Perinatal and Infant Oral Health Quality Improvement Project
FY 2018 Mid-Year Progress Report
August 1, 2018-End of Project

Wisconsin – Healthy Smiles for Mom and Baby

Table of Contents

Grant Number: H47MC2847
Project Title: Healthy Smiles for Mom and Baby
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NARRATIVE

I. PROGRESS

Objective 1: By August 2019, establish and maintain an oral health partnership to ensure effective development, implementation, and evaluation of the Healthy Smiles for Mom and Baby (HSMB) project and work plan.

Accomplishments:

The HSMB Advisory Board proved to be a valuable component of the project throughout the four year project. Key contributions made by the advisory board included:

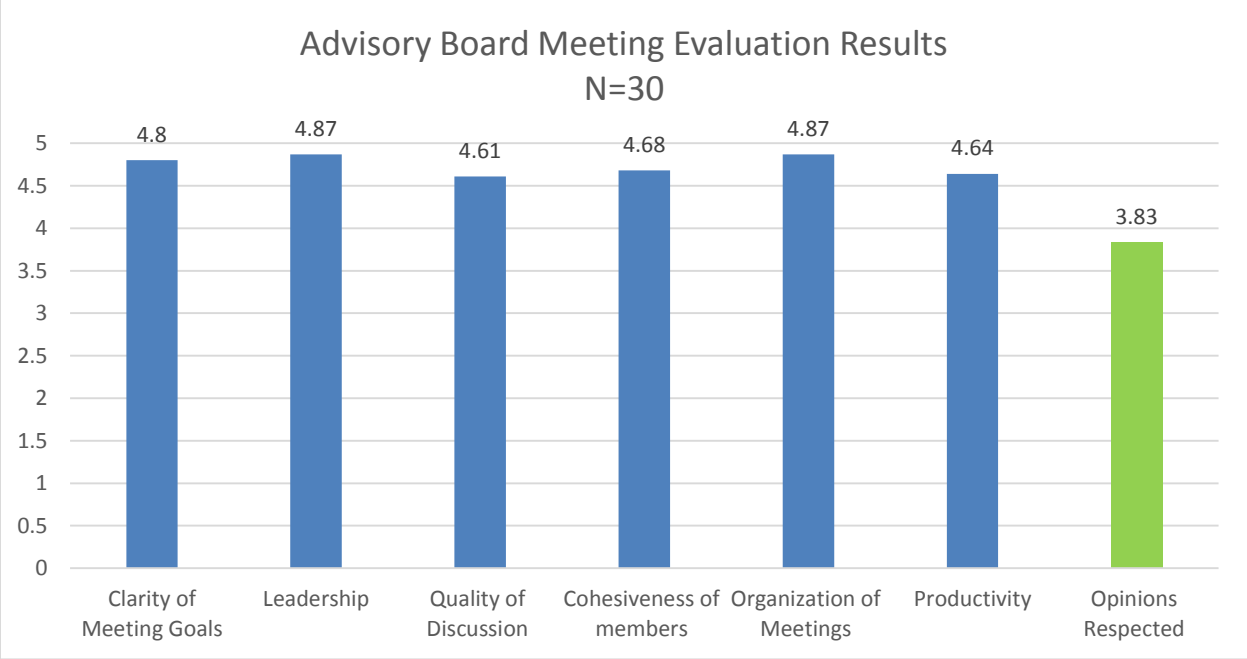
- Each January the members updated the training and education/ outreach plan for the three targeted audiences; future providers, current providers and professionals working with families. This guided project staff to focus on specific strategies such as Grand Round presentations, inter-professional meetings, pursuing the online training and partnering with the dental hygiene training programs to develop modules on perinatal and infant oral health.
- The Wisconsin Dental Association published two articles in their journal and has asked for HSMB staff to write a final article on project outcomes to be published in 2019.
- Advisory Board members spread the online training to their members and connected HSMB staff to additional groups to promote the program.
- Wisconsin Dental Hygienist Association partnered with staff to survey the eight dental hygiene training programs regarding how the current standard of care is reflected in curriculum. When results showed inconsistency across programs and in alignment to the current standard of care, the training programs and WDHA took the lead on developing the Current Standards of Care for Perinatal and Infant Oral Health Curriculum that is now adopted by all eight training programs.
- Marshfield Health System and Children's Hospital of Wisconsin representatives to the Advisory Board took acted as liaisons to their health systems in order to plan inter-professional Grand Round presentations at both organizations. These presentations targeted current providers and residency students at two large health systems in Wisconsin.
- The Advisory Board provided input on the key strategies from the HSMB project to include in the HSMB implementation guide. The Board is actively spreading the best

practices that emerged at the implementation sites and specifically the two models that they identified to their organizational members.

- The Wisconsin Dental Association and Wisconsin Chapter of the American Academy of Pediatrics agreed to run articles in their journal and newsletter about the strategies identified by the HSMB project to be successful in increasing dental utilization of the target population.

Engagement of the Advisory Board was consistent throughout the four year period. For the first two years members met monthly to advice, provide connections to groups and strategic direction for project components. During the last two years the board met bi-monthly to discuss work of the implementation sites, guide staff in planning for sustainability and identify the successful strategies to include in the implementation guide.

A survey instrument adapted from Florin, P et.al. was used to evaluate HSMB Advisory Board meetings. The survey is delivered electronically via Survey Monkey immediately following each meeting. Feedback from advisory board members is used to shape future meetings. During the project 30 Advisory Board meetings were held. The chart below shows the cumulative results of the meeting evaluations.



Legend: On a scale of 1 for poor and 5 for excellent, the collective Advisory Board ratings averaged approximately 5 for clarity of meeting (4.8), leadership (4.87), quality of discussion (4.61), cohesiveness of members (4.68), organization of meetings (4.87), and productivity of meetings (4.64). Partners rated that their opinions were respected using a scale of 1 to 4 to represent completely respected (3.83). Partner participation rating on a 0 (no) to 1 (yes) scale was rated an average of 1.

Objective 2: By August 2019, increase awareness of the importance of oral health to the overall health of pregnant women and infants

The HSMB project focused on outreach and education about the safety and importance of oral health care for pregnant women and young children to three target audiences; future medical and dental providers, current medical and dental providers and community programs/consumers. Highlights of strategies used to reach those audiences are outlined below.

Education/training strategies focused on *future medical and dental provides* include:

- As of Fall 2018 the educational curriculum, *Perinatal and Infant Oral Health Care: Current Standards of Care for Dental and Dental Hygiene Students,* is incorporated into coursework at all eight Wisconsin dental hygiene training programs.
- Patty Hooper who represents the Wisconsin Dental Hygienist Association on the Advisory Board and serves as a clinical adjunct professor at Waukesha County Technical College and Debbie Schumacher, professor at Chippewa Valley Technical College are presenting the educational curriculum at the American Dental Hygienist Association annual meeting in June 2019. This is an opportunity to share how to incorporate the updated standard of care for treatment of pregnant women with dental hygiene educators across the country.
- Feedback and evaluation of the modules are currently being obtained by means of Survey Monkey surveys embedded at the end of each of the four modules.

Education/training strategies focused on *current medical and dental provides* include:

- Grand Round presentations proved to be an effective strategy to reach primarily practicing medical providers and residents. Both health systems that held Grand Round on the topic of perinatal and infant oral health used an inter-professional approach by incorporating both a dentist and medical provider as speakers at the session.
- Articles written in the Wisconsin Dental Association journal targeted primarily private practicing dentists.
- Each year the HSMB project partnered with the Wisconsin Oral Health Coalition to incorporate perinatal and infant oral health breakout sessions and plenary at the annual Wisconsin Oral Health conference. The audience of this annual conference includes practicing dental providers and medical providers such as public health nurses and other social service staff. This venue was very instrumental in disseminating the progress of the HSMB project including the results of the implementations sites, information on the dental hygiene training curriculum, the online training and recruiting local communities to participate in the inter-professional networking events.
- Two inter-professional networking events were held in Eau Claire to encourage conversation between practicing medical and dental providers in the same community. These events were successful in creating dialogue across professions to develop consistent messages for pregnant women and young families and referral methods from medical to dental providers.
- Each implementation site that participated in the HSMB program utilized either the in-person or online training to level set all providers participating in the project on the

current standard of care for pregnant women. Safety Net Dental clinics who participated in the implementation site projects used the online training for providers as well as clinic staff including support staff.

- HSMB staff attended a variety of professional conferences as an exhibitor to disseminate the National Consensus Statement and other documents referencing the current standard of dental care during pregnancy. Conferences include: Wisconsin Dental Hygienist Association, Wisconsin Association for Perinatal Care, Wisconsin Chapter of the American College of Obstetrics and Gynecology,
- HSMB sponsored sessions at the Wisconsin Dental Hygienist Association Annual Indigo Conference. Speakers included Dr. Rene Samelson, Wisconsin dentist Monica Hebl and HSMB staff Diane Flanagan, RDH.

Education/training strategies focused on *community programs/consumers* and *infrastructure and sustainability* include:

The largest sustainable component of the HSMB education strategies is the online oral health training. The training includes four modules, embedded videos showing how to have oral health conversations with families, activities and additional resources. An education materials package and oral health education toolkits, for use with families, are sent to each organization once five of their members have completed the training. Contents of the package and toolkit includes:

- Toothbrushes
  - Adult toothbrushes with toothpaste
  - Infant toothbrushes

- Oral health education toolkit – contained in a convenient shoulder bag:
  - HSMB training manual
  - *Bright Futures Oral Health Pocket Guide*
  - Laminated *Oral Health Screening Guide*
  - Laminated *Happy Tooth* with dry erase marker
  - Starz Animal tooth brushing model
  - Oral health goal setting magnets with permanent marker (English and Spanish)
  - HSMB *Oral Health Guide for Families* – flip charts (English and Spanish)

Oral Health Education Toolkit

Instructions for accessing *HSMB Oral Health Training* can be found on the Children's Health Alliance of Wisconsin webpage https://www.chawisconsin.org/hsmb/ . Children's Health Alliance will continue to maintain the online training beyond the end of this funding.

Objective 3: By August 2019, increase oral health care utilization of underserved women during the perinatal period by integrating oral health into health care delivery systems statewide.
Objective 4: By August 2019, increase oral health care utilization of underserved infants by integrating oral health into primary health care delivery systems statewide.

Accomplishments:

All six of the implementation sites created reliable systems to either integrate oral health services or create reliable referrals to dental providers. Each site will maintain their process beyond this funding and continue to impact the oral health of the young children and pregnant women that they serve.

Project staff analyzed the workflows for each of the six implementation sites to determine if commonalities exist to be used as models for replication and spread. Two models emerged; closed referral for dental appointments and integrated preventive oral health services. Process level data collected from Plan-Do-Study-Act cycles across all six sites was analyzed to identify what specific tests of change worked to increase utilization of dental services and what key oral health educational messages resonated with the target population. This information is compiled in the "Healthy Smiles for Mom and Baby Implementation Guide" which will be disseminated statewide to organizations looking to develop oral health programs for the target population.
Attachment 1: Healthy Smiles for Mom and Baby Implementation Guide.

MODEL ONE
Closed Referral for Dental Appointments

One identified dental clinic (who accepts Medical Assistance) partners to be the prioritized referral source for pregnant patients. The referring agency sends referral to dental clinic who schedules appointments and sends information (with patient consent) back to referring agency. This closes the referral, allows for improved case management and increases completed appointments.

MODEL TWO
Integrated Preventive Oral Health Services

Preventive oral health services are integrated into the patient workflow at Women Infant and Children clinics. Oral health services are provided either through a partnership with a Federally Qualified Health Center (FQHC) Outreach Dental Hygienists or Public Health Nurse.

