



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 |
|---|
| <p>Name: Reid Bryan</p> <p>Title: Cavity Free At Three Coordinator</p> <p>Agency/Organization: Colorado Department of Public Health and Environment, Cavity Free At Three</p> <p>Address: 4300 Cherry Creek Drive South, Building A 5th floor, Denver, CO 80246</p> <p>Phone: 303-692-2421</p> <p>Email Address: Reid.Bryan@state.co.us</p> |
| PROVIDE CONTACT INFORMATION FOR ONE ADDITIONAL PERSON WHO COULD ANSWER QUESTIONS REGARDING THIS PROGRAM |
| <p>Name: Ashleigh Kirk</p> <p>Title: Perinatal and Youth Oral Health Manager</p> <p>Agency/Organization: Colorado Department of Public Health and Environment, Oral Health Unit (OHU)</p> <p>Address: 4300 Cherry Creek Drive South, Building A 5th floor, Denver, CO 80246</p> <p>Phone: 303-691-4907</p> <p>Email Address: Ashleigh.Kirk@state.co.us</p> |

SECTION I: ACTIVITY OVERVIEW

Title of the dental public health activity:

Prenatal Oral Health Partnership

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

***[ASTDD Guidelines for State and Territorial Oral Health Programs that includes 10 Essential Public Health Services to Promote Oral Health](#)**

Healthy People 2020 Objectives: Check one or more key objectives related to the activity. If appropriate, add other national or state HP 2020 Objectives, such as tobacco use or injury.

| "X" | Healthy People 2020 Oral Health Objectives |
|-----|---|
| X | OH-1 Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth |
| | 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 |
| | 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 |
| X | OH-14 | Increase the proportion of adults who receive preventive interventions in dental offices |
| | OH-15 | Increase the number of States and the District of Columbia that have a system for recording and referring infants and children with cleft lips and cleft palates to craniofacial anomaly rehabilitative teams |
| | OH-16 | Increase the number of States and the District of Columbia that have an oral and craniofacial health surveillance system |
| | OH-17 | Increase health agencies that have a dental public health program directed by a dental professional with public health training |
| "X" | Other national or state Healthy People 2020 Objectives: (list objective number and topic) | |
| | | |
| | | |
| | | |

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

Prenatal oral health, dental screening, dental referral, access to dental care, oral health training for medical professionals, oral health integration, Smiles For Life, prevention, Medicaid

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 Cavity Free At Three (CF3) program has been testing promising practices to implement prenatal oral health education, screening and referral to a dental provider within health care delivery systems.

The aim of the Prenatal Oral Health Partnership (POHP) is to increase the percentage of women who receive any dental services during pregnancy, with a focus on preventive dental services. CF3 strategically collaborated with health care delivery systems that serve high-risk populations. The first pilots were launched at two Federally Qualified Health Centers (FQHCs) within Denver Health Hospital Authority. Later the project expanded to a private UHealth Family Medicine Clinic, and finally several clinics within the University of Colorado College of Nursing Midwifery.

With the exception of UHealth, each clinic was awarded approximately \$5000 per year to offset staff time devoted to the project. The POHP consists of clinical training for staff, a quality improvement approach to test strategies to increase access to dental services during pregnancy, and development of referral systems between medical and dental providers.

Data from Denver Health clinical sites showed that the percentage of patients receiving at least one dental visit during pregnancy within the same co-located medical and dental system increased three-fold, from a baseline of 6% and 4.6%, to 26% and 19% respectively. Staff reported improved knowledge on the safety of oral health services during pregnancy, and improved care coordination.

Lessons learned include: 1) leverage the prenatal intake appointment to normalize oral health education and dental referral as a standard part of prenatal care, 2) utilize a brief risk assessment to allow targeted identification and triage of dental referrals, 3) foster a working relationship between medical and dental providers to find the right communication channels, and 4) requiring clinical oral evaluation was not always acceptable to medical providers.

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?

[\(CF3\)](#) is an established program located at the Colorado Department of Public Health and Environment (CDPH) that trains medical and dental providers on the standard of oral health care for pregnant women, infants and children. Program [data](#) showed that [the oral health of children in Colorado has improved](#) since the program began in 2007, but there is still much more work to do.

