

Evaluation of School-Based Comprehensive Oral Health Services Grant Program

Executive Summary

June 17, 2016

Prepared for Maternal and Child Health Bureau, Division
of Child, Adolescent and Family Health

1.0 Preface

This document is a deliverable under Contract HSH250201300007I, Independent Evaluation of the School-Based Comprehensive Oral Health Services (SBCOHS) Grant Program, between the Health Resources and Service Administration, Maternal and Child Health Bureau and Altarum Institute. The goal of this task is to provide an executive summary of the evaluation of SBCOHS grant program findings.

Comments and inquiries related to this document should be addressed to Ms. Pamela Vodicka.

Ms. Pamela Vodicka, MS, RD
CAPT, US Public Health Service
Program Director, Oral Health
Maternal and Child Health Bureau
PVodicka@hrsa.gov
301-443-2753

Table of Contents

1.0	Preface	i
2.0	Introduction	1
3.0	Research Questions and Findings in Brief	1
4.0	Methods	2
4.1	Grantee Data	2
4.2	Key Informant Interviews	2
5.0	Findings	3
5.1	Efficacy	3
5.2	Integration	4
5.3	Sustainability	4
6.0	Conclusions	5

2.0 Introduction

Dental caries is nearly 100 percent preventable and is the most prevalent, unmet health care need of children and adolescents in the U.S.¹ Untreated dental disease has broad impacts. It can affect learning, speech development, nutritional intake, self-esteem, social development, and quality of life. Dental problems are also linked to frequent school absences, especially among those who cannot afford dental care². School absences caused by dental pain may be associated with poorer school performance³ and the improvement of children's oral health may be a vehicle to improve their educational experience.⁴

To improve children's dental health, the Maternal and Child Health Bureau (MCHB) funded a four-year grant program to integrate comprehensive oral health services into existing school-based health centers (SBHCs) serving vulnerable children and youth. The School Based Health Alliance reports that one in five SBHCs provides oral health exams by a dentist or dental hygienist on-site.⁵ The purpose of this independent evaluation was to assess the School-Based Comprehensive Oral Health Services (SBCOHS) Grant Program and collect supplemental data to better understand factors that impacted program success. Altarum Institute has evaluated this grant program by investigating how grantees were able to integrate with SBHCs, how they effectively improved oral health among students, and how they sustained the integrated services beyond the four-year grant period.

3.0 Research Questions and Findings in Brief

Research questions were designed to meet the evaluation objectives and are focused on three main areas: *program integration*, *program efficacy*, and *program sustainability*. Within each area, evaluators investigated the challenges grantees faced, strategies they implemented to overcome challenges, and influences of demographic characteristics of the populations and the locations served.

- 1) *Efficacy*: What impact did integrated oral health services have on improving access to care and improving oral health?

The integrated comprehensive oral health services improved oral health outcomes within the four-year grant period. Access to care grew significantly. The share of enrolled children receiving cleanings, receiving sealants, and completing treatment plans in one year improved.

- 2) *Integration*: Was the grant program successful in integrating comprehensive oral health services into existing SBHCs and schools?

Though programs faced integration issues—such as coordinating with school and SBHC staff and limited space—grantees were able to effectively merge these services within the SBHCs before the end of the four year period.

¹ U.S. Department of Health and Human Services. (2000). *Oral health in America: A Report of the Surgeon General*. DHHS: Rockville, MD.

² Pourat, N & Nicholson, G. (2009). *Unaffordable Dental Care Is Linked to Frequent School Absences*. Los Angeles, CA: UCLA Center for Health Policy Research. Retrieved from <http://healthpolicy.ucla.edu/publications/Documents/PDF/Unaffordable%20Dental%20Care%20Is%20Linked%20to%20Frequent%20School%20Absences.pdf>

³ Jackson, SL, Vann, WF, Kotch, JB, Pahel, BT, & Lee, JY (2011). Impact of Poor Oral Health on Children's School Attendance and Performance. *American Journal of Public Health, 101(10)*, 1900–1906.

⁴ Blumenshine SL, Vann WF Jr, Gizlice Z, & Lee JY. Children's School Performance: Impact of General and Oral Health. *Journal of Public Health Dentistry 68(2)*, 82-87.