A warm hand off is made from the WIC staff to the staff providing oral health services including fluoride varnish, oral health education and referral to dental providers. Space is created directly in the WIC clinic. Public health departments or FQHC bill Medicaid for fluoride varnish.

Objective 5: By August 2017, ensure a financing system to support perinatal and infant oral health.
Accomplishments:

While we can't attribute the following success directly to the work of HSMB, others in the state have been successful in ensuring systems exist that support perinatal and infant oral health. The following accomplishment will benefit outlined goals of the HSMB project:

- A Dental Therapy bill was re-introduced in the Wisconsin legislature in January 2019.

Objective 6: By August 2016, increase timely data entry and analysis to evaluate the effectiveness of Healthy Smiles for Mom and Baby.

Accomplishments:

Fiona Weeks, PRAMS program director at the Department of Health Services presented the 2017 PRAMS data during the May Advisory Board meeting. The presentation included trend data for the period of 2014-2017 which spans a portion of the HSMB project. Results of the PRAMS survey showed a slight decrease in women who knew it was important to care for teeth and gums from, a slight decrease in women who had their teeth cleaned by a dentist or dental hygienist and a slight increase in women who had a dental or other health care workers talk to them about how to care for their teeth or gums from 2016. That presentation shared at the HSMB meeting did not have the data points listed, instead only the trend line. Therefore we cannot report the exactly amount of the change that occurred. The entire data set can be found in **Attachment 2: Wisconsin PRAMS Data**.

Participation in COHSII led activities:
HSMB staff actively contributed to all of the COHSII led activities including the following:

- In-person grantee meetings
- Monthly learning events
- Participation in the PIOH-QI Interest Group
- QI technical assistance provided by FrameShift Group
- Site visits during year 1
- Phone calls and email with fellow PIOHQI project staff
- Presented at the National Oral Health Conference as part of the PIOHQI project
- Contributing to the PIOHQI listserv on an on-going basis
- Hosted Altarum for evaluation site-visits

HSMB staff benefitted from the 'all teach, all learn' approach that the PIOHQI network took. The in-person meetings especially helped to create relationships between grantees that facilitated reaching out when faced with barriers. HSMB staff feel strongly that without the personal connection they would have been less likely to call or email a fellow grantee. In-person meetings also provided an opportunity to learn more about the work of each grantee and allowed us to learn from projects that were similar to our own and expanded our own thinking about how to

accomplish our own project. Specifically it was helpful to hear about the workflows that other projects used when recruiting and facilitating a QI project, this accelerated our projects in getting our implementation sites going and reporting data.

Contributions to the Strategic Framework:
The progress made on HSMB objectives address the existing framework described in the funding opportunity announcement.

1) To define population needs and gaps in service delivery additional data has been collected.
   - Quality improvement process data collected by each implementation site on dental referrals has built the evidence for the percentage of women in WIC who are in need of dental care. This data is expanded on in the evaluation section. Prior to this project, Wisconsin WIC sites found it difficult to run reports on the oral health needs of their clients.

2) HSMB staff is mobilizing the current public health workforce including medical, dental and local public health departments to address oral health needs.
   - The oral health online training is sustainable beyond project funding to address the oral health needs of public health nurses, WIC staff and other professionals working with families. This training increases confidence and knowledge of front line providers to address oral health needs of families and patients.
   - Articles written in the WDA, presentations given at WDHA and other statewide meetings promoted the current standard of care and mobilized the workforce to refresh their knowledge.

3) HSMB project is focusing on WIC programs which has a statewide reach.
   - Project staff will use the "HSMB Implementation Guide" to disseminate the two models and encourage the use of them to spread to additional WIC programs. While the funding to sustain the technical assistance to implementation sites will end, Children's Health Alliance is committed to spread the models developed by HSMB.

4) The HSMB Advisory Board and staff are committed to using evidence-based strategies to achieve success.
   - All six implementation sites adopted the models used during their QI project into routine business procedures. This will continue to build the evidence for the success of using a structured referral and integrating preventive services into the WIC clinic.
   - A policy change component is required for all sites/programs utilizing the *HSMB Oral Health Training* online course. Project staff provide assistance to programs in writing policy to include the online training as part of new staff orientation. Written policies ensure all staff have access to consistent oral health information.

5) HSMB staff is monitoring the process and outcome level progress made at each implementation site.

- QI data collected at each implementation site has led to the overall success of the HSMB project goals around increasing access. Additional data analysis is in the evaluation section.
- To communicate the lessons learned throughout the HSMB project staff are developing implementation site profiles. Each site profile will outline specific strategies they tested, what impact they had on the outcome measures and what they consider best practices that could be replicated by other programs. The site profiles will become an addendum to the Healthy Smiles for Mom and Baby Implementation Guide as they will provide additional details that are not part of the broader summary guide. We anticipate the site profiles being completed during the final months of the project.

II. SIGNFICANT CHANGES

Diane Flanagan retired from her position in January 2019. Dana Fischer maintained the online training and educational strategies for the remaining six months of the project. His change did not impact the projects goals and outcomes.

III. EVALUTION

a. Increase Opportunities for access to oral health care.

Type and Number of Testing and Intervention Sites Participating

Site Type	Number of Sites/Programs	Number of Other Intervention Sites
Federally Qualified Health Center	0	0
WIC	5	0
Home visiting (Prenatal Care Coordination in Health Department)	1	0
Community Dental Clinic	5	0

b. Type and Number of Providers Receiving Training

Promotion of the online training was done across HSMB implementation sites and interested community partner organizations. *HSMB Oral Health Training* online course and pre and post training survey data is housed on the Children's Hospital of Wisconsin learning management system. The chart below represents a cumulative total of all people who took the online course between January 2018 and May 2019.

Online Training Summary

Type of Provider	Number of Completed Pre-Tests	Number of Completed Training	Number of Completed Post-Tests
Primary care providers (e.g., family physician, pediatrician, nurse practitioner)	0	0	0
Prenatal care providers (e.g., ob/gyn provider, midwife)	0	0	0
Oral health providers (e.g., dentist, dental hygienist)	8	8	7
Other (e.g., community health worker, home visitors, public health nurses, dental hygiene students)	79	79	29
Total	**87**	**87**	**36**

Analysis of pre training data indicated that the majority of providers taking the course are public health nurses, WIC dieticians/ nutritionists and administrative support staff for public health programs. This is the intended audience for the training so we were pleased to see that those non-medical/ non-dental providers found the training to be useful. The pre and post survey allowed us to analysis changes in confidence and skill around a variety of topics which are reported below.

Skill	**% *Very* or *Completely* Confident Before** n=87	**% *Very* or *Completely* Confident After** n=78
Recognizing early childhood tooth decay	37	75
Evaluating a child's risk of future tooth decay	46	67
Advising parents/caregivers about children's oral hygiene	55	90
Advising parents/caregivers about dental visits for their child	62	93
Advising parents/caregivers about the use of fluoride toothpaste	34	90
Make a dental referral for a child or infant	61	89
Advise a pregnant woman about her oral health	49	91
Make a dental referral for a pregnant woman	56	89

Legend: Confidence was measured using a 5-point Likert scale (ranging from 1= not at all confident to 5= completely confident) with the same questions asked in both pre and post training online surveys. Pre training reported confident ranged from 34% to 62% for oral health skills and post training reported confident ranged from 67% to 93%.

c. Increase opportunities for outreach and oral health education.

The HSMB project does not to provide direct training or education to pregnant women. Rather, training efforts are focused on the community services, public health and medical/dental workforce who provide direct care to pregnant women.

d. Increase opportunities for utilization of oral health care. Cumulative totals for all testing sites.

The HSMB project is focused on two populations; pregnant women and children aged 1-4 years old. We are not collecting data stratified to include infants (birth to age 1). The following charts represent the utilization data collected by each of the implementation sites that focus on the identified target population. Both target populations are not the focus of all six implementation

sites. Some are only focusing on pregnant woman, while others are focused on pregnant woman and children.

In the chart below, note the following annotations:

- "NA" indicates that the data piece is not being collected by the implementation sites.
- * indicated that Brown County did not submit final data prior to creation of this report.

Pregnant Women

August 1, 2015-May 2019	Number of Clients Enrolled in Site	Number Receiving Oral Health Education	Number Receiving Anticipatory Guidance	Number of Referrals to Providers for Dental/Oral Health Care	Number Receiving Preventive Dental/Oral Health Care	Number Receiving Restorative Treatment	Number with Treatment Complete
Jefferson County	393	393	NA	95	61	NA	NA
Door County	140	140	NA	44	21	NA	NA
Oconto County	73	73	NA	50	13	NA	NA
Brown County*	1091	1091	NA	225	47	NA	13
Eau Claire County	238	238	NA	64	NA	NA	NA
Total	1935	1935	N/A	478	142	N/A	13

Children age 1- 4 years old

August 1, 2015-May 2019	Number of Clients Enrolled in Site	Number Receiving Oral Health Education	Number Receiving Anticipatory Guidance	Number of Referrals to Providers for Dental/Oral Health Care	Number Receiving Preventive Dental/Oral Health Care	Number Receiving Restorative Treatment	Number with Treatment Complete
Oconto County	908	908	NA	NA	305	NA	NA
Brown County	5632	5632	NA	569	208	NA	80
Eau Claire County	895	895	NA	NA	409	NA	NA
St. Croix County	670	234	NA	NA	234	NA	NA
Total	**8105**	**7669**	**N/A**	**569**	**1156**	**N/A**	**80**

Implementation sites did not have a good understanding of the oral health needs of their target populations when they joined the HSMB project. Referral data was tracked but not using a field that could be pulled easily through an electronic report. This made it difficult for programs to estimate the referral needs and thus could not use data to recruit dental providers to be part of a structured referral i.e. find a provider who would commit to serving X number of referrals a month.

The following chart shows the rate of referral for each of the implementation sites that focused on increasing referrals as part of the HSMB project. The annual participation is used to show approximate size of the WIC program and the timeframe shows the number of months that were aggregated to calculate the rate. The chart shows a range from 10 to 68 percent of clients in need of dental referrals. While these are not benchmarks, they are a good proxy that other WIC programs could use to get an idea of the oral health needs of their clients based on the size of the programs.

Dental Referrals			
Name of Site	**Annual Participation Count**	**Data Timeframe**	**Rate of Referral**
Door County WIC	30	April 2017-April 2019 (24 months)	44/140= 31%
Brown County WIC Children	4,040	February 2018- April 2019 (14 months)	569/5632=10%
Brown County WIC Pregnant Women	453	February 2018- April 2019 (14 months)	225/1091=21%
Jefferson County PNCC	150	January 2017-April 2019 (28 months)	95/393= 24%
Eau Claire County WIC	144	April 2018 -April 2019 (12 months)	36/184= 20%
Oconto County WIC	35	February 2018- April 2019 (14 months)	50/73= 68%

The following chart shows the rate of completed dental appointments within an implementation site that implemented a closed referral model. The closed referral model means that each WIC clinic partnered with one dental clinic to refer all of their pregnant women or children. The rate of completed appointment reflects the percent of clients who completed the referral by completing at least one dental appointment. The dental clinic reported the completed referrals data and in some cases reported additional information such as restorative appointments and whether treatment was completed. The rate of completed appointments reflects the range of success (21 to 64 percent) that programs had when using a structured referral that included case management by the WIC staff, dental clinic prioritizing the WIC referral and increased oral health education for patients.

Completed Dental Referral			
Name of Site	**Annual Participation Count**	**Data Timeframe**	**Rate of Completed Appointment**
Door County WIC	30	April 2017-April 2019 (24 months)	21/44= 48%
Brown County WIC Children	4,040	February 2018- April 2019 (14 months)	208/569=37%
Brown County WIC Pregnant Women	453	February 2018- April 2019 (14 months)	47/225=21%
Jefferson County PNCC	150	January 2017-April 2019 (28 months)	61/95= 64%

These outcome can be used to inform other programs who want to work within WIC to increase oral health referrals and completed dental appointments. The sustainability of the HSMB program is through the implementation sites who are continuing to use the reliable system they developed as part of the program. In addition, the spread of the two models developed that can be used by additional sites to improve the oral health services for their clients.

e. Telling your Story

Recruitment of private practice dentists to engage as referral sources for WIC programs.

