



TDH

Texas Department of Health

**Final Report and Recommendation to the Legislature
Texas Oral Health Border Pilot Program
House Bill 2614
77th Legislature, 2001**

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Commissioner of Health**



Texas Department of Health

Texas Oral Health Border Pilot Program - Fall 2002 Report

Executive Summary

During the 77th Regular session, the Texas Legislature passed House Bill 2614, which directed the Texas Department of Health (TDH) to develop and implement a pilot program with the objective of improving the dental health of resident indigent children and youth under 21 years of age in border region counties. House Bill 2614 defined the indigent population as families with incomes at or below 185% of the federal poverty level. In addition HB2614 required submission of a report to the Legislature including pilot cost effectiveness, impact on the dental health of recipients and recommendations for program continuation.

In partnership with the Texas A&M School of Rural Public Health Promotora Program and the TDH Office of Border Health, the TDH Division of Oral Health (DOH) activated a TDH Mobile Dental Unit (MDU) in Public Health Region 11 (PHR 11). The Texas Oral Health Border Pilot Program (TOHBPP) provided dental care services to 1,763 children in eight elementary school campuses in Cameron, Hidalgo, Starr, and Willacy counties, with emphasis on colonias (see Appendix 1). The pilot program operated at eight sites from December 2001 through July 2002, a period of 7.5 months.

Based on an intake survey administered to parents of targeted children, 99% were Hispanic, primarily in the 7-11 age group. Between 15-22% of the children seen by the program had never been to a dentist or received dental services. Among those who had not taken their child to a dentist (15-22%), reasons for not doing so included high cost (45%), a perception that children did not need to see a dentist (24%), and lack of access (16% due to transportation and related issues). Forty-four percent of the parents stated that their children had current dental problems.

In response to the requirement to determine cost effectiveness, the cost of the pilot was compared to regional costs of providing similar Medicaid services. The pilot program focused on providing preventive services as intended. During the pilot program approximately 7,800 dental procedures were conducted: 49% of the children served by the MDU received preventive services, 29% diagnostic services, and 23% therapeutic services. In contrast, dental services to children covered by Medicaid in PHR 11 had a different distribution: preventive services (39%), diagnostic (27%) and therapeutic services (34%).

The cost associated with TOHBPP was compared to PHR 11 Medicaid dental costs for same services in two scenarios. Scenario 1 compared TOHBPP dental services costs derived by applying standard Medicaid rates to those costs incurred by PHR 11. Scenario 2, compared TOHBPP estimated administrative, dental services and claims

processing cost to PHR 11 Medicaid costs. Estimates of running a program like TOHBPP range from \$31 per child to \$44 per child. These figures compare favorably with the \$50 per child estimate spent on dental services reimbursed by Medicaid in PHR 11 for similar dental procedures used in the TOHBPP.

Regardless of which comparison was used, the general revenue costs per client for TOHBPP were less. The cost comparisons are only valid if client characteristics and array of services offered under TOHBPP are consistent, and no major capital expenses (e.g. equipment) are required. It should be noted that the cost comparison does not include the cost of the Mobile Dental Units. It is also assumed that staff resources exist and no additional administrative oversight is required (e.g., claims processing, authorizations, utilization review, quality assurance and monitoring).

The TDH DOH recommends that the TOHBPP program model be funded appropriately to continue public health preventive and interceptive practices. Currently, the department does not have the resources necessary to replicate this project without significant additional funding and resources. In addition, it must be recognized that any expansion in scope or number of clients would result in higher costs to the state to support the necessary infrastructure. The model should be viewed as an agent for improving indigent children's access to dental care in areas of the state where access and utilization issues/barriers are identified.

Introduction

During the 77th Regular Session, the Texas Legislature passed House Bill 2614, which directed the Texas Department of Health (TDH) to develop and implement a pilot program with the objective to improve the oral health of resident indigent children in selected border counties. Specifically, the charge directed TDH to:

Submit, not later than December 1, 2002, a report to the legislature regarding the pilot program that includes:

- (1) an analysis of:
 - A. the program's cost-effectiveness; and
 - B. the program's effect on the quality of dental care received by program participants; and
- (2) recommendations regarding elimination, continuation, or expansion of the program.

