# Dental Public Health Project/Activity Descriptive Report Form

Please provide a detailed description of your **successful dental public health project/activity** by fully completing this form. Expand the submission form as needed but within any limitations noted. Please return completed form to: lcofano@astdd.org

**NOTE: Please use Arial 10 pt. font.**

**CONTACT PERSON PREPARING THE SUBMISSION AND TO ANSWER QUESTIONS**


**Name:** Sarah Wovcha

**Title:** Executive Director

**Agency/Organization:** Children's Dental Services

**Address:** 636 Broadway St NE, Minneapolis, MN 55413

**Phone:** (612) 636-1577

**Email Address:** swovcha@childrensdentalservices.org


**PROVIDE CONTACT INFORMATION FOR ONE ADDITIONAL PERSON WHO COULD ANSWER QUESTIONS REGARDING THIS PROGRAM**


**Name:** Erianna Reyelts

**Title:** Associate Director

**Agency/Organization:** Children's Dental Services

**Address:** 636 Broadway St NE, Minneapolis, MN 55413

**Phone:** (612) 746-1530 Ext 207

**Email Address:** ereyelts2@childrensdentalservices.org

## SECTION I: ACTIVITY OVERVIEW

**Title of the dental public health activity:**

**Children's Dental Services School-based Sealant Program**

**Public Health Functions* and the 10 Essential Public Health Services to Promote Oral Health:**
Check one or more categories related to the activity.

| "X" | Assessment |
|---|---|
| X | 1. Assess oral health status and implement an oral health surveillance system. |
| | 2. Analyze determinants of oral health and respond to health hazards in the community |
| | 3. Assess public perceptions about oral health issues and educate/empower them to achieve and maintain optimal oral health |
| | **Policy Development** |
| X | 4. Mobilize community partners to leverage resources and advocate for/act on oral health issues |
| | 5. Develop and implement policies and systematic plans that support state and community oral health efforts |
| | **Assurance** |
| | 6. Review, educate about and enforce laws and regulations that promote oral health and ensure safe oral health practices |
| X | 7. Reduce barriers to care and assure utilization of personal and population-based oral health services |
| X | 8. Assure an adequate and competent public and private oral health workforce |
| X | 9. Evaluate effectiveness, accessibility and quality of personal and population-based oral health promotion activities and oral health services |
| X | 10. Conduct and review research for new insights and innovative solutions to oral health problems |

***ASTDD Guidelines for State and Territorial Oral Health Programs that includes 10 Essential Public Health Services to Promote Oral Health**

**Healthy People 2030 Objectives:** Please list HP 2030 objectives related to the activity described in this submission. If there are any state-level objectives the activity addresses please include those as well.

OH-01 Reduce the proportion of children and adolescents with lifetime tooth decay
OH-02 Reduce the proportion of children and adolescents with active and untreated tooth decay
OH-08 Increase use of the oral health care system
OH-09 Increase the proportion of low-income youth who have a preventive dental visit
OH-10 Increase the proportion of children and adolescents who have dental sealants on 1 or more molars

**Provide 3-5 Key Words (e.g. fluoride, sealants, access to care, coalitions, policy, Medicaid, etc.) These will assist those looking for information on this topic:**

Access to Care: Children Services, Access to Care: Communities, Access to Care: School-Based Oral Health, Prevention: Children Oral Health, Prevention: Sealants, Acquiring Oral Health Data, Prevention: Early Childhood Tooth Decay

**Executive Summary: Complete after Section II: Detailed Activity Description. Please limit to 300 words in one or two paragraphs.**

Provide a brief description of the dental public health activity. Include information on: (1) what is being done; (2) who is doing it and why; (3) associated costs; (4) outcomes achieved (5) lessons learned, both positive and negative.

Children's Dental Services (CDS) utilizes a dental team, together speaking Somali, Hmong, and Spanish, to deliver dental sealants coupled with oral health education. The multi-lingual dental team consists of collaborative practice dental hygienists and dental assistants who provide the sealants, essential diagnostic and preventive care, and culturally targeted oral health education, consisting of distribution of a tooth kit containing a toothbrush, dental floss, and toothpaste. Culturally tailored care involves including traditional dentifrices, like *mswaki,* a medicinal chewing bark common in East Africa which stimulates salivation. Culturally focused and translated oral health instructions incorporate diet and cultural norms. Advanced dental therapists provide essential restorative treatment.