Pregnancy is a window of opportunity to utilize a two-generation, preventive, family-centered approach to addressing oral health. The CF3 program saw the opportunity to work strategically to improve prenatal oral health as inextricably connected to its mission of improving infant oral health. Such an approach is based in research, which shows that improving the mother's oral health can reduce or delay vertical transmission and colonization of cavity-causing bacteria that result in early childhood caries. In addition, pregnancy is a teachable moment to message the importance of oral health and the encouragement of positive oral health behaviors from the very beginning of the mother-child relationship.

The Perinatal Infant Oral Health Quality Improvement Initiative (PIOHQI) and accompanying grant funding provided by the Maternal and Child Health Bureau (MCHB) and Health Resources and Services Administration (HRSA) made this work possible.

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

The long-term goal of the CF3 Prenatal Oral Health Partnership (POHP) was to use initial pilot projects to inform best practices and replicate the model in similar settings for an eventual statewide reach. At the onset of the project, the CF3 program considered how best to raise awareness around the importance of prenatal oral health with its stakeholders. It was decided not to expend resources to convene a state workgroup and publish Colorado-specific oral health guidelines around pregnancy. Instead, CDPHE referenced and promoted the *National Consensus Statement on Oral Health During Pregnancy* and its many professional and expert endorsements including those of the American College of Obstetricians and Gynecologist (ACOG) and American Academy of Pediatrics (AAP).

The POHP also utilized the National [Smiles for Life](#) (SFL) online training curriculum to provide clinical training to the medical and dental providers. SFL provided references to the most up-to-date research around prenatal oral health. Finally, the [National Maternal and Child Oral Health Resource Center](#) was a clearinghouse of ongoing evidence and updates during the project.

Applying a health equity framework, the CF3 program collaborated with health care delivery systems that serve high-risk populations, seeking to increase dental access to those most in need of services. The first POHP pilot site evolved naturally through a long-time partnership with Dr. Patricia Braun, an original member of the CF3 Advisory team, and a long-time champion of oral health integration into primary care settings both locally and nationally. Dr. Braun is a pediatrician and employed at Eastside Clinic, a FQHC connected with Denver Health and Hospital Authority, the largest safety net health care delivery system in Colorado, serving one in four Denver residents. The Eastside Clinic provided a unique opportunity because it's co-located dental and medical services and had plans for integrating a dental hygienist into their medical team through a Delta Dental Foundation of Colorado grant. With Dr. Braun's facilitation, the CF3 program was able to secure a contract relationship to begin the work of the POHP and align its activities with the work that was already taking place at Eastside. Eventually, the model was expanded to another FQHC within Denver Health, Westside Clinic.

The other pilot projects were natural extensions of CF3's work. The Poudre Valley Prenatal (PVP) Program serves low-income women at a private Family Medicine Clinic, which itself is part of the

UCHealth system. This clinic had received training from CDPHE CF3 program to provide preventive oral health services to infants and toddlers in the primary care setting. When the clinic's leadership heard about the CF3 prenatal oral health work, they voluntarily signed on as a pilot site.

Finally, another CF3 board member recruited Shannon Pirrie to join the CF3 PIOHQI Advisory Board where she heard about the Prenatal Oral Health Partnership pilots. As a doctoral midwifery student and midwife at a clinic primarily serving refugees, Ms. Pirrie provided the leadership, time, and effort to expand the work at several clinics within the University of Colorado College of Nursing Midwifery.

By the middle of 2019, the POHP pilots will span three distinct health care delivery system models across six clinical sites: two co-located medical and dental FQHCs, and four standalone medical clinics offering prenatal care.

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

At the beginning of the project, there was substantial preparation and delay due to contracting logistics. Additionally, it was challenging to identify the data parameters needed to determine how many pregnant women had at least one dental visit both for baseline comparison and for monthly data pulls at Eastside Clinic. The project staff wanted to stratify the different preventive and treatment CDT codes to understand the nature of the treatment pregnant women were receiving. Both tasks required lengthy correspondence and multiple in-person meetings. The first pilot site at Eastside Clinic was officially launched in September 2016.

