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: lcofano@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:

Implementation of Teledentistry in Health Centers

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
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
	8. Assure an adequate and competent public and private oral health workforce
x	9. Evaluate effectiveness, accessibility and quality of personal and population-based oral health promotion activities and oral health services
	10. Conduct and review research for new insights and innovative solutions to oral health problems

***ASTDD Guidelines for State and Territorial Oral Health Programs that includes 10 Essential Public Health Services to Promote Oral Health**

Healthy People 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.
OH-08: Increase use of oral health care system, reduce the proportion of people who cannot get the dental care they need when they needed it

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 and Older Adults Services; Access to Care: Children Services; Access to Care: Workforce; Telehealth; Teledentistry; Workflow

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.

Ravenswood Family Health Network (RFHN) has led the Early Childhood Oral Health Initiative (ECOHI) since 2012 in San Mateo County. We were the lead agency to apply for the grant funding and subcontracted with University of Pacific School of Dentistry for the implementation of the Virtual Dental Home (VDH) model and partnered with Head Start for implementation. Building on our staff and partners' experience to date, we have expanded the key components of ECOHI to create a community-based oral health delivery system for low-income children ages 0-5. Overall, the program provides preventive dental services, referrals and case management and staff and parent education and dental home services at community sites serving children 0-5. In addition to providing culturally and linguistically appropriate oral health education and services, we provide dental home navigation assistance for families by phone and/or via email, connecting families to dental clinics and practice. We inform families of the child's dental needs, help them make appointments for dental care, follow up to provide needed support to keep appointments, and track completion of dental treatment.

As of 2019, we partnered with eleven pre-school and community programs throughout San Mateo County to provide asynchronous tele-health visits to increase access to preventive services for children. These community programs are preschools, Head Start and Early Head Start, medical therapy unit, resource centers for children with special needs and community centers. Funds leveraged from Medi-Cal billing along with grant funding have allowed us to increase the number of children who receive services. At the start of the pandemic there was a need to adapt quickly to continue serving our patients. This need was met utilizing asynchronous and synchronous telehealth. California has had a payment mechanism in place since 2016 to bill and get reimbursed for asynchronous tele-health. There were changes in 2019 to only limiting telehealth services to existing patients. With the pandemic, limitations have been relaxed and now allows for establishing patients via telehealth. The synchronous telehealth visit type is currently intended to address patient concerns and thus limited toe patient initiated dental visits (that are problem focused). Utilizing both asynchronous and synchronous telehealth models, we have addressed urgent needs, provided medical-dental integration, and provided preventive services to children in pre-schools.

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 **Arial 10 pt.

Rationale and History of the Activity:

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

   The decision to pilot a teledentistry model of care utilizing an asynchronous telehealth model in 2012 was in response to addressing the issues of access to preventive services among children and seeking to increase early identification of dental disease and connecting them to a dental home. Work group meetings with Head Start and other local pre-schools identified an urgent need to implement programs that would increase access to and utilization of preventive services among children. The program successfully helped us increase access to preventive services to preschool aged children in San Mateo County. Over the course of eight years (2012- March 2020) we partnered with eleven pre-school and community programs across the county to achieve increased access to preventive dental services for children.

   With the onset of the pandemic and shelter-in-place regulations, we pivoted to utilizing asynchronous and synchronous telehealth to connect with our patients. Both models allowed for increased patient access as it did not limit care only to those who had access to a phone with a camera and who could navigate the video apps. The pandemic provided a unique opportunity to innovate in order to remain available for our patients.

We utilized telehealth (both synchronous and asynchronous) even though most of our experience has been with using the asynchronous model. We integrated telehealth with our pediatric patients and offered dual medical and dental visits. The dental visits were held synchronously either before or after the medical visit was completed. The dentist was remote during the medical/dental appointments connecting over a secure HIPPA compliant tele-health application.

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

   Data from the 2006 CA Kindergarten needs assessment report suggested that 38% of children had urgent unmet dental needs. Increasing access to preventive services and connecting patients to a dental home prior to entry into kindergarten was the rationale behind implementation of the asynchronous model utilizing a dental hygienist at the pre-school who was connected to a dentist at our health center. The pandemic and shelter in place guidelines required us to pivot and still be available for our patients to address their urgent needs and continue to provide preventive support. It became important to utilize every opportunity we had at the health center for a face-to-face visit to offer the patients other services.

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

   The model we selected to work with was originally designed by Dr. Paul Glassman at Pacific School of Dentistry and is known as the Virtual Dental Home (VDH). We were one of the pilot projects. Data gathered was used to change the scope of practice of dental hygienists in alternate practice (RDH-AP). This expanded scope allowed for the RDH-AP to decide on what x-rays to take and place interim therapeutic restorations (ITR). Advocacy efforts at the state level collectively allowed codes for asynchronous telehealth to be billed to the state Medicaid program.

