



# Protect Tiny Teeth Implementation Project

*A prenatal oral health medical-dental  
integration quality improvement project*

## OVERVIEW & RESULTS

## Background

Healthy teeth and gums are especially important during the prenatal period. According to the Centers for Disease Control and Prevention (CDC), pregnant women may be more prone to periodontal disease and cavities. Parents with poor oral health can pass cavity-causing bacteria onto their children. Routine prenatal visits are a great opportunity to educate pregnant people and their families about oral health. This includes education about oral hygiene and diet, the safety of receiving dental care while pregnant, and what to do after the baby is born. Pregnant people can also be screened for dental issues that may require intervention or a more urgent dental referral. **More background information on why oral health and pregnancy is so important can be found here.**

To address the gap in information about oral health and pregnancy, the American Academy of Pediatrics (AAP) created the Protect Tiny Teeth Toolkit ([www.aap.org/tinyteeth](http://www.aap.org/tinyteeth)). This kit includes communications and practice tools that can be used to educate health care professionals and families about oral health and support the integration of preventive oral health care for pregnant patients in the primary care setting.

## Focus Group Testing and Communications Messaging

Prior to developing the toolkit, a diverse project advisory committee (PAC) was convened to develop oral health messages for pregnant people and their children. Focus groups were conducted in communities that are under-resourced with people who were currently pregnant or had recently had a child. Prior to the focus group beginning, the participants were provided with a magazine that included draft prenatal oral health messages/images. During the focus group they were asked to react to the magazine content and answered other questions about oral health and pregnancy. The goal was to find messages that were both attention-grabbing and resonated with the focus group as behaviors they might be willing to learn about and change. The following results guided the development of the messages that are found in the Protect Tiny Teeth Toolkit.

- Viewing cavity prevention through the lens of vertical transmission of bacteria helped parents understand and engage in the issue of oral health. **Emphasize how important it is to take care of their own teeth and that they could be passing harmful bacteria to their baby's mouth.**

- New parents are bombarded with criticism and unsolicited advice, which makes them very sensitive to tone. **Avoid over-commanding statements like “Don’t do this.”**
- Some participants had heard that seeing a dentist while pregnant is not safe. **Clearly state that oral health care during pregnancy is safe and important.**

The Protect Tiny Teeth Toolkit as well as content on the AAP consumer site, [Healthychildren.org](http://Healthychildren.org), used this messaging to help educate pregnant women and their families.



- Pregnant people are very used to the phrase “for two” in the context of behaviors while pregnant. **Draw the connection between pregnancy, oral health care, and well-being of the baby by using the phrase “brushing for two.”**
- Parents are continually sifting through a barrage of often conflicting safety advice. Giving a rationale like “pregnant people are at higher risk” can make the advice more believable. Most parents said they needed to do more research before accepting the advice. **When delivering a message, provide an accompanying online resource from trusted sources like the AAP or the CDC.**



# Oral Health Environmental Scan & Protect Tiny Teeth Implementation Project

In 2018, a national environmental scan was conducted to determine the available programs, policies, and resources that exist about prenatal oral health. It was found that few programs, policies, and projects on oral health focus on the prenatal period. Recognizing this as a significant gap in improving children's oral health, the AAP planned the Protect Tiny Teeth 9-month pilot project in 8 prenatal practice settings to help inform ways to implement preventive oral health services for pregnant people in

primary care. The goal of the project was to implement the Protect Tiny Teeth tools in practice and help the pilot sites to improve the oral health of their pregnant population. This was done in a learning collaborative format that brought the sites and faculty together to discuss progress, successes, and challenges of implementation. This report outlines the results and lessons learned and serves as a resource for other practices that are interested in medical-dental integration and prenatal oral health.

## 2020-2021 Protect Tiny Teeth Implementation Project Description

The AAP created an interdisciplinary project advisory committee (PAC) comprised of dentists, dental hygienists, pediatricians, OB/GYNs, midwives, and family medicine physicians. This PAC served as subject matter experts to design the pilot project and as speakers during the learning sessions.

In June 2020, a request for applications was promoted through various listservs. Over 25 applications were received and eight prenatal sites from five states were selected to participate.

A 9-month learning collaborative provided quality improvement education and a virtual venue for collaboration among sites. Each site was asked to utilize five selected Protect Tiny Teeth resources within their clinical setting and integrate oral health into prenatal care. Most of the participating sites (63%) were Federally Qualified Health Centers (FQHCs) that had the potential to reach over 1,000 prenatal patients per month, in total. Please see Table 1 and Figure 2 for more information on participating locations.

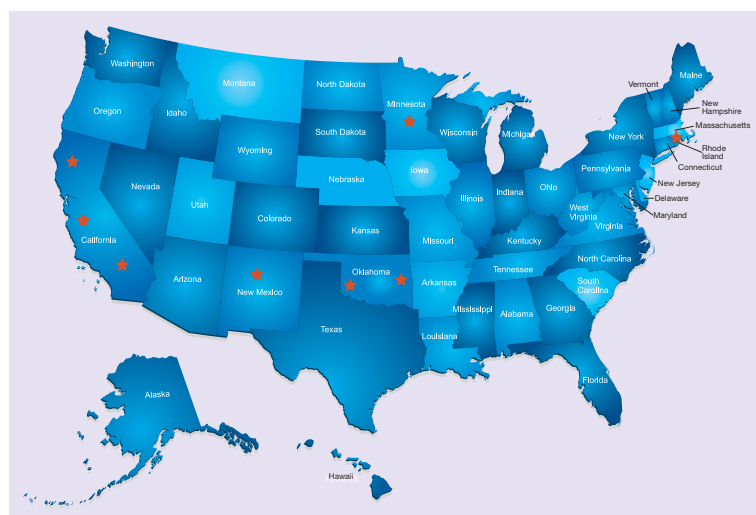
**Table 1. Participating Site Demographics – Protect Tiny Teeth Implementation Project (n=8)**

