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.

NOTE: Please use Verdana 9 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: Assistant 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 WIC and Early Childhood Collaborative Project

Public Health Functions*: Check one or more categories related to the activity.

"X"	Assessment
X	1. Assess oral health status and implement an oral health surveillance system.
X	2. Analyze determinants of oral health and respond to health hazards in the community
X	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
X	5. Develop and implement policies and systematic plans that support state and community oral health efforts
	Assurance
X	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 2020 Objectives: Check one or more key objectives related to the activity. If appropriate, add other national or state HP 2020 Objectives, such as tobacco use or injury.

"X"	Healthy People 2020 Oral Health Objectives	
X	OH-1	Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth
X	OH-2	Reduce the proportion of children and adolescents with untreated dental decay
X	OH-3	Reduce the proportion of adults with untreated dental decay
X	OH-4	Reduce the proportion of adults who have ever had a permanent tooth extracted because of dental caries or periodontal disease
	OH-5	Reduce the proportion of adults aged 45 to 74 years with moderate or severe periodontitis
X	OH-6	Increase the proportion of oral and pharyngeal cancers detected at the earliest stage
X	OH-7	Increase the proportion of children, adolescents, and adults who used the oral health care system in the past year
X	OH-8	Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year
X	OH-9	Increase the proportion of school-based health centers with an oral health component
X	OH-10	Increase the proportion of local health departments and Federally Qualified Health Centers (FQHCs) that have an oral health component
	OH-11	Increase the proportion of patients who receive oral health services at Federally Qualified Health Centers each year
X	OH-12	Increase the proportion of children and adolescents who have received dental sealants on their molar teeth
	OH-13	Increase the proportion of the U.S. population served by community water

		systems with optimally fluoridated water
X	OH-14	Increase the proportion of adults who receive preventive interventions in dental offices
	OH-15	Increase the number of States and the District of Columbia that have a system for recording and referring infants and children with cleft lips and cleft palates to craniofacial anomaly rehabilitative teams
	OH-16	Increase the number of States and the District of Columbia that have an oral and craniofacial health surveillance system
	OH-17	Increase health agencies that have a dental public health program directed by a dental professional with public health training

"X"	**Other national or state Healthy People 2020 Objectives: (list objective number and topic)**

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: pregnant women, access to care: children services, women, infants and children, WIC, acquiring oral health data, non-traumatic dental conditions, underserved, community-based care, Early Head Start, prevention: pregnant women, 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) expanded services and dental education across Minnesota through partnerships with agencies that host Women, Infants, and Children (WIC) programs, Early Head Start programs, Early Childhood Dental Network, Early Childhood Family Education Programs, Department of Health, and other primary medical providers are targeting care to pregnant women and infants. CDS and partners developed a system for identifying pregnant women in need of oral health services and referred them to appropriate and accessible services. This project has been conducted through three phases: logistical planning, implementation, and evaluation.

Goals accomplished throughout this project include: 1) increase infants and pregnant women across Minnesota receiving regular dental care to over 710,000; 2) demonstrate improved oral health outcomes for 10,000 infants and pregnant women; 3) improved quality and sustainability of project activities through the use of evidence based practices, continuous quality improvement, and participation in ongoing training; and 4) collect data from families, providers, and community-based organizations to identify barriers in developing integrated dental and medical systems for Minnesota low-income infants and pregnant women and evaluate the impact of system changes.

CDS has multiple staff providing services, education and materials. Its Dental Director oversees clinical staff including Advanced Dental Therapists, Licensed Dental Assistants, and Registered Hygienists who provide comprehensive dental treatment and oral health instruction.

Associated costs with this project include salaries, travel, equipment and supplies, printing and communications totaling over $471,494 annually.

Lessons learned during this project include, finding new sites and additional clinic days when the need exceeded the sites CDS had set up in the first year of the grant; using remote translating services when the rural Minnesota dental teams needed languages that were only offered at CDS' headquarters, and learning that new partnerships in neighboring counties most often stemmed from positive feedback from clinics CDS was actively working in.

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 **Verdana 9 font.