At the WIC conference in May project staff recruited three additional WIC program interested in increasing dental utilization for their pregnant clients. All of the programs shared that they did not have a Medicaid provider who was accepting patients within their county. This is a barrier their clients face to receiving dental care and contributes to the oral health needs that they see within their client population. Thus, the program staff were interested in joining the HSMB project to receive focused technical assistance. HSMB project staff met with each program director to determine what first steps could be taken to try to recruit at least one provider to participate in the HSMB QI project.

Two of the three sites agreed to reach out to all of the dental offices in their counties with the specific ask of being part of a QI project and work together to create an improved referral system that worked well for both the WIC clients and the dental providers. HSMB project staff helped to draft a letter outlining the participation commitment, timeline and next steps. Both WIC staff agreed to use a QI framework to be able to learn from the approach they took to recruitment and if it worked or didn't work. Project staff worked through a BAR/AAR tool with the sites prior to and after recruitment of the dentists.

Two strategies were used to reach out to the dentists. One of the sites mailed out the letters and then called to follow up with the dental offices to see if they were interested in participating. The other site called each of the dental offices first to gauge interest and then planned to send the

letter as follow up. Both sites reached out to all of the listed private dental offices listed in their county. Neither of the WIC staff were successful in recruiting a provider to participate in their project. When completing the After Action Review portion of the BAR/AAR tool, the following themes emerged as to why dental providers were not interested in participating in the project:

- WIC staff talked with front desk staff at 6 of 7 dental offices. At one dental office staff talked with the dentist but WIC staff had a personal relationship with that dentist (relative).
- The dental provider did not accept BadgerCare (Wisconsin Medicaid) because of the process for billing and low reimbursement.
- Dentist's frustration with low reimbursement rates.
- Dental clinic did not have the staffing resources (administrative) to accommodate the time needed to bill.

One of the two WIC sites that reported they could not recruit a dental provider within the county, is exploring other options to improve the current dental referral system because of the high need she sees for her clients to get dental care. Strategies being explored include looking into transportation services available to WIC clients and how to use a QI approach to improve the effectiveness of these services to increase the number of women who complete dental appointments at a FQHC in another county. The other WIC site will continue to use a referral list of providers including those who accept Medicaid but reside outside of the county.

IV. IMPACT

- The Healthy Smiles for Mom and Baby Implementation Guide is the summary document for this project. Project staff will disseminate this guide for the remaining period of the grant and beyond.
- Implementation site profiles are also being developed but not finalized yet. They can be used by site that want to replicate the work done at one of the HSMB implementation sites.
- HSMB ASTDD Best Practice was created outlining the QI projects done at each WIC site. See Attachment 3 HSMB ASTDD Best Practice

IV. PLANS FOR NO-COST EXTENSION

We do not anticipate requesting a no-cost extension of funding for this project.

HEALTHY SMILES FOR MOM AND BABY IMPLEMENTATION GUIDE

The Healthy Smiles for Mom and Baby (HSMB) project was implemented from August 2015-July 31, 2019. The project focused on increasing dental utilization for pregnant women and infants through a multipronged approach that included:

- Education and training for providers working with families.
- Promoting the standard of care for dental treatment during pregnancy to health care providers.
- Quality improvement projects at six local Women, Infant and Children (WIC) sites to identify models to increase utilization of dental services.

Organizations can replicate the models and promising strategies identified during the HSMB project to accelerate making an impact on the oral health of pregnant women and young children in their communities. This implementation guide includes models for a closed dental referral system and integration of preventive oral health services into WIC clinics. Outlined are the specific tests of change that worked to increase completed dental referrals and the number of preventive services provided in WIC settings. The back cover details the promising education strategies developed including the online oral health training, inter-professional events and the curriculum for future dental providers.

OUTCOMES

Increase percent of **pregnant women** in WIC **who utilize dental services**
*prenatal care coordination program

Door County
(baseline) 40% → 46% (outcome)

Jefferson County*
(baseline) 33% → 68% (outcome)

Brown County
(baseline) 22% → 13% (outcome)

Oconto County
(baseline) 0% → 42% (outcome)

Increase percent of **Children** age 1-4 years in WIC **who utilize dental services**

Brown County
(baseline) 25% → 31% (outcome)

Increase percent of children age 1-4 years old in WIC who receive **1 Fluoride Varnish**

St. Croix County
(baseline) 4% → 56% (outcome)

Oconto County
(baseline) 29% → 51% (outcome)

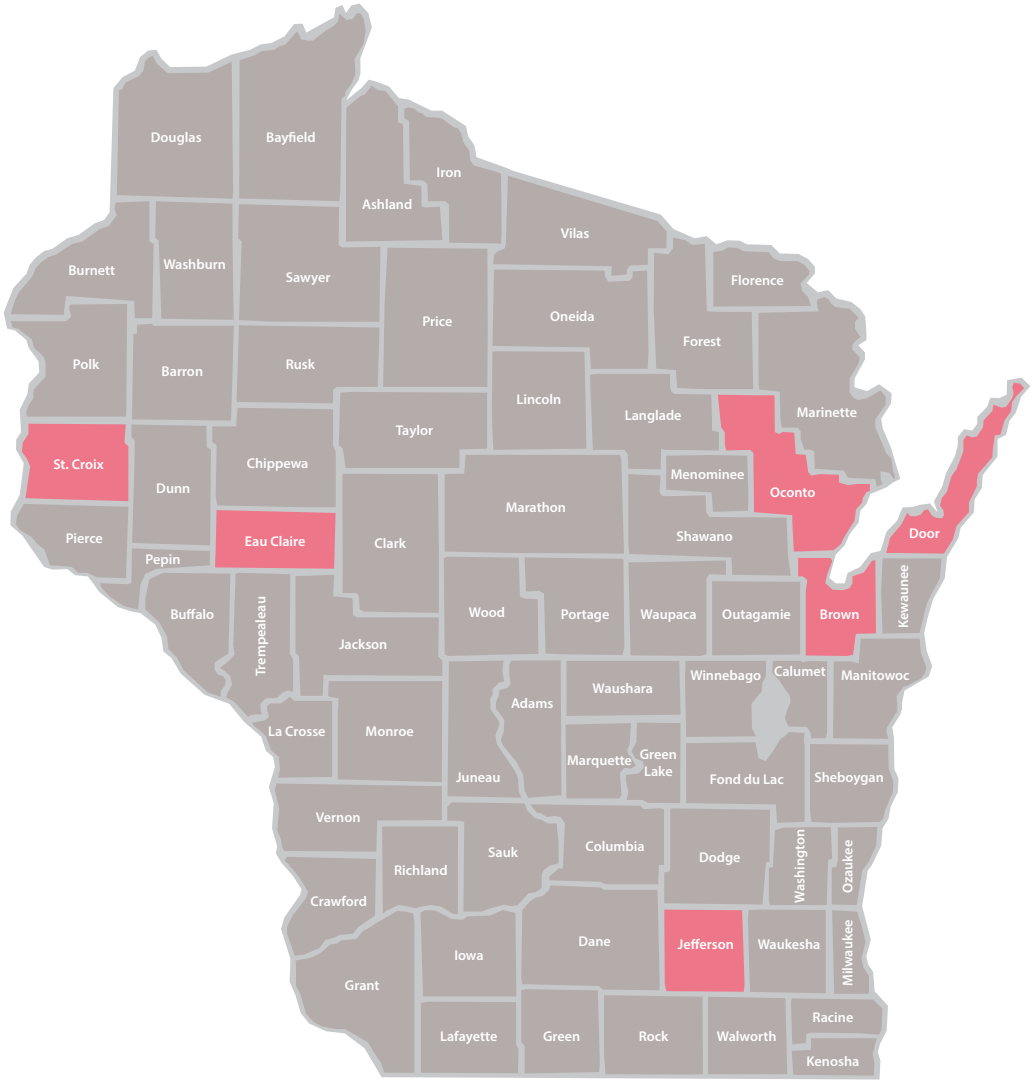
Eau Claire County
(baseline) 25% → 31% (outcome)

Increase percent of children age 1-4 yrs. in WIC who receive **more than 1 Fluoride Varnish**

St. Croix County
(baseline) 0% → 17% (outcome)

Oconto County
(baseline) 16% → 28% (outcome)

QUALITY IMPROVEMENT PROJECT SITES



WIC PROGRAM SIZES 2018

Brown County

453 Pregnant Women — 4,040 Children

Door County

30 Pregnant Women — 307 Children

Eau Claire County

144 Pregnant Women — 1,321 Children

Jefferson County*

155 Pregnant Women — N/A Children

Oconto County

35 Pregnant Women — 382 Children

St. Croix County

78 Pregnant Women — 621 Children

*prenatal care coordination program

KEY STAFF

Public Health Nurse

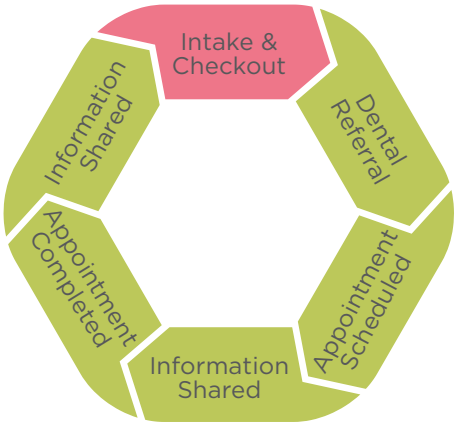
WIC staff

Dental Hygienist

Organization Manager

1

MODEL ONE
Closed Referral for Dental Appointments



One identified dental clinic (who accepts Medical Assistance) partners to be the prioritized referral source for pregnant patients. The referring agency sends referral to dental clinic who schedules appointments and sends information (with patient consent) back to referring agency. This closes the referral, allows for improved case management and increases completed appointments.

What worked

Increase WIC/public health staff oral health knowledge and confidence in having oral health conversations with families.

Use of motivational interviewing to understand patient readiness for dental referral.

Dental clinic prioritizing referred patients.

Two way sharing of information to increase case management and improve appointment completion.

Key oral health messages for mothers

You can transmit bacteria in your mouth to your baby.

The healthier your mouth is, the healthier your baby will be.

The most important thing you can do right now is make sure your mouth is as clean as possible before the baby is born.

2

MODEL TWO
Integrated Preventive Oral Health Services

Intake → WIC Appointment → Oral Health Services → Checkout

Preventive oral health services are integrated into the patient workflow at Women Infant and Children clinics. Oral health services are provided either through a partnership with a Federally Qualified Health Center (FQHC) Outreach Dental Hygienists or Public Health Nurse.

A warm hand off is made from the WIC staff to the staff providing oral health services including fluoride varnish, oral health education and referral to dental providers. Space is created directly in the WIC clinic. Public health departments or FQHC bill Medicaid for fluoride varnish.

What worked

Dedicated oral health provider and space on-site to be part of WIC clinic.

WIC staff introduces oral health services available during intake and encourages families to meet with provider.

Promotion to WIC clients of oral health services through signage at clinic and in appointment reminder messaging.

Schedule next fluoride application for benefit issuance days.

Key oral health messages for families

It is important to have multiple applications of fluoride varnish.

Your children can receive fluoride varnish 4 times a year.

PROMOTION/EDUCATION

The Healthy Smiles for Mom and Baby (HSMB) Oral Health Training is a free online course to increase knowledge and confidence in having oral health conversations for professionals working with pregnant women, infants and toddlers. The training combines oral health information with conversation techniques for effective family-centered oral health discussions.