   We started in July 2012 with planning phases of the program and saw the first patients in September 2012.The first year we were at five Head Start sites. The second year, we expanded to all 12 Head Start, early Head Start sites and home-based programs offered by Institute of Health and Social Development (IHSD). In our fourth year, we had other partners join the work and expanded services to four agencies. This same year, we started to bill some services to the state Medicaid program. In 2019, we served almost 800 children all over San Mateo County in over 1100 patient visits.

Year	Activities	Models	Patients served/ visits
2012-13	VDH services: screening, x-rays, photos, prophylaxis, fluoride applications, and ITR placements	Asynchronous	187 children in 348 visits
2013-14	Same as above	Same as above	239 children in 398 visits
2014-15	Same as above	Same as above	323 children in 545 visits
2015-16	Same as above	Same as above	587 children in 1007 visits
2016-17	Same as above	Same as above	628 children in 956 visits
2017-18	Same as above	Same as above	656 children in 1121 visits
2018-19	Same as above	Same as above	711 children in 1403 visits
2019-20	Same as above+ Synchronous tele-health	Asynchronous and Synchronous	762 children in 971 visits + 461 synchronous*
2020-21	Same as above+ Synchronous tele-health	Asynchronous and Synchronous	185 children in 230 visits

- *Synchronous visits reported are for calendar year 2020. Asynchronous visits reported are school year (July-June).

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.)

   a. Asynchronous telehealth
      i. Staffing: RDH-AP, dental navigator, dentist
      ii. Partnerships with preschools or schools
      iii. Equipment: Portable dental equipment, computer, nomad, x-ray sensor, dental chair
      iv. Materials: Fluoride varnish, Glass ionomer sealant, personal protective equipment, disposable supplies
      v. Dental instruments: Prophy hand pieces, hand instruments for dental hygiene and minimally invasive restorations, such as ITR (Interim Therapeutic restorations) and sealants
      vi. Funding partnerships: Our program had been fully grant funded for the first three years. During the fourth year of the program we started to bill for services and have continued to rely on partial grant funding to keep the program.
      vii. Creating workflows and implementing them
      viii. Adjusting workflows to meet the needs of the programs and increase efficiency
   b. Synchronous telehealth:
      i. Selecting telehealth platforms
      ii. Staff training
      iii. Creating workflows and defining scope of services.

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.

The successful implementation of asynchronous telehealth program required that we spend time upfront thinking about the desired end goals and pave a way forward to achieve them successfully. Since we partnered with Pacific School of Dentistry to implement the VDH model, we were provided with a scaffolding or structure from which we built and customized our program. Implementing this program at Ravenswood required us to identify funding sources and hire additional staff. In 2012, local funding became available through F5 to implement this program. As the lead agency we applied and successfully received funding from F5 San Mateo County. With Pacific School of Dentistry's VDH implementation team as a subcontractor and leveraging our existing partnerships with local Head Start agency, we had all the necessary resources to in terms of funding, populations to be served and mechanism of service delivery.

The next step was to develop and understand the staffing needs of the program. The minimum staffing recommended for the program was a dental hygienist and a dental navigator. We developed the job descriptions for both positions and realized that much like the dentist to assistant ratio for operational success in clinics in 1:2, the dental hygienist to navigator ratio had to be somewhere between 0.5:1 or 0.6:1. The dental navigator was a full-time role with completing paperwork and connecting with families with after visit summaries and setting up schedules for sites. Just like hiring any other staff in the organization we looked for mission alignment and for staff who would be flexible in these new roles that may require to change how things are done.

Once the staff were hired, they were trained by the Pacific School of Dentistry's team on clinical protocols. We trained them on our protocols and designed workflows on carrying equipment back and forth from sites, on equipment maintenance, working within OSHA guidelines and following infection control protocols. We compiled a list of instruments and materials suggested by the Pacific team and we modified it to fit our needs.

Ravenswood worked with IHSD (our first partner program) to implement the program. We worked with the ED/ health services manager, site supervisors and family advocates within the agency to inform the parents and enroll children in the program. To get the word out we created flyers to send home, we participated in health fairs and had gift bags for families who signed up for the program. Regular meetings with staff who shared feedback on successes and challenges at each step of the project implementation were critical in building trust and long-term success of the program.

While we made several modifications to our workflows to achieve the best possible outcome during our first year, we also logged all the things we attempted with minimal success. After the first year of our program we evaluated with our partners all successes and challenges and learning from them we were able to effectively expand year after year and continue to deliver high quality care utilizing asynchronous tele-health.