⁵ School Based Health Alliance (2015). 2014-2015 Digital Census Report. Retrieved from <http://censusreport.sbh4all.org/#sustainability> on April 29, 2016.

3) *Sustainability*: Were integrated oral health services provided after the grant period ended?

Oral health services are currently sustained at each program. Whether by seeking additional grants, billing more efficiently, or obtaining FQHC status to receive higher reimbursements, each grantee continues to offer all services and in some cases is expanding. Grantees noted that sustaining oral health services is a continuing effort.

4.0 Methods

Of the 12 programs that received the MCHB grant, nine were selected for their ability to provide sufficient information for the evaluation. The evaluated grantees included:

Grantee	Location
Dental Health Foundation/Center for Oral Health (COH)	Oakland, CA
Children's Dental Services (CDS)	Minneapolis, MN
Health Mobile (HM)	Santa Clara, CA
Integrated Health Services, Inc (IHS)	East Hartford, CT
Lemon Grove Elementary School Clinic (LGE)	Lemon Grove, CA
Mary Imogene Bassett Hospital (MIB)	Cooperstown, NY
Health Services NYS Department of Health (NYSHD)	Albany, NY
Summit Community Care (Summit)	Frisco, CO
University of Colorado Denver (UCD)	Aurora, CO

The evaluation design consisted of a mixed-methods approach. Quantitative methods were used to assess data on processes and outcomes from grantees' yearly reports to MCHB. Evaluators also conducted and analyzed key informant interviews to identify challenges and the strategies that grantees used to overcome them.

4.1 Grantee Data

Evaluators assessed quantitative data representing program processes and outcomes for each of the four years of the grant. Assessment of process included enrollment in the program and sources of reimbursement. For outcomes, evaluators assessed the provision of preventive dental services and the rate of completed treatment plans. Preventive services included comprehensive oral exams, x-rays, oral prophylaxis, fluoride, sealants, and education. Due to a lack of patient-level data, aggregate restorative services were operationalized as a negative proxy of oral health; more restorative services indicate worse oral health. The quantitative analysis was also used to generate questions for key informant interviews.

4.2 Key Informant Interviews

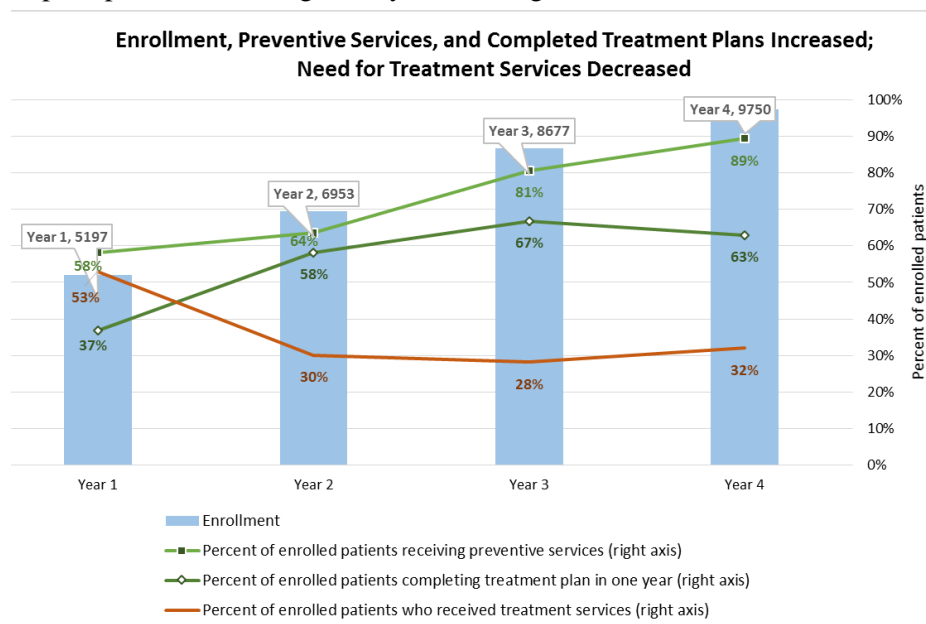
Initial key informant interviews were conducted by phone, recorded, and transcribed. The interviews lasted approximately 75 minutes and included several representatives from each grantee program including SBCOHS project directors and co-directors, program coordinators and managers, dentists, and dental hygienists. A second series of interviews were conducted with key informants from schools and SBHCs, such as school administrators, school nurses, and SBHC medical staff. Finally, expanded interviews were conducted with the grantees to confirm themes, fill in any missing information, and respond to unresolved questions. Interviews averaged about 45 minutes each. Interviews were coded in *NVivo* qualitative software. Each interview was coded by two independent coders. Kappa scores were above 0.8 and consistent reliability among coders was achieved.