State	California (3) Minnesota (1) New Mexico (1) Oklahoma (2) Rhode Island (1)
Setting	5 FQHCs 3 Indian Health Service Facilities
Patient Languages	American Sign Language, Arabic (listed by 2 practices), Cambodian, English (listed by all practices), Portuguese, Spanish (listed by 4), Vietnamese
Estimated monthly prenatal visits (all sites)	1,020 (range 20-350)
Uninsured %	5% (2 sites) 10%-40% (4 sites) 85% (2 sites)
Public insurance %	10-30% (2 sites) 50%-65% (3 sites) +75% (3 sites)
Other	All but 1 have a co-located dental office

**Figure 1. Protect Tiny Teeth Implementation Project Timeline**



**Figure 2: Protect Tiny Teeth Implementation Project Participating Site Locations**



## Protect Tiny Teeth Implementation Project Aim

The global aim was to increase oral health screening, education, and referral by at least 20% over baseline, but each practice was encouraged to create their own project goals. Examples of practice specific goals are below:

- >90% of staff complete the [Smiles for Life](#) Prenatal Course by January 15, 2021
- >80% of pregnant patients will receive oral health education by their 2nd prenatal visit by April 31, 2021
- >75% of pregnant patients will be scheduled to see the dentist during their pregnancy and >50% of scheduled pregnant patients attended their dental visit by April 31, 2021
- >50% of medical providers are satisfied with new oral health workflow by April 31, 2021



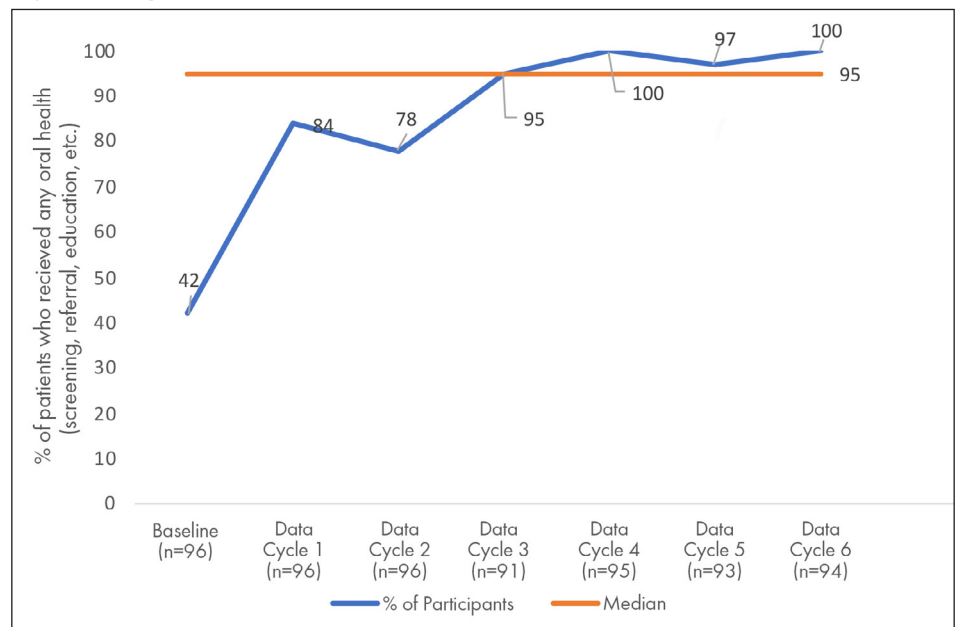
## Protect Tiny Teeth Implementation Project Outcomes-Run Charts

Run charts plot data over time to enable patterns to be recognized in quality improvement processes. For this project, practices input de-identified patient chart information into SurveyMonkey and run charts were created utilizing Microsoft Excel. Practices were required to submit at least 12 consecutive charts from the past month for non-urgent, routine prenatal care. Some smaller practices did not see 12 pregnant patients and therefore the total number of charts varied slightly per month. Baseline was collected in August before the project start. Data cycles 1-6 were November through April. The two-month gap between baseline and cycle 1 allowed practices to familiarize themselves with the Protect Tiny Teeth Toolkit, schedule meetings with medical and dental staff to coordinate referral, and set up a tracking system for preventive oral health tasks.

### Global Aim Outcome – Any Oral Health Aspect

At project baseline, aggregate data across all sites showed that 42% of pregnant patients had received any oral health education, referral, or screening as compared to >95% at Cycle 3. This positive change was maintained for the remainder of the project. Additionally, a median line was calculated, and the data points cross the median line once, suggesting a non-random practice change (see figure 3).

Figure 3. Any Oral Health





## Oral Health History

At project baseline, aggregate data across all sites showed that 56% of pregnant patients had a documented oral health history as compared to 99% at Cycle 4. This positive change was maintained for the remainder of the project (see Figure 4).

