



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. Please return completed form to: lofano@astdd.org

NOTE: Please use Arial 10 pt. font.

CONTACT PERSON PREPARING THE SUBMISSION AND TO ANSWER QUESTIONS

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PROVIDE CONTACT INFORMATION FOR ONE ADDITIONAL PERSON WHO COULD ANSWER QUESTIONS REGARDING THIS PROGRAM

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SECTION I: ACTIVITY OVERVIEW

Title of the dental public health activity:

Patient Centered Care through Teledentistry

Public Health Functions* and the 10 Essential Public Health Services to Promote Oral Health:

Check one or more categories related to the activity.

“X”	Assessment
X	1. Assess oral health status and implement an oral health surveillance system.
X	2. Analyze determinants of oral health and respond to health hazards in the community
X	3. Assess public perceptions about oral health issues and educate/empower them to achieve and maintain optimal oral health
	Policy Development
	4. Mobilize community partners to leverage resources and advocate for/act on oral health issues
	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
	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 2030 Objectives: Please list HP 2030 objectives related to the activity described in this submission. If there are any state-level objectives the activity addresses please include those as well.

- Reduce the proportion of adults with active or untreated tooth decay — OH-03
- Increase the proportion of oral and pharyngeal cancers detected at the earliest stage – OH-07
- Increase use of the oral health care system — OH-08
- Reduce the proportion of children and adolescents with lifetime tooth decay — OH-01
- Reduce the proportion of children and adolescents with active and untreated tooth decay — OH-02
- Reduce the proportion of people who cannot get the dental care they need when they need it — AHS-05
- Reduce consumption of added sugars by people aged 2 years and over — NWS-10
- Reduce the proportion of older adults with untreated root surface decay — OH-04
- Reduce the proportion of adults aged 45 years and over who have lost all their teeth — OH-05
- Increase the proportion of low-income youth who have a preventive dental visit — OH-09
- Increase the proportion of children and adolescents who have dental sealants on one or more molars — OH-10

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

Access to Care: Adults Teledentistry - synchronous and asynchronous, preventive dental care, health equity, access to care, patient self-management, patient centered

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.

Petaluma Health Center has been providing synchronous, live video visits for dental patients with their dentist and dental assistant. These visits started at the beginning of the COVID19 pandemic, during shelter in place, as an alternative way of providing dental care while in office visits were limited to urgent and emergent care. Over time, this mode of care delivery evolved into a new service line for the provision of preventive care for patients six months to five years old, to increase access to care when in office capacity is limited, to increase access to care for patients that have transportation barriers, for emergencies triage, preoperative and postoperative care, case management and chronic disease management. Most patients attend these visits from their smartphone and submit photos of their teeth and mouth in advance to assist the dentist with the examination during the live video visit. 86% of Medicaid beneficiaries own a smartphone. For certain types of visits, such as the preventive visits for patients 6 months- 5 years old, the clinic mails the patient a self-management kit that is used by the patient or caregiver to self-administer care during the video visit. The self-management kit contains fluoridated toothpaste, fluoride varnish, toothbrush, floss, gloves, bib, gauze, disposable mirror, patient education materials. These teledental visits cost less to provide because they do not involve the use of the "equipment heavy" surgical dental operator setting. Teledental visits take more support staff time and about the same amount of provider time as in person visits. The cost of care can be reduced by utilizing entry-level dental assistants or community dental health workers to provide visit support. Some of the outcomes we experienced were increased access to timely care, increased care coordination with specialty care, elimination of transportation barriers, increased patient engagement and self-management, increased oral health literacy, reduction in caries rates, reduction in caries risk level, increased utilization of fluoride, and increased patient satisfaction.

Patient satisfaction was measured via a text survey sent out after each tele-dental visit. The survey asks one net promoter question, "On a scale of 1-10, 10 being most likely, how likely are you to recommend this type of visit to family and friends?" We also included a Comments section from which we gleaned a lot of extra information that we used to continually improve our program. Our patient satisfaction has been consistently at 96% based on 500 surveys. Increased patient engagement we surmised from the very low no show rate for tele-dental visits when compared with in office visits and from patients achieving their self-management goals.