5.0 Findings

Evaluators aggregated and analyzed available data from nine grantee programs. Data quality varied; reported results are totals and weighted averages of available data per grant year. The need for oral health care in grantee communities was great; on average, nearly 45% of students had dental caries at the time they were enrolled. Programs served urban and rural populations where communities have relatively low earnings and low rates of health insurance. Many grantee communities are composed largely of immigrants and ethnic and racial minorities. Data quality on the demographics of enrollees was insufficient for more refined analysis.

5.1 Efficacy

Trend analysis of year-over-year aggregate data showed marked increases in access to care and improved clinical outcomes for enrolled patients. Over the four years of the grant, the **number of students enrolled nearly doubled** from 5,197 in year one to 9,750 in year four. The share of enrolled students who received preventive services increased from **58% to 89%**. Grantee data show that **sealants were applied to at least 7,545 students** throughout the four years, increasing from 221 in year one to 2,437 in year four. Among reporting programs, only about one-third of students enrolled in the first year had their **teeth cleaned**; by the end of the grant this increased to **63%** of those enrolled. The share of students who **completed a treatment plan within one year** also **increased from 37% to 63%** over the grant period. While no national benchmark for completed treatment plans was found in the literature, one study identified a clinic that used a scheduling tool to increase their treatment plan that were done within six months to 70%.⁶ Treatment services (i.e., restoration and/or extractions) were needed for 53% of enrolled students in year 1. **The need for treatment declined markedly starting in year 2**; by the fourth year, 32% of enrolled students received treatment services. These trends align with research showing that prompt prevention can reduce the need for restorative care and extractions. If more students are being seen but less restorative/surgical care is needed, it implies preventive strategies may be working.



⁶ National Network for Oral Health Access. (2014). Scheduling to Increase Treatment Plan Completion Rates. National Network for Oral Health Access. Retrieved from http://www.nnoha.org/nnoha-content/uploads/2014/03/Scheduling-to-Increase-Treatment-Plan-Completion-Rates_final.pdf

The evaluation identified several keys to delivering effective oral health services in school-based health clinics. The factor most often identified by the grantees as having the most influence on success was having highly capable staff. Capable staff were seen as those who understood the culture of the community, were integrated with the community, and were knowledgeable about dental billing and electronic record systems. In several programs it was also beneficial to have bilingual staff members. Budget constraints and program location (e.g. rural or urban) posed challenges for staff recruitment. Some strategies used to overcome these obstacles were to hire retired dentists, recruit dental students/interns, or to partner with local dental offices to provide services to students (e.g. Summit SBHC's "Adopt a Student" program with local dentists). Another key factor in program efficacy was effort made to increase enrollment. Originally, some programs struggled to reach their desired level of program utilization. Strategies used to increase enrollment included integrating school, SBHC, and SBCOHS enrollment forms and gaining community buy-in by educating school staff, students, and families about the importance of oral health.

Highly capable staff have the most influence on program efficacy.

