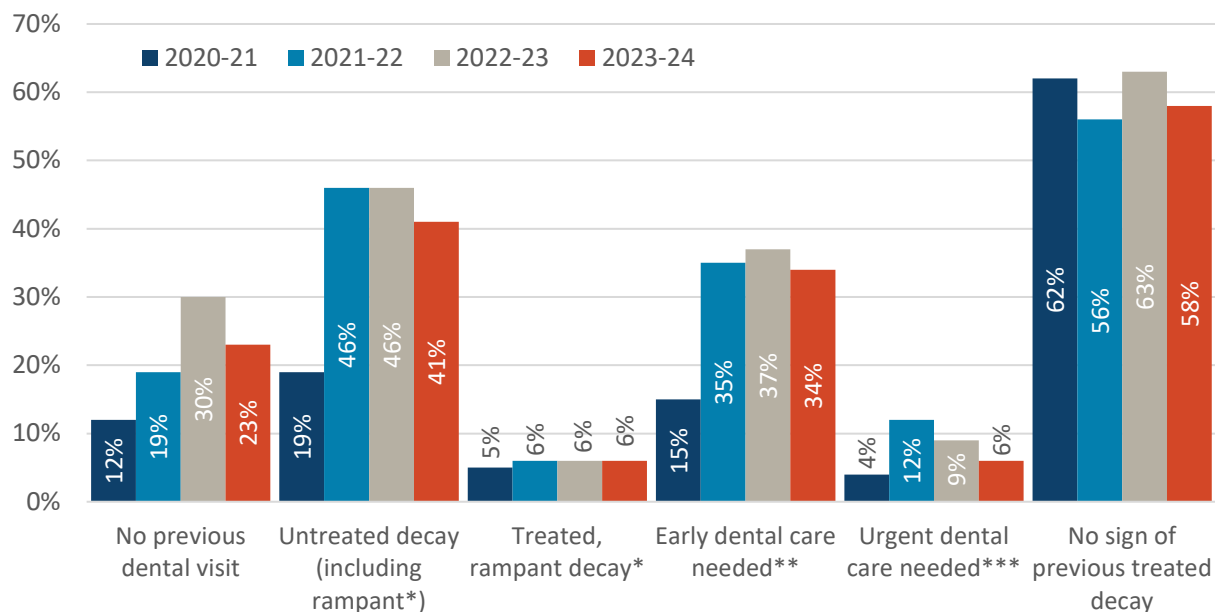


**1,571**

dental referrals  
made

Following what has been reported in national data as a decline in dental prevention and treatment services during 2020 and 2021, SEAL!ND had similarly noted a decline in oral health status among students participating in the program following the COVID-19 public health emergency. It is important to note that the data are not tracking the same students over time. However, among participating schools, the percentage of students presenting with untreated decay, early dental care need, and no previous dental visit following 2020 had been concerning. In the most recent school year, the data demonstrate noted improvement. See Figure 3.

**Figure 3. Percentage of Students in Qualifying Schools Needing Treatment and Presenting with Decay, by School Year<sup>1</sup>**



1. 2020-21, n=564; 2021-22, n=1,159; 2022-23, n=1,654, 2023-24, n=2,235

\* 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

SEAL!ND student-level data are only available for 52 of the 54 qualifying schools that participated in the program during the 2023-24 school year. The following data represent the 2,235 students screened at 52 qualifying schools, omitting the additional 190 students screened at the two additional qualifying schools. The two schools omitted were visited by dental students completing their dental rotations at a FQHC. The students were only able to collect data related to services provided, and not the current oral health status and student demographics. Among the 52 schools with data, most students served were in grades K-5 (87%). About half (51%) of students served were non-Hispanic White, and 21% of students served were American Indian (AI). This is notable, given only 5.7% of the total state population includes individuals who are AI.<sup>i</sup> See Table 4.

**Table 4. Number and Percentage of Students Served by Race, Gender, and Grade Level in Qualifying Schools**

	2023-24		2022-23	2021-22	2020-21	2019-20
RACE	n = 2,235	%	n = 1654*	n = 1139*	n = 562*	n = 2,322*
White	<b>1,129</b>	<b>51%</b>	53%	51%	65%	46%
American Indian	<b>468</b>	<b>21%</b>	24%	41%	21%	27%
Black/African American	<b>272</b>	<b>12%</b>	10%	2%	4%	10%
Asian	<b>105</b>	<b>5%</b>	3%	1%	0%	6%
Multi-Race	<b>63</b>	<b>3%</b>	4%	2%	6%	7%
GENDER	n	%	%	%	%	%
Male	<b>1,029</b>	<b>46%</b>	48%	47%	45%	45%
Female	<b>1,182</b>	<b>53%</b>	52%	53%	55%	54%
GRADE	n	%	%	%	%	%
Pre-K	<b>75</b>	<b>3%</b>	3%	3%	1%	0%
Kindergarten	<b>359</b>	<b>16%</b>	21%	16%	14%	19%
First grade	<b>394</b>	<b>18%</b>	18%	15%	18%	17%
Second grade	<b>364</b>	<b>16%</b>	16%	16%	16%	17%
Third grade	<b>307</b>	<b>14%</b>	15%	15%	15%	14%
Fourth grade	<b>267</b>	<b>12%</b>	12%	11%	14%	13%
Fifth grade	<b>243</b>	<b>11%</b>	9%	9%	10%	10%
Grades 6-12	<b>221</b>	<b>10%</b>	7%	18%	12%	8%

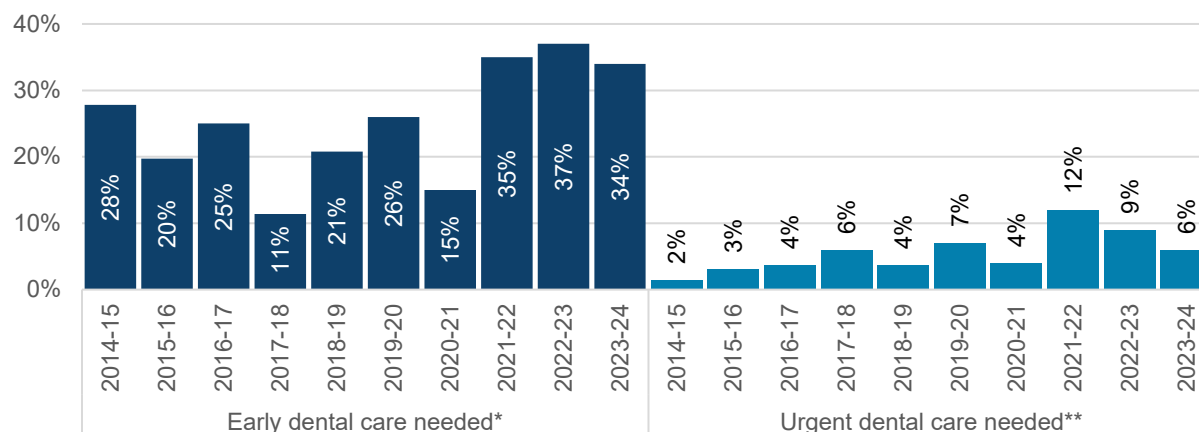
\* The N reflects the total sample for each year, however, not all participants provided their race, grade, or gender. As a result, the percentages will not total 100% as the missing and no-response variables are omitted from this table. Columns where the total is greater than 100% is a result of rounding to the nearest whole percentage.