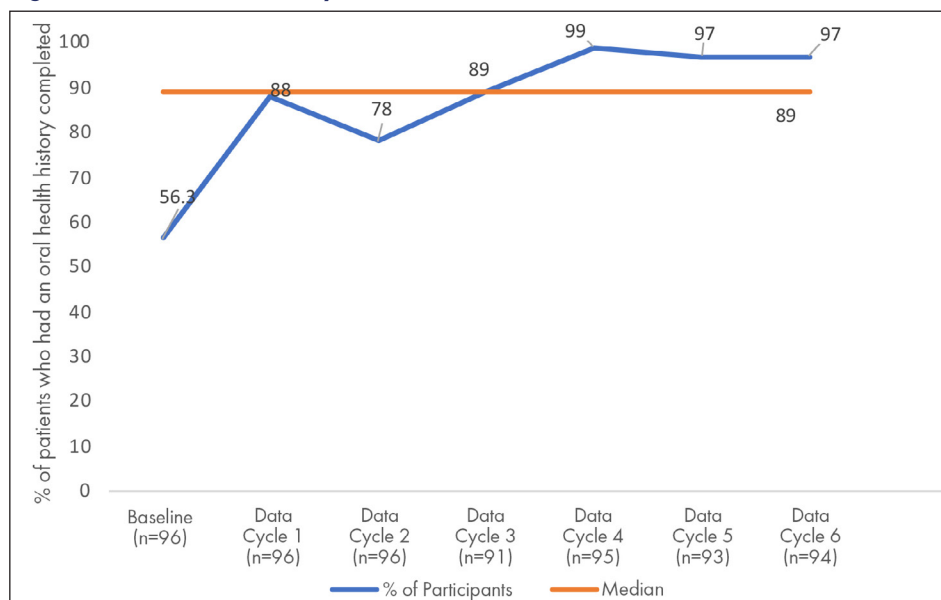
## Visual Exam of the Mouth

At project baseline, aggregate data across all sites showed that 28% of pregnant patients received a visual exam of the mouth as compared to 63% at Cycle 5. It is important to note that some practices reached 100% of patients receiving a visual exam, but others reported not being able to reach their goals due to the COVID-19 pandemic and the need for patients to remain masked throughout the visit. Overall, the goal of a >20% increase was met and maintained (see Figure 5).

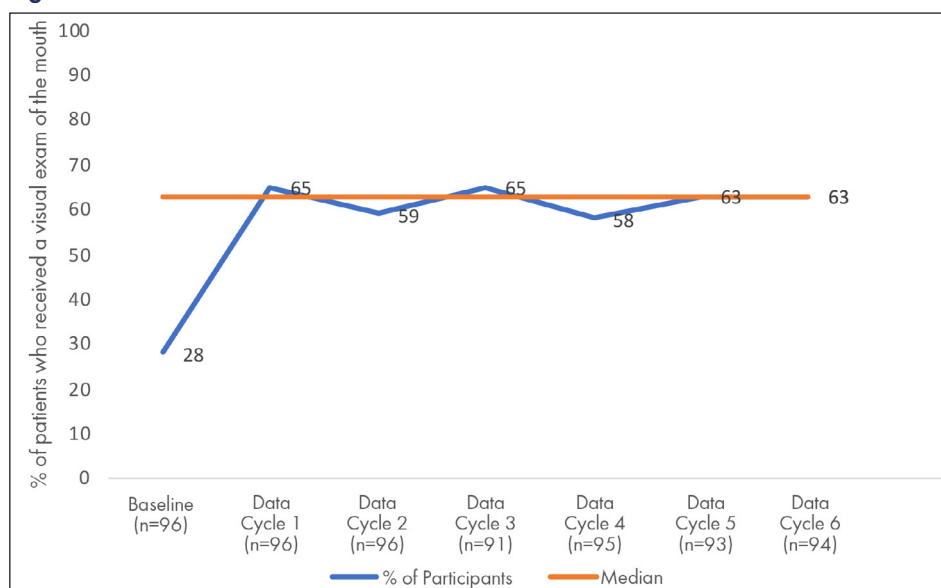
## Oral Health Patient Education

At project baseline, aggregate data across all sites showed that 17% of pregnant patients had received any type of oral health education and counseling as compared to 96% at Cycle 3. This positive change was maintained for the remainder of the project (see Figure 6).

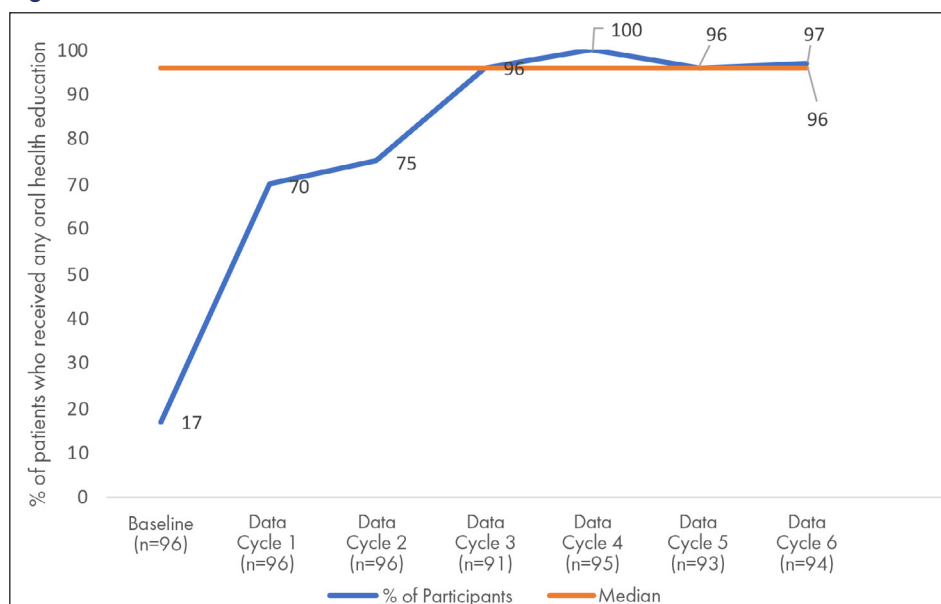
**Figure 4. Oral Health History Collected?**