The launch of a pilot site includes the following tasks: 1) Identify a clinic champion and form a leadership team for ongoing meetings to address quality improvement (QI), 2) Schedule an all staff kickoff event that included staff-led goal setting for the first year of the project, 3) Execute a contract (when applicable) and determine data parameters for ongoing data reporting, 4) Administer a pre-test to evaluate staff knowledge and beliefs on providing oral health services to pregnant patients,* and 5) Require providers to complete the online SFL training course and provide a forum for follow up guidance and discussion.

*Poudre Valley Prenatal declined Pre-test

| Year | Denver Health Eastside Clinic | Denver Health Westside Clinic | Poudre Valley Prenatal - UCHealth | CU College of Nursing Midwifery |
|------|---|-------------------------------|-----------------------------------|---------------------------------|
| 2016 | Launched September 2016 | | | |
| 2017 | | | Training/Kickoff December 2017 | |
| 2018 | March 2018- Year 2 launch with kickoff, training requirements and revised goals | Launched January 2018 | Launched May 2018 | Launched December 2018 |

- April 2016 – Began discussions and edits on scope of work for a contract between CF3 Program at CDPHE and Denver Health Eastside Clinic.
- July 2016 – Work on data parameters for Eastside baseline data pull began.
- August 2016 – Integrated hygienist hired at Eastside clinic.
- September 2016 – Official launch of Denver Health Eastside FQHC pilot (training, kickoff meeting, pre-test administered to staff).
- September 2016 – Eastside Clinic medical and dental staff made decision to create direct referral process to co-located dental clinic rather than giving patient call center phone number for scheduling.
- December 2016 – April 2017 – Ongoing adjustment of monthly data pulls parameters.
- December 2016 - Denver Health Patient Education booklet "It's All in The Delivery" updated to reflect current oral health recommendations during pregnancy. This booklet is given to every

prenatal patient in the Denver Health Hospital system, which serves approximately one in three births in Colorado.

- January 2017 – Smart/Dot Phrase used to insert 3-question prenatal oral health risk assessment into patient note in electronic health record.
- Jan 2017 – The process for submitting a Prior Authorization Request (PAR) to Medicaid for dental procedures was made electronic and therefore streamlined the number of steps required by staff to submit and expedited the time it took to receive approval or denial.
- March 2017 – Integrated hygienist saw first patient (Radiography equipment limited, still much collaboration with co-located dental clinic).
- April 2017 – Denver Health leadership decide to abandon requiring midwives to do a head, ears, eyes, nose, and throat (HEENOT) oral evaluation and only focus on oral health education, screening (three question risk assessment), including referral during the prenatal intake visit and utilizing nurse to provide this touch point. Midwives will still tell patients oral health is important (especially if the nurse identifies an issue during intake) and follow up at later visits to ask if they have gone to the dentist, but they will no longer be doing clinical assessment.
- May 2017 – SFL modules standardized as a requirement for onboarding new staff at Denver Health Eastside clinic.
- December 2017 – Began incorporating integrated hygienist into prenatal intake visit at Eastside. Hygienist does fluoride varnish application, screening and schedules directly with herself or dental clinic depending on pregnant patient's need.
- December 2017 - Kickoff meeting of Poudre Valley Prenatal (PVP) program, UCHHealth Family Medicine Clinic.
- January 2018 - Official launch of Denver Health Westside Pilot Site.
- January 2018 - Eastside Year 2 Survey administered to staff.
- Feb 2018 - New referral process with financial counselors mapped at Denver Health Westside.
- March 2018 - Eastside launches second kickoff with goals around preventive services and treatment complete metrics.
- May 2018 – Chart review conducted to guide PDSA efforts at Eastside.
- May 2018 - Official Launch of PVP activities and data collection.
- September 2018 - Dental Referral Incorporated between Denver Health medical (EPIC) and dental (Wisdom) EHRs – no longer have to hand tally.
- December 2018 - Official kickoff and launch of CU College of Nursing Midwifery Pilot.
- January 2019 – Referral relationship established between CU College of Nursing Midwifery University Nurse Midwives Clinic and Worthmore Dental.
- January 2019 – An integrated hygienist saw her first pregnant patient at Westside clinic as part of the Colorado Medical Dental Integration project. Because of its experience with the Prenatal Oral Health partnership, Westside Clinic chose to exclusively serve pregnant women when using their COMDI funding.
- February 2019 – Referral relationship established between CU College of Nursing Midwifery Center for Midwifery Clinic Longmont and Dental Aid.
- March 2019 – Expected contract executed to obtain official data pulls From CU College of Nursing Midwifery.