When untreated, oral diseases in children frequently lead to significant pain and serious general health problems, often leading to overuse of emergency rooms and related medical expenses, as well as lost school time. Recent research is examining how health status can impact a student's ability to perform academically ¹. It has been estimated that, nationally, 51 million school hours per year are lost because of dental-related illness alone" ².

By redirecting existing resources, the TDH Division of Oral Health (DOH) activated a TDH mobile dental unit (MDU) based in Public Health Region 11, Harlingen, to provide dental care services to school children at eight elementary school campuses (non-random selection). The Texas Oral Health Border Pilot Program (TOHBPP) focused on colonias in the lower Rio Grande Valley (Cameron, Hidalgo, Starr, and Willacy counties). A partnership to facilitate outreach activities was formed with the Texas A&M School of Rural Public Health Promotora Program (which provided a second MDU), and the TDH Office of Border Health, which provided maps of the colonias.

The program operated from December 2001 through July 2002, a period of 7.5 months. This report on the TOHBPP includes:

- Demographic information on the targeted population;
- Summary of services delivered;
- Cost effectiveness analysis;

¹ <http://www.healthinschools.org/education.asp>

² Satcher. D. Oral Health in America: A report of the Surgeon General. Washington, DC: Dept. of Health and Human Services, U.S. Public Health Service; 2000:37-38.

- Recommendations by TDH.

Methodology

Survey

An intake survey was distributed to all parents prior to the children's dental examination. Survey questions ascertained information regarding the child's history of dental care and current dental problems.

Secondary Data

Sources included:

- TDH Public Health Dental Reporting forms N-19³;
- Medicaid claims data for PHR 11, unduplicated number of clients;
- Pilot program costs, administrative and service provision, provided by TDH PHR 11 and TDH Central Office.

Analysis and Interpretation

TDH conducted the analysis and interpretation. TOHBPP operated in eight sites in four border counties. Generalizations based on these pilot program findings should be made with caution due to the limited time frame of the pilot (7.5 months) and the method of site selection i.e., non-random selection limits the ability to generalize results.

Descriptive statistics based on the intake survey will be used to describe the population served and services offered. Secondary data sources such as Medicaid paid claims were used to conduct cost effectiveness analyses.

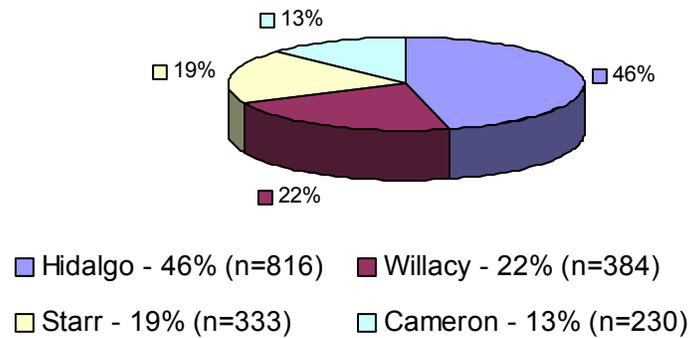
Results

Demographics

During the 7.5 months of operation, the TOHBPP served a total of 1,763 children. Ninety-nine percent of the participants were Hispanic, 54% female, and 93% were children 7 through 11 years of age. The pilot program served residents of Cameron, Hidalgo, Willacy and Starr counties (see Figure 1).

³ Tracks dental care services performed by state paid employees in mobile, fixed, and sealant clinics.

Figure 1: TOHBPP clients served by county



Dental History

Parents/guardians were asked whether their children had ever been to a dentist. Eighty-five percent of the respondents stated that their children had been seen by a dentist at least once before. However, when asked if their child had received at least one dental service (e.g. exam, cleaning, cavity fillings), the percentage drops slightly to 78%. Among those who had been to a dentist before, the visit occurred less than a year earlier for just over one-half of the children (54%). Another 25% had visited the dentist over a year earlier, and the remaining 21% had visited the dentist two or more years prior.