## STUDENTS SERVED: COMPARING NINE YEARS OF SEAL!ND

The percentage of students participating in SEAL!ND who required urgent dental care increased considerably in the two years following the COVID-19 public health emergency (2020-21 school year). As of the 2021-22 school year, for the first time in eight years, more than one in three students needed early dental care, and roughly one in eight required urgent dental treatment. See Figure 4.



**Figure 4. Percentage of Students Needing Treatment in Qualifying Schools, by School Year**

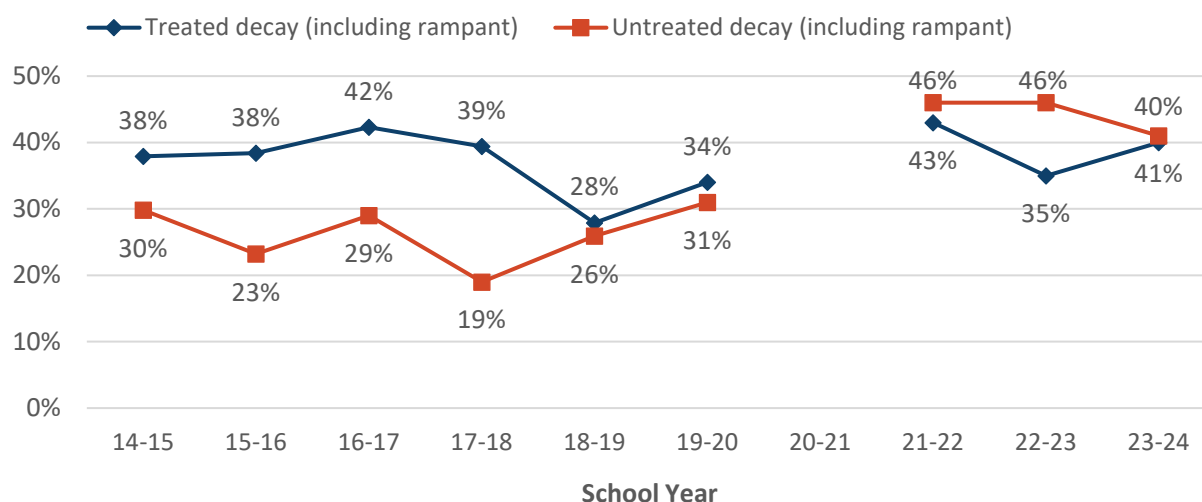


\* Decay present without pain or swelling. Refer to a dentist for treatment.

\*\* Pain, infection, large decay, abscess or draining. Immediate referral for treatment.

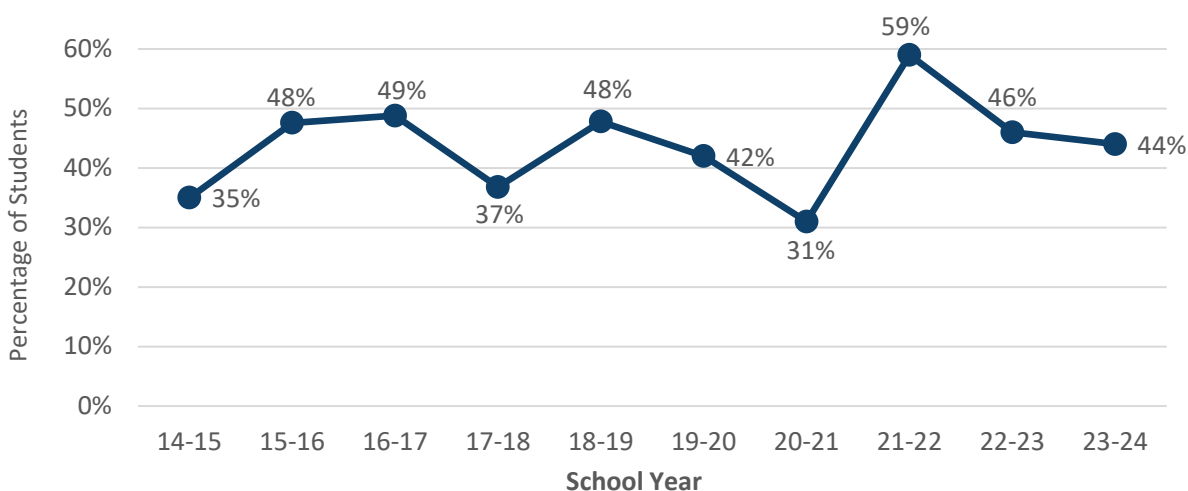
There is concern about comparing annual data because of continual workflow and data management changes, and it is important to remember that the number of participating schools and students varies annually. However, in the most recent school year, roughly 40% of students were requiring dental referral for either early or urgent treatment need. This rate is still high, although there is a declining trend in the proportion requiring urgent care following the COVID-19 global health pandemic. The reason a provider indicates a child requires early or urgent care can vary, but a common reason would be untreated decay. The percentage of students with untreated decay increased considerably during the 2021-22 school year. See Figure 5. Missing data represent the year of school closures where data collection was limited to prioritize services.

**Figure 5. Percentage of Students Needing Treatment in Qualifying Schools, by School Year**



Although there is no research to currently identify the cause of this spike in ND, anecdotal evidence and research outside of the state would indicate this may be the result of delayed care during the period of the COVID-19 global health pandemic. Patients were less inclined to visit the dentist during 2020-21, offices closed for long periods of time, and prevention programs stopped or limited care provision. During this time, SEAL!ND continued to screen and apply fluoride varnish, but did not provide sealant application because of the risk of aerosol spread of COVID-19. Of all students in qualifying schools participating in SEAL!ND during the 2023-24 school year, 44% received at least one dental sealant. See Figure 6.

**Figure 6. Percentage of Students Receiving at Least One Dental Sealant in Qualifying Schools, by School Year**



An increase in sealant placement can be indicative of fewer students having already received dental sealants in a dental clinic, or that the students screened had newly erupted molars. For example, at the first school visit during the 2023-24 academic year, 41% of students had a previous dental sealant already in place on at least one molar. The low percentage of school-based sealant placements in 2020-21 is because providers were only offering fluoride varnish due to the risk of aerosol spread of COVID-19 during sealant placement.

