# Dental Public Health Activity Descriptive Report

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## SECTION I: PRACTICE OVERVIEW

**Name of the Dental Public Health Activity:**
**Arizona Dental Sealant Program**

**Public Health Functions:**
Assurance – Population-based interventions

**Healthy People 2020 Objectives:**
- 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
- 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

| **State:** | **Federal Region:** | **Key Words for Searches:** |
|---|---|---|
| AZ | | school-based dental sealant program, dental sealants, children services, school-based oral health, children oral health |

**Abstract:**

The Arizona Department of Health, Bureau of Women's and Children's Health, Office of Oral Health has administered the Arizona Dental Sealant Program since 1987. This school-based dental sealant program targets children in 2nd and 6th grades attending eligible schools in Arizona. Arizona's children suffer from high rates of tooth decay and low prevalence of dental sealants. Findings from a 2015 Basic Screening Survey indicate that 65% of 3rd grad children had tooth decay experience and only 72% were in need of one or more dental sealants. Eligible schools are public and charter schools with a high proportion of students participating in the National School Lunch Program (free and reduced lunch program). All children in 2nd and 6th grade attending eligible schools are eligible to receive a dental screening; those who are uninsured, Medicaid and SCHIP beneficiaries, covered by Indian Health Services or by a state-funded primary care health care program and do not have private dental insurance also qualify for dental sealants. Counties health departments, community clinics, dental schools and non-profit organizations are contracted by the state Office of Oral Health to implement the program. The overall costs per child sealed range from $65 to $75.

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## SECTION II: PRACTICE DESCRIPTION

**History of the Practice:**

The Arizona Department of Health Services, Office of Oral Health Arizona School-based Sealant Program began in 1987, with a grant received from the Flinn Foundation. Additional funding that same year from the Ronald McDonald Children's Charities allowed the Office of Oral Health (OOH) to continue the program. In July of 1989, the Sealant Program was incorporated into the OOH State budget. Maternal and Child Health Block grant dollars were used for supplies, equipment, and contract personnel for the Arizona School-based Sealant Program. Since that time, additional funding has continued through various grants and private foundation donations, allowing for the program's expansion and sustainability. Originally in one county, Maricopa County, the program now serves ten of fifteen counties in the state.

**Justification of the Practice:**

Findings from scientific studies clearly show that school dental sealant programs work to stop tooth decay. The Task Force on Community Preventive Services recommends school sealant programs and issued a strong endorsement in 2001. In 2003, the Association of State and Territorial Dental Directors (ASTDD) published a Best Practice Approach Report.* This report reviews the scientific evidence that school sealant programs work and presents specific examples of practices in state programs. Dental caries (tooth decay) remains one of the most common chronic diseases of childhood. In addition, disparities exist with children from low income families and certain racial and ethnic groups having greater levels of untreated dental disease and less access to dental care.

When properly placed and retained, dental sealants are highly effective in preventing tooth decay on the chewing surfaces of first and second permanent molar teeth. However, sealants remain underused, particularly among children from low-income families and from racial/ethnic minority groups. The 2014-2015 oral health survey of Arizona school children revealed that 44 percent of third graders had at least one dental sealant. School-based dental sealant programs have been shown to be effective in reducing disparities in prevalence of dental sealants for socially disadvantaged children (Impact of Targeted, School-Based Dental Sealant Programs in Reducing Racial and Economic Disparities in Sealant Prevalence Among Schoolchildren – Ohio, 1998-1999, MMWR August 31, 2001/ 50(34); 736-8).

**Inputs, Activities, Outputs and Outcomes of the Practice:**

A Program Manager at the Arizona Department of Health Services, Office of Oral Health (OOH) administers the Arizona Sealant Program (AZSP). OOH contracts county health departments, community clinics, dental schools and non-profit organizations to implement the program. Funding is available through federal grants, private donation funds and reimbursement from the state's Medicaid program.

All public and charter schools are eligible for the program if a high proportion of the students attending the school are enrolled in the National School Lunch Program (the free/reduced lunch program). Each school year, eligible schools are selected based on availability of funding and providers; schools are prioritized from highest to lowest percentage of school lunch enrollment. The AZSP schedules schools for dental screenings and dental sealant applications from August through May of each school year. Portable dental equipment is used to deliver care at the schools.

Only 2nd and 6th grade students are eligible for the sealant program services and parental consent is required. Program dentists assess and determine the need for dental sealants for each participating child evaluating the individual surfaces of permanent molar teeth only.

The AZSP follows the CDC-Sponsored Expert Work Group Recommendations for School-based Sealant Programs, "Preventing Dental Caries Through School-based Sealant Programs: Updated Recommendations and Review of Evidence". These recommendations guide the overarching practices of the program for planning, implementing and evaluating outcomes. All dental providers and program staff are trained and calibrated annually on program policies, guidelines and performance requirements.