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.)

Partnerships

- Advisory Board Members – two members of advisory board facilitated the relationship with their employer that led to pilot project partnerships
- Partnership with Health Care Delivery Systems (Denver Health, UCHHealth, CU College of Nursing)
- Partnership with other Colorado oral health initiatives – At Eastside, the CF3 program collaborated with the Colorado medical dental integration (COMDI) project funded by Delta Dental Foundation

Financial resources

- HRSA/MCHB Grant funding through the Perinatal Infant Oral Health Quality Improvement (PIOHQI) Initiative
- *Colorado's Oral Health Community Grants Program, authorized by Colorado Revised Statute 25-21.5 and supported by state General Funds, may be allocated to programs CDPHE deems eligible. This resulted in some funds allocated to work around prenatal pilot projects to supplement the end of PIOHQI funding for 2019.*

Staffing Time

- Grants and contracting staff time both from CDPHE and pilot organization
- CDPHE staff time to attend first biweekly, then monthly in-person meetings with leadership team
- QI Champion and leadership staff time as well as dedicated time for all staff to devote to project activities

Expert Knowledge

- CDPHE staff with oral health expertise, QI expertise and evaluation expertise
- Pilot project staff with data analysis expertise
- Pilot project staff with ability to modify Electronic Health Record
- Smiles for Life Online Curriculum
- PIOHQI National Learning Network (NLN), Frameshift QI staff, and Maternal and Child Oral Health Resource Center for training, expertise and support

Other Resources

- [Qualtrics survey software](#)
- Tableau data visualization and program management software
- Patient education materials

| 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.

- Creation of data parameters for baseline data pull and ongoing monthly data reports corresponding to project AIM
- Pre and post test administered to pilot project staff
- All staff required to take Smiles for Life online training
- Kick-off event reiterating SFL online training content, clarifying project's purpose and staff roles, and facilitating staff-led goal setting
- Modification of patient education materials and addition of CF3 patient education materials to patient handouts.
- Patient survey measuring belief in importance of oral health, knowledge of oral health benefits, intentions to seek oral health services.
- Plan Do Study Act (PDSA) rapid cycles of improvement to test improved or new processes.

- Mapping current state of dental referral (if any) and creating new workflows around referral processes.

| 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.)

- Six clinics across three health care delivery system models enrolled as pilot sites
- 316 pregnant patients received dental services (Sept 2016-Dec 2018) at Denver Health Eastside Clinic
- 247 pregnant patients received dental services (Jan 2018-Dec 2018) at Denver Health Westside Clinic
- Two informal referral relationships established between CU College of Nursing Midwifery Clinics and a local safety net dental provider.
- 44 pregnant patients enrolled at Denver Health Eastside clinic completed a patient survey as part of PDSA
- 50 pregnant patients enrolled at Poudre Valley Prenatal completed a patient survey as part of PDSA
- Development of data display for Denver Health Eastside and Westside's Visual Management Board related to goal setting
- Development of 3-question Prenatal Oral Health Risk assessment integrated into clinic flow, and EHR documentation.
- Prenatal dental referral sheet developed
- Permission to treat correspondence from medical to dental provider developed
- Outreach letter to dental provider to be included on dental referral list developed

Type and Number of Providers Receiving Training Denver Health, Eastside Clinic

| Type of Provider | Number of Completed Pre-Tests | Number of Completed Training |
|-------------------------------|-------------------------------|------------------------------|
| Prenatal care providers | 8 | 3 |
| Oral health providers | 6 | 5 |
| Medical and dental assistants | 6 | 5 |
| Other | 3 | 3 |

Type and Number of Providers Receiving Training at Denver Health, Westside Clinic

| Type of Provider | Number who Completed Pre-Tests | Number who Completed Training |
|---------------------------------|--------------------------------|-------------------------------|
| Prenatal care providers | 12 | 8 |
| Oral health providers | 5 | 3 |
| Medical and dental assistants | 7 | 6 |
| Other (front desk/office staff) | 4 | 4 |

| 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:
- How outcomes are measured
 - How often they are/were measured
 - Data sources used
 - 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)