The increased oral health literacy was based on the patient education program with photos on how to position the child for brushing, the snack guide and the Smiles for life curriculum used by dental staff. The reduction in caries, and risk level and increase in topical fluoride applications are reflected on our quality improvement dashboard.

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 is being done. References and links to information may be included.

****Complete using Arial 10 pt.**

Rationale and History of the Activity:

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

The key issues that led to the initiation of tele-dental services at Petaluma Health Center were the COVID-19 pandemic and the shelter in place order. In office dental care was limited to urgent and emergent conditions. One of our clinic sites that has the larger dental program was closed for three

months. Because of social distancing, a large number of dental staff had to work from home. There was a global shortage of personal protective equipment. We had hundreds of patients that were becoming overdue for dental care. There was a need to divert patients with dental concerns from utilizing emergency department services to maintain capacity for patients with COVID-19. Patients refused to come into the clinic to obtain dental services due to fear of COVID-19 infection despite needing support more than ever before.

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

Petaluma Health Center is a federally qualified health center that offers medical, dental, behavioral health, women's health, vision and wellness services to about 50,000 patients annually. At the beginning of the COVID-19 pandemic, when most of our medical services switched to telehealth, dental followed suit. When the tele-dental program was designed, the aim was to mirror as much as possible our existing in-clinic workflows.

For patients six months to five years old, evidence-based models of care were used, such as the six steps of the infant oral health visit and risk-based careⁱ. Levels of evidence for caries preventionⁱⁱ and the principles of minimally invasive dentistry, where caries depending on classification, can be prevented, re-mineralized, arrested and restored were used. The chronic disease management model and evidence related to the importance of patient self-management, where individual behavior accounts for 40% of health outcomes in contrast to only 10% being caused by health care services received were also taken into consideration. Social and environmental factors account for 20% of health outcomes.ⁱⁱⁱ Evidence related to the value of teaching patients to administer their own care was considered as well.^{iv} For program design, implementation and continuous improvement, quality improvement tools rooted in the model for improvement such as Plan Do Study Act (PDSA) cycles along with principles of human centered design were incorporated.

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

We began providing Teledentistry services at the end of March 2020. We started small with one provider and one assistant and tested change in small increments. We developed clinical and operational workflows along with front office scripts for the scheduling staff. We created clinical note templates and divided the visit work between the provider and support staff. We tested different virtual platforms. Later we trained more staff and increased the reach of the program. We continued to test different Teledentistry applications in parallel with patient and provider satisfaction surveys. We learned that patients needed more support and developed videos teaching how to take and submit intra-oral photos with a smart phone, how to prepare for and what to expect from a Teledentistry visit, and how to log into the visit. We developed workflow, visit content and the self-care kits for preventive video visits for children six months to five years old. We increased the number of visits by increasing work efficiency and staffing a dentist with two dental assistants. We standardized the pre- and post-visit work along with the visit documentation. We improved real time communication about the visit cycle via instant messaging. We conducted regular meetings to keep everyone updated, to share lessons learned and to continue to improve the program.

We selected Doxi.me and WebEx. Doxi.me is easy to use as it does not require downloading an app, but the connections were not always stable especially with multiple users logged in (family, dentists and assistant). WebEx is more stable and once we created materials for patients on how to download the app and log in, it became to platform of choice. We have HIPAA Business Associate Agreements with doxi.me and WebEx.

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
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1. What resources were needed to carry out the activity? (e.g., staffing, volunteers, funding, partnerships, collaborations with various organizations, etc.)

To carry out the video visits, we needed the dentists, the dental assistants, and the front office staff. We had to set up staff to work from home by providing them with laptops and training. We needed IT support to help with testing different virtual platforms. Support staff were provided with phones. We had to buy dental supplies to assemble patient self-care kits. California Medicaid (MediCal) announced early in the pandemic that they would cover Teledentistry services.

INPUTS	PROGRAM ACTIVITIES	OUTPUTS	OUTCOMES
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2. Please provide a detailed description the key aspects of the activity, including the following aspects: administration, operations, and services.

The Teledentistry program has been developed, implemented and overseen by the Chief Dental Officer (CDO) to ensure high level of quality and program integrity. The CDO developed a robust staff training and calibration program to ensure program consistency and trained all other staff involved in providing Teledentistry services. Billing staff was trained on billing guidelines and how to perform regular audits to ensure program integrity. A spreadsheet collected metrics, which the business manager communicated regularly to the team. These included: number of video visits and in office visits, associated no show rates for video and in office visits, the number of billable video visits, number of emergencies, number of new patients, and patient and staff satisfaction surveys.