**Figure 5. Visual Exam of the Mouth**



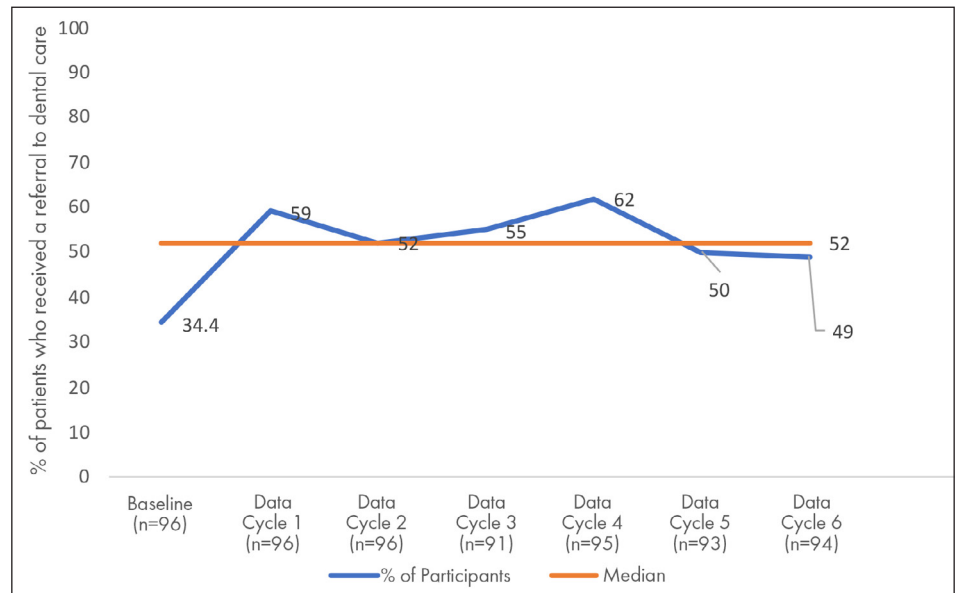
**Figure 6. Oral Health Patient Education**



## Dental Referral

At project baseline, aggregate data across all sites showed that 34% of pregnant patients were referred to dental care as compared to 62% at Cycle 5, however this improvement was difficult to sustain due to office closures associated with the COVID-19 pandemic (see Figure 7).

Figure 7. Dental Referral



## Protect Tiny Teeth Toolkit Overview and Testing

Resources for patients, prenatal providers, and pediatric and family physicians are available at [www.aap.org/tinyteeth](http://www.aap.org/tinyteeth).

### Patient Outreach Focused Resources (Available in Multiple Languages):

#### Short Videos

- The Art of For-Two'ing (prenatal oral health)
- Tiny Teeth Beneath the Gums (infant oral health)

#### Posters

- Now You're Brushing for Two
- Pregnant? Schedule Your Dental Visit Today
- Protect Tiny Teeth

#### Infographics

- Prenatal Oral Health Infographic
- Dental Care During Pregnancy
- Infant Oral Health Information

#### Brochure

- Questions Parents Are Asking About Oral Health

#### Goal Sheet

- Self-Management Goal Sheet for Parents and Caregivers

### Prenatal Clinical Practice Focused Resources:

#### Workflow

- Example workflow to add Preventive Oral Health Care into Clinical Practice

#### Clinical Practice Forms

- Prenatal Oral Health Information Form and Corresponding Conversation Guide
- Prenatal Oral Health Screening
- Prenatal Medical-to-Dental Referral Form

### Pediatric Clinical Practice Focused Resources:

#### Clinical Practice Forms

- Oral Health Risk Assessment Form
- Pediatric Medical-to-Dental Referral Form
- Brush Book Bed Resource Guide

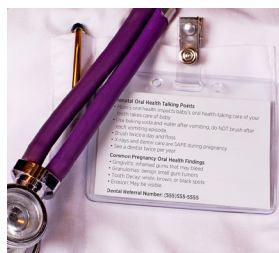
Five tools were tested during the Protect Tiny Teeth Implementation Project. The below describes each tool and how well they were adapted by the sites.

## Protect Tiny Teeth Implementation Project Required Tool #1 Prenatal Oral Health Information Form

The Prenatal Oral Health Information Form lists questions providers can ask patients to get a sense of their oral health. This tool works in conjunction with the next tool, the Prenatal Conversation Guide, which lists helpful topics to discuss with pregnant patients based on responses to the Prenatal Oral Health Information Form.

The Prenatal Oral Health Information Form was reported to be one of the most popular tools by providers. One participating practice shared that they turned the information form questions into a “Badge Buddy” or a small, laminated sheet under their name badge that listed screening topic areas as well as the phone number to the onsite Federally Qualified Health Center Dental Office (see figure 8).

One provider at an Indian Health Center stated, “I was surprised how quick and easy it was to ask prenatal patients about oral health. Instead of asking about the weather in the beginning, which is my normal routine, I asked them about their oral health. Women at our clinic care deeply about their children but sometimes have a grin-and-bear it mentality when it comes to their own health so I was really happy when I was able to discover a pregnant patient really having some oral pain. I would have never heard about had I not asked.” The Prenatal Oral Health Information Form was a very popular tool. By project end 79% of patients at the participating sites were completing this form. See Figure 9 for an example of the form and Figure 10 for the run chart on utilization of this tool.



**Figure 8. Sample Oral Health Badge Buddy**

### Prenatal Oral Health Talking Points

- Mom's oral health impacts baby's oral health. Taking care of your teeth takes care of baby
- Use baking soda and water to rinse after vomiting (do NOT brush after each vomiting episode)
- Brush twice a day and floss
- X-rays and dental care are SAFE during pregnancy
- See a dentist twice per year

### Common Pregnancy Oral Health Findings

- Gingivitis: inflamed gums that may bleed
- Granulomas: benign small gum tumors
- Tooth Decay: white, brown, or black spots
- Erosion: May be visible

### Dental Referral Number:

(555)555-5555

Insert any other helpful numbers.