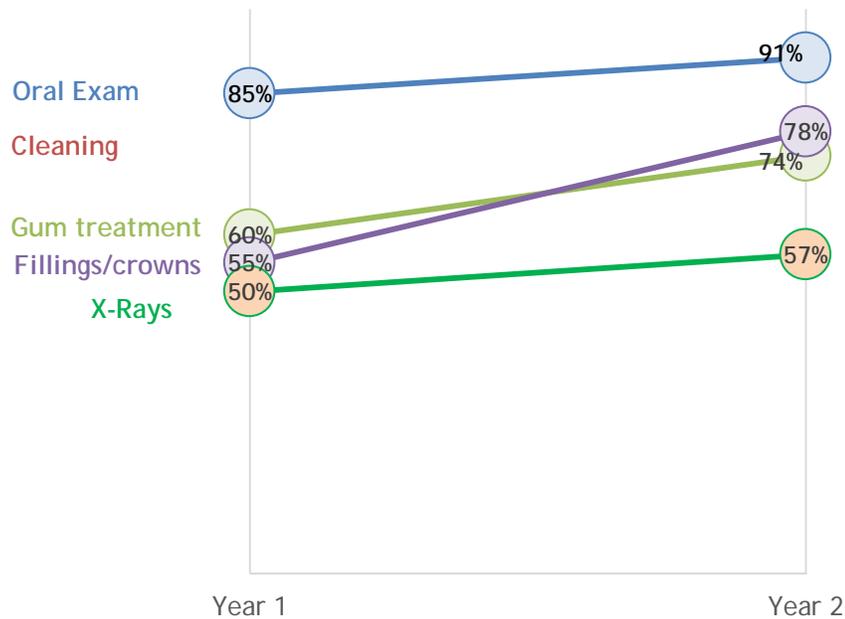
In order to measure the proportion of pregnant women seen at Denver Health Eastside and Westside OBGYN clinics who also had a dental visit within the Denver Health system, the clinics pulled billing data from the electronic health records. This involved extracting the CDT codes attached to a patient encounter in the dental clinic and matching the patient medical record number with a pregnancy ICD-10 code found in medical chart. Limitations of these data were that dental visits outside of the FQHC were not captured. The Denver Health clinics collected three years of baseline data, and then pulled monthly data reports to show how many pregnant women had at least one dental visit at one of the Denver Health dental clinics. They also used specific CDT codes to see how many of those women had a preventive dental visit.

For the purposes of the project, this data will be collected for approximately 2.5 years at Eastside Clinic and 1.5 years at Westside Clinic, with the possibility that these data pulls will continue internally as part of a sustainability plan. The project team was using rapid quality improvement cycles at the clinic level to guide improvements in referral systems etc. and thus expected to see results achieved in the short-term, tracking data monthly to note changes.

- **Proportion of pregnant patients enrolled at clinic with a dental visit**
 - 26% at Denver Health Eastside Clinic as of December 2018
 - 19% of Denver health Westside Clinic as of December 2018
- **Proportion of pregnant patients enrolled at clinic with a preventive dental visit**
 - 70% of patients with at least one dental visit at Denver Health Eastside Clinic as of December 2018
 - 60% of patients with at least one dental visit of Denver health Westside Clinic as of December 2018
- **Proportion of pregnant patients enrolled at clinic with a treatment complete code (i.e. having finished their treatment plan within 6 months)**
 - 18% at Denver Health Eastside Clinic as of December 2018
 - 15% of Denver health Westside Clinic as of December 2018
- **Proportion of pregnant patients enrolled at clinic with a risk assessment documented in patient chart**
 - 67% of patients at Poudre Valley Prenatal as of July 2018
 - TBD of patients at CU College of Nursing Midwifery
- **High Reported level of care coordination between medical and dental providers**
 - In year 2, 87% of Denver Health Eastside medical and dental staff rated the quality of care coordination for pregnant women as good or excellent (n=23)
 - Denver Health Westside Clinic and CU College of Nursing TBD
- **High reported confidence in referral system**
 - 100% of Denver Health Eastside medical and dental staff are confident in the referral system
 - Denver Health Westside Clinic and CU College of Nursing TBD

Increased knowledge of Eastside staff that all dental services that are safe during pregnancy (Year 1 Sept 2016, n=52, Year 2 January 2018, n=23)

(Please note that because of staff turnover, change in individual responses was not possible to calculate, rather these are aggregate scores comparison).