To access the training, visit: www.chawisconsin.org/iniatives/hsmb

Both medical and dental providers have a role in ensuring pregnant women and young children have oral health knowledge and access to care. Interprofessional networking events provide a space for providers to discuss current standards of care, consistent patient messages and build referral relationships. Organizing events of this nature can energize local efforts.

In 2014, the current standard of care for oral health care during pregnancy was updated. To equip future dental providers with the most up-to-date information, a partnership was created to develop modules to enhance student understanding of the standard of care for pregnant women. Four modules were designed for faculty to adopt into existing courses. Beginning in fall 2018, all eight Wisconsin dental hygiene training programs have adopted the modules into their curriculum.

CALL TO ACTION

- WIC programs exist in all 72 counties. Replicate one of these models in YOUR program!
- Oral health online training specific to pregnant women and young children is available. Train YOUR staff today!
- 6 detailed profiles are available to learn more about each counties project.

HEALTHY SMILES FOR MOM AND BABY

Children's Health Alliance of Wisconsin

This publication was made possible by funding from the Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services grant number H47MC28475.

Department of Health Services

Wisconsin Pregnancy Risk Assessment Monitoring System:
Oral health data time trends, 2012–2017

Healthy Smiles for Mom and Baby
Advisory Board Meeting
May 14, 2019

Fiona Weeks, MSPH
Wisconsin Department of Health Services
Division of Public Health

What is PRAMS?

Pregnancy

Risk

Assessment

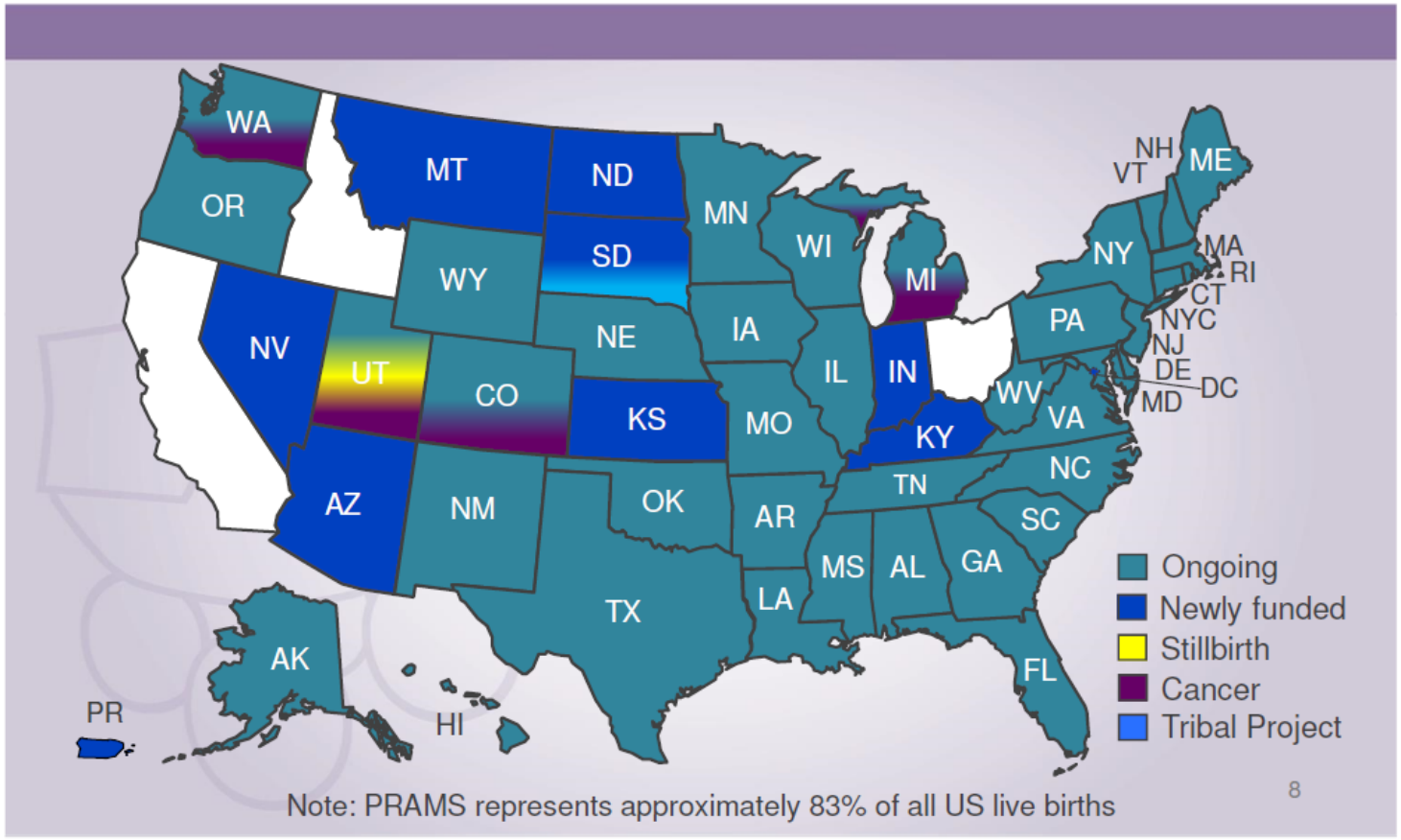
Monitoring

System

Centers for Disease Control and Prevention (CDC) surveillance system started in 1987. Wisconsin has PRAMS data beginning in 2007.

Participating States and Territories

PRAMS Grantees, 2016



Source: Wisconsin PRAMS 2012–2017, Division of Public Health

The Wisconsin PRAMS Team

- **Gary Kirk,** MD, MPH, Principal Investigator, DHS
- **Fiona Weeks**, MSPH, Project Director, DHS
- **Stephanie Hartwig**, Data Manager, UW Survey Center,
- **Christopher Huard**, Sample Specialist, DHS
- **Terry Kruse**, BSN, Project Coordinator, DHS
- **Angela Rohan**, PhD, Senior MCH Epidemiologist, CDC Assignee, DHS

How are we doing in Wisconsin?

2017 Dental care access and knowledge	Percentage Yes
In 12 months prior to pregnancy:	
Had teeth cleaned by a dentist or dental hygienist	63% +/-5
During most recent pregnancy:	
Knew it was important to care for teeth and gums	89% +/-2.5
Had dental or other health care worker talk to them about how to care for teeth and gums	56% +/-4
Had teeth cleaned by dentist or dental hygienist	51% +/-4
Had insurance to cover dental care	82% +/-3
Needed to see a dentist for a problem	19% +/-3
Went to a dentist or dental clinic about a problem	16% +/-3

How are we doing in Wisconsin?

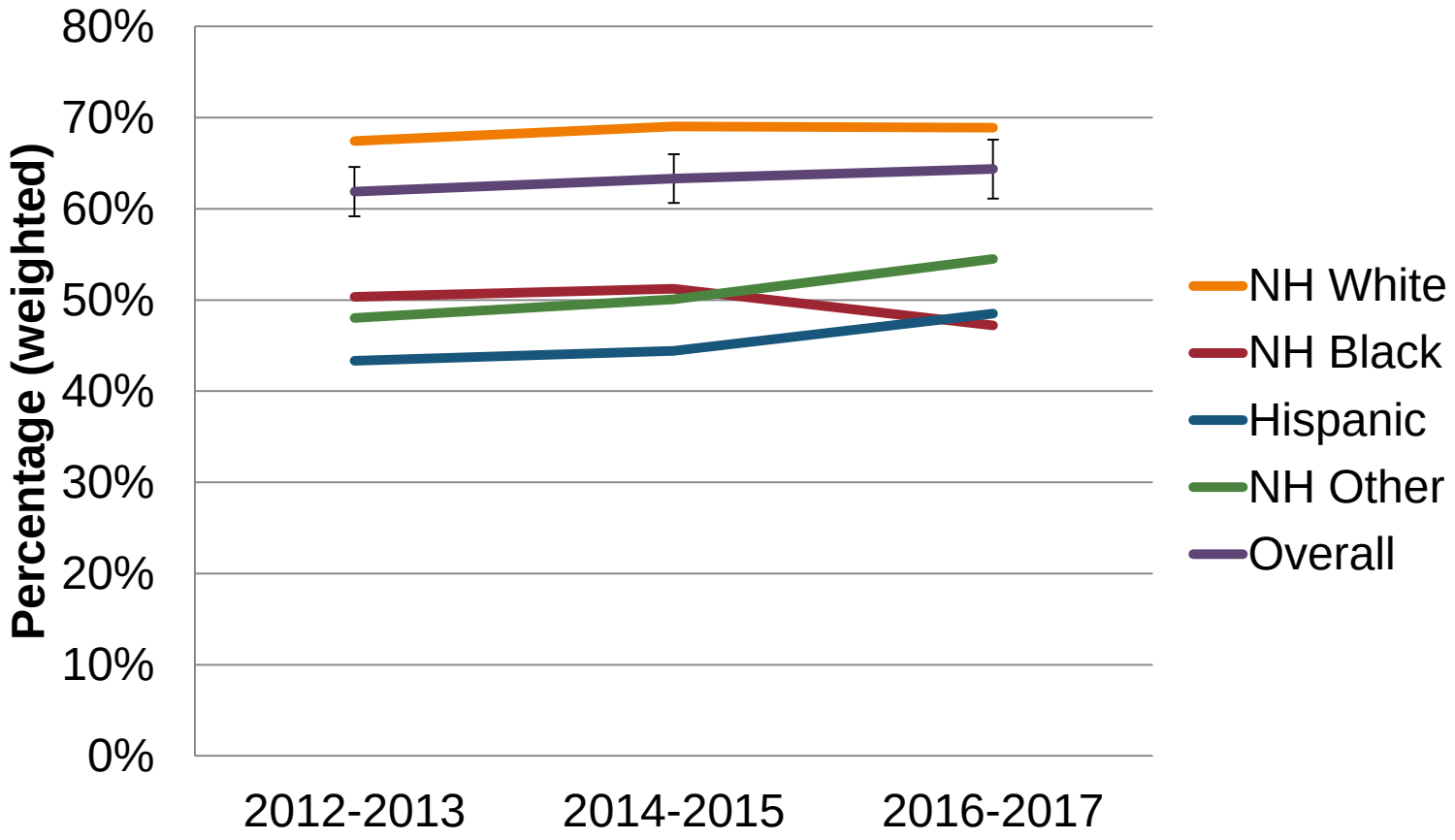
2017 Barriers to dental care	Percentage Yes
During most recent pregnancy, did any of the following things make it hard for you to go to a dentist or dental clinic?	
Couldn't afford to go	12% +/-3
Couldn't find a dentist or clinic that would take Medicaid patients	9.1% +/-3
Didn't think it was safe to go to dentist during pregnancy	10% +/-3
Couldn't find a dentist or clinic that would take pregnant patients	4.8% +/-2

Source: Wisconsin PRAMS 2017, Division of Public Health

We Can Look at These Data By:

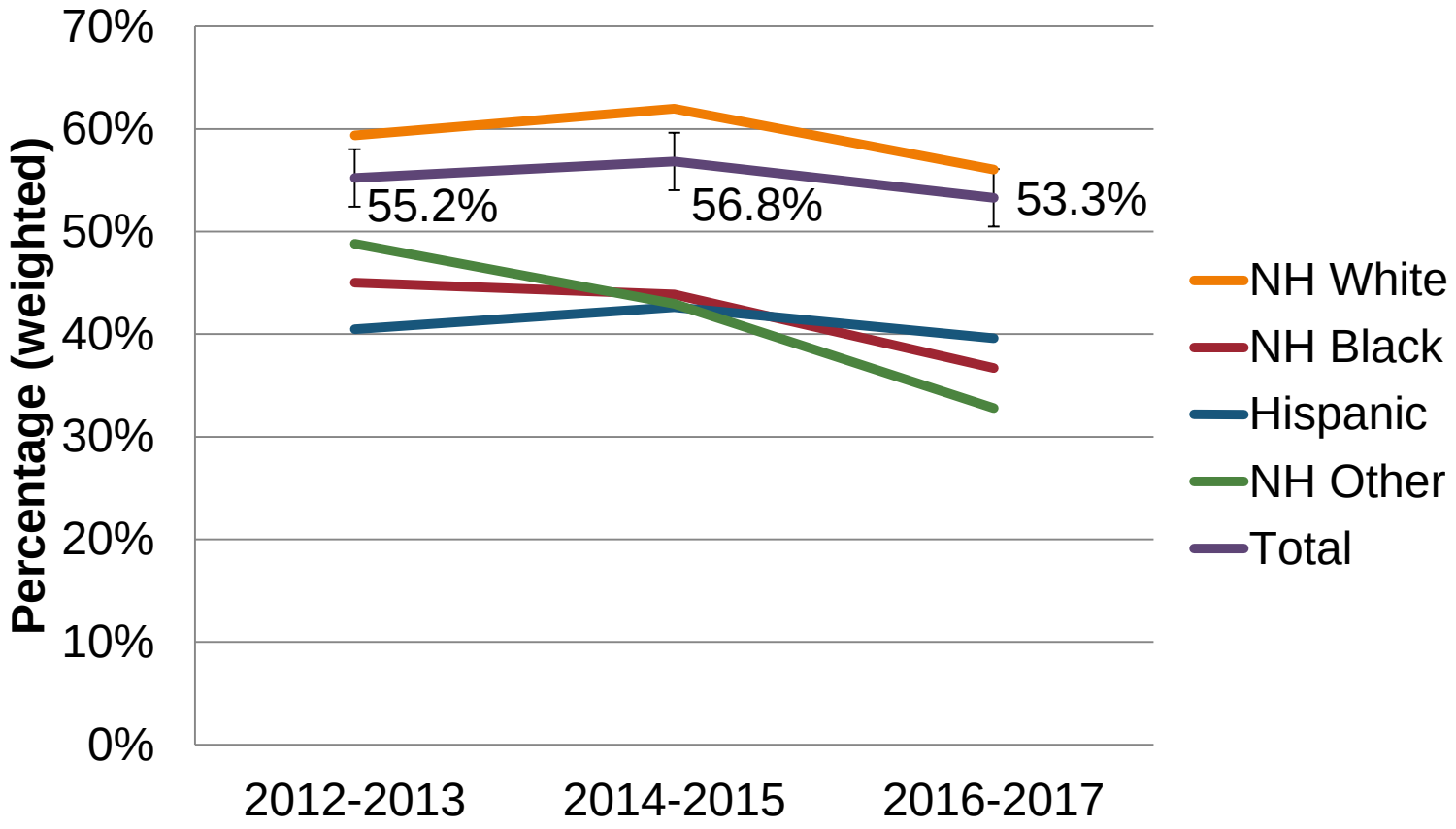
- **Maternal race and ethnicity**
- Maternal age
- Maternal education
- Marital status
- **Insurance status**
- Income and federal poverty level
- Prenatal care access
- **WIC participation**
- Home visiting participation
- Maternal health conditions
- Maternal social support
- Life stressors and maternal mental health
- Other maternal health behaviors
- And more

Teeth Cleaning Before Pregnancy by Race and Ethnicity



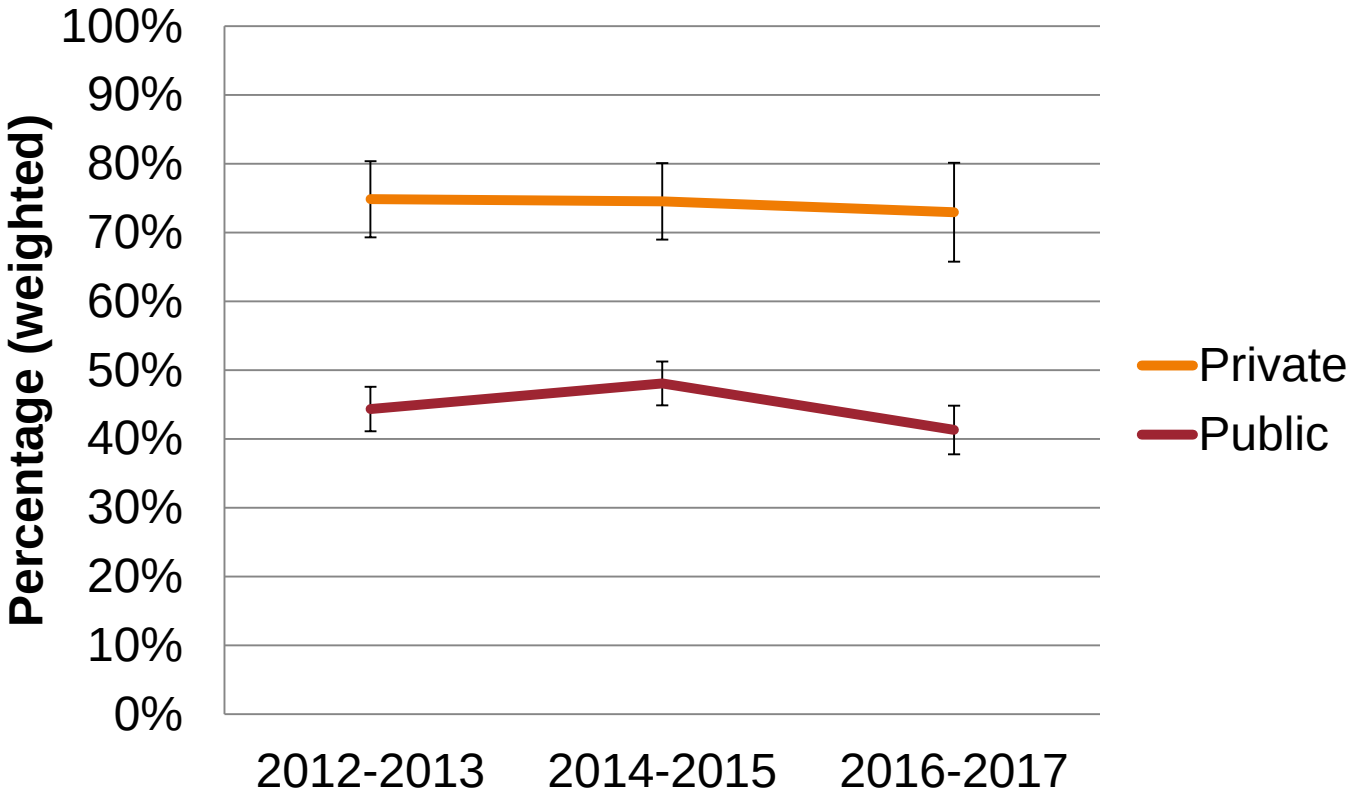
Source: Wisconsin PRAMS 2012–2017, Division of Public Health

Teeth Cleaning During Pregnancy by Race and Ethnicity



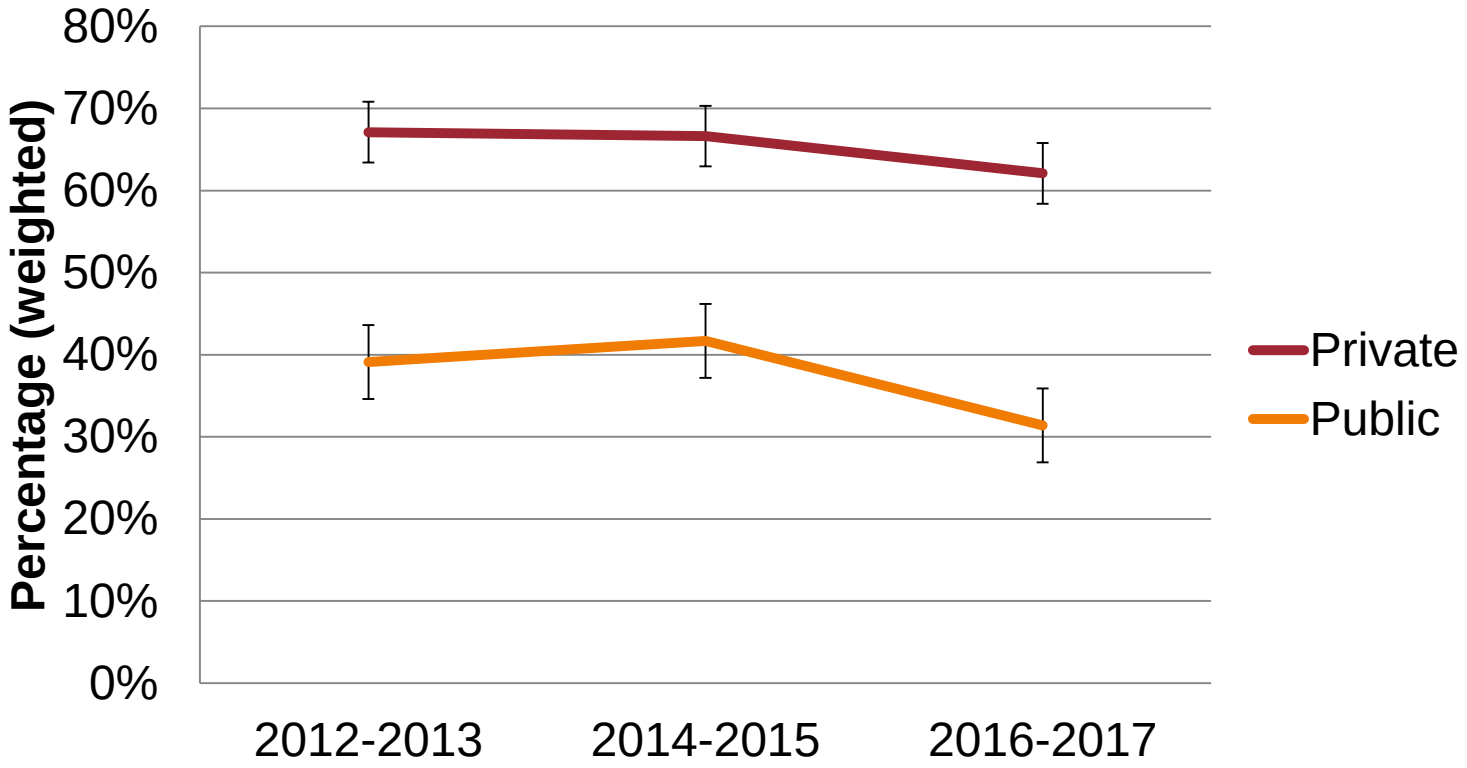
Source: Wisconsin PRAMS 2012–2017, Division of Public Health