5.2 Integration

Clear, consistent, and open communication appears to be the most important factor in successful integration with schools and SBHCs. Regarding school integration, grantees cited difficulties working around school schedules, dealing with school staff turnover (specifically noted in the urban settings), and a lack of interest on the part of school staff (i.e., teachers and school staff priority is student time in class, not health appointments). The primary strategy used to address these challenges was building a strong and open relationship with the school nurse and principal. For example, some programs invited the school nurse to program meetings and to sit on their advisory boards. Other programs successful at integration also recruited an SBCOHS or SBHC staff member to work as a coordinator with the school and community to schedule appointments and speak about the program. Implementing shared enrollment forms between the school and the SBHC/SBCOHS also aided integration. Integration could be challenging for several reasons. These included issues of space and location within the SBHC for SBCOHS equipment and services and sharing patient information. To address issues of space, some of the grantees were able to relocate to bigger spaces in the later years of the grant while others devised strategies to improve sharing a space. Implementation of an integrated Electronic Health Records (EHR) system helped mitigate difficulty in sharing patient information between medical and dental staff.

Clear, consistent, and open communication is crucial for integrating new services with schools and SBHCs.

5.3 Sustainability

Sustainability is a key component of any program implementation and a guiding principle of stakeholders. A major finding from the evaluation is that at the end of the grant period each program indicated an ability to fully sustain oral health services. Many of the programs indicated that they were even able to expand their services. A major challenge for the programs was identifying and maintaining sufficient funding for financial sustainability. The

At the end of the grant, each program was able to fully sustain oral health services.

most prominent practice reported by grantees to sustain the program was to gain revenue through insurance reimbursement. Several of the grantees cited that, over time, they developed methods to ensure maximum allowable reimbursement. This included analysis of denied claims and billing procedures, getting accurate insurance information before the visit, and connecting patients to insurance by assisting those eligible but not enrolled in Medicaid, CHIP or the health insurance marketplace. In addition, grantees reported establishing a sliding scale fee schedules for patients to obtain dental services at an affordable rate based on income. Many respondents also embraced innovative workforce models by allowing trained hygienists and assistants to expand their traditional job functions. Grantees applied for FQHC and FQHC Look-Alike status, leveraged in-kind donations, and applied for additional grants mainly to expand or fund equipment purchases. Other factors that contributed to sustaining the program include supportive relationships with the communities, schools, and SBHCs (e.g. regular meetings, presence on coalitions and boards, school staff orientations), and continued education of oral health providers on billing, electronic health records, and operations.

6.0 Conclusions

This project demonstrates that children’s access to comprehensive oral health care can be expanded and sustained through School-Based Health Centers. The grantees succeeded in providing comprehensive oral health services to underserved populations by integrating with SBHCs and acting on strategies that allowed them to provide sustainable services. The programs were effective in increasing underserved students’ access to oral health services, providing preventive services, completing treatment plans, and reducing the need for treatment services. The results of a combined increase in preventive services and reduction in restorative services among the children served by the grantees suggests a decreasing severity of dental disease.^{7,8}

Many programs faced challenges in integrating within SBHCs and schools but overcame them through strong partnerships, relationships with staff, and improved communication. By the end of the grant, comprehensive oral health services became an institutionalized part of SBHC operations. Sustaining comprehensive oral health services beyond the grant period is an ongoing process, but thus far has been achieved.

Public policies that encourage more federal and state investment can help establish comprehensive dental programs within existing school-based clinics. Specifically, an increase in funding would help to support the planning process, start-up, and capital improvement costs of these programs. At the state level, policies geared toward simplifying the credentialing process for dental professionals and expanding working force development strategies (i.e. for dental hygienists to expand roles) would help to increase program efficacy. Moreover, assuring adequate Medicaid/CHIP+ reimbursement within states would support the financial viability and overall sustainability of these programs.

State Title V Block Grant and other federal initiatives like Federally Qualified Health Centers implementing similar programs can learn from the strategic approaches used to overcome challenges in the school-based environment documented in this research. Interviews with grantees revealed that technical support from the funding agency and information-sharing across programs improved their success. In addition, findings from this evaluation can help inform other SBHCs as they implement oral health services into delivery models. All programs are continuing to provide needed services.

⁷ Sen, B., Blackburn, J., Morissey, M.A., Kilgore, M.L., Becker, D.J., Caldwell, C., & Nemachemi, N. (2013). Effectiveness of Preventive Dental Visits in Reducing Nonpreventive Dental Visits and Expenditures. *Pediatrics* 131(6): 1107-13.

⁸ Cappelli, D. P., & Mobley, C. C. (2008). *Prevention in clinical oral health care*. St. Louis: Mosby.