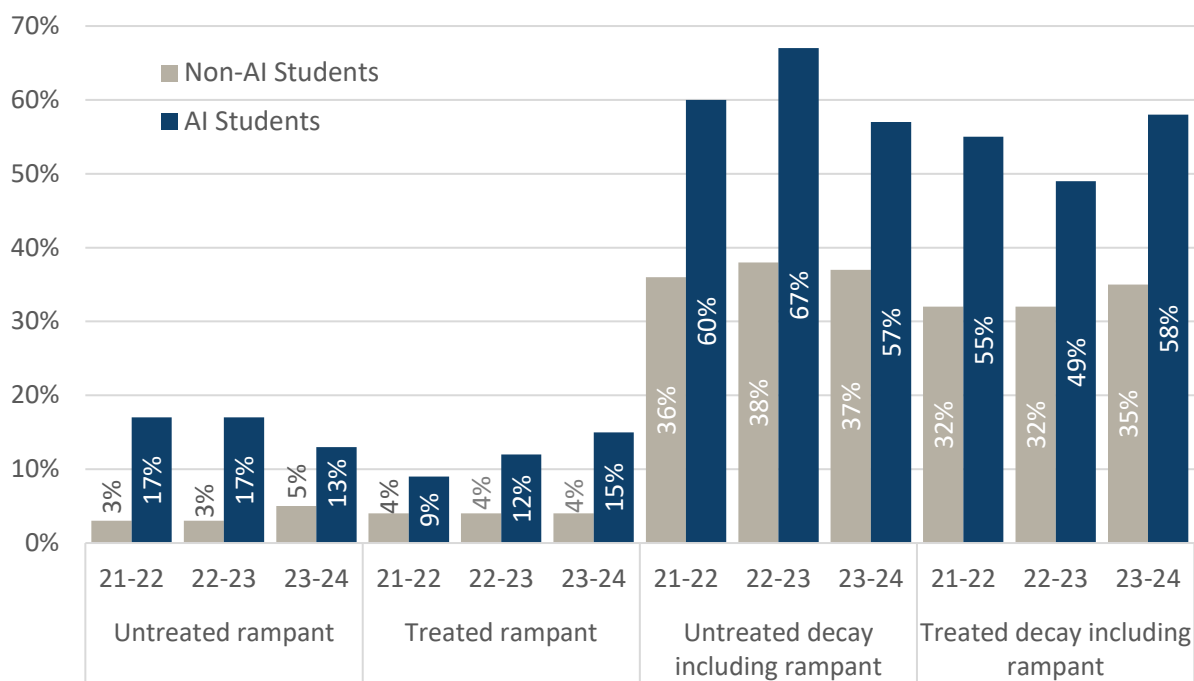
## **STUDENTS SERVED: POPULATION ACCESS CONCERNS**

The primary purpose of SEAL!ND is to implement a sustainable sealant program to provide preventive oral health services. In this regard, the ND OHP has been highly successful in reengaging schools and provider groups, undoubtedly having a positive impact on the health of children in the most under-resourced communities in ND.

Specifically, close to half (41%) of the students participating in SEAL!ND during the 2022-23 school year were AI. In the most recent school year, 21% of students reached through SEAL!ND were AI. This is notable, given only 5.7% of the total state population includes individuals who are AI. SEAL!ND is addressing dental care access inequities for racial minority groups in ND.

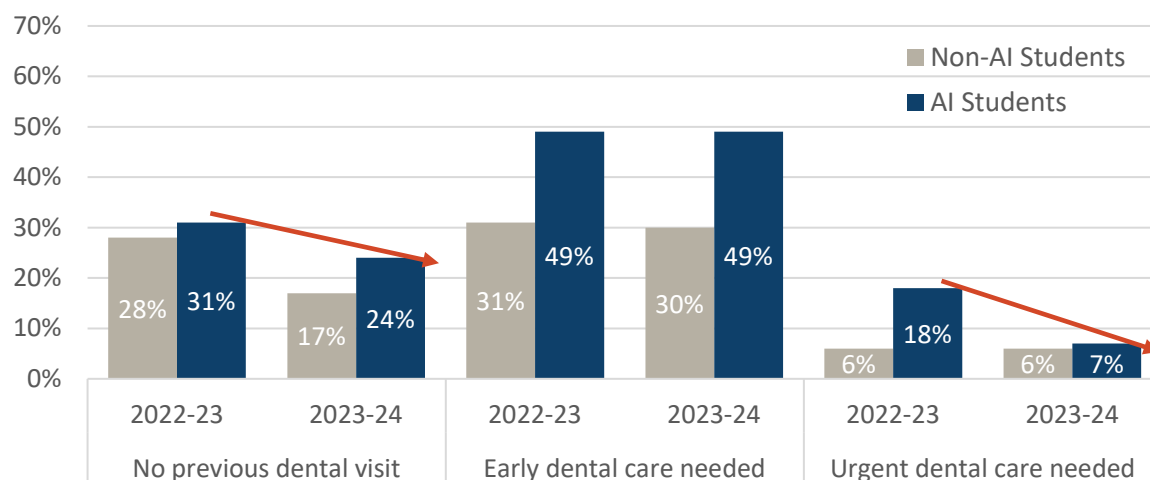
Although SEAL!ND has had a positive impact on the health of the community, data from the last two school years indicate increasing inequities for AI children. Greater proportions of AI students presented with decay and dental care need. See Figure 7 and Figure 8. It is imperative that the OHP work with communities, share results of this work, and allow space to identify opportunities to promote oral health equity outside of (or in addition to) SEAL!ND.

**Figure 7. Percentage of AI and Non-AI Students in Qualifying Schools with Treated and Untreated Decay, by School Year**



Although AI students still report worse outcomes than non-AI students, there are notable improvements among AI students. In Figure 8, it is evident that the proportion of students who are AI that had no previous dental visit declined from 31% in the previous year to 24% in the current year. Similarly, the proportion of AI students requiring urgent dental care has declined.

**Figure 8. Percentage of AI and Non-AI Students in Qualifying Schools Needing Treatment and with No Dental Visit, by School Year**