Petaluma Health Center provided the following types of services via Teledentistry: emergencies triage, preventive care for patients six months to five years, pre- and post-operative care, specialty referrals and case management as well as chronic disease management. We coordinated Teledentistry visits with drive through visits, where we used silver diamine fluoride and fluoride varnish applications to arrest caries and minimize the number of children referred for dental treatment under general anesthesia. During a video dental visit in addition to the examination, diagnosis, risk assessment and treatment planning, the staff prescribed medication; provided nutritional counseling, home care instructions, motivational interviewing; and self-management goal setting was established. For children six months to five years after a tooth brushing demonstration, parents were guided on the application of fluoride varnish.

Let us look at the workflow for the tele-dental video visit for children six months to five years. Before the appointment, the assistant sends a text message to the patient that has information on how to prepare for the Teledentistry visit, including how to take and send intraoral photos. A self-care package was sent in the mail, containing a toothbrush, toothpaste, fluoride varnish, varnish applicator, floss, gauze, gloves, disposable intraoral mirror, a snack guide, and a sticker. Five minutes before the appointment, the dental assistant contacts the patient to offer support with logging into the video platform.

When the dental team and patient are online, the visit begins with introductions and obtaining consent. We ask Covid-19 screening questions and offer referral if needed. We perform a medical history review and ask about the chief complaint. When it comes to the dental history, we use motivational interviewing for enhanced patient engagement and self-management. We spend a lot of time on this section asking open-ended questions, using active listening, affirmations, reflections and summarizations. This is how we learn about the patient's home care, diet, fluoride exposure, trauma prevention, daily routines and their hopes for their oral health.

At this point, the assistant communicates through the electronic dental record that the patient is ready for the dentist, who joins the live video and receives from the assistant a summary of what has been

discussed so far. Then the dentist performs a visual exam via live video and reviews the electronic dental record including the intraoral photos submitted by the parent ahead of time.

Based on the information gathered, the dentist determines the patient's risk level, makes a diagnosis and creates a treatment plan, which includes prescribing fluoride if needed along with a behavior plan consisting of self-management goals. Goals are specific, including tips to succeed and barriers are identified. We assess the patient's confidence level with achieving their goal.

After asking the patient's permission, we provide anticipatory guidance and nutritional counseling based on the dental history. Next, we ask the parent to open the self-care package they received in the mail. The packet includes several educational videos demonstrating home care and fluoride varnish application. The contents are reviewed, and the parent is asked to demonstrate tooth brushing and flossing. We ask if the parent is comfortable with applying fluoride varnish on their child's teeth. If they are, the dentist coaches them on how to apply it. Home care instructions are given; the assistant schedules the next appointment after which the patient leaves the visit. There is a bit of follow up work to be done in terms of documentation. For efficiency and based on analyzing cycle times, we divided the tasks between the assistants and the dentist. The assistant texts patient education materials prescribed by the dentist during the call, record the visit time stamp, import photos taken during live video and send the patient a satisfaction survey via text. The dentist completes the risk assessment form, clinical notes, posts codes, and signs and locks the chart.

Here is the workflow we developed, later reviewed by National Network for Oral Health Access (NNOHA), in swim lane diagram format:

https://nnoha.org/nnoha-generic-Teledentistry-workflow_v7/

INPUTS	PROGRAM ACTIVITIES	OUTPUTS	OUTCOMES
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3. What outputs or direct products resulted from program activities (e.g., number of clients served, number of services units delivered, products developed, and accomplishments)?

We have provided 2,163 video visits. Since the beginning of the COVID 19 pandemic, we experienced an increase in new patients due to a considerable segment of the population becoming unemployed and relying on public insurance. Teledentistry proved to be a valuable tool to increase capacity and expand the reach of the dental home during a time of increased demand for services. The number of dental emergencies increased from month to month.