When the parents/guardians who reported that their children had never been to a dentist were asked why not, they stated the following reasons:

- 46% stated that it was too expensive;
- 24% did not perceive the need to take their child to a dentist;
- 16% stated issues related to access (e.g. transportation, lack of dentist in area);
- 14% stated “other reasons” (most commonly cited: no insurance/Medicaid, no time, and uncooperative child).

Forty-four percent of parents/guardians felt that their child currently had dental problems. Analyses indicated that having current dental problems was not correlated with prior dental care visits.

Needs Assessment

The intake survey results indicate a need for dental services in the area targeted by the TOHBPP. Between 15% and 22% of these youth examined by TOHBPP had never been to a dentist or received dental services. In terms of dental services, slightly less than one-half

(49%) of the services delivered were preventive (tooth sealants)⁴, and approximately one-quarter (23%) were therapeutic, an indicator of the prevalence of caries.

Comparisons

The majority of the Public Health Region 11 population resides in the counties targeted by TOHBPP. For comparative purposes, Medicaid dental services for children (under 21 years of age) in PHR 11 were utilized. In Public Health Region 11, these services were offered through Medicaid dental providers.

Dental services provided by TOHBPP were reported through data gathered in the TDH Public Health Dental Reporting N-19 forms. A total of 7,799 dental care procedures were delivered by the TOHBPP. These were classified as diagnostic (e.g. oral evaluation, diagnostic x-rays), preventive (e.g. topical application of fluoride, sealants), and therapeutic (e.g. restoration of caries - amalgam/resin, tooth extractions) services.

Table 1 describes the services provided to both TOHBPP and PHR 11 children. The most noteworthy difference is observed in the service array, based on similar procedure codes. PHR 11 provided 11% more therapeutic services and 10% fewer preventive services compared to TOHBPP.

Table 1: Comparison of Dental services: TOHBPP and Medicaid PHR 11

	TOHBPP	Medicaid
Number of Clients	1,763	118,428
Client Services - Procedures	7,799	540,650
Diagnostic Procedures	2,229	145,819
	28%	27%
Preventive Procedures	3,810	210,215
	49%	39%
Therapeutic Procedures	1,760	184,616
	23%	34%
Number of Claims Processed	3,484	356,124

⁴ Fifty-two percent of the children in the TOHBPP received sealant services. Only 30% of the children had existing sealants in a permanent molar tooth.

Cost Effectiveness Analyses

Table 2 outlines the cost associated with TOHBPP and the comparison group. The TOHBPP cost data has been categorized as non-Medicaid and Medicaid utilizing actual and estimated costs:

- Non-Medicaid - utilizes reported TOHBPP administrative cost detail;
- Medicaid - utilizes Medicaid reimbursement rates applied to Public Health Dental N-19 data.

The PHR 11 information represents the amount paid in Medicaid claims only for the same array of dental procedure codes recorded in the TOHBPP.

Cost data for both TOHBPP and PHR 11 is further broken down into total cost and general revenue (GR) based on Federal Medical Assistance Percentage (FMAP). Costs were included in the GR column when the State (TDH) would incur the cost. For example, PHR 11 administrative costs associated with maintaining a business are not a reimbursable Medicaid cost. However, Medicaid dental services are reimbursed by the State.

Scenario Development

The cost associated with TOHBPP was compared to PHR 11 Medicaid dental costs for same services in two scenarios. Scenario 1 compared TOHBPP dental services costs derived by applying standard Medicaid rates to those costs incurred by PHR 11. Scenario 2, compared TOHBPP estimated administrative, dental services and claims processing cost to PHR 11 Medicaid costs. Estimates of running a program like TOHBPP range from \$31 per child to \$44 per child. These figures compare favorably with the \$50 per child estimate spent on dental services reimbursed by Medicaid in PHR 11 for similar dental procedures used in the TOHBPP.