## STUDENTS SERVED BY GRADE LEVEL: KINDERGARTEN THROUGH GRADE 12

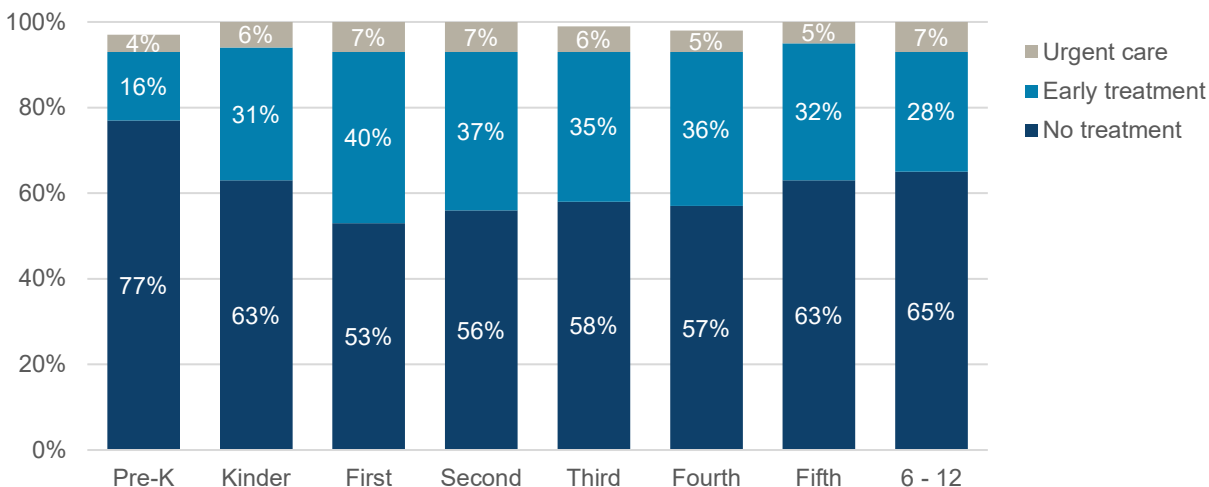
The data reveals that the percentage of students requiring no treatment decreases from kindergarten through early grade school but then rises from fifth grade onward (Table 5 and Figure 9). The proportion of students needing urgent care remains relatively consistent across most grades during the first visit. By the second visit, the percentage of students requiring early treatment drops across most ages (Table 5), indicating an improvement or stabilization in their health needs. However, there is a great variability in urgent care requirements during the second visit, ranging from 3% to 11% across different grade levels.

**Table 5. Dental Treatment Need in Qualifying Schools by Grade Level and Visit, 2023-24**

		Pre-K	Kindergarten	First	Second	Third	Fourth	Fifth	Grades 6-12
1 <sup>st</sup> Visit n= 2,235	No treatment	77%	63%	53%	56%	58%	57%	63%	65%
	Early treatment	16%	31%	40%	37%	35%	36%	32%	28%
	Urgent care	4%	6%	7%	7%	6%	5%	5%	7%
2 <sup>nd</sup> Visit n= 1,821*	No treatment	80%	65%	59%	56%	62%	60%	67%	73%
	Early treatment	11%	32%	30%	34%	29%	35%	30%	19%
	Urgent care	9%	3%	11%	10%	8%	4%	3%	8%

\* 2,235 students had a first visit, and 1,821 of those 2,235 had a second visit with data to report on treatment urgency. Columns where the total is greater or less than 100% is a result of rounding to the nearest whole percentage.

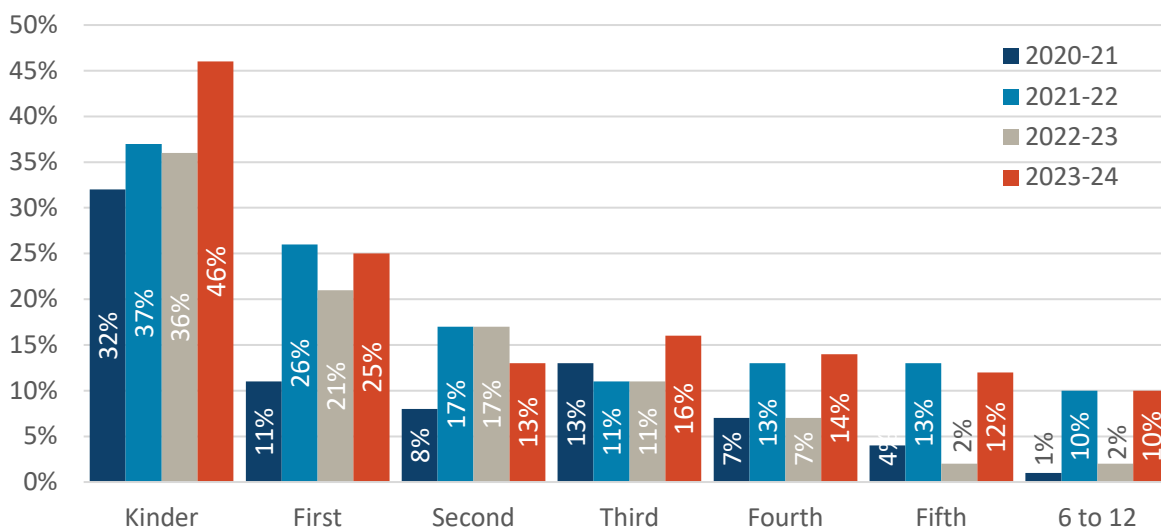
**Figure 9. Percentage of Students in Qualifying Schools Needing Treatment by Grade, First Visit**



Note: Totals may not equal 100% because of rounding to the nearest whole percentage

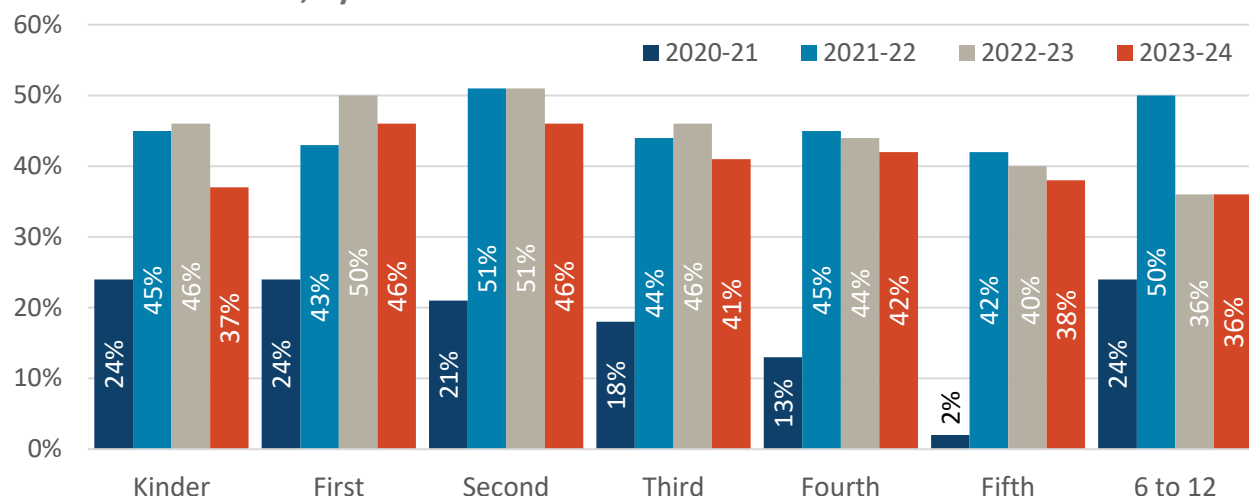
A key observation is the increase in the percentage for kindergarten students with no previous dental visit, rising to 46% in 2023-24 (Figure 10).