**Figure 9.**

**Prenatal Oral Health Information Form**

Patient Name: \_\_\_\_\_ DOB: \_\_\_\_/\_\_\_\_/\_\_\_\_

Telephone: \_\_\_\_\_ Est. Delivery Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

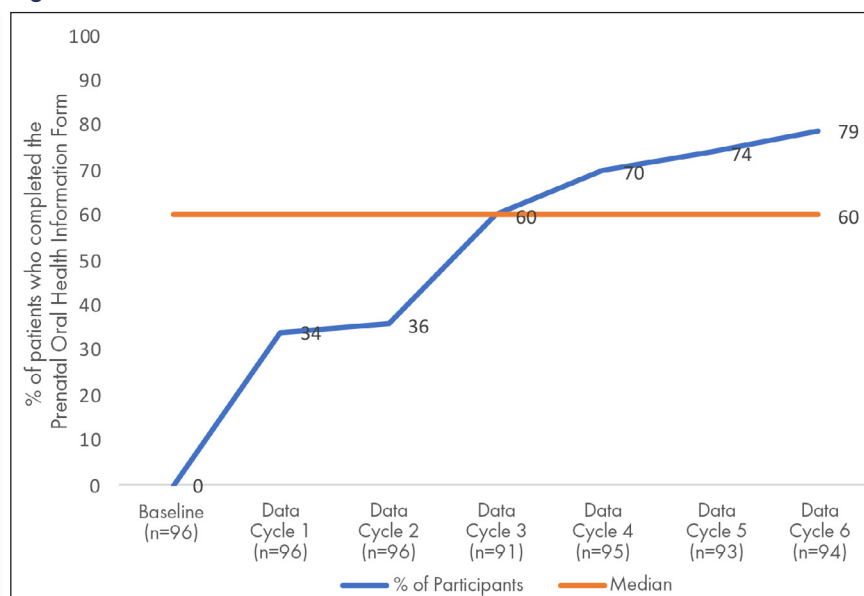
**Tell Us About Your Dental Routines.**

Choose the answer that is most similar to your dental care routine.

For office use only  
A \_\_\_\_\_ B \_\_\_\_\_ C \_\_\_\_\_

- How often do you visit a dental professional?
  - Once every six months.
  - Once a year.
  - Once every few years or never.
- How often do you brush your teeth?
  - Once or twice a day.
  - A couple times a week.
  - Not very often.
- How do you satisfy your pregnancy cravings?
  - I usually eat healthy food like fruits, vegetables, whole grains, yogurt or cheese.
  - Sometimes I eat healthy things, but I also eat sugary/salty snacks like cookies and chips.
  - I mostly eat sugary/salty snacks like cookies and chips.
  - Other: Please describe \_\_\_\_\_
- What do you usually drink during the day?
  - Mostly water, milk, or other sugar-free beverages.
  - Some water and some soda, juice, coffee or tea.
  - Mostly soda, juice, coffee, or tea.
  - Other \_\_\_\_\_
- How often do you floss?
  - At least once a day.
  - Every few days or at least once a week.
  - Not very often or never.
- Do you smoke or use any tobacco products? (including cigarettes, e-cigarette (vaping) devices or chewing tobacco)
  - No.
  - Yes, but rarely.
  - Yes, regularly.
- What do you do after you experience morning sickness?
  - Rinse my mouth out with a baking soda and water solution.
  - Brush my teeth and/or rinse with just water.
  - Nothing.
  - I don't get morning sickness.
  - Other: Please describe \_\_\_\_\_
- Are you experiencing any pain, bleeding or hot/cold sensitivity in your teeth or gums today?
  - No.
  - A little bit.
  - Yes. Please describe \_\_\_\_\_
- Have you had any dental work (fillings, extractions, root canals, etc.) done in the past 12 months?
  - No.
  - Yes. Please describe \_\_\_\_\_
  - I need dental work, but I haven't received it.
- Do you have dental insurance?
  - Yes.
  - I don't know.
  - No.

**Figure 10. Prenatal Oral Health Information Form**



Download free copies of the **Prenatal Oral Health Information Form** in English or Spanish at [aap.org/tinyteeth](http://aap.org/tinyteeth)

## Protect Tiny Teeth Implementation Project Required Tool #2 Conversation Guide

The *Conversation Guide* tool works in conjunction with the Prenatal Oral Health Information Form. The *Conversation Guide* lists helpful topics to discuss with pregnant patients based on how they responded to the information form.

One practice shared that they had their comprehensive perinatal service program (CPSP) community workers implement the *Conversation Guide*. The community workers stated they enjoyed the *Conversation Guide* because it helped them categorize the oral health needs of their patients. They found that most patients fell into the B category (get dental care once per year, eat an average diet, and have a little bit of oral pain) and were able to tailor most of their education towards this group. The *Conversation Guide* was able to fill a gap in oral health education for the community workers and they felt empowered to educate others about oral health and its importance during pregnancy. During the project as many as 90% of patients received counseling based on the *Conversation Guide*. See Figure 11 for an image of the *Conversation Guide* and Figure 12 for a run chart on the utilization of this tool.



Figure 11.