CDS targets diverse communities and advances health equity by 1) engaging target communities in determining best practices for care provision, 2) linking interventions to inequities in oral health access, 3) developing multiple tools for ensuring a comprehensive approach to addressing inequities, 4) understanding and accounting for diversity within the target community itself, and 5) identifying a process for recognizing and addressing unintended consequences. Staff who represent the community served work as dental providers, and all project materials are vetted by target community members.

Each year over 20,000 high-risk children receive dental sealants, oral health education, follow-up restorative care, and essential tools for ongoing oral health care. Associated program costs include salaries, travel, equipment and supplies, printing and communications totaling $1,250,000 annually.

Lessons learned include investigating, promoting, and supporting dental workforce innovations, such as collaborative practice dental hygienists and the mid-level provider dental therapists; utilizing multilingual insurance navigators who assist families with health insurance; and embracing, dental technology and care innovations such as telehealth dental care and the use of silver diamine fluoride (SDF), and engaging target patient and school communities.

## SECTION II: DETAILED ACTIVITY DESCRIPTION

Provide detailed narrative about the dental public health activity using the headings provided and answering the questions. Include specifics to help readers understand what you are doing and how it's being done. References and links to information may be included.

**Complete using **Arial 10 pt**.

**Rationale and History of the Activity:**

1. What were the key issues that led to the initiation of this activity?

There are significant gaps in access to dental care for low-income and vulnerable populations In Minnesota including people of color, immigrants, and refugees. Barriers they experience include lack of oral health education and a lack of culturally and linguistically appropriate care. As a result of the COVID-19 pandemic, Children's Dental Services (CDS) directly observed that language, transportation, insurance barriers and/or food insecurity are reported by over 65% of students. Additionally, according to the Minnesota Department of Health, only 12.95% of all children between the ages of 6-14 (i.e. those most likely to receive a dental sealant) received a dental sealant in Hennepin County, the most populous in Minnesota.

2. What rationale/evidence (may be anecdotal) did you use to support the implementation of this activity?

CDS' mission is to improve the oral health of children from families with low incomes by providing accessible treatment and education in our diverse community. Dental disease remains the most common, chronic childhood disease. In Minnesota less than 40% of children on public programs see a dentist each year. According to the Health Resources and Services Administration (HRSA) there is a significant shortage of dental professionals in inner city regions of the Twin Cities as well as rural, Greater Minnesota, particularly Central and Southwestern Minnesota. There are also serious funding challenges for safety net providers, such as CDS. The Minnesota counties and cities in which CDS provides care continue to experience record funding shortages. These factors lead to a dental health crisis in these regions, resulting in minimal access to dental services for uninsured patients and those covered by public insurance programs (Medicaid and MNCare).

CDS met with legislators, stakeholders, its board of directors, community members, patients, local foundations and community organizations across Minnesota, who all expressed concern about the significant lack of dental providers and the need for oral health education within their communities. This led CDS to seek funding to expand its care network across Minnesota, particularly in rural Minnesota.

3. What month and year did the activity begin and what milestones have occurred along the way? (May include a timeline.)

CDS has been providing comprehensive care for youth in school-based settings since 1919. In the intervening years, CDS has grown to provide care out of two brick and mortar clinics and anywhere between 500-700 mobile-based sites annually in schools, Head Starts and community sites across Minnesota, including remote and rural towns and communities. CDS provides comprehensive, culturally tailored oral health care and education for over 35,000 patients annually. CDS robust school-based sealant work began in 1970 and has grown exponentially each year. CDS has always focused on providing comprehensive care in school-based settings, which includes preventive and restorative dentistry. Today, CDS provides exams, x-rays, prophylaxis, scaling, fluoride treatment, sealants, space maintenance, fillings, crowns, pulpotomies, endodontics, extractions, apexification, debridement, and root planning in school-based care settings.

Implementation activities have occurred over the last 103 years including bringing care directly to vulnerable communities through neighborhood-based pop-up clinics, developing nationally replicable models for hub-and-spoke oral health care, culturally-sensitive care for all communities including BIPOC, immigrant and refugee populations, workforce innovation including the use of collaborative management dental hygienist and advanced dental therapists, and technology innovations such as the implementation of telehealth dental care.