Rationale and History of the Activity:

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

There continues to be minimal access to dental services for low-income pregnant women and infants in Minnesota because of a lack of dentists who see patients covered by public programs (Medicaid and MNCare), a lack of sliding fee care, the high cost of treating tooth decay for those who must pay out-of-pocket because they lack commercial insurance, poor public transit infrastructure particularly in rural communities, and a lack of dental providers offering culturally targeted care. In a 2014 survey conducted by CDS fewer than seven dentists in the entire Twin Cities metropolitan area currently accept patients covered by public insurance and have a waiting time of less than nine weeks. Furthermore, the average wait has increased by one week over the past year. Several counties in rural Minnesota have no dentists and many have no dentists who will treat the uninsured or those with public insurance. Waiting lists are getting longer and people who live in rural areas end up driving hours to get care. The lack of dental health services available to low-income pregnant women and their infants has led to disturbing statistics: poor children have twice as many dental caries as their more affluent peers; their disease is more likely to be untreated; and poor children suffer nearly 12 times more restricted activity days than children from higher income families. Untreated dental concerns in pregnancy can lead to gingivitis, high levels of tooth decay, and pregnancy tumors. 17% of rural Minnesota women are without health insurance compared to 15.9% of urban women, and infants of rural women are more likely to experience preterm births, low birth weight and cesarean sections.

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.)

Children's Dental Services started this Perinatal and Infant Oral Health Quality Improvement project (PIOHQI) on June 1, 2016. The majority of logistical planning activities occurred within the first six months of the funding period. Planning meetings were conducted at the beginning of each fiscal year of the grant period.

Implementation activities occurred throughout the grant period. Outreach materials were developed at the beginning of the first year of the period, and outreach staff were trained within the first two months of the grant period. Clinical services and education were provided within 2 months of the inception of the grant period and continued throughout.

Within the first year a total of 2,546 patients were served. Of these, 1,634 were infants and 912 were pregnant or up to 6 months post-partum women.

Within the second year a total of 3,063 patients were served. 256 were infants and 1,287 were pregnant or up to 6 months post-partum women.

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.)

CDS provides care with 80 professional clinicians and more than 35 interns 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.

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 youth programs, shelters, and drop in centers to make sure that no community is left unserved.

As part of the Perinatal, Infant, Oral Healthcare Quality Improvement grant, through HRSA, CDS allocated .8FTE Dental Therapist, 1.5FTE Dental Hygienists, .05FTE Project Director, 1.0FTE Project Manager, .5FTE Network Liaison, .35FTE Data Collection Specialist, and .15FTE Data Evaluator.

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.

Initial Stage:

CDS conducted extensive meetings to formalize partnerships with several community agencies including Women, Infants and Children (WIC) clinics, Early Childhood Family Education (ECFE) sites, Early Childhood Dental Network (ECDN) and other primary care programs to establish protocols for data collection with its primary evaluating partner, the Minnesota Department of Health (MDH). During initial meetings CDS and partners 1) finalized plans for the provision of clinical services and shared use of networks and space, and 2) developed a protocol for the system of referrals that directed program participants to appropriate services, including dental services and oral health education, in accordance with existing referral systems used within partner agencies.

After meeting with community agencies that host WIC and Head Start partners, CDS met with a randomized sample of patients to receive input regarding how best to inform program participants of new and expanded services within target locations.

Meanwhile, CDS purchased the required equipment for expanding care across the state, including two sets of portable dental equipment, one primarily for service locations in the northern half of Minnesota, and one primarily for service locations in the southern half. Existing CDS equipment inventory and donated equipment committed to this project were also utilized.

The project evaluation team designed data collection and analysis protocols and gathered feedback from advisory committee members and other stakeholders.

Implementation:

CDS developed culturally and linguistically appropriate outreach materials including brochures, flyers, and oral health presentations. Outreach materials were designed to provide information for a wide demographic, including individuals with low literacy and those who speak English as a second language. All outreach materials are available in multiple languages.

CDS provided its care team training and support to conduct extensive outreach among diverse populations of pregnant and perinatal women across the state. Efforts were focused around service locations and surrounding community areas but targeted specifically to areas with low rates of coverage and/or access to dental services including Dental Health Professional Shortage Areas.

CDS' dental team, including supervising dentists, advanced dental therapists, and hygienists provided comprehensive dental treatments at partner agencies that host WIC, EHS, ECFE, ECDN and other primary services across the state. Services included a full range of preventive and restorative care including cleanings, examinations, fluoride, sealants, x-rays, extractions, crowns, fillings and pulpotomies. CDS hygienists provided patients with one-on-one preventive oral health education. CDS referred patients to other dental providers as necessary. CDS also expanded its hospital care program and these services were available to program participants. Because CDS has among the most expansive portable dental care program in the nation it already developed best practices for increasing access to care for underserved populations while decreasing per patient cost through program efficiencies and innovative practice models using auxiliary personnel and non-traditional partnerships.