Interpretation of costs associated with the TOHBPP is predicated on the following assumptions:

- Similar array of services, i.e. similar dental procedures codes, etc;
- No major equipment expenditures (additional MDU);
- Use of contract professional where appropriate;
- Quality of services, i.e. assurance of best practices is maintained

Observations

In Scenario 1, the GR cost per client for TOHBPP is estimated at \$44. This is \$6 less when

compared to estimates for cost per client (\$50), with the same array of services, for PHR11. In Scenario 2, the GR cost per client is estimated at \$31. This is considerably less, i.e. by \$19, when compared to estimates for cost per client (\$50) for PHR11.

Table 2: Cost Scenario Comparisons between TOHBPP and PHR 11

	TOHBPP				PHR 11	
	Non-Medicaid		Medicaid ¹		Medicaid	
	General Revenue	Total	General Revenue	Total	General Revenue	Total
Scenario 1						
Dental Care Services ²			\$74,032	\$185,080	\$5,917,853	\$14,794,631
Estimated Administrative Cost [2.74% Factor] ³			\$2,028	\$5,071		\$405,373
Estimated Claim Processing Cost [\$.54 per claim]			\$1,881	\$1,881		\$192,307
Total Cost			\$77,942	\$192,033	\$5,917,853	\$15,392,311
Cost per Client			\$44	\$109	\$50	\$130
Claim per Client			1.98	1.98	3.01	3.01
Procedures per Client			4.42	4.42	4.57	4.57
Scenario 2						
Estimated Administrative Cost [2.74% Factor]		\$5,071				\$405,373
Reported Administrative Cost	\$14,897	\$29,793				
Travel/Vehicle	\$3,687	\$7,373				
Personnel						
Supplies	\$1,365	\$2,729				
Equipment/Maintenance	\$3,716	\$7,431				
Other ⁴	\$6,130	\$12,260				
Estimated Claim Processing Cost (\$.54 per claim)	\$941	\$1,881				
Dental Care Services ²	\$38,596	\$96,491			\$5,917,853	\$14,794,631
Total Cost [Based on Estimated Admin]		\$103,444				\$15,392,311
Cost per Client		\$59				\$130
Average claim per Client		1.98				3.01
Average procedures per Client		4.42				4.57
Total Cost [Based on Reported Admin]	\$54,434	\$128,165			\$5,917,853	\$18,564,997
Cost per Client	\$31	\$73			\$50	\$157
Claim per Client	1.98	1.98			3.01	3.01
Procedures per Client	4.42	4.42			4.57	4.57

¹ Medicaid costs are calculated using dental procedure codes provided by TOHBPP (See Appendix 2).

² Based on information provided by TOHBPP. Dental Care services includes salaries, contractual services and clinical dental supplies: GR share estimated at 40% Medicaid cost. GR share of Travel/Vehicle, Non-Dental Supplies, and Equipment/Maintenance estimated at 50% Medicaid cost.

³ Estimated administrative cost factor is based on TDH HHSAS (Health and Human Services Administrative System) Accounting Detail reports for THSteps (EPSDT) Dental administrative expenditures, 12/01 through 7/02 and THSteps (EPSDT) Dental client service expenditures, 12/01 through 7/02.

⁴ Includes telephone, staff licenses and training, and rent. GR share estimated at 50% Medicaid cost.

Discussion

This report examined the services provided by the TOHBPP. The TOHBPP, which operated from December 2001 to July 2002, provided dental services to 1,763 children in eight elementary school campuses in colonias areas of four South Texas counties. Hispanic children (99%), mostly between the ages of 7 and 11 (93%) utilized the program. Information was obtained on dental histories and current problems. During the 7.5 month pilot program, approximately 7,800 dental procedures were conducted. The majority of children served by the MDU received diagnostic services (29%), followed by preventive services (49%) and therapeutic services (23%). This program identified dental care needs in the population of the targeted areas.

A cost effectiveness analysis was also conducted. The TOHBPP services were compared to Medicaid dental services in PHR 11. When compared to children in the same region who are covered by Medicaid, a different distribution of client services was evident: preventive services (39%), diagnostic (27%), and therapeutic services (34%). Specific costs were calculated under different scenarios. Findings show that regardless of the scenario used, the costs per client for TOHBPP were less than similar costs associated with Medicaid dental services in PHR 11. Moreover, the comparisons and cost structures are only valid provided conditions, such as the client characteristics and array of services offered under TOHBPP remain consistent, and no major equipment expenses are required.