***Performance Benchmarks:***

*Performance benchmarks are set for grantee success. These benchmarks are specific data points by which each grantee is assessed performance of their individual program. These benchmarks are intended to be a guide in program improvement and are re-evaluated each year.*

- *>50% of students with positive consent per school*
- *>97% of students with consent are screened*
- *>90% of students in need of sealants receive sealants*
- *>25% of students who received sealants are screened for retention the following year.*
- *>85% annual retention by provider*
- *Overall cost per child sealed is $65 to $75*

*A dentist or dental hygienist screens children and prescribes the necessary dental sealants. At the end of the screening day, the school receives a list of children with urgent dental needs. Program dental hygienists, working with dental assistants, place sealants which may occur on the same date of the screening or on a subsequent date depending on the size of the school.*

*The OOH requires all providers to be trained and standardized in collecting program data, providing a dental screening, applying sealants and making dental referrals based on local resources. All aspects of the program utilize specific protocols and techniques. While the OOH provides portable dental equipment for most sites to deliver program services, the purchase of all dental supplies and coordination and scheduling of schools is made at the local or county level.*

*The AZSP also collects oral health surveillance information utilizing the Basic Screening Survey (BSS) protocol recording data on standard paper forms. This information is processed as follows:*

- A findings form is sent home with the child on the day of the screening.
- All collected data is entered and aggregated at the OOH central office.
- Each school receives a report that includes the number of children served and the oral health treatment needs of individual students. This school report provides a tool for the school nurse/personnel to triage and follow up on needed dental care.
- Data analysis and reporting of program services are annually generated for the state, county and school levels.

The AZSP has a quality improvement program focusing on sealant retention, provider satisfaction, school personnel satisfaction, participation and efficiency. The evaluation of sealant retention was integrated into the program in FY 2000-01. Approximately 25 percent of students in 3rd and 7th grades who received sealants when they were 2nd and 6th graders are randomly selected and reassessed for retention of sealants. Analysis of three surface areas on maxillary and two surface areas on mandibular teeth provides the annual retention rate for fully retained sealants. Since retention of a dental sealant is required to prevent tooth decay, retention rates directly impact the overall effectiveness of the Sealant Program. Sealant retention rates are collected and reported annually to all program providers. Retention rates are calculated by tooth and by surface. Retention rates are expected to be at least 85% per provider. When an 85% retention rate is not achieved, the provider is mentored by a provider who has a retention rate of 90% or higher.

***Outcomes:***

*In the 2016-2017 school year:*

- 12,927 second and sixth grade students in participating schools received a dental screening.
- 8,685 of the children screened received dental sealants.
- 21% of children had no dental insurance.
- 57% of children were Medicaid eligible.
- 24% had urgent or early dental treatment needs.

All children identified as having an urgent or early need for dental care are referred for care. Un-insured children are referred to local community health clinics and providers for care and children who are Medicaid eligible are referred to their health plan for case management and follow-up. The program follows-up with the school nurses to confirm whether the child with urgent needs was able to obtain follow-up care. A partnership with the Arizona Dental Association was established in 2001 to help recruit dental providers for the AZDSP, especially in areas where OOH has difficulty contracting providers.

**Budget Estimates and Formulas of the Practice:**

The Maternal and Child Health Block Grant, Arizona's Medicaid program (Arizona Health Care Cost Containment System) reimbursements, and private foundation donations fund the operation of the Arizona Dental Sealant Program. The approximate annual funding is $479,000 per year. The funds are used to pay for staff, travel, supplies, training, equipment, etc. All equipment is owned by the Arizona Department of Health Services but is loaned on a semi-permanent basis to contracted community sites.

The average cost per child sealed is $65.00/child to $75/child. Costs per child are calculated based on the following budget categories: personnel, travel, supplies, and direct/indirect costs.

Other formulas of practice from 2016-2017 data include:

- Second grade participation rates are higher than sixth grade participation rates, 67% and 27% respectively.
- Approximately 15 children can be screened per hour.
- Approximately 3 children can be sealed per hour.
- Average number of sealants per child is 3.64.
- Based on the ADA 2016 Survey of Fees for D1351, over $1,602,000.00 in dental sealant services were provided to children.

