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
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PROVIDE CONTACT INFORMATION FOR ONE ADDITIONAL PERSON WHO COULD ANSWER QUESTIONS REGARDING THIS PROGRAM
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SECTION I: ACTIVITY OVERVIEW

Title of the dental public health activity:

Healthy Smiles for Mom and Baby

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

"X"	**Assessment**
	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
X	3. Assess public perceptions about oral health issues and educate/empower them to achieve and maintain optimal oral health
	Policy Development
	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
	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
	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
	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
	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
	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
	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

	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
	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: childrens services, access to care pregnant women (prenatal/perinatal) services, prevention: children oral health, early childhood tooth decay, oral health during pregnancy, fluoride varnish, WIC

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.

The goal of this project is to improve access to dental services for pregnant women and young children (under age 4) by integrating oral health education, preventive services (fluoride varnish) and dental care referral into Women, Infant and Children (WIC) and Prenatal Care Coordination (PNCC) programs. Six implementation sites used a quality improvement framework to test a variety of strategies and models to improve on, or add to, the oral health services provided to their clients.

This project is part of the Perinatal and Infant Oral Health Quality Improvement (PIOHQI) project funded by the Health Resources and Services Administration (HRSA). Federally Qualified Health Centers (FQHCs) and safety-net community dental clinics partnered with WIC and PNCC programs to serve as referral sources for the target population.

The programs designed three models of integration, based on the project partners and specific goals. The first model integrated public health nurses within WIC clinic patient flow to provide oral health education, fluoride varnish and referral to dental services. The second model integrated outreach dental hygienists (employed by the local FQHC) to provide oral health education, fluoride varnish and referral to dental services. The third model identified a structured, closed referral loop between the WIC clinic and local safety net clinic for pregnant women. The safety net dental clinic provided real-time information to WIC staff regarding success in scheduling referred women and when appointments were completed.

Lessons learned include: gathering baseline data on oral health needs of WIC/ PNCC is challenging, WIC/ PNCC staff are limited on their knowledge of the benefits and periodicity schedule of fluoride varnish, access to dental providers who accept Medicaid and pregnant women is challenging in some communities. WIC/PNCC staff are aware of the oral health needs of their clients and extremely dedicated to finding resources and integrating oral health services into the programs.

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.

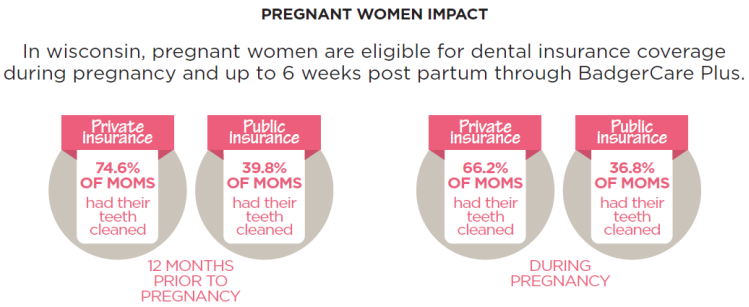
Rationale and History of the Activity:

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

Oral health is important to overall health and has an impact on quality of life for adults and children. During the perinatal period, women experience complex physiological changes that can adversely affect their oral health. Morning sickness, changes in diet and oral hygiene practices can lead to tooth demineralization and increased risk for dental caries. Physiological changes during pregnancy place women at an increased risk of periodontal disease and gingivitis. Studies indicate 5 to 20 percent of pregnant women manifest clinical signs of periodontitis and 30 to 100 percent of pregnant women experience gingivitis.

The perinatal period is a critical time to lay the foundation for preventing dental caries in infants. Many studies document the carcinogenic bacteria that cause dental caries can be transmitted from mothers and intimate caregivers to infants. Studies reveal that maternal untreated dental caries increase the likelihood of dental caries in children. A large body of research provides evidence on the importance of quality dental care and oral health education for the pregnant woman, and shows it is not only critical to her health but also plays a key role in reducing the risk for the development of early childhood caries in her infant.

Wisconsin provides basic dental benefits to children and pregnant women enrolled in BadgerCare Plus (Wisconsin's Medicaid program). Between September 2015 and February 2016, approximately 19,000 pregnant women and more than 420,000 children were enrolled in BadgerCare Plus. Many Wisconsinites, especially the uninsured and those enrolled in Medicaid face a variety of challenges related to accessing dental services.