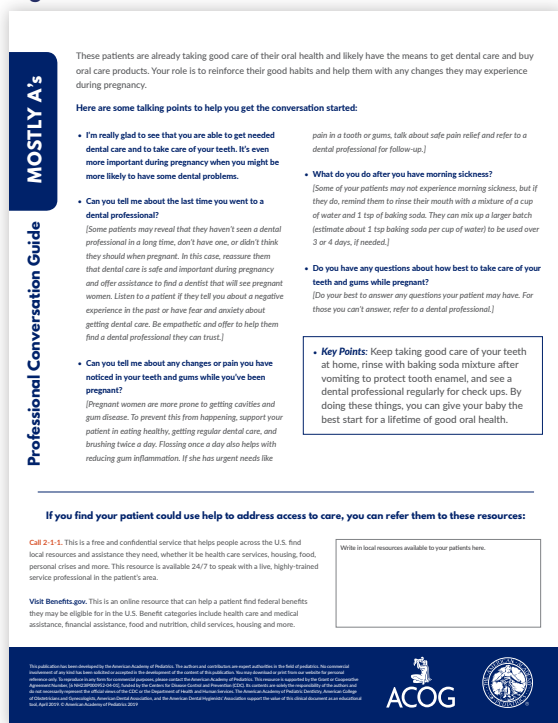
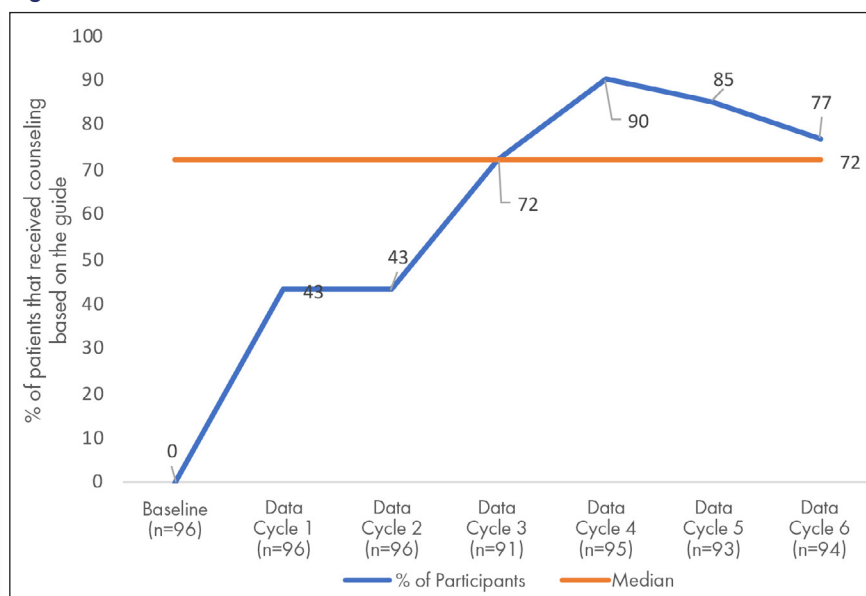


Figure 12. Conversation Guide



Download free copies of the *Conversation Guide* in English or Spanish at [aap.org/tinyteeth](http://aap.org/tinyteeth)



## Protect Tiny Teeth Implementation Project Required Tool #3 Screening Guide

The *Screening Guide* is a one-page resource (front and back) that explains the steps to take to screen for oral health issues, including taking an oral health history, conducting a visual exam of the mouth, and referring to a dental care and reminding patients to keep up with their oral health. The guide includes photos of common oral health issues during pregnancy.

By project end, 75% of patients were receiving an oral health screening. Practices reported that providers found the photos to be very useful both in identifying issues and being able to show patients examples of problems that can arise during pregnancy. See Figure 13 for an image of the Screening Guide and Figure 14 for a run chart on the utilization of this tool.

Figure 13.

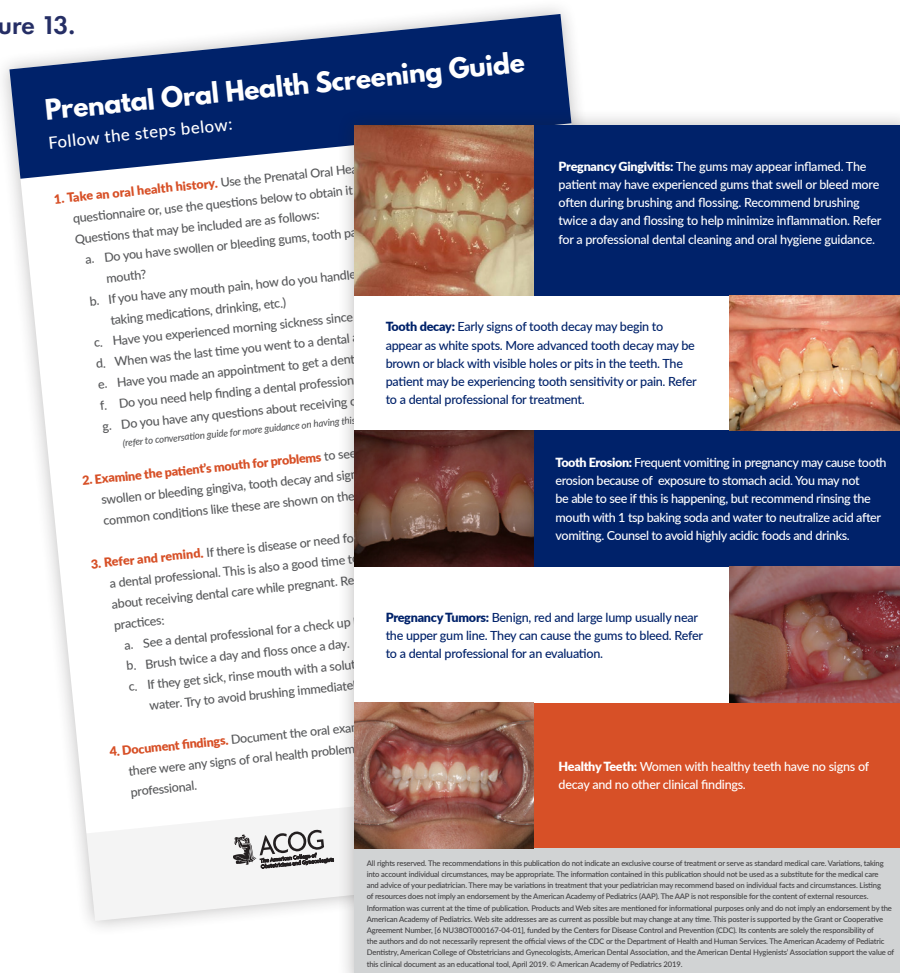
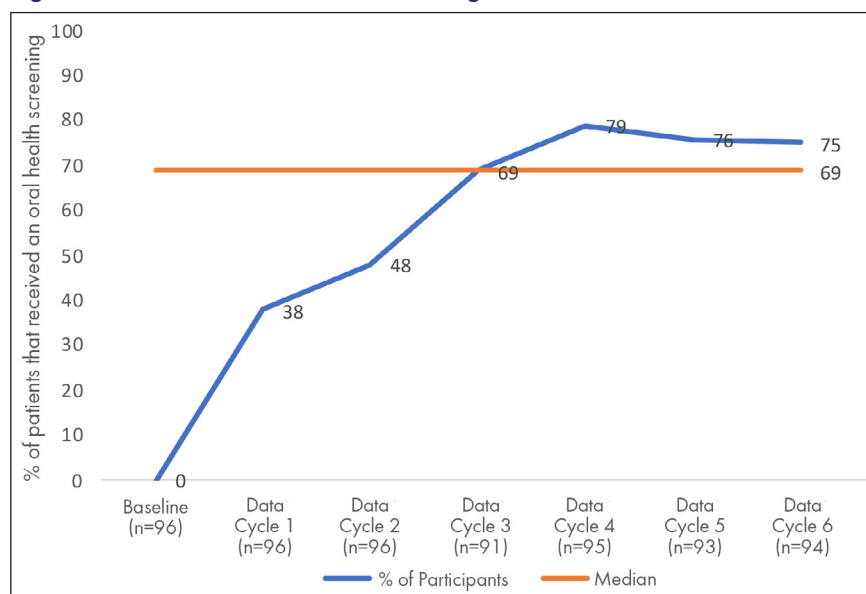