**Figure 10. Percentage of Students with No Dental Visit in Qualifying Schools, by Grade and School Year**



The data reveals that the percentage of students with untreated decay at the time of the first visit has either stayed the same or dropped in the 2023-24 period compared to the previous year (Figure 11). This suggests some improvement in addressing untreated decay, despite the overall increase in students with no previous dental visits across grade levels.

**Figure 11. Percentage of Students in Qualifying Schools with Untreated Decay\* Present at First Visit, by Grade and School Year**



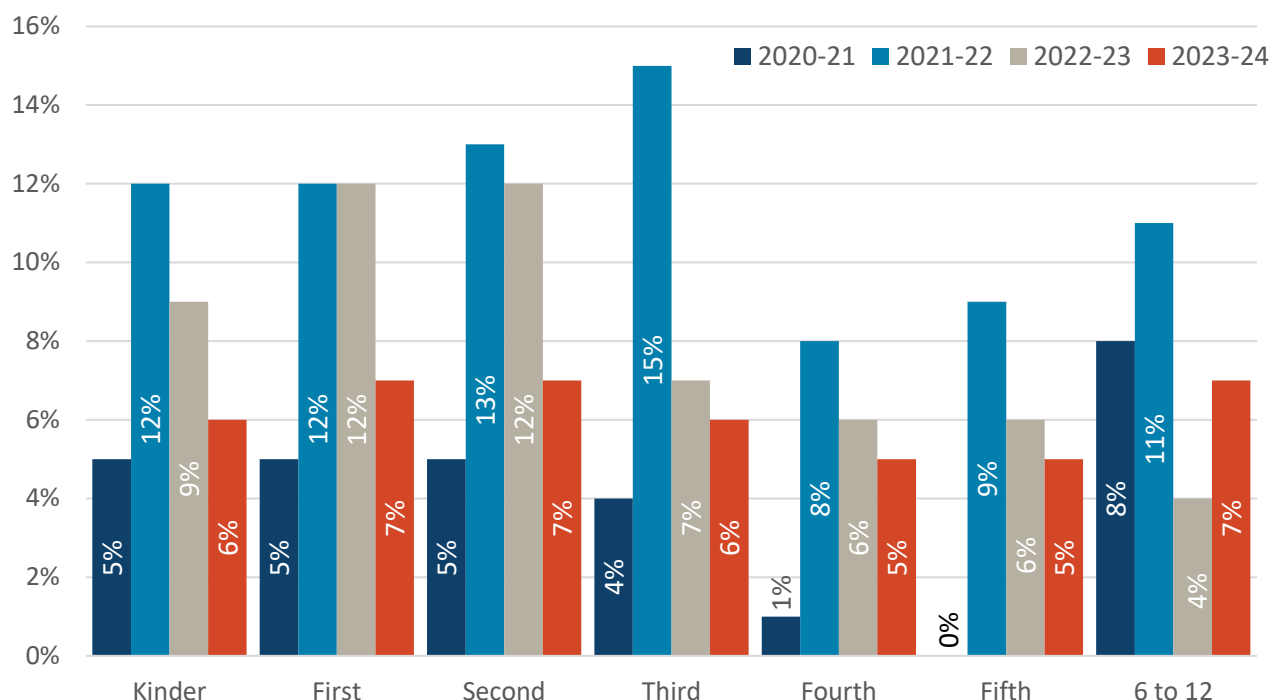
\*Includes any untreated decay present and rampant decay present.

The percentage of students needing urgent dental care at their first school screening decreased consistently across kindergarten through fifth grade, with a slight increase noted among students in grades 6-12 (Table 6). This decline aligns with the downward trend following the spike observed the year following the COVID-19 global health pandemic (2021-22).

**Table 6. Percentage of Students in Qualifying Schools Needing Treatment at First Visit, by Grade and Year**

		K	First	Second	Third	Fourth	Fifth	6-12
NO TREATMENT	2019-20	69%	66%	64%	68%	68%	66%	69%
	2020-21	77%	77%	78%	82%	85%	98%	77%
	2021-22	55%	51%	50%	56%	55%	57%	49%
	2022-23	54%	50%	48%	53%	54%	59%	64%
	2023-24	63%	53%	56%	58%	57%	63%	59%
EARLY TREATMENT	2019-20	24%	27%	25%	26%	28%	23%	25%
	2020-21	17%	18%	17%	15%	13%	2%	15%
	2021-22	33%	36%	37%	29%	37%	34%	40%
	2022-23	36%	38%	40%	40%	40%	34%	31%
	2023-24	31%	40%	37%	35%	36%	32%	28%
URGENT TREATMENT	2019-20	5%	10%	9%	7%	6%	5%	8%
	2020-21	5%	5%	5%	4%	1%	0%	8%
	2021-22	12%	12%	13%	15%	8%	9%	11%
	2022-23	9%	12%	12%	7%	6%	6%	4%
	2023-24	6%	7%	7%	6%	5%	5%	7%

**Figure 12. Percentage of Students in Qualifying Schools with Urgent Dental Care Needs at First Visit, by Grade and School Year**



## Recommendations from Previous Year: Progress

The SEAL!ND program had a significant impact on the health and well-being of more than 3,000 students during the 2023-24 academic year. The OHP plays a pivotal role in preventive dental services; however, opportunities remain to ensure children in ND have equitable access to good oral health. In no particular order, it was recommended that the OHP and SEAL!ND teams focus on three specific areas to address pediatric oral health during the 2023-24 school year. Specifically:

1. Work with the schools new to the program and those who are working with other staff or partners to ensure that the data collected are consistent with data already reported as part of SEAL!ND. This will include those programs serving pre-school aged children like the Best in Class Program.<sup>1</sup>
2. Survey school leadership and staff responsible for managing school-based sealant programs to identify areas for improvement.
3. Continue to expand reach in other community-based settings serving pre-school aged children.



## RECOMMENDATION ONE: CONSISTENT DATA COLLECTION

Data collection and reporting has been consistent among partners and public health hygienists employed by the OHP who visit qualifying schools. The exports of these data into a shared file requires significant data cleaning and review by the evaluation team. However, the evaluation team and the OHP have developed a comprehensive code book for the process of file merger and data cleaning. Those providers who visit schools that do not qualify for services share only aggregate data on five broad measures: number of schools; number of students screened; total varnish applications between first and second visits; total number of sealants placed between first and second visits; and total number of student referrals made between first and second visits.

In the most recent school year, one barrier to data reporting is that two of the qualifying schools were visited by a partner FQHC. This partner only collected and reported the aggregate data typical of data shared by partners visiting non-qualifying schools. It is recommended that the OHP continue to highlight the importance of comprehensive and consistent data collection for the purpose of program improvement and oral health surveillance.