Pregnant women insured by BadgerCare Plus receive dental insurance coverage during pregnancy and up to 6 weeks postpartum. Services include diagnostic, preventive, simple restorative, periodontics and surgical procedures. While pregnancy represents a unique time when many women are eligible for dental insurance, the percent that had their teeth cleaned is low. According to 2009-11 Wisconsin Pregnancy Risk Assessment Monitoring System (PRAMS) data, only 52% of women went to a dental clinic during pregnancy. Racial and ethnic disparities in this area are prevalent. Just more than 58% of White women visited the dentist during pregnancy, while only 35% of Black and Hispanic women did (Wisconsin Department of Health Services, 2014). The info-graphic above displays the disparities by insurance type for pregnant women who had their teeth cleaned 12 months prior to pregnancy and during pregnancy.

Reference:

Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. Wisconsin PRAMS Data Book 2009-2011: Key Findings from the Wisconsin Pregnancy Risk Assessment Monitoring System (P-00740). July2014.

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

This project built on qualitative evidence gathered during the *Earlier Is Better* research project. The research found that pregnant women enrolled in Wisconsin Head Start and Early Head Start programs found it difficult to access dental providers. Focus groups of Head Start staff found that their clients often were encouraged to wait until after delivery to have dental treatment completed and found it difficult to find providers who would take public insurance. Clients indicated that finding dental providers for young children (under age 3) was difficult, especially those families on public insurance.

Women, Infant and Children (WIC) programs and Prenatal Care Coordination (PNCC) programs are locally administered by county-level agencies, typically local public health departments. Staff administering these programs are trained as public health nurses, registered dieticians and nutritionists. Oral health screening questions are included in the intake process for each of the programs and staff routinely refer clients to community resources and health providers when risk factors emerge. Oral Health Education Toolkits and in-person training were offered to all staff working in the project implementation sites to increase their knowledge and confidence to engage in oral health conversations with pregnant women.

To address the barrier of limited access to dental providers who will see pregnant women, this program used a quality improvement framework to redesign referral networks between WIC/PNCC programs and local safety net or FQHCs. One clinic served as the referring agency for the project site and participated in the quality improvement team to develop the reliable and sustainable closed loop referral system.

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

August 2015: The Perinatal and Infant Oral Health Summit was held and a summary report was published. Assets and barriers were identified by a broad base of stakeholders and Healthy Smiles for Mom and Baby (HSMB) project strategies were prioritized.

January 2016: There was exploration of various programs for readiness for integration of oral health services and willingness to participate in the quality improvement (QI) model. Three programs piloted HSMB strategies to determine level of fit, ability for scaling and replication across Wisconsin, and staff buy-in. During this time, HSMB project staff received training on facilitation of QI projects and the framework for moving sites through a QI model. HSMB staff piloted work with a Managed Care Organization Prenatal Care Coordination program, two FQHCs with medical and dental locations on site, and one public health department PNCC and WIC program.

June 2016: HSMB staff identified public health departments and partnering dental clinics as programs to focus on for implementation sites for the remainder of the project. PNCC/WIC sites were prioritized because staff repeatedly communicated oral health services as an unmet need of their clients, oral health education was already a component of the program, and with 72 county health departments across Wisconsin, the ability to spread and replicate models was high.

January 2017: Wave 1 of implementation sites began, including two local public health departments each with a partnering safety net dental clinic for referrals. HSMB staff refined their facilitation skills to include the development of a project driver document, process map for referrals and data measurement plan.

June 2017: HSMB staff began to recruit public health departments who indicated oral health as a top need in their community health needs assessment, with the goal of recruiting four additional sites to start in Wave 2 (January 2018). A stipend of $1,000 was provided to each partnering organization at the implementation site to support staff involved and data.

January 2018: Wave 2 of implementation sites began with four new local public health departments, with partnering FQHCs and continuation of the two sites from Wave 1. Two sites focused on providing fluoride varnish to children younger than age 5 during WIC appointments utilizing dental hygienists from the partnering FQHC.

January 2019: All six implementation sites will continue to collect data for the remainder of the project period (through July 31, 2019). Summary documents will be created, which will include final workflow for structured, closed loop dental referrals for pregnant women; fluoride varnish application for children younger than age 5 at WIC clinics using outreach dental hygienists employed by the local FQHC; and fluoride varnish application for children younger than age 5 and pregnant women at WIC clinics by public health nurses

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.)