Programs that deliver dental care improve the oral health status of children. The number and types of dental procedures performed by this pilot program, targeting the border areas, prevented dental disease, promoted good health habits and empowered individuals to improve their oral health status. TOHBPP indicated that 15 to 22% of the children who received services had never been to a dentist before. Forty-four percent of the parents surveyed expressed a perceived need for dental care, which was currently unmet. It is apparent that without the presence of the TDH Border Health Pilot Program, access to dental care in this South Texas community was lacking. Furthermore, the cost comparison analysis has shown that providing services to these areas in a dental mobile unit is less costly when compared to Medicaid reimbursement costs. This comparison excludes the cost of the Mobile Dental Units.

Recommendations

Dental disease is largely preventable, but early intervention requires access to care. Routine efforts early on can prevent costly therapeutic intervention at a later date. The TOHBPP program model should be viewed as an agent for improving indigent children's access to dental care in areas of the state where access and utilization issues/barriers are identified. However, there are key budget implications to consider: (1) the cost comparisons in this report are only valid provided conditions, such as the client characteristics and array of services offered under TOHBPP, remain consistent and no major equipment expenses are required; (2) TDH does not have existing resources necessary to replicate this project; and (3) any expansion in scope or number of clients would result in higher costs to the state to support the necessary infrastructure.

For additional information please contact Jerry Felkner, D.D.S., Director, TDH Oral Health Division at (512)458-7323 or at jerry.felkner@tdh.state.tx.us

Appendix 1

Border Pilot Project Sites

Border Pilot Project December 2001 through July 2002

<u>Site</u>	<u>City</u>	<u>County</u>	<u>Medicaid Dollar Value</u>
Gallegos Elementary	Brownsville	Cameron	17,416.08
Lasara Elementary	Lasara	Willacy	10,438.82
Progreso Elementary	Progreso	Hidalgo	36,066.35
Escandon Elementary	La Joya	Hidalgo	36,372.71
Lyford Elementary	Lyford	Willacy	16,618.66
Kennedy Elementary	Edinburg	Hidalgo	34,054.55
La Grulla Elementary	R. G. City	Starr	14,497.10
Alto Bonito Elementary	R. G. City	Starr	19,616.22
Total Medicaid Dollar Value	\$185,080.49		
Value By County			
Cameron County			17,416.08
Hidalgo County			106,493.61
Willacy County			27,057.48
Starr County			34,113.32

Appendix 2

Dental Procedure Codes

<u>DIAGNOSTIC-EVALUATIONS</u>	<u>Code</u>	<u>Procedure</u>	<u>Medicaid Value</u>	<u>Total</u>
Limited Oral Evaluation Problem Focused	140	1147	19.16	21,976.52
Comprehensive Oral Evaluation (Initial)	150	616	18.02	11,100.32
Intraoral - periapical – 1 st film	220	5	6.41	32.05
Bitewing – single film	270	2	5	10
Bitewing – two films	272	468	11.93	5,583.24
Prophylaxis – child	1120	3	18.75	56.25
Topical Application of Fluoride	1201	1	26.68	26.68
Sealant per tooth	1351	3,814	18.44	70,330.16
Pulp cap – indirect	3120	11	15	165
Therapeutic plpotomy	3220	20	43.98	879.6
Amalgam – one surfaces, primary	2110	255	30.99	7,902.45
Amalgam –Two surfaces, primary	2120	277	41.45	11,481.65
Amalgam – three surfaces, primary	2130	15	45	675
Amalgam – four or more surfaces, primary	2131	1	52.69	52.69
Amalgam – one surface permanent	2140	316	32.68	10,383.76
Amalgam – twi syrfacesm permanent	2150	34	43.73	1,486.82
Resin – one surface, anterior	2330	30	39.67	1,190.10
Resin – two surface, anterior	2331	19	52.57	998.83
Resin – three surfaces, anterior	2332	10	68