Teeth Cleaning Before Pregnancy by Type of Insurance Coverage



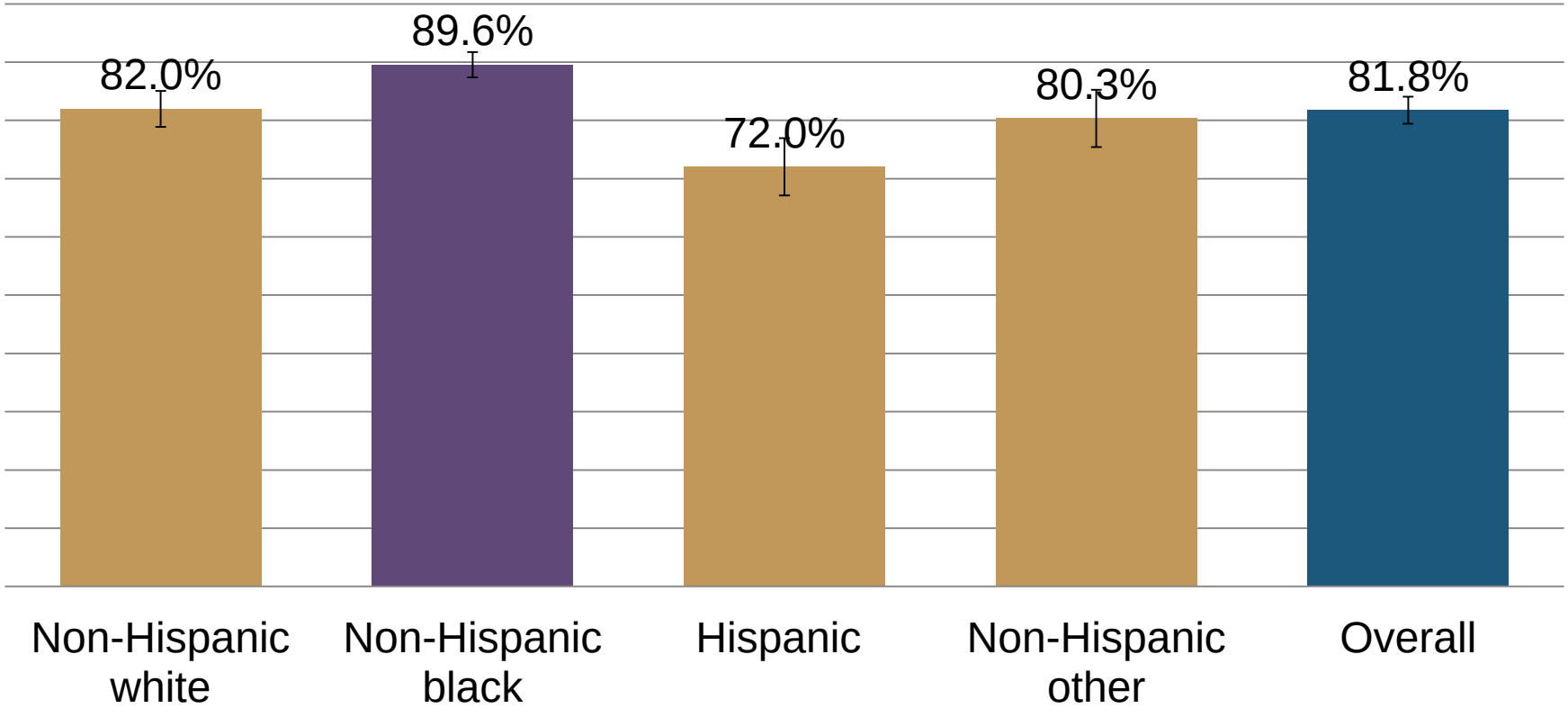
Source: Wisconsin PRAMS 2012–2017, Division of Public Health

Teeth Cleaning During Pregnancy by Type of Insurance Coverage



Source: Wisconsin PRAMS 2012–2017, Division of Public Health

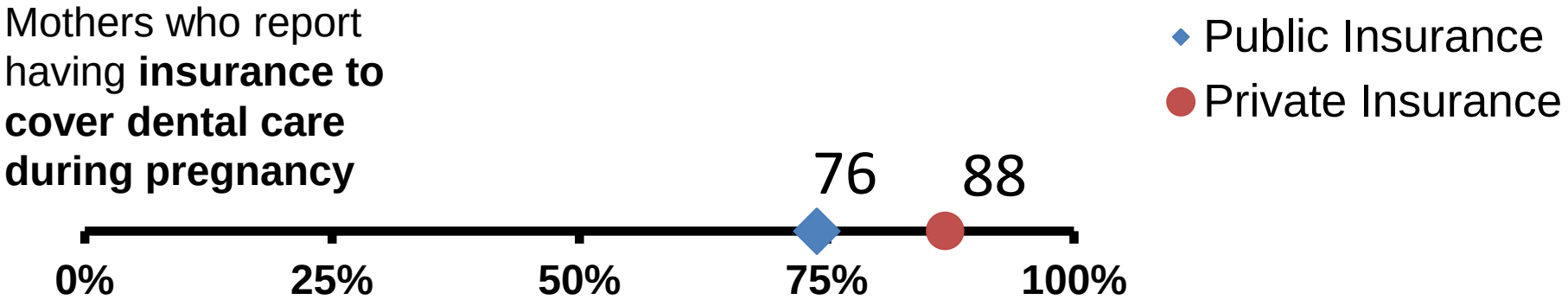
Insurance to Cover Dental Care During Pregnancy by Race/Ethnicity



Source: Wisconsin PRAMS 2012–2017, Division of Public Health

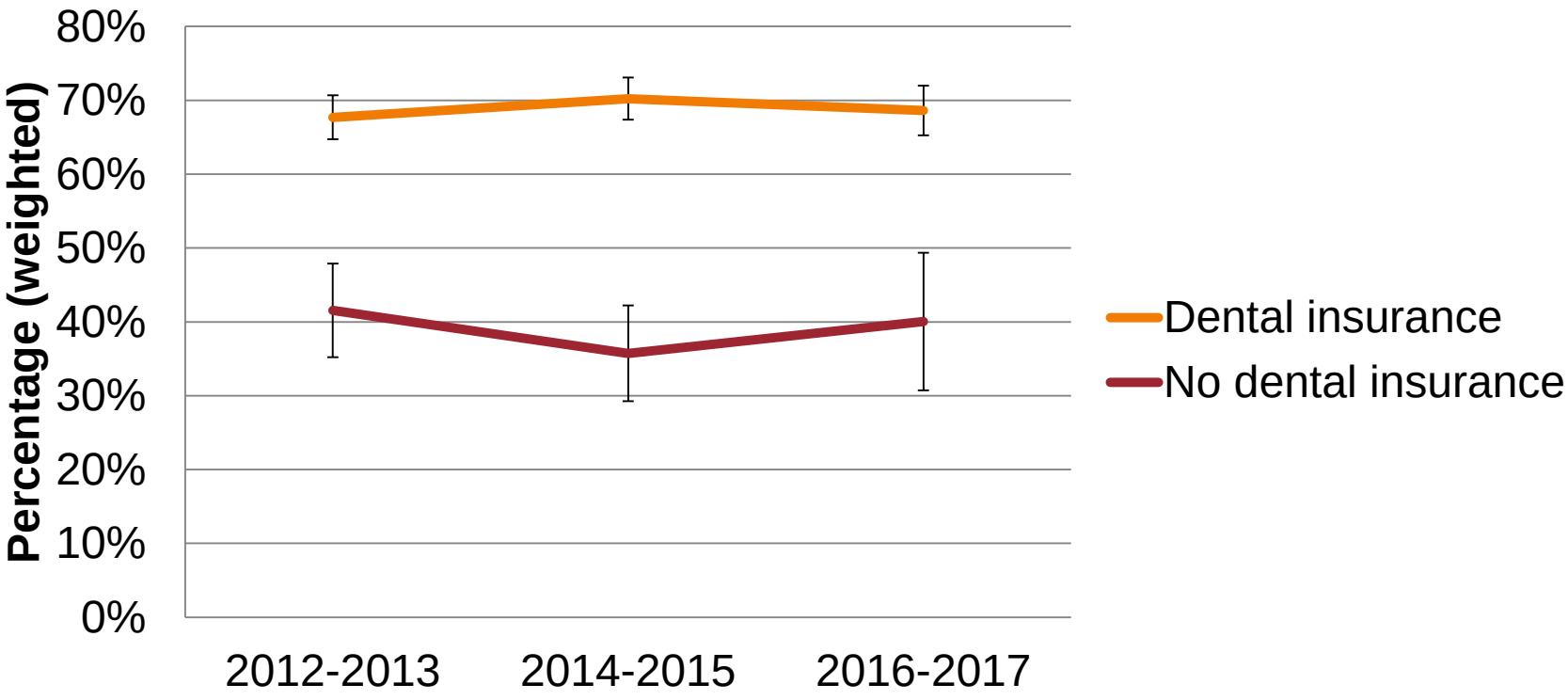
Insurance to Cover Dental Care During Pregnancy

Mothers with private insurance more often reported that they had insurance to cover dental care during pregnancy than mothers with public insurance.



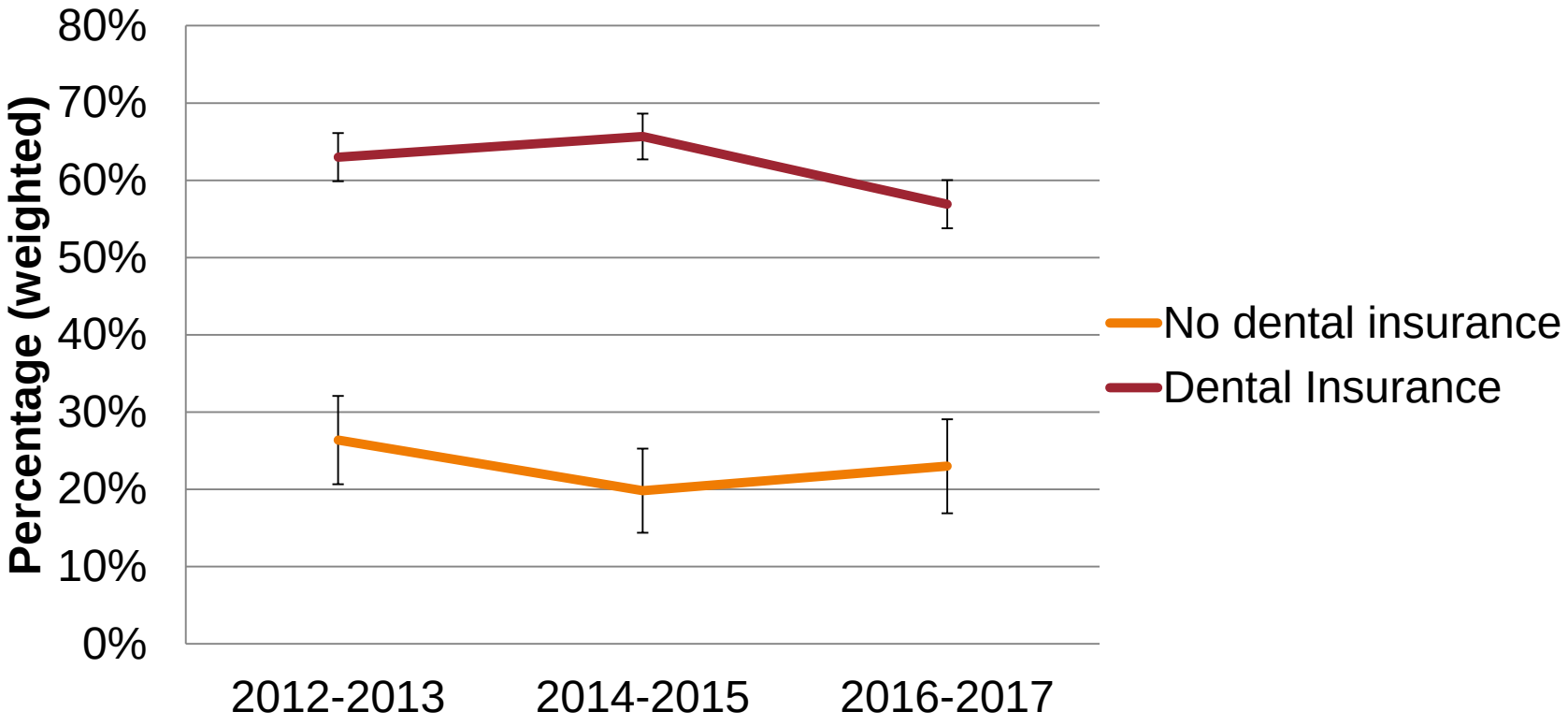
Source: Wisconsin PRAMS 2012–2017, Division of Public Health