## RECOMMENDATION TWO: SEAL!ND SURVEY OF SCHOOL PERSONNEL

During the 2023-24 school year, 35 schools that qualified for school-based sealant programming completed anonymous, electronic surveys, reporting their experience with SEAL!ND. Schools were widely satisfied with the programming, the coordination, the open communication and the provided resources. See Figure 13.

**Figure 13. Percentage of School Personnel who Agreed or Strongly Agreed, 2023-24**

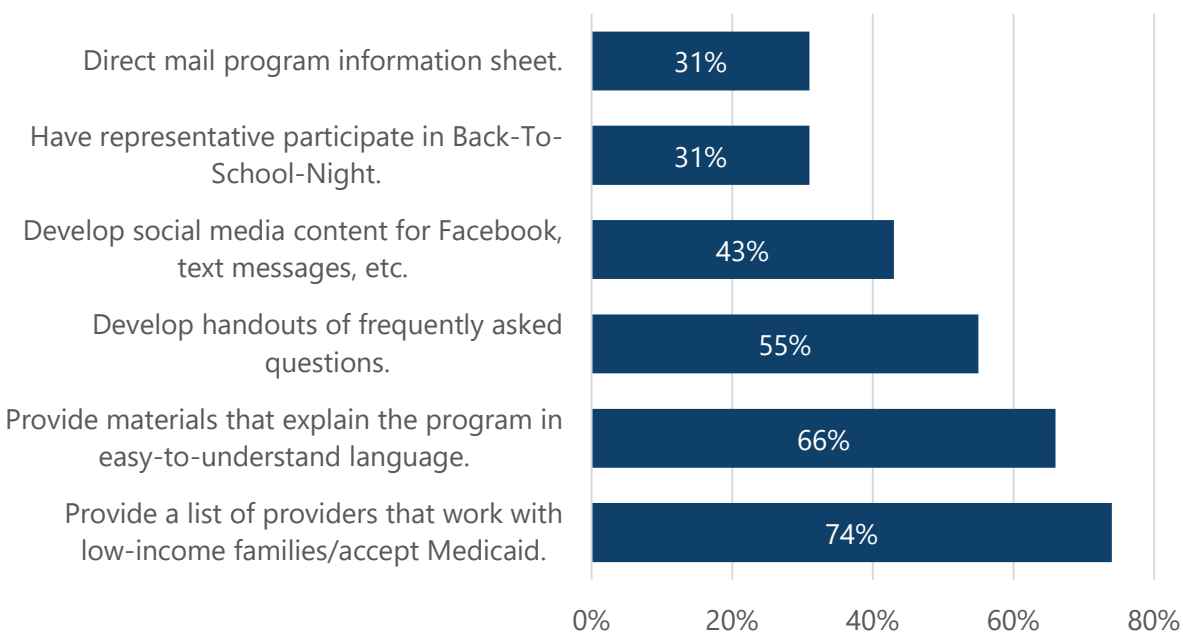


Although the data are strong indicators of a well implemented program, the open-ended, anonymous responses make clear the value of this program; community. Comments from public school administrators, educators, and school staff in the 2023-24 school year included:

- "This takes a little effort but is so worthwhile as our students need this service! We are happy to put in the little extra for our students. The staff that come to our school are so professional and independent that we don't even know they are here. They ask very little from us. Emails are answered promptly if I need to get ahold of someone. Please continue this service as it is so badly needed in my school!"
- "We are grateful for this program and look forward to participating in the program again in the future."
- "It is appreciated and good for our students."
- "She does an amazing job when she comes out. Our kids love her. [The OHP] does a great job of communicating and getting everything set up for us."
- "We love this program!! We are pushing 60% poverty rate. Much needed!!"

The school personnel were also asked to indicate which activities of the OHP are useful or would be beneficial in the next year. Within the list of available support, the top need was clearly the request for the OHP to provide a list of dental providers in the area who would accept and work with low-income families covered by North Dakota Medicaid. See Figure 14.

**Figure 14. Percentage of 2023-24 School Personnel who Indicated OHP Activities "Would be Helpful" with the SEAL!ND Program**



The OHP already provides program information sheets, representation at school events, social media language, and handouts. The one area where the OHP has continued to work with state partners and provider associations without much success is in the development of a list of available dental offices willing and able to accept students who need care who are covered by North Dakota Medicaid. This is an ongoing conversation with the licensing boards, provider groups, and the state Oral Health Coalition.

### RECOMMENDATION THREE: INCREASE REACH IN PRE-SCHOOL SETTINGS

Utilizing additional funding through the HRSA grant, the OHP Prevention Coordinator worked with the Best in Class program<sup>j</sup> to provide dental screening and referral for pre-school children. Best in Class<sup>j</sup> is a State investment program focused on early childhood programming for licensed pre-school programs including Head Start programs.<sup>j</sup>

During the 2023-24 school year, the ND OHP coordinated and provided dental screening and referral for 23 sites. The OHP public health hygienist was able to screen 335 students at those 23 sites and recommended 40 children for follow-up care. An additional 22 Best in Class sites participated in similar programming, providing 307 dental screenings and making 57 recommendations for follow-up dental services.

Among the 355 students screened by the OHP public health hygienist, only 12% presented with untreated decay (11%) or rampant decay (<1%). Even fewer presented with previously treated decay (8%) or treated rampant decay (2%). Data were not collected and shared with the OHP for the additional 22 sites, and data collected by the public health hygienist omitted the data related to previous dental visit. With these new partnerships, there is opportunity to increase the number of Best in Class sites completing dental screening and referral, and to improve the quality of data collection and reporting among participating sites.



**23**

licensed pre-school  
programs



**335**

children with dental  
screenings



**40**

children referred for  
follow-up care

## Recommendations for 2024-25

The goals identified in 2023-24 continue to be relevant and it will be important for the OHP to further explore private practice partnerships, identify models where providers can be reimbursed for care provided in a school-based setting, and to maintain relationships with organizations like the RMCM who have provided care previously and who may be interested in reengaging with SEAL!ND.

Additional recommendations for the 2024-25 school year include:

1. Continue to highlight the importance of comprehensive and consistent data collection for the purpose of program improvement and oral health surveillance. This is a recommendation for both SEAL!ND and the Best in Class program.<sup>j</sup>
2. Continue to share data and community requests with coalitions, licensing boards, and dental provider groups in an effort to develop a list of providers willing to accept children covered by North Dakota Medicaid.
3. Continue to employ public health hygienists within the OHP to ensure broad reach of SEAL!ND throughout the state, increasing the number of schools visited through dental partnerships and program coordination.