Number of Pregnant Women Receiving Oral Health Care at Denver Health, Eastside Clinic

| Period of Service | Number of Clients Enrolled in Site (Denominator) | Number Receiving Oral Health Education & Anticipatory Guidance | Number of Referrals to Providers for Dental/Oral Health Care (numerator) | Number Receiving Preventive Dental/Oral Health Care | Number with Treatment Completed |
|----------------------------|--|--|--|---|---------------------------------|
| Baseline (3/30/13-3/30/16) | 1320 | 0 | 79 | 30 | 0* |
| Outcome (1/1/17-7/31/18) | 1022 | 427** (8/2017-7/2018) | 245 | 180 | 55 |

Number of Pregnant Women Receiving Oral Health Care at (Learning Laboratory) - Denver Health, Westside Clinic

| Period of Service | Number of Clients Enrolled in Site | Number Receiving Oral Health Education & Anticipatory Guidance | Number of Referrals to Providers for Dental/Oral Health Care | Number Receiving Preventive Dental/Oral Health Care | Number with Treatment Completed |
|----------------------------|------------------------------------|--|--|---|---------------------------------|
| Baseline (3/30/13-3/30/16) | 2434 | 0 | 113 | 34 | 0* |
| Outcome (1/1/17-7/31/18) | 822 | 445** | 153 | 90 | 26 |

*Treatment completed did not begin being tracked in the Denver Health EHR until January 2018, therefore baseline is 0.

**Education & Anticipatory Guidance is not an indicator included in monthly clinic data provided by health system. The individual clinic office provides data about how many intakes were conducted during reporting period.

Number of Pregnant Women Receiving Oral Health Care at (Learning Laboratory) - Poudre Valley Prenatal

| Period of Service | Number of Clients Enrolled in Site (Denominator) | Number Receiving Oral Health Education & Anticipatory Guidance | Number of Referrals to Providers for Dental/Oral Health Care (numerator) |
|------------------------------|--|--|--|
| Baseline | 0 | 0 | 0 |
| Outcome (5/1/2018-7/31/2018) | 64 | 44 | 22 |

Budgetary Information:

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

1. What is the annual budget for this activity?

\$250,000 was the estimated annual budget for the Prenatal Oral Health Partnership.

2. What are the costs associated with the activity? (Including staffing, materials, equipment, etc.) Costs below are approximate across the project.

CF3 staffing: 43%

Evaluation and epidemiology services: 20%

Clinic contracts: 5%

Operating, travel, materials, supplies, etc.: 14%

Indirect: approximately 18%

3. How is the activity funded?

The Perinatal Infant Oral Health Quality Improvement Initiative (PIOHQI) and accompanying funding grant H47MC28479 provided by the Maternal and Child Health Bureau (MCHB) and Health Resources and Services Administration (HRSA).

4. What is the plan for sustainability?

Pilot Site Sustainability

- Continuing data pulls to guide clinic leadership's understanding of dental utilization within Denver Health Eastside and Westside dental clinic.
- Onboarding plan for new staff including requirement to complete SFL module 5 online.
- Addition of integrated hygienist at Denver Health Westside and continued integrated hygienist presence at Denver Health Eastside Clinic as part of the Delta Dental of Colorado Medical Dental Integration model.
- Midwifery student at CU College of Nursing Midwifery continuing project as part of her doctoral thesis.

CDPHE CF3 Sustainability to replicate model at additional sites

- Completion of a change package with tools for best practices to replicate model in other settings.
- State funding and potential funding from new HRSA opportunity.
- Embed in Medicaid work for next 4.5 years.

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?

Medical providers have multiple competing priorities, which makes integrating another screening or health topic into their clinic flow challenging, but not impossible. Oral health is a topic that appears to resonate with medical providers who recognize its connection to overall health and are often unsure how to address it or what is required and allowed within their scope of practice. Midwives at one pilot site described facing situations such as patients presenting at their OBGYN emergency room with severe dental pain and being unsure how to help or refer those patients. However, it is imperative to make "the ask" simple, specific and accompanied by resources that will clearly offer benefit to their patients.