Teeth Cleaning Before Pregnancy by Dental Insurance Coverage



Source: Wisconsin PRAMS 2012–2017, Division of Public Health

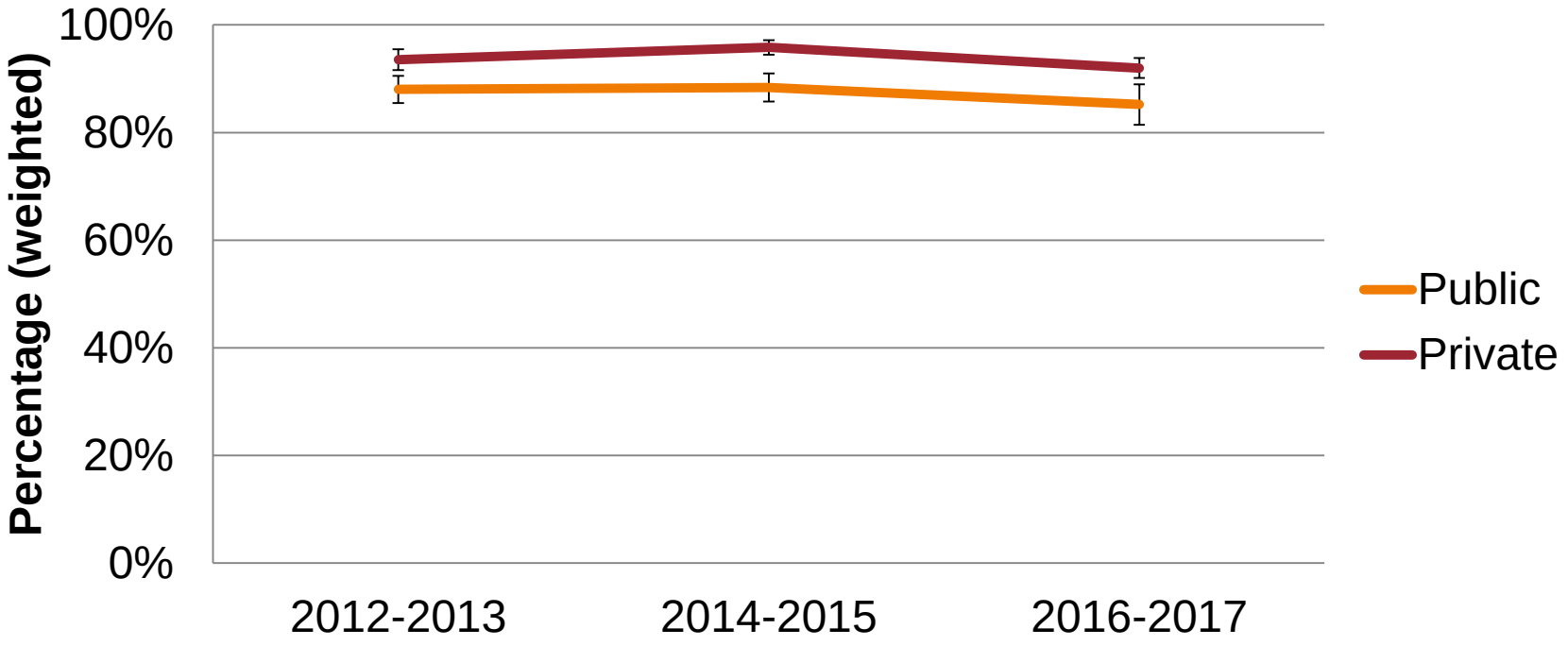
Teeth Cleaning During Pregnancy by Dental Insurance Coverage



Source: Wisconsin PRAMS 2012–2017, Division of Public Health

Oral Health Care Education During Pregnancy

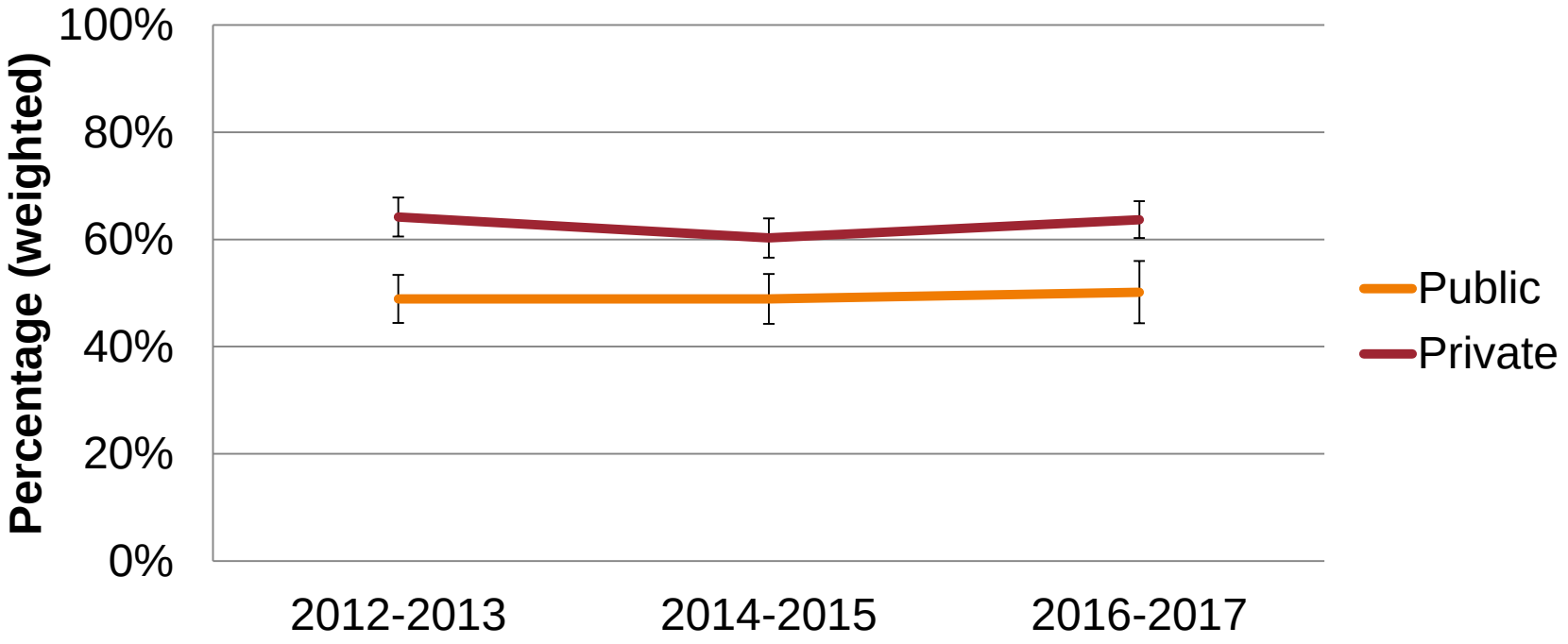
% women reporting she knew it was important to care for teeth and gums



Source: Wisconsin PRAMS 2012–2017, Division of Public Health

Oral Health Care Education During Pregnancy

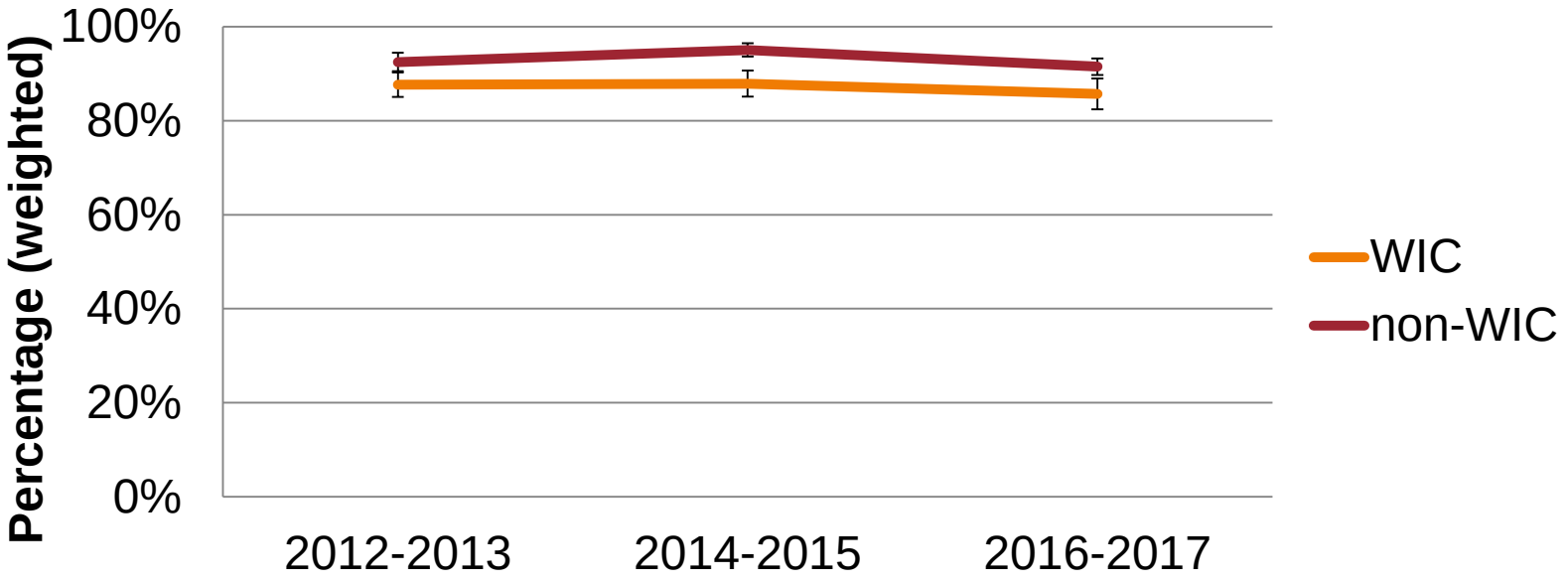
% had a provider talk to her about how to care for teeth and gums