## About the Oral Health Program

The vision of the ND Department of Health & Human Services is "to make North Dakota the healthiest state in the nation." <sup>a</sup> The mission of the OHP is "to improve the oral health of all North Dakotans through prevention and education." <sup>b</sup>

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

## Acknowledgements

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- Toni Hruby, Oral Health Prevention Coordinator
- Vanessa Bopp, Community and Workforce Liaison
- Mary Strube, Public Health Hygienist
- Paige Ward, Public Health Hygienist

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Any questions regarding this product or the data presented can be directed to:

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Department of Indigenous Health | UND School of Medicine & Health Sciences  
[Shawnda.schroeder@UND.edu](mailto:Shawnda.schroeder@UND.edu) | 701-777-0787

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## Appendix A: SEAL!ND Education Material

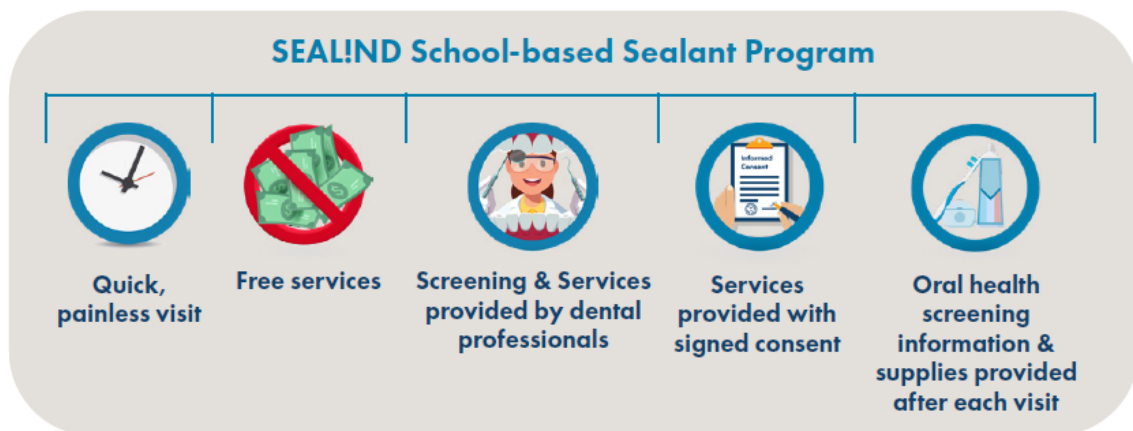
### SEAL!ND North Dakota School-Based Sealant Program

SEAL!ND brings a public health dental hygienist into the school setting two times a year in order to provide direct preventive services.

To have your child participate in the program, complete the consent form that was sent home and be sure to ensure your child is at school the day of the dental professional visits.

Services provided through SEAL!ND include:

- Oral health screening
- Oral health education
- Fluoride varnish application
- Dental sealant application



#### Dental Sealants

Dental sealants are thin coatings painted on the surface of back molars that can last up to nine years. Once applied, sealants protect against 80% of cavities for two years and continue to protect against 50% of cavities for up to four years.

#### Fluoride Varnish

Fluoride varnish is a protective coating that is painted on the face of all teeth to help prevent cavities and to help slow or stop cavities that have just started. Varnish must be reapplied every six months.



Learn more about SEAL!ND  
using the QR code or by visiting:  
[hhs.nd.gov/SEALND](https://hhs.nd.gov/SEALND)



Health & Human Services



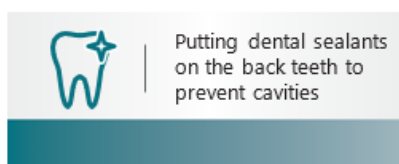
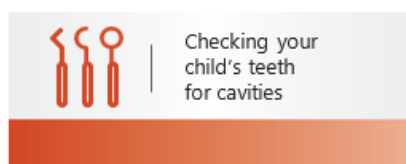
## Appendix B: Invitation Letter and Consent Form

### **WE ARE COMING TO YOUR SCHOOL!** **SEAL!ND Dental Sealant & Fluoride Varnish Program**



The North Dakota Department of Health and Human Service's SEAL!ND program will be visiting your child's school this year to help keep your children's teeth healthy! **If your child goes to the dentist at least once a year, this program is not intended for them. Keep seeing your regular dentist!**

#### ***Services provided include:***



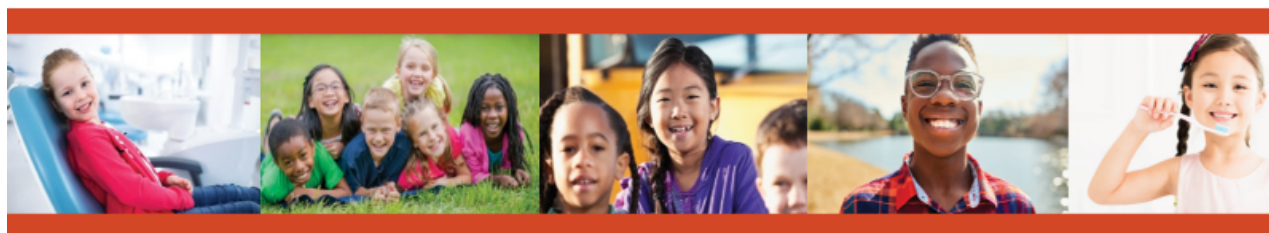
We will also be teaching your child how they can prevent cavities by regularly brushing and flossing their teeth and visiting the dentist!

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 is so easy to apply fluoride varnish and sealants, we will not need to give your child anything to relax them, any shots, medications or x-rays.

**Complete all sections of the consent form and return it to your child's homeroom teacher; we need your signed 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, please contact us at 701-328-2356.





## PARENT CONSENT

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
ORAL HEALTH PROGRAM  
SFN 61686 (7-2023)

SEALIND: North Dakota Dental Sealant and Fluoride Varnish Program

Name of Child (First, Middle, Legal Last)		Age	
Child's Date of Birth (MM/DD/YYYY)	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female	Primary Language (if not English)	
Name of Teacher		Grade	
<input type="checkbox"/> YES, I give my permission for my child to receive the following treatments: <input type="checkbox"/> Oral Screening <input type="checkbox"/> Sealants <input type="checkbox"/> Fluoride Varnish <input type="checkbox"/> NO, I do not give my permission for my child to receive treatment. Specify reason: <input type="checkbox"/> My child already has sealants and/or receives varnish. <input type="checkbox"/> My child regularly sees a dentist. <input type="checkbox"/> Other (describe): _____ <b>* If you checked no, you do not need to complete the rest of the form. Please return to the teacher. If you checked yes, complete the rest of the form and return to the teacher.</b>			
Name of Parent/Guardian		Parent/Guardian Email Address	Preferred Telephone Number
Address		City	State ZIP Code
Race of Child (check one) <input type="checkbox"/> White <input type="checkbox"/> Black/African American <input type="checkbox"/> Multi-racial <input type="checkbox"/> Asian <input type="checkbox"/> American Indian/Alaskan <input type="checkbox"/> Other <input type="checkbox"/> Declined to Answer			
Ethnicity of Child (check one) <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> Not Hispanic/Latino <input type="checkbox"/> Declined to Answer			
Tribal Affiliation of Child (if applicable)			
Yes	No		
<input type="checkbox"/>	<input type="checkbox"/>	Is your child allergic to anything? If yes, what?	
<input type="checkbox"/>	<input type="checkbox"/>	Is your child taking any medications? If yes, what?	
<input type="checkbox"/>	<input type="checkbox"/>	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:	
<input type="checkbox"/>	<input type="checkbox"/>	Has your child ever needed dental services but was unable to receive services or denied services? If yes, explain:	
<input type="checkbox"/>	<input type="checkbox"/>	Does your child have a dentist? If yes, answer below:	
Name of Child's Dentist		Date of Last Visit	<input type="checkbox"/> Between 6-12 months ago <input type="checkbox"/> Within the last 6 months <input type="checkbox"/> More than one year ago <input type="checkbox"/> Never
<input type="checkbox"/> My child has no dental insurance			
No family or child will receive a bill for services; however, Medicaid will be billed if your child is covered by Medicaid.			
Medicaid Number (if applicable)			
Photo Consent/Release: I consent to the use of pictures, video or audio recordings of my child for program promotion. <input type="checkbox"/> Yes <input type="checkbox"/> 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: Visit Results Sheet