- Perinatal and Infant Oral Health Quality Improvement (PIOHQI) funding from the Health Resources and Services Administration.
- Children's Health Alliance of Wisconsin staff: project director, project manager and oral health education manager.
- Local public health department PNCC and/or WIC program director or lead staff.
- Local community dental clinic key staff person (clinic manager).
- $1,000 stipend for each partnering organization to support staff involvement and data collection.
- Partnership between local public health and dental clinic.

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.

Administration:

- Children's Health Alliance staff provided project oversight, recruitment of implementation sites, overall project evaluation and quality improvement data oversight.

Operations:

- QI framework following the Institute for Healthcare Improvement Model for Improvement was implemented. Each implementation site created an AIM statement, outcome and process measures and a workflow. Plan-Do-Study-Act (PDSA) cycles were used to test improvements to the referral or fluoride varnish application process.
- Data was collected and reported to project partners and the HSMB project manager quarterly. Quarterly data meetings were held to review data, identify outcomes related to specific PDSA tests and adoption of components of the improved system.

Services:

- Referral to oral health services for pregnant women who failed the oral health screen. Oral health screen includes the following two questions: "Have you been to the dentist in the last year?" and "Do you have pain, bleeding or swelling in your mouth?"
- Application of fluoride varnish for children under the age of 4 identified as moderate to high risk.
- Anticipatory guidance was provided to pregnant women and families of young children.
- Dental providers at partnering clinics provided full scope of dental services to referred patients.

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.)

- "NA" indicates the data piece is not being collected by the implementation site.

Pregnant Women				
Site	**Number of Clients Receiving Oral Health Education**	**Number of Referrals to Providers for Dental/Oral Health Care**	**Number Receiving Preventive Dental/Oral Health Care**	**Number with Treatment Complete**
Site A	311	81	55	NA
Site B	121	43	20	NA
Site C	49	25	11	NA
Site D	118	71	43	13
Site E	215	28	NA	NA
August 2015-December 2018	**814**	**248**	**129**	**13**

- Monthly process data is collected from each implementation site. Two sites, A and B participated in the project for two years and have a single dental clinic referral source as a partner. Looking at trend data for each of those sites, the following summary data could be helpful for others looking to replicate:
    - Site A found that 25% of pregnant women enrolling in the PNCC program had dental needs, and 66% of those who received a dental referral (to the specific partnering clinic) completed the appointment.
    - Site B found that 40% of pregnant women enrolling in the WIC program had dental needs, and 50% of those who received a dental referral (to the specific partnering clinic) completed the appointment.

Children Age 1-4				
Site	**Number Receiving Oral Health Education**	**Number of Referrals to Providers for Dental/Oral Health Care**	**Number Receiving Preventive Dental/Oral Health Care**	**Number with Treatment Complete**
Site C	493	NA	120	NA
Site D	2540	219	164	80
Site E	769	NA	548	NA
Site F	130	NA	130	NA
August 2015-December 2018	**3,932**	**219**	**962**	**80**

In addition to quantitative results, three models of care were developed that are replicable:

- Model 1: Integration of outreach registered dental hygienist (employed at FQHC) at WIC clinics to provide anticipatory guidance, fluoride varnish and dental referrals.
- Model 2: Integration of public health nurse at WIC clinics to provide anticipatory guidance, fluoride varnish and dental referrals.
- Model 3: Structured referral system between WIC and PNCC programs to specific community dental clinics which includes closed loop referral information sharing.

A summary document describing the three models in more detail is being developed. When complete it will be available at www.chawisconsin.org/hsmb

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)

Outcome Measures: Each site chose which aim statements to focus their project on.

- *By July 2019, increase the % of children age 1-5 years in WIC in XX site who receive Fluoride Varnish from XX to XX %.*
- *By July 2019, increase the % of children age 1-5 years in WIC in XX site who receive more than one Fluoride Varnish application from XX to XX %.*
- *By July 2019, increase the % of pregnant women in WIC in XX site who utilize dental services at specific clinic from XX to XX %.*
- *By July 2019, increase the % of pregnant women enrolled in WIC in XX site that receive a dental referral from XX to XX%.*
- *By July 2019, increase the % of children age 1-5 years in WIC in XX site who utilize dental services at specific clinic from XX to XX%*

The following table describes the definitions of the outcome measures reported annually:

Outcome Measures	Definition
Percent of children 1-5 years old in WIC who receive one fluoride varnish application	**Numerator:** # of children 1-5 years who receive FV application **Denominator:** 3 month average of the # of children age 1-5 years old participating in WIC
Percent of children 1-5 years old in WIC who receive more than one fluoride varnish application	**Numerator:** # of children 1-5 years who receive <1 FV application **Denominator:** # of children 1-5 years who receive FV application
Percent of pregnant women enrolled in WIC who receive a dental referral	**Numerator:** # of pregnant women in WIC who receive a dental referral. (formal referral) **Denominator:** # of unduplicated pregnant women in WIC
Completed appointment pregnant woman or child	**Numerator:**# of pregnant women (children) who complete a dental appointment at specific clinic **Denominator:**# of pregnant women (children) in WIC that receive a referral to specific clinic

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

1. What is the annual budget for this activity?

   Annual budget for HSMB project management: $268,800

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

   Total Personnel Cost: $160,000
   Educational training materials: $14,000
   Travel: $27,000
   Stipend for each implementation site: $14,000

3. How is the activity funded?

   Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS), Grant Number H47MC28475

4. What is the plan for sustainability?

   Each implementation site developed a sustainable model during the project period that will continue as a part of the services they provide. The models are replicable to other WIC and PNCC programs who want to increase the preventive oral health services they provide.

Children's Health Alliance of Wisconsin secured additional funding from the Healthier Wisconsin Partnership Program to leverage lessons learned from the HSMB project to integrate dental care into pediatric primary care. Specific components from the HSMB project that will be replicated in this new project are: use of quality improvement framework, oral health training for staff working with families and young children and experiences on how to create closed referral systems.

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?

    - Using a quality improvement framework was successful in creating sustainable system changes within maternal and child programs (WIC, PNCC). Specifically, creating a driver document, process map and using the Plan-Do-Study-Act model to test strategies on a small scale before implementing system wide helped to maintain momentum on the project and resulted in a sustainable system change.
    - Partnering with one dental clinic who accepted state insurance and prioritized pregnant women as the referral source allowed us to create a closed loop referral. Having monthly data provided on completed appointments was necessary to the PDSA model to know in real-time if the strategies tested resulted in completed appointments.
    - In our referral system, the dental clinic administrative staff received the faxed referral form and then called the client to schedule an appointment. This proved more effective than giving the dental clinic phone number to the client.
    - Clients don't understand what to expect at dental appointments. WIC/PNCC staff and dental clinic staff were both part of the QI team, which created communication channels where WIC/PNCC staff could learn what happens at an initial appointment versus a cleaning appointment and share that with clients. More prepared and informed clients were more likely to complete appointments.

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

    - Appointment no-shows were a challenge that persisted throughout the project. Implementation sites tested a variety of strategies to overcome them. The following proved to be successful for increasing completed appointments:
        - WIC/PNCC staff providing targeted messages about the connection between a mother's oral health and the oral health of her child.
        - WIC/PNCC staff explaining what to expect at the dental appointment(s): initial appointment will have comprehensive exam, x-rays and treatment plan, second appointment will have cleaning and begin to address treatment plan.
        - Dental clinic staff calling referred woman to schedule a dental appointment.
        - Administrative staff (and all members of the dental team) receiving oral health training so that consistent messaging about safety, importance and what to expect were given to pregnant women.
    - How to provide more than one fluoride varnish to a child participating in WIC/PNCC
        - WIC/PNCC staff did not know the periodicity schedule for fluoride varnish and what the benefits of having more than one application are. A brief training for WIC/PNCC staff increased knowledge of fluoride varnish and introduced a desire to test additional strategies to recall children for fluoride varnish.
        - Benefit issuance days are a target appointment for applying fluoride varnish since the appointment is shorter. However most parents do not bring their children because it is not required. Most implementation sites tested strategies to increase the number of parents who brought their children to the benefit issuance.
        - Strategies to increase parents who bring children to benefit issuance include: use of 'One Call' automated calling system to remind parents that fluoride varnish is available at the benefit issuance, use of public health support staff to call families who are due to schedule a fluoride varnish at the benefit issuance dates, using signage in the clinic reception area to inform parents that a dental hygienist is on site to provide fluoride varnish, warm handoff between WIC staff and professional (dental hygienist or public health nurse) who is doing the fluoride varnish.

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.

Additional project summary information is being developed. When summary reports for each site are ready, they will be available at www.chawisconsin.org/hsmb.

TO BE COMPLETED BY ASTDD	
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Submitted by:	Children's Health Alliance of Wisconsin
Submission filename:	DES56007WIhealthysmilesmombaby-2019
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