With the help of Teledentistry, we were able to prioritize in clinic space for surgical care and met the needs for non-surgical visits via Teledentistry. From the very first video visits, we started surveying patient satisfaction and used the feedback to continually improve the program. Patient satisfaction with Teledentistry visits has been 95% based on 497 surveys. The no-show rate for Teledentistry visits has been about 6%, much lower than the in-person visit rate, which is usually about 25%. (38% in the first six months of the pandemic)

Our program gained recognition quickly, and has been featured in the following publications:

Promising Health Center Practices during COVID-19, NACHC September 2020
https://www.nachc.org/wp-content/uploads/2020/10/NACHC_Promising-Health-Center-Practices_COVID-19-October-2020.pdf

Teledentistry During COVID19 – Promising Practice, NNOHA February 2021
<https://nnoha.org/download/Teledentistry-during-covid-19-promising-practice/>

Community Health Centers' Telehealth Promising Practices, NACHC June 2021
<https://cdn1.digitellinc.com/uploads/nachc/articles/12f2830003953330d070e0b5882ebc57.pdf>

NNOHA Teledentistry User's Guide, August 2021
<https://nnoha.org/new-resource-Teledentistry-users-guide/>

INPUTS	PROGRAM ACTIVITIES	OUTPUTS	OUTCOMES
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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)

Dental caries is a chronic disease, managed by risk assessment, fluoride and lifestyle changes. Acute episodes are treated surgically. We feel that we can manage the chronic disease via Teledentistry, while increasing access to hands on and acute care in clinic. Patients receive more definitive care in-clinic when chronic disease management is accomplished via Teledentistry. We have been seeing less dental disease in our patient population than other health centers in the last 12 months and we believe this is directly related to services provided via Teledentistry.

Teledentistry provides the ideal platform for patient engagement via motivational interviewing, paving the way for behavior change and effective self-management. Only 65% of patients 0-6 years old seen in our clinic in 2019 have returned for a risk-based recall visit in a timely manner and only 35% of patients seen for a well-child check in medical had a dental visit before age one (as recommended by AAPD, AAP and ADA). Offering teledental visits increased the number of health center patients who establish a dental home before turning one due to convenience and initiating meaningful communication with parents and caregivers in a comfortable setting. Meeting patients where they are is the first step of building a trusting relationship and increasing patient engagement.

Geographic and socioeconomic status are common barriers to oral health services (i.e., long travel distance to clinics and time missed from school or work). Teledentistry offers a flexible alternative for patients while addressing oral health inequities. Research has shown that Teledentistry has the ability to reduce cost and increase access to oral health services. Teledentistry is one part of a comprehensive patient-centered system for delivering oral health care to communities.

Patients are learning about and are asking for these visits. They are becoming comfortable with the technology, which will simplify the process in the future. Teledentistry can reduce the cost of care either directly or indirectly through improved health outcomes

Our data source is the electronic dental record. The teledental program is innovative and can be implemented in two to four weeks.

Budgetary Information:

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

1. What is the annual budget for this activity?

We have not created a separate budget for Teledentistry visits because of payment uncertainty.

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

Our cost per Teledentistry visit has been \$127-\$139. The cost of the self-management kit is \$11.00 and is included in the \$127-\$139 figure. The remaining cost includes staff time and overhead costs.

3. How is the activity funded?

We receive PPS rate for billable visits, where the patient has a concern. However, non-billable visits are either covered by grant funding if available or we must write them off.

4. What is the plan for sustainability?

For sustainability from a funding perspective, I will quote from the NNOHA Teledentistry Users' Guide:

"Teledentistry offers a way to address disparities in access to care. However, payment policy often lags behind practice innovation. It is important to advocate to bring about changes to payment and practice act policies to make Teledentistry a permanent way to provide care.

- Align payment to support Teledentistry as a sustainable and permanent service line.
- Health center dentists and Primary Care Associations (PCA), in collaboration with other stakeholders, can advocate with their state legislatures to reimburse services provided via Teledentistry.
- Scope of practice acts should support Teledentistry so that dental care team members can work to the top of their licensure.
- Coverage for periodic and comprehensive exams, motivational interviewing, risk assessment, nutritional counseling, case management, self-management.
- Allow providers to establish new patients via telehealth methods.
- Promote the use of telehealth for integration and continuity of care rather than patient-initiated visits only.
- Systems of health care policy should include oral health representation and input. For example, include Teledentistry in national conversations and policy decisions regarding telehealth.
- Electronic Dental Records (EDRs) should facilitate Teledentistry through development of easy-to-use patient platforms, and integration of telehealth platforms with dental records.