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, and accomplishments)?

Clients served: See table above
Data and advocacy: led to changes to dental practice act and inclusion of CDT codes to state Medicaid program
Developed resources to help parents set self-management goals
Create presentations for staff and parents on importance of good oral health

INPUTS	PROGRAM ACTIVITIES	OUTPUTS	**OUTCOMES**

4. What outcomes did the program achieve? (e.g., health statuses, knowledge, behavior, care delivery system, impact on target population, etc.) Please include the following aspects:
    a. How outcomes are measured
    b. How often they are/were measured
    c. Data sources used

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

The program's quantitative outcomes were measured utilizing our electronic dental records (Dentrix from 2012-2020) and Epic (2020- Present). We measured numbers of children served, numbers of fluoride varnish applications and interim therapeutic restorations, numbers of children who needed further care and referrals to DDS, treatment plan completion rates, risk-based recall and participation in the program over multiple years
The program also offered staff trainings and parent education events throughout the school year. We used attendance to the parent education events as a proxy measure for parent engagement in the program.
The qualitative outcomes were:

i. Impact on patients: lower costs (no cost to patient family if not covered by Medicaid program, no costs for services not covered), improved access to care (co-location of services), improved dental hygiene, increased convenience due to reduced barriers such as missing work, childcare, slow spread of covid, building trust and reduced anxiety
ii. Increase trust → more visits from the same patient, reduced no show rate to dental appointments for treatment,

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

1. What is the annual budget for this activity?

During the initial stages of the program, the program budget was nearly twice as high as it currently is now. The total project budget for FY 12-13 was $474,945, whereas the total project budget for FY 21-22 was $229,040. The reason for this is that the initial stages of creating the program required more staff time, trainings for staff, consultant time, and resources. As we ramped up our program, our workflows and protocols were solidified as we were able to run the program more efficiently and effectively. The annual budget for the program varied year to year as the staffing increased to keep with the expansion of the program. The program costs vary based on the location of where the program is implemented. The main costs of the program are staffing costs and materials cost.

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

   Costs associated with Asynchronous telehealth
   i. Initial year: staffing costs: 50% equipment costs: 50%
   ii. Second year and beyond: Staffing costs (salaries/benefits): 75%, Materials/ equipment maintenance and ongoing upgrade costs: 25%

   Costs associated with synchronous model:
   i. Paying for the video platform
   ii. Staff time for creating protocols

3. How is the activity funded?

   a. Asynchronous: The activity was initially exclusively grant funded through the San Mateo County F5. During year 4, it was partially grant funded and partially funded through reimbursement from insurance.
   b. Synchronous: Partially grant funded and reimbursement from insurance.

4. What is the plan for sustainability?

   Sustainability depends heavily on payment to continue and expand to cover more services utilizing tele-health at the state level. Being grant funded exclusively poses a risk of the program ending when the grant support ends.

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?

   Telehealth (both synchronous and asynchronous) offer a unique opportunity for patient engagement. It requires a different skill set than the usual surgical skills of a dentist. There is a need to constantly work on buy-in and staff training, as well as looking for redundancies along the way to make the program more efficient. Utilizing PDSA's to test and track until you get the desired results is critical. A very important thing we learned is that the programs are as successful as your partnerships. The more buy-in from partner programs, the more successful the program is.

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

   Family acceptance: Asynchronous: Some of the challenges we faced early on were in recruitment of families into the program. We tried many different ways to reach the families and each program partner chose to do things that worked for them and that was very successful. As in any new program buy-in from preschool staff was critical. Our initial plan was to have Ravenswood staff enroll children in the program so as to not burden the staff at the preschool with additional responsibility. However, we learned early on that the parents trust the staff they entrust their child with. When the program recommendations were made by the staff the parents seemed more likely to enroll. So we let the teachers and other staff take the lead on enrollment.

Synchronous: Provider buy-in is a challenge and tele-dentistry has a steep learning curve for dentists who have no prior experience with tele-health. Dentistry is a surgical specialty and dentists feel comfortable by comparing diagnosis and treatment plans for patients seen via tele-dentistry and when the same patient is seen in-person. We compared diagnoses weekly, monthly and then quarterly by provider and then as a group to review intra and inter-provider reliability.

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.

See document links below:

1. How to take intra-oral pictures: developed as part of the workflow to assist with synchronous tele-health.
2. Form used for asynchronous tele-health to communicate with families: Virtual Dental Home Screening Report
3. Equipment and instrument lists needed for asynchronous tele-health

TO BE COMPLETED BY ASTDD	
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