The pilots described above included both co-located medical and dental FQHCs and stand-alone medical clinics. Both site types benefited from discussion and guidance of how to engage in increased inter-professional collaboration. A great deal of quality improvement processes were used to develop new channels of communication and referral systems from medical to dental providers.

Simply having medical and dental providers of a co-located clinic in the same room was a powerful first step, often because they had never been formally introduced or had the space to discuss care coordination strategies. It was also powerful to introduce the project at one stand-alone midwifery clinic and then immediately have the director from a local safety net dental clinic present to the group. As the director explained how her dental clinic also serves the same population of refugee patients with culturally appropriate services and sliding scale options, there were appreciative responses from the midwives. Medical providers appear much more open to screening a patient if the referral sources are known and trusted.

The project team found that dental providers, at least those in the safety net context in which we were working, are open to hearing the recommendations around treating pregnant patients. And surprisingly, they actually need the business. Four years after passing the adult Medicaid benefit in the state of Colorado, there is increased competition for patients, including from many chain, commercial dental practices. If you can help fill a dental provider's chair and connect them a family who could be patients for the long-term, this model not only benefits patients, but is also sustainable.

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

Staff turnover was a continual challenge at the FQHC sites. This is yet to be determined at some of the newer sites, although it appears far less critical an issue for the private and university clinics.

The private family medicine clinic that chose to be a pilot site declined funding for the project and thus did not have a formal contract with the CF3 Prenatal Oral Health Partnership Program. This expedited

the ability to work with the clinic and demonstrated that not all clinics need funding to complete this work. However, receiving data reports or meeting with leadership team regularly from this clinic was significantly more challenging.

Many of the other challenges revolved around addressing patient barriers. Missed or cancelled appointments were a recurrent theme that threatened the viability of newly established referral systems. The project teams tried many unique strategies to address this challenge including:

- A work-around to increase capacity by opening up unused recall appointments and offer appointments 2-3 days out rather than 2-3 weeks down the road.
- Increased reminder calls from the dental clinic front desk staff and follow up calls from the prenatal nurses to answer any additional questions from the prenatal intake appointment, including dental.

The project team at Denver Health Westside and Eastside Clinics also:

- Facilitated in-person introductions of the dental provider during the first prenatal intake visit so there was a friendly face tied to the dental referral. The use of technology where every staff member can page and talk to another using a portable walkie-talkie device, or Vocera¹, was key for this clinic flow to be successful.
- Implemented an education campaign with the financial screeners around the dental clinic resources, and clarifying processes was helpful at Denver Health Westside Clinic.
- Circumvented inflexible call center appointment scheduling systems so a patient was making an appointment with a dental clinic staff person who could be flexible to their needs and schedules.

In all of the efforts listed above, there was varied success. Often the successes or challenges identified from quality improvement processes at the clinic level needed to be translated to organization-wide policy or systems-level change. In larger organizations, this was not always feasible, at least in the short-term. It is possible some of the changes could still find their way forward.

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.

[Cavity Free At Three Prenatal Oral Health Risk Assessment](#)

[Cavity Free At Three Prenatal Oral Health Brochure](#)

Data Snapshots for Clinic leadership showing staff pre/post survey results

Data Display Poster for Clinic Visual Management Board

[Cavity Free At Three Prenatal Dental Referral Form](#)

¹ A Vocera is a portable walkie-talkie device the user wears around his/her neck. The user can push a button and verbally command the device to “page Dr. Walker”. Dr. Walker’s Vocera will beep and if she answers, the two users can engage in conversation.

| TO BE COMPLETED BY ASTDD | |
|---------------------------------|--|
| Descriptive Report Number: | 07007 |
| Associated BPAR: | Perinatal Oral Health |
| Submitted by: | Colorado Department of Public Health and Environment, Cavity Free At Three |
| Submission filename: | DES07007COprenatalohpartnership-2019 |
| Submission date: | April 2019 |
| Last reviewed: | April 2019 |
| Last updated: | April 2019 |