The sections below follow a logic model format. For more information on logic models go to: W.K. Kellogg Foundation: Logic Model Development Guide

| **INPUTS** | PROGRAM ACTIVITIES | OUTPUTS | OUTCOMES |
|---|---|---|---|

1. What resources were needed to carry out the activity? (e.g., staffing, volunteers, funding, partnerships, collaborations with various organizations, etc.)

Eighty professional clinicians and more than 35 interns provide care at any given time every weekday, two evenings per week, and every Saturday. CDS heavily relies on the use of volunteers and interns to provide affordable, state-wide care. CDS trains 200 interns annually (including 16 advanced dental therapy interns, 36 dental hygiene interns, 36 dental assisting interns, 15 community health worker (CHW) interns, 30 pediatric medical residents and 67 pre-dental, law, public health, nursing, college, and vocational interns) in a variety of innovative service delivery programs to further its accessibility to underserved populations of Minnesota. Clinical interns come from dental programs across the state, including the University of Minnesota (dental and medical school), Herzing University, Hennepin County

Technical College, Century College, and several other schools across Minnesota. All interns receive hands-on training and clinical work experiences in addition to medical record keeping, chair side assisting techniques, customer service skills, phone and reception skills, computer training including Open Dental, QuickBooks and Microsoft Office, and public health outreach and screening skills.

CDS' highly skilled staff is well equipped to serve families from culturally diverse backgrounds. Most CDS staff members are bi- or multilingual, together speaking at least twenty-one languages, including American Sign Language, Amharic, Arabic, Bosnian, Croatian, Farsi, French, Hindi, Hmong, Italian, Karen, Korean, Lakota, Persian, Portuguese, Russian, Somali, Spanish, Swahili, Tibeto/Burman, Ukrainian, Urdu, and Vietnamese. CDS' staff is trained to understand target communities of various backgrounds before performing services, education, or other programming for different projects. In this way, CDS' providers themselves can deeply understand the needs and struggles of the communities served. Additionally, CDS fashions its clinics and facilities to be welcoming, including decorating clinical spaces with art representing the cultures of the communities served by CDS. CDS has a long history of hiring and working with culturally diverse communities. In every job posting, CDS lists that it is seeking bi- and multi-lingual staff and works hard to hire staff that reflect the communities it serves. In the past CDS has hired parents, guardians and family members of patients, past patients, and local community members.

CDS prides itself on unique and innovative partnerships that strengthen the safety net for Minnesota's low-income and underserved families. CDS partners with county public health departments, community WIC programs, Head Start programs, school districts, state departments, community colleges across Minnesota, cultural minority community leaders, at-risk (includes those with the least access to care including those suffering from poverty, addiction, recent immigrant/refugees, those with special needs, and many others that have a lack of resources), youth programs, shelters, and drop in centers to make sure that no community is left unserved.

CDS' school-based sealant program includes 7 FTE dental therapists, 4 FTE dental hygienists, 10 FTE dental assistants, 1 FTE operations manager, 1 FTE data collection specialist/evaluation, and .5 FTE tech support

CDS has established robust partnerships with an array of partners within over 100 school districts across Minnesota. These include with school staff, vision, hearing, counseling, immigrant and refugee services, insurance navigators and academic supports. Partners will provide space, administrative assistance, cross referrals, and overall create a welcoming resource center that beckons participation from students and their families. CDS will provide treatment, education, translation assistance, insurance assistance, and partner training. This collaboration results in services that are 20% less costly, and 50% more effective than what can be provided in the absence of collaboration, specifically reducing time and expense of travel by patients, improved appointment attendance, and improved retention of knowledge.

CDS received several grants for its school-based care programs including from local, state, and federal sources. Three major funders were the Health Resources and Services Administration (HRSA), Delta Dental of Minnesota Foundation, and the Minnesota Department of Health (MDH).

| INPUTS | **PROGRAM ACTIVITIES** | OUTPUTS | OUTCOMES |
|---|---|---|---|

2. Please provide a detailed description the key aspects of the activity, including the following aspects: administration, operations, and services.

CDS utilizes a dental team representing the community served, together speaking Somali and Spanish, to deliver dental sealants coupled with comprehensive oral health education. CDS includes information and tooth kits with traditional dentifrices, including mswaki, a medicinal chewing bark common in East Africa which stimulates salivation and has been shown to improve oral health. Culturally focused and translated oral health instruction will incorporate diet and cultural norms. CDS is able to meet the needs of its multicultural patient core by offering dental education, while incorporating tools and techniques that are culturally familiar. Local community leaders report that lack of dental education for children and parents is a major problem within these communities. In the case of new immigrants and refugees, the conditions in their home country or a refugee camp further contribute to dental needs. CDS' model and

multicultural staff allow it to incorporate items like aday for Somali patients. The use of aday is widespread in Somalia and the Horn of Africa, and CDS has been able to utilize the plant in the past, in tandem with dental education from Somali staff, to offer effective outreach to patients. This is one small example of CDS' work with its exceedingly diverse communities.