Source: Wisconsin PRAMS 2012-2017, Division of Public Health

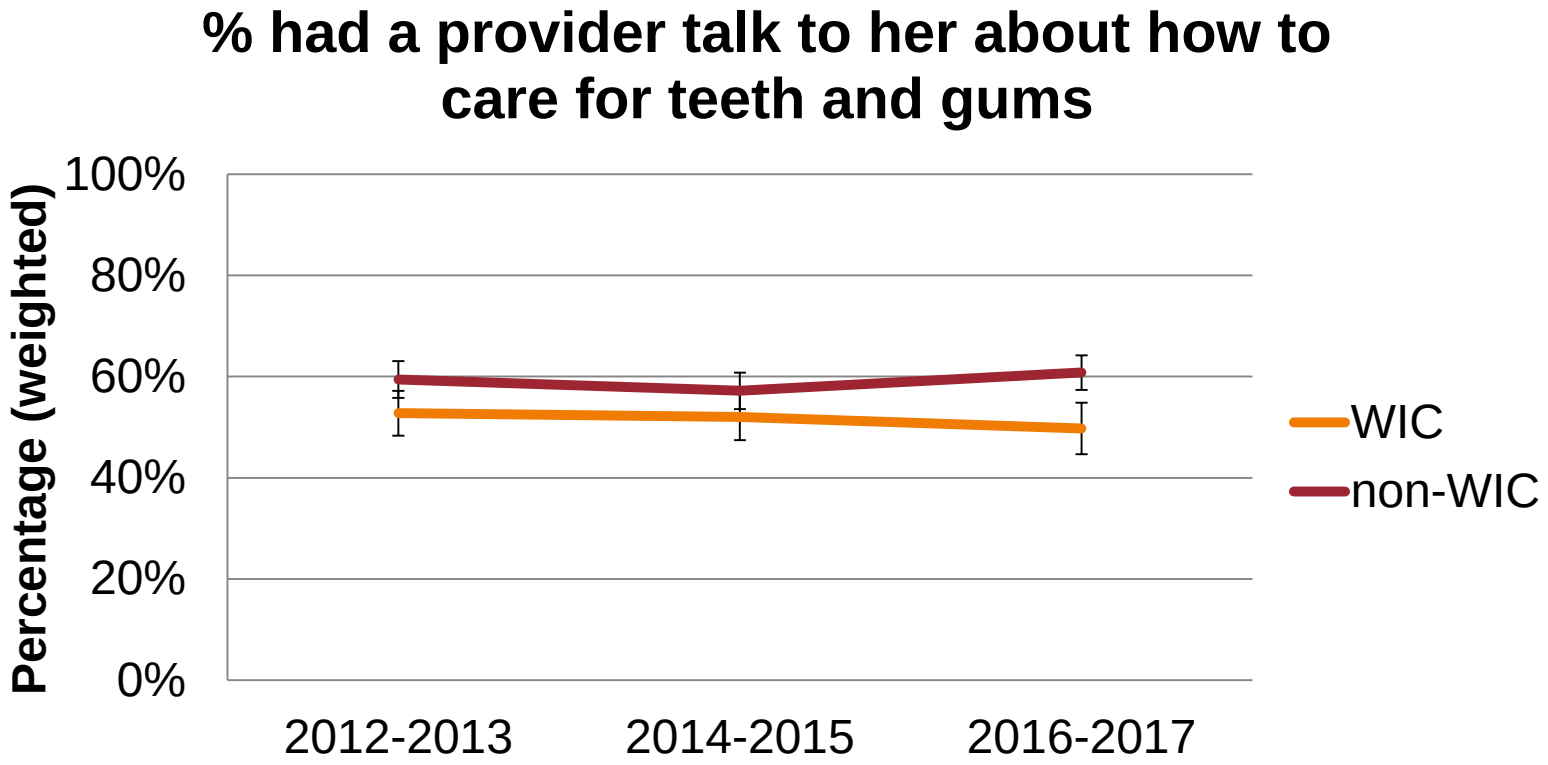
Oral Health Care Education During Pregnancy

% women reporting she knew it was important to care for teeth and gums



Source: Wisconsin PRAMS 2012–2017, Division of Public Health

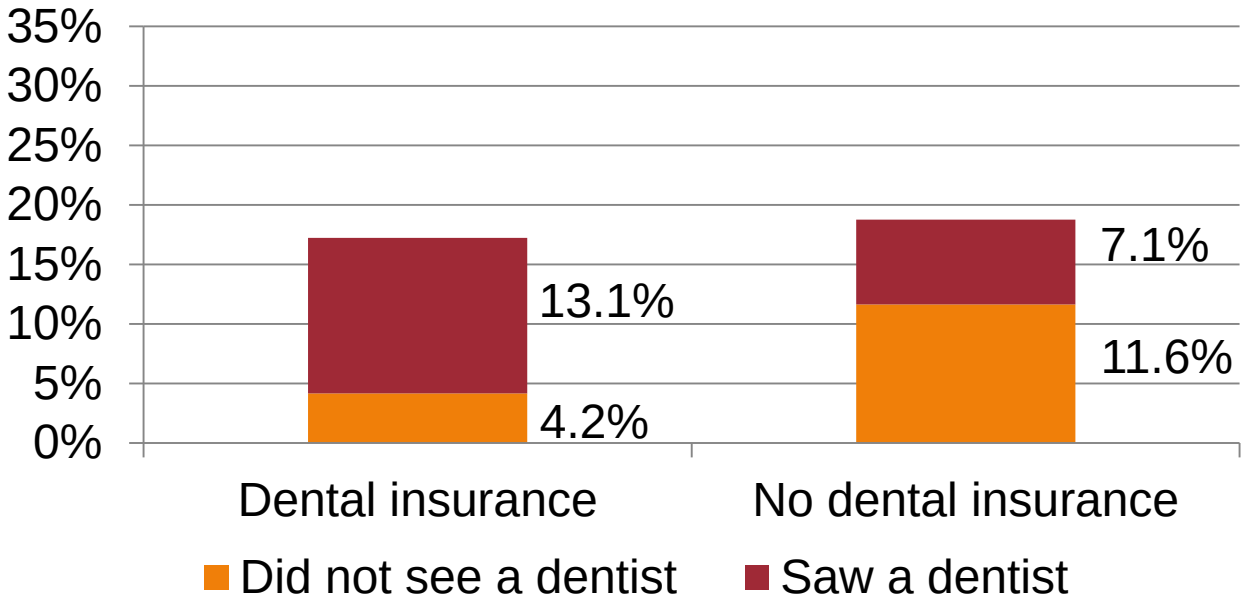
Oral Health Care Education During Pregnancy



Source: Wisconsin PRAMS 2012–2017, Division of Public Health

Seeing a Dentist for a Problem During Pregnancy

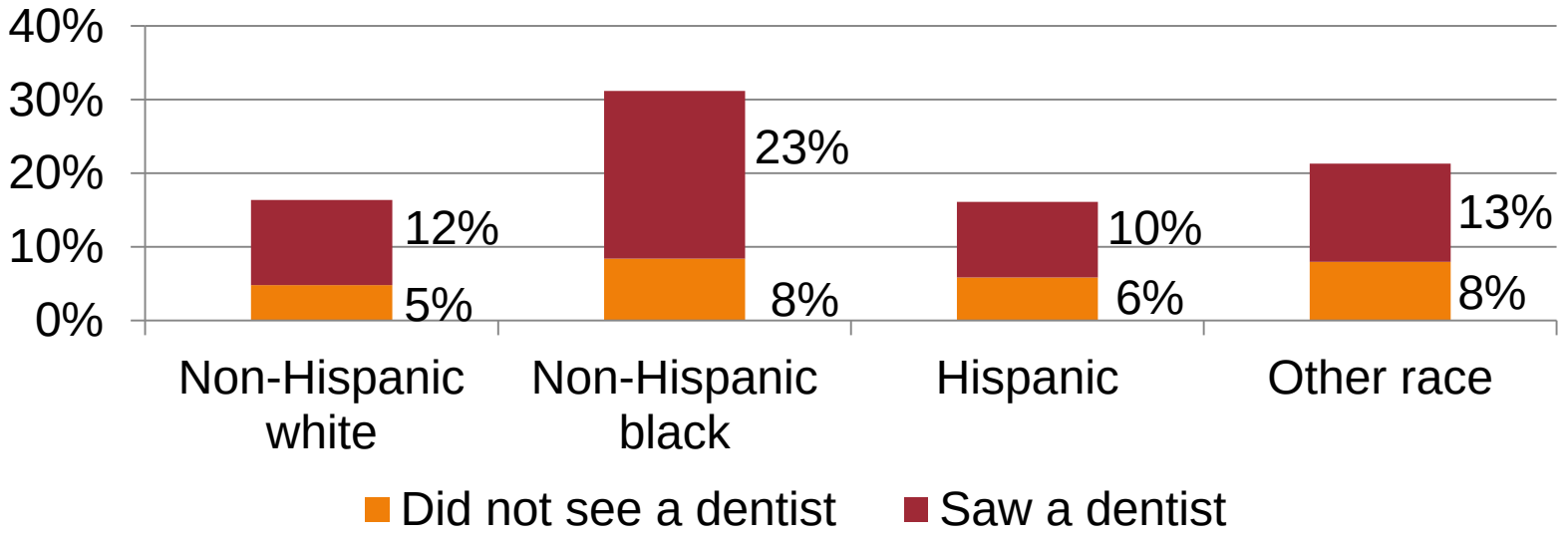
Percentage of mothers who report seeing or not seeing a dentist when they had a problem during pregnancy by whether or not they had dental insurance



Source: Wisconsin PRAMS 2016–2017, Division of Public Health

Seeing a Dentist for a Problem During Pregnancy

Percentage of mothers who report seeing or not seeing a dentist when they had a problem during pregnancy by race/ethnicity



Source: Wisconsin PRAMS 2012–2017, Division of Public Health

What questions do you have?

WISCONSIN PRAMS

Acknowledgements

Funding for PRAMS is provided by the Cooperative Agreement 5U01DP003123 from the **U.S. Centers for Disease Control and Prevention (CDC)**.

Additional support is provided by the **Title V Maternal and Child Health Block Grant Program**.

The **Wisconsin Partnership Program**, University of Wisconsin School of Medicine and Public Health, also provides invaluable support for PRAMS by funding an oversample of non-Hispanic black mothers and of key counties home to community collaboratives supported by the **UW Lifecourse Initiative for Healthy Families**.

Contact

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PRAMS Project Director
Wisconsin Division of Public Health
fiona.weeks@dhs.wisconsin.gov
608-267-9300

WISCONSIN PRAMS

Source: Wisconsin PRAMS 2012–2017, Division of Public Health

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: Dana Fischer **Title: Oral Health Project Manager** **Agency/Organization: Children's Health Alliance of Wisconsin** **Address: 6737 W. Washington Street Suite 1111, West Allis, WI 53214** **Phone: 414-337-4563** **Email Address: dfischer@chw.org**

PROVIDE CONTACT INFORMATION FOR ONE ADDITIONAL PERSON WHO COULD ANSWER QUESTIONS REGARDING THIS PROGRAM
Name: Matt Crespin **Title: Associate Director** **Agency/Organization: Children's Health Alliance of Wisconsin** **Address: 6737 W. Washington Street Suite 1111, West Allis, WI 53214** **Phone: 414-337-4562** **Email Address: mcrespin@chw.org**

SECTION I: ACTIVITY OVERVIEW

Title of the dental public health activity: Healthy Smiles for Mom and Baby: integration of preventive oral health services into maternal and child health programs within local public health departments.

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:
Oral health during pregnancy, access to care, fluoride varnish, ECC

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.

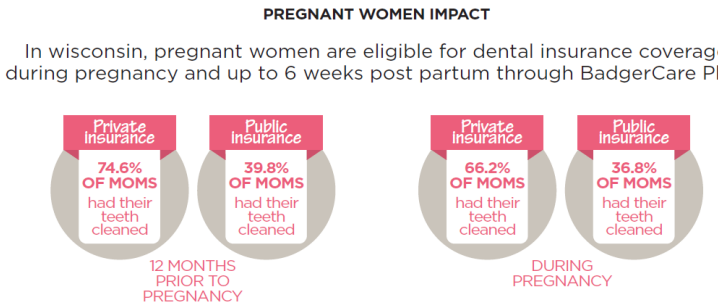
Rationale and History of the Activity:

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. 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 percent of women went to a dental clinic during pregnancy. Racial and ethnic disparities in this area are prevalent. Just more than 58 percent of White women visited the dentist during pregnancy, while only 35 percent 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 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 also indicated that finding dental providers for young children (under age 3) was difficult for families, especially those 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 Federally Qualified Health Centers. 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 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 framework for moving sites through a QI model. HSMB staff piloted work with a Managed Care Organization Prenatal Care Coordination program, two Federally Qualified Health Centers 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 is 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 Federally Qualified Health Centers 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 Federally Qualified Health Center.

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 local Federally Qualified Health Center; and fluoride varnish application for children younger than age 5 and pregnant women at WIC clinics by public health nurse.

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 percent of pregnant women enrolling in the PNCC program had dental needs, and 66 percent of those who received a dental referral (to the specific partnering clinic) completed the appointment.
  - Site B found that 40 percent of pregnant women enrolling in the WIC program had dental needs, and 50 percent 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 Federally Qualified Health Center) 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	
Descriptive Report Number:	
Associated BPAR:	
Submitted by:	
Submission filename:	
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Last updated:	