Figure 14. Prenatal Oral Health Screening Guide



Download free copies of the **Prenatal Oral Health Screening Guide** in English or Spanish at [aap.org/tinyteeth](http://aap.org/tinyteeth)

## Protect Tiny Teeth Implementation Project Required Tool #4 Questions Moms are Asking About Oral Health Brochure

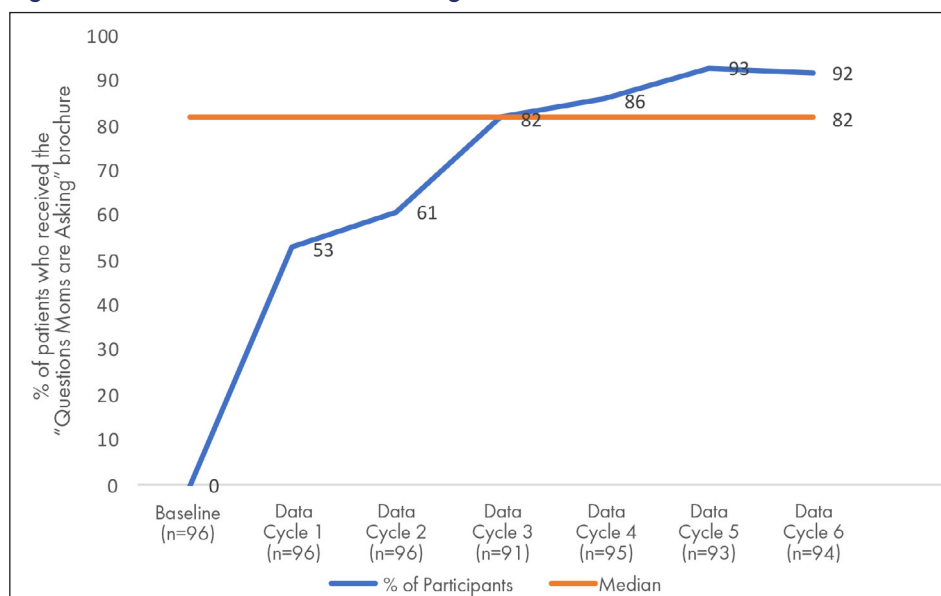
The *Questions Moms are Asking About Oral Health* brochure was the most popular project tool. By the end of the project 93% of patients were being provided with this brochure. One practice shared the challenge of having a diverse patient population that spoke many different languages. This practice overcame this challenge by having QR codes to scan for different languages. The Protect Tiny Teeth toolkit is available in English, Spanish, Arabic, Cambodian, French, Korean, Russian, and Taiwanese. Another practice shared that many of their visits were becoming virtual due to the COVID-19 pandemic. When they pivoted to telehealth, they began emailing patients the brochure instead of handing it out at the visit. The practice now sees the value of sharing this kind of education electronically and may continue to email educational brochures in the future so patients can access the information at their leisure. See Figure 15 for images of the *Questions Moms are Asking About Oral Health* brochure and see Figure 16 for a run chart on utilization of this tool.



Figure 15.



Figure 16. "Questions Moms Are Asking" Brochure



Download free copies of the **Questions Moms are Asking About Oral Health** in English, Spanish, Arabic, Cambodian, French, Korean, Russian, Taiwanese, and Vietnamese at [aap.org/tinyteeth](http://aap.org/tinyteeth)



## Protect Tiny Teeth Implementation Project Required Tool #5 Medical-Dental Referral Form

The *Medical-Dental Referral Form* was the least popular project tool. By the end of the project only 9% of patients were being referred to the dentist using this tool. There are several reasons for this outcome. Seven out of eight sites had co-located dental offices within the Federally Qualified Health Center. Sites shared that they already had a process in place for dental referrals including:

- At one site, the medical providers could make appointments with dental through the electronic system.
- One site created a dental referral at the earliest prenatal visit and continued to check at each prenatal visit if the dental visit was completed. The fact that their dental electronic health records were easily viewable to the medical team made this possible.
- Dental offices at several of the sites preferred a phone call to set up dental appointments.
- One site's dental office did not set up appointments. They used first come, first serve only. However, they created a laminated handout that pregnant patients could use to come to the front of the line.
- One site utilized laminated cards from the medical office that patients presented to the dental office saying, "You are pregnant! Please set up an appointment to see a dental professional."