**Lessons Learned and/or Plans for Improvement:**

- School-based programs are an effective approach for identifying and accessing students who are most likely to benefit from sealant placement and least likely to receive them through the private dental care delivery system.
- Standardized data collection is important across counties to monitor oral health status and services delivered.
- Local dental providers are better able to leverage local resources than state staff.
- State legislation enacted in 2002 allows the AZDSP to receive reimbursement for Medicaid enrolled children. This helps sustain and expand the program and reaches Medicaid enrolled children who are not otherwise likely to obtain this service (approximately 58 percent of the children served by the sealant program are Medicaid/SCHIP insured children).
- Private donation dollars have allowed additional expansion of the program in specific areas of the state.
- New programs need time to address implementation. It can take several years for programs to establish relationships with schools and to develop cost savings measures.
- Teacher incentives do not seem to increase program consent rates.
- Annual training for grantees is a time to discuss challenges, share experiences and concerns.
- Attend back-to-school nights with a sealant program booth, hand out permission slips directly to parents, and collect the signed permission that night; and
- Utilization of collaborative practice dental hygienists has not been successful at this point in the program because of the restrictions associated with billing Medicaid for services provided by these provider types.
- OOH is in the process of evaluating the sealant program implementation between the traditional model of implementation and the new public dental hygiene model. Evaluation is designed to inform the program both quantitatively and qualitatively on areas of needed improvement and enhancement.
- OOH is in the process of developing educational promotional tools for school administrators, school staff, parents and children. Implementation of these tools will be evaluated for effectiveness in increasing participation.
- SEALS software is not used because it does not meet the billing, reporting or accounting requirements of the program. The program utilizes an Oracle-based program in a .net environment which allows for a multi-level approach to program tracking, reporting, quality assurance and billing of dental claims.

**Available Information Resources:**

The Arizona Dental Sealant Program Manual provides specific protocols and techniques and includes various program data collection forms.

## SECTION III: PRACTICE EVALUATION INFORMATION

**Impact/Effectiveness**

*How has the practice demonstrated impact, applicability, and benefits to the oral health care and well-being of certain populations or communities (i.e., reference scientific evidence, outcomes of the practice and/or evaluation results)?*

Most public agencies do not have the capacity to evaluate program impact in terms of caries reduction. The Task Force on Community Preventive Services has recommended school-based and school-linked sealant programs for the prevention of dental caries (MMWR November 2001).

Arizona evaluates the impact in terms of increasing sealant prevalence. Data from the 2009-2010 statewide children's dental survey showed that 47 percent of third grade children had dental sealants. Since the 1999-2003 oral health survey of Arizona school children showed that 31 percent of 6-8 year olds had sealants, it appears that although sealant prevalence falls short of the HP 2020 objective, progress in dental sealant prevalence has been demonstrated.

A HRSA Oral Health Workforce grant has allowed for a comprehensive evaluation of program impact and effectiveness. This report is expected to be completed in 2018.

**Efficiency**

*How has the practice demonstrated cost and resource efficiency where expenses are appropriate to benefits? How has the practice demonstrated realistic and reasonable staffing and time requirements? Provide unit cost analysis or cost-benefit analysis if appropriate.*

- The majority of the program expenditures are spent on clinical staff providing direct patient services versus administrative costs.
- OOH is currently evaluating the cost effectiveness between two models of implementation; one where dentists screen and dental hygienists apply sealants and the other model where dental hygienists provide both the screening and the sealants.
- Dental hygienists apply dental sealants under general supervision or standing order of a dentist and assisted by a dental assistant (four-handed).

**Demonstrated Sustainability**

*How has the practice showed sustainable benefits and/or how has the practice been sustainable within populations/communities and between states/territories? What mechanisms have been built into the practice to assure sustainability?*

The program was initiated in 1987 and has been sustained for 25 years. In addition, Medicaid reimbursement, which began in fall of 2002, further supports the ongoing sustainability of the program. This change was established through legislative action, and has largely contributed to the financial stability of the program since approximately 58 percent of the children are Medicaid/SCHIP insured children. This percentage has increased notably from the 37 percent reported in previous years. Private donation funding from local foundations has also helped to ensure additional financial stability.

**Collaboration/Integration**

*How has the practice built effective partnerships/collaborations among various organizations and integrated oral health with other health projects and issues? What are the traditional, non-traditional, public and private partnerships/collaborations established by the practice for integration, effectiveness, efficiency and sustainability?*

The program creates partnerships between the state, counties and local organizations. The local dental sealant program coordinators work very closely with school administrators and school

nurses to schedule schools to implement the sealant program. School nurses and county health departments also work collaboratively with local organizations to provide follow-up restorative dental care to participating students. At the community level, partnerships with local dental societies, community clinics and private dentists have been established. At the state level, the program established partnerships between the state Medicaid, Medicaid-managed care organizations, Federally Qualified Health Centers (FQHCs), Primary Care Association (PCA), local charitable foundations, and the Arizona Dental Association. Some of these partnerships are responsible for obtaining legislative change to allow reimbursement from the Medicaid managed care organizations to the state health department in order to sustain and expand the program.

**Objectives/Rationale**

*How has the practice addressed HP 2020 objectives, met the National Call to Action to Promote Oral Health, and/or built basic infrastructure and capacity for state/territorial/community oral health programs?*

The sealant program, a population-based intervention, addresses HP 2020 objectives OH-12 and OH-1 to increase the percent of children with sealants and decrease the percent with tooth decay experience. It also addresses reducing health disparities highlighted in the Surgeon General's Report on Oral Health.