Data collection, planning, implementation and evaluation continue to take place concurrent with direct dental services.

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, etc.)

a. 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.

b. CDS does regular monthly, quarterly, and annual reports to gather data for various reasons including funding sources and partner feedback.

c. CDS' computerized database of patient and program records will track:

- The increase in the percentage of women who have received oral health care during pregnancy
- The increase in the percentage of infants who have received oral health care by age one, including children with special health care needs (CSHCN)

- The increase in the percentage of women who received preventive services during pregnancy (i.e., oral health education and anticipatory guidance, including development of self-management goals and oral health care)

d. CDS had short-term (see above) and long-term goals including:

- Reduce the prevalence of oral disease in pregnant women and infants
- Reduce oral health disparities in the MCH community
- Reduce ECC throughout early childhood; including CSHCN
- Increase utilization of preventive dental care and restorative services among pregnant women;
- Establish a dental home for infants (by age one)
- Reduce dental expenditures for the MCH community; and
- Establish a statewide data system/source that drives quality improvement and makes "real time" data available

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

1. What is the annual budget for this activity?

$471,494.00 annually

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

Total Personnel Cost: $251,100

Total Fringe Cost: $22,902

Total Travel Cost: $18,450

Total Portable Equipment Cost: $70,402

Total Teledentistry Equipment Cost: $32,620

Total Supplies Cost: $25,000

Total Other: $3,520

Total Indirect Costs: $47,500

3. How is the activity funded?

Annually, this activity is funded by:

HRSA funds: $250,000

Non – HRSA funds: $173,994

In-Kind: $47,500

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 Functions[1], mid-level dental providers[2] and dental interns to reduce costs of care; and 3) reinvesting Critical Access funds received for the expanded care it provides[3].

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?

CDS has found that strong collaborations with community partners and schools are essential to reducing the need for emergency dental care. By actively providing preventive services, screenings, and offering onsite dental care within schools, Head Start centers, and community resource buildings, CDS is able to establish accessible dental homes for families that would otherwise wait to address dental concerns until the pain required immediate attention.

CDS' extensive work across Minnesota has made it very well-known. Being a "known commodity" in these locations, particularly in rural Minnesota, has led to increased word-of-mouth referrals, which has helped get CDS' foot in the door in WIC, community, and public health locations in almost every county in the state.

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

One challenge that CDS has faced is that of easily extracting data from its electronic health records (EHR), dental software. CDS has had to work closely with the EHR software, "Open Dental" to set up the kind of queries it needs to successfully run reports that extract specific and accurate data. This continues to be a work in progress but CDS now has an established relationship with its dental software company's technical service and they have been really flexible with setting up reporting mechanisms that match CDS' needs.

Additionally, almost always, oral health electronic health records, do not "talk-to" medical records, and community clinic (ex: WIC) electronic records, which makes it tricky to gather data about a patient's "whole health."

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.

CDS has multilingual, culturally appropriate oral health education that can be distributed upon request and is frequently used in community outreach across Minnesota. CDS has also worked closely with the Minnesota Department of Health (MDH) to create and distribute a "Dental Therapy Manual," which offers guidelines and support for dentists or other states interested in increasing access by implementing an alternative dental provider into the work force. This document is also available to the

[1] Expanded Functions: expanded scope of practice for eligible dental assistants and hygienists, allowing them to provide additional procedures, which in Minnesota may include amalgam, glass ionomers, stainless steel crowns and composites under collaborative management agreements with a dentist.
[2] Advanced Dental Therapists are mid-level dental providers who are able to provide restorative dental treatment at roughly half the cost of a dentist. An Advanced Dental Therapist must sign onto a Collaborative Management Agreement with a dentist.
[3] Critical Access Funds consist of a percentage of reimbursement added onto the base reimbursement rate for eligible safety-net hospitals or clinics by the Center of Medicare and Medicaid Services.

public and can be requested through either CDS or the MDH. CDS also has a WIC-specific brochure it uses across Minnesota that is available upon request.

TO BE COMPLETED BY ASTDD	
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