See Figure 17 for an image of the *Medical-Dental Referral Form* and Figure 18 for a run chart on utilization of this tool.

Figure 17.

**Prenatal medical-to-dental referral form**

**Patient Information**

Patient Name: \_\_\_\_\_ DOB: \_\_\_\_/\_\_\_\_/\_\_\_\_

Telephone: \_\_\_\_\_ Est. Delivery Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Medical Professional Information**

Primary/Prenatal Care Professional: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Signature: \_\_\_\_\_

**Referral Information**

Reason for Referral: ☐ Routine ☐ Gingivitis ☐ Dental Caries ☐ Pain ☐ Other

☐ This patient is cleared for routine dental evaluation and care

Known Allergies: \_\_\_\_\_

Medications Patient is Currently Taking: \_\_\_\_\_

Significant Medical Conditions: ☐ None ☐ Yes (specify) \_\_\_\_\_

**Routine dental evaluation and care is safe during pregnancy, including (but not limited to):**

- Oral health examination
- Dental x-ray with abdominal and neck lead shield
- Dental prophylaxis
- Local anesthetic with epinephrine
- Periodontal therapy
- Restoration (amalgam or composite fillings)
- Root canal treatment
- Extraction

**Medications that are safe to use during pregnancy:**

- Acetaminophen with or without codeine
- Amoxicillin
- Cephalosporins
- Clindamycin
- Erythromycin (not estolate form)
- Penicillin

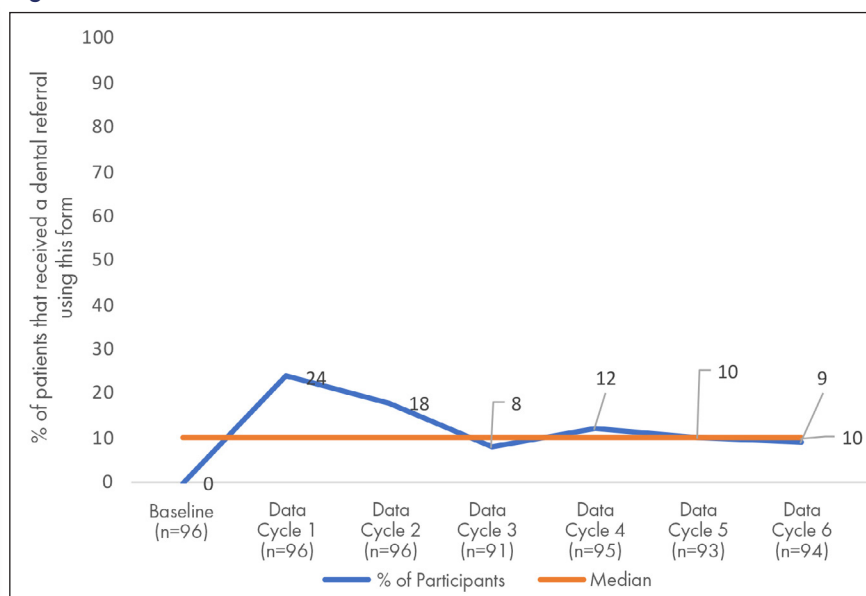
Dental Professional Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

For help finding a dental professional, call your insurance company or 2-5-5-1.

Copyright 2009. The American Academy of Pediatrics. This form is a public domain document and may be reproduced in whole or in part for personal or professional use without charge. It is not to be used for commercial purposes. The American Academy of Pediatrics and the American College of Obstetricians and Gynecologists are not responsible for the use of this form. The American Academy of Pediatrics and the American College of Obstetricians and Gynecologists are not responsible for the use of this form. The American Academy of Pediatrics and the American College of Obstetricians and Gynecologists are not responsible for the use of this form.

Figure 18. Prenatal Medical-Dental Referral Form



Download free copies of the **Prenatal Medical-to-Dental Referral Form** in English or Spanish at [aap.org/tinyteeth](http://aap.org/tinyteeth)

## Conclusion

Despite being held during the COVID-19 pandemic, the Protect Tiny Teeth Implementation Project: *A prenatal oral health medical-dental integration quality improvement project* was a great success. The majority of project measures were increased by >20% over baseline and in most cases by a much larger percentage. More pregnant people received preventive oral health services in practice and became aware of the importance of oral health during pregnancy and the safety of receiving dental care.

Oral health is important to overall health and this project demonstrates that prenatal practices can integrate their medical and dental services and implement preventive oral services as part of their everyday practice. As more practices are able to adopt these services, the oral health of pregnant people and their families will improve. Support must be provided to both health professionals and families to be able to increase access to dental care.



*“I would encourage all prenatal providers who are interested in focusing on oral health to GO FOR IT!”*

*Inspecting the teeth is already on the ACOG checklist, so I have always looked at the teeth, but this project made me really focus on the educational aspect so pregnant patients understand the importance of taking care of their teeth and their children’s teeth.”*

*— Nurse practitioner  
at an Indian Health Center*

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## Acknowledgments

*The AAP appreciates the participation of the Project Advisory Committee and the prenatal practice sites. This project was supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling \$125,000 with 100 percent funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by American Academy of Pediatrics, CDC/HHS, or the U.S. Government.*