From an operations sustainability perspective, we would implement the following:

- Training all staff on teledental protocols and incorporating it into onboarding.
- Identify Teledentistry champions.
- Incorporate Teledentistry in clinic wide workflows.
- Incorporate Teledentistry in strategic plan and goals
- Annual program re-evaluation

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?

- Learned that we needed to communicate with patients about these new types of visits, so we included information in the patient newsletter and on our website.
- Created a patient visit preparation list to let patients know how the visit will go, what to have ready, and what to submit in advance.
- Learned that we needed good intraoral photos taken by parents on their phones. Therefore, we created videos with examples and instructions for parents on how to do this. If parents need help with taking photos, the assistant reaches out to help them.
- Started sending patients' self-care packages. We had to figure out how far in advance they would have to be mailed and what to contain. We had to create a process map for this as well.
- Started sending a video with instructions on how fluoride varnish is applied, to desensitize parents to the process happening later during the visit, with the dentist's guidance.
- Developed new patient education materials with lots of photos that could easily be texted to the parents. During the visit is very convenient for the dentist to share their screen and review patient records and educational materials together with the parent.
- Designed new ways to communicate the visit status between the team members. We added statuses in the electronic dental record to show when photos were already imported into the patient record or if the patient received the visit preparation materials.
- Created a Teledentistry flyer to be handed out to patients when coming through the immunization clinic drive through.
- Started tracking self-care packages.

- Created a Teledentistry visit tracker to make sure we closed the loop regarding follow-up appointments, prescriptions, referrals, forms, etc.

Some things that we tested we abandoned, such as utilizing the front office staff for scheduling and visit preparation and having a hybrid schedule consisting of in clinic and video visits.

We also abandoned these types of visits for patients 6 and older, because once we reopened for routine care it made more sense to have these visits in clinic and apply sealants same day if needed.

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

We had several challenges:

- Initial challenges were related to learning and operationalizing a new software platform. We addressed these through staff training, patient education and practice.
- Other challenges were related to the stability of the internet connection on the virtual platform. To address this problem we switched from using Doxi.me to Cisco WebEx. Videos were created for patients on how to connect, how to position for the visit, about sitting in one part of the house with the strongest internet connection, having a flashlight ready, not walking around during the video visits, not sitting in front of a window, etc.
- Another challenge was obtaining diagnostic information through live video. That is why we created a video for patients with instructions on how to take intraoral photos with their phone. Having these photos in addition to the live video exam gave our providers more confidence in using Teledentistry.
- Frontline staff needed to attend a demo video visit to be able to understand it and offer it to patients.

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.

California Medi-Cal Dental: [Temporary Teledentistry Flexibilities During Novel Coronavirus \(COVID-19\) Restrictions-2020](#)

CDA: [Frequently Asked Questions: AB667 Topical Fluoride Legislation](#) (fluoride varnish)

Petaluma Health Center- [Patient educational videos for taking intraoral photos](#) (English & Spanish)
[Patient preparation for video visit \(English\)](#)
[Patient preparation for video visit \(Spanish\)](#)
[Teledentistry workflow diagram](#)

Videos created in collaboration with Cavity Free SF to prepare patients for tele dental visits and self-administered care:

Welcome to your Teledentistry visit
 How to take photos of your child's teeth
 How do I apply fluoride varnish at home?
 Brushing your child's teeth
<http://www.cavityfreesf.org/video-resources/>

ⁱ Ramos-Gomez et al., 2010 “Caries risk assessment, prevention and management in pediatric dental care” *General Dentistry* 58(6): 505-17

ⁱⁱ J. D. Featherstone, 2000 “The Science and Practice of Caries Prevention”, *J Am Dent Assoc* 131(7): 887-99

ⁱⁱⁱ Schroeder SA, 2007 “We Can Do Better- Improving the Health of the American People”, *NEJM* 357:1221-8

^{iv} Anderson, Martin and Mate, 2017 “The Value of Teaching Patients to Administer Their Own Care”, *Harvard Business Review*

TO BE COMPLETED BY ASTDD	
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