## VISIT RESULTS

SEAL!ND | Dental Sealant & Fluoride Varnish Program

To the Parent/Guardian of: \_\_\_\_\_

Date: \_\_\_\_\_

### We were happy to see your child today!

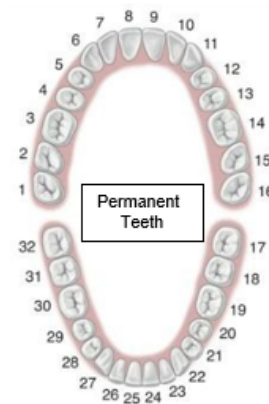
Your child received the following mouth care services today:

- \_\_\_\_\_ 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 - thin plastic coating applied to the chewing surfaces of back teeth to prevent food and bacteria from getting into the grooves helping to prevent cavities

NOTES regarding your child: \_\_\_\_\_

### 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



### If your child had a fluoride varnish 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.

### If your child had sealants:

- They can eat and drink right away.
- The sealant is tooth colored and may not be visible.
- They may feel the sealant with their tongue but will quickly adjust to them.

**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:



Mary Strube | [mstrube@nd.gov](mailto:mstrube@nd.gov) | 701-328-2203

Staff signature: \_\_\_\_\_

# Appendix D: Electronic Student Dental Record

Demographics				
Date of birth:		Child's age in years:		
<input type="text"/>		<input type="text"/>		
Gender:				
<input type="text"/>				
Race:				
<input type="text"/>				
Ethnicity:				
<input type="text"/>				
Street Address:		City:	State:	
<input type="text"/>		<input type="text"/>	ND <input type="text"/>	
Zip Code:	County:	Phone number:		
<input type="text"/>	<input type="text"/>	<input type="text"/>		
Screening Information				
Site code:				
<input type="text"/>				
Consent:				
<input checked="" type="radio"/> Parent/Guardian Consent for Both (Sealants and Fluoride Varnish)				
<input type="radio"/> Parent/Guardian Consent for Sealant				
<input type="radio"/> Parent/Guardian Consent for Fluoride Varnish				
Screening or Application Not Completed:				
<input type="radio"/> Child Absent				
<input type="radio"/> Child Moved				
<input type="radio"/> Child uncooperative				
Grade level:				
1st Grade <input type="text"/>				
Screening				
Screening/Application date:				
04/01/2021 <input type="text"/>				
Previous dental visits (with or without treatment):				
<input type="radio"/> No previous dental visit has occurred				
<input checked="" type="radio"/> Yes, a previous dental visit has occurred				
Untreated decay: Primary and/or permanent teeth. Loss of tooth structure at enamel surface, carious lesion, or sticky area.				
<input type="radio"/> No untreated decay				
<input checked="" type="radio"/> Untreated decay present				
<input type="radio"/> Rampant decay - seven or more untreated areas				
Treated decay: Silver or composite fillings, restorations, crowns or missing teeth due to decay				
<input type="radio"/> No sign of previous decay				
<input checked="" type="radio"/> Yes, filled teeth or restored teeth				
<input type="radio"/> Rampant decay - seven or more treated areas				
Sealants on Permanent Molars (if surface is smooth by toothpick exploration, sealant may be present):				
<input checked="" type="radio"/> No sealants present				
<input type="radio"/> Yes, sealants previously placed by DDS				
1:	2:	3:	4:	5:
<input type="text"/>	<input type="text"/>	Prescribe Sealant <input type="text"/>	<input type="text"/>	<input type="text"/>
12:	13:	14:	15:	16:
<input type="text"/>	<input type="text"/>	Prescribe Sealant <input type="text"/>	<input type="text"/>	<input type="text"/>
32:	31:	30:	29:	28:
<input type="text"/>	<input type="text"/>	Prescribe Sealant <input type="text"/>	<input type="text"/>	<input type="text"/>
21:	20:	19:	18:	17:
<input type="text"/>	<input type="text"/>	Prescribe Sealant <input type="text"/>	<input type="text"/>	<input type="text"/>
Number of molars decayed or filled		1st molars:	2nd molars:	
<input type="text"/>		0	0	

Application				
1: <input type="text"/>	2: <input type="text"/>	3: <input type="text" value="Place Sealant"/>	4: <input type="text"/>	5: <input type="text"/>
12: <input type="text"/>	13: <input type="text"/>	14: <input type="text" value="Place Sealant"/>	15: <input type="text"/>	16: <input type="text"/>
32: <input type="text"/>	31: <input type="text"/>	30: <input type="text" value="Place Sealant"/>	29: <input type="text"/>	28: <input type="text"/>
21: <input type="text"/>	20: <input type="text"/>	19: <input type="text" value="Place Sealant"/>	18: <input type="text"/>	17: <input type="text"/>
<b>Number of teeth sealed</b>				
1st molars: <input type="text" value="4"/>	2nd molars: <input type="text" value="0"/>	3rd molars: <input type="text" value="0"/>		
1st premolars: <input type="text" value="0"/>	2nd premolars: <input type="text" value="0"/>			
Fluoride varnish treatment received today: <input type="radio"/> No, fluoride varnish was not applied today <input checked="" type="radio"/> Yes, fluoride varnish was applied today				
Treatment Urgency: <input type="radio"/> No obvious problem. Treatment: Next regular checkup within six months. <input checked="" type="radio"/> Early dental care (decay w/out pain or swelling). Treatment: Refer to dentist. <input type="radio"/> Urgent care (pain, infection, large decay, abscess or drainage). Treatment: Immediate referral.				
Treatment complete: <input type="checkbox"/> Yes				
Treatment Notes: <div style="border: 1px solid black; padding: 5px; min-height: 100px;">           baby teeth possible decay         </div>				