CDS integrates care not only on-site within schools when they resume in person learning but ensures continuity of care via a school-linked health resource centers (HRC). HRCs serves as "health hubs", which allows for cross pollination of evidenced-based approaches to effectively reaching students and creates ease of referral and access to critical resources including mental health counseling, food resources, immunizations, family planning, school supplies, tutoring, and other medical and social services.

CDS has established robust partnerships with an array of partners within Minnesota schools. These include school staff, vision, hearing, counseling, immigrant and refugee services, insurance navigators and academic supports. Partners will provide space, administrative assistance, cross referrals, and overall create a welcoming resource center that beckons participation from students and their families. CDS will provide treatment, education, translation assistance, insurance assistance, and partner training. This collaboration results in services that are 20% less costly, and 50% more effective than what can be provided in the absence of collaboration, specifically reducing time and expense of travel by patients, improved appointment attendance, and improved retention of knowledge.

CDS increases access to dental sealants to a minimum of 20,000 low-income children annually by delivering care on-site in a setting that is 1) easily accessible by being either the child's actual school or linked to their school and therefore within walking, biking or a brief bus ride from the child's home, 2) all services will be provided by a bilingual team who has access to an array of interpreters, insurance navigators and other supports, 3) the dental services and education provided will be culturally focused to the specific needs of the recipient, and 4) all patients will receive follow-up visits and retention checks post treatment to ensure efficacy of care. CDS targets schools and community sites that have high levels of free and reduced lunch (FRL) and high rates of poverty. Additionally, there are several communities that have higher levels of immigrants and refugees such as a large concentration of Hmong immigrants settling in Saint Paul, Minnesota and Somali immigrants in Saint Cloud, Minnesota. CDS provides outreach in communities all across Minnesota and offers services to schools, community sites and areas where communities who are most in need naturally congregate, such as within homeless shelters, low-income housing facilities, and schools with the highest rates of free and reduced lunch.

| INPUTS | PROGRAM ACTIVITIES | **OUTPUTS** | OUTCOMES |
|---|---|---|---|

3. What outputs or direct products resulted from program activities (e.g., number of clients served, number of services units delivered, products developed, accomplishments.)?

1. CDS utilizes the dental software, Open Dental, to manage all patient charts, records and information and has the ability to collect data on the number of patient visits, related health outcomes, and patient demographics.
2. CDS does regular monthly, quarterly, and annual reports to gather data for various reasons including funding sources and partner feedback.
3. CDS' computerized database of patient and program records tracks
    a. The number of children receiving sealants
    b. The number of teeth sealed
    c. The increase in the percentage of children receiving sealants over time
    d. The percentage of sealants retained
    e. The rate of decay pre- and post-sealant application
4. CDS had short-term (see above) and long-term goals including:
    a. Reduce the prevalence of oral disease in children
    b. Reduce oral health disparities in the MCH community
    c. Increase utilization of preventive dental care and restorative services among children
    d. Reduce dental expenditures for the MCH community; and

e. Establish *a model for delivery of sealants within schools across the Minnesota and in other states*

| INPUTS | PROGRAM ACTIVITIES | OUTPUTS | **OUTCOMES** |
|---|---|---|---|

4. What outcomes did the program achieve? (e.g., health statuses, knowledge, behavior, care delivery system, impact on target population, etc.) Please include the following aspects:
   a. How outcomes are measured
   b. How often they are/were measured
   c. Data sources used
   d. Whether intended to be short-term (attainable within 1-3 years), intermediate (achievable within 4-6 years), or long-term (impact achieved in 7-10 years)

**Short term Outcome:** By July 31, 2021, 10,000 more high risk Minnesota children will receive dental sealants as compared to the 10,000 high risk children who received dental sealants in 2010.

1. CDS staff purchased necessary equipment, and coordinated dates of service within schools across Minnesota.

2. CDS clinical staff performed dates of service providing sealants to over 20,000 high risk Minnesota children during 2021.As a response to the COVID-19 pandemic, CDS increased its level of PPE and utilized aerosol mitigation techniques in its dentistry, such as the use of hall crowns which did not need a handpiece in order to place this. Additionally, in response to some school closures during the times of high community spread, CDS established “hub” school-based sites in sites that remained open or had bigger spaces for distancing in which it provided dental care for students at that school, surrounding schools and surrounding community members. CDS also partnered with local vaccine clinics, food shelves, and other social service organizations to offer things like flu vaccinations, food packages, and school supplies in addition to essential dentistry.

**Long term Outcome:** Dental disease is reduced or eliminated in 19,000 of the children served.

**Budgetary Information:**
NOTE: Charts and tables may be used to provide clarity.

1. What is the annual budget for this activity?

The annual budget from the primary funder for this grant program, was $312,500 each year for four years for a total of $1,250,000. This funding was utilized to establish partnerships with schools, acquire the necessary mobile-based equipment for school-based services, salaries for providers such as dentists, advanced dental therapists, hygienists, dental assistants, public health staff members, program managers, data specialists, and admin staff, supplies necessary for school-based care, and outreach materials, travel for providers across Minnesota. $312,500 fell far short of covering the cost of school-based care programming and CDS leveraged funding from state- and local-level funders in order to sustain this important work.

2. What are the costs associated with the activity? (Including staffing, materials, equipment, etc.)

Salaries: $1,200,000
Materials: $7,400
Mileage: $7,600
Equipment: $35,000

3. How is the activity funded?

City and County Health Departments $200,000

| | |
|---|---|
| Minnesota Department of Health | $100,000 |
| Private Foundations | $600,000 |
| Private Donations | in-kind supplies and equipment |
| United Way | |
| Medical Assistance Reimbursements | $300,000 |

4. What is the plan for sustainability?

CDS has significant expertise in managing grants and ensuring the continuity of programs, services, and relationships with other agencies. A hallmark of CDS services is that they are exceptionally cost effective. As such, CDS is successful in making programs self-sustaining within approximately 12 to 18 months of operation. As a Critical Access Provider for the State of Minnesota, CDS is eligible for increased Medical Assistance payment reimbursements which enhance insurance reimbursements by 20% per patient.

CDS has a proven track record of successfully sustaining the gains in patient care expansion by 1) leveraging funds and in-kind donations; 2) utilizing Expanded Functions1, mid-level dental providers2 and dental interns to reduce costs of care; and 3) reinvesting Critical Access funds received for the expanded care it provides.

**Lessons Learned and/or Plans for Addressing Challenges:**

1. What important lessons were learned that would be useful for others looking to implement a similar activity? Was there anything you would do differently?

School districts vary significantly in their understanding and acceptance of school-based dental care, space capacity, and ability to support on-site service partners. It is critical to develop relationships not only with school districts but also with individual schools and their relevant personnel. Understanding the unique needs of each school (for example primary languages spoken by students, rates of Free and Reduced Lunch, etc.) is also critical to targeting services effectively.

2. What challenges did the activity encounter and how were those addressed?

The COVID-19 pandemic caused school closures which prevented school sealant providers from performing services in schools. CDS' partners, especially its school partners, were at first hesitant to reintroduce outside services to their schools despite mostly being back to in-person schooling. CDS met several times with site staff to review safety protocols, which resulted in the project moving forward successfully. By the summer of 2021, CDS was geared up to be back in about 75% of the schools it was in pre-pandemic. This occurred and CDS is preparing to be full back in the Fall of 2022. .

To mitigate hesitant partners, CDS explains and demonstrates safety protocols that it has implemented since the beginning of the pandemic. These policies include high use of PPE among clinical staff, sanitation of spaces used, separation spaces for patients not actively being treated, ventilation, and low aerosol emitting instruments. This final piece is important as it ensures the safety of both patient and provider. CDS is able to replicate the same safe, sterile environments found in its main clinics at satellite locations.

**Available Information Resources:**

Share any models, tools, and/or guidelines developed by the program specifically for this activity that may be useful to others seeking additional information. Hyperlink resources if possible.

| TO BE COMPLETED BY ASTDD | |
|---|---|
| Descriptive Report Number: | 26014 |
| Associated BPAR: | School-Based Dental Sealants |
| Submitted by: | Children's Dental Services |
| Submission filename: | DES26014MN-cds-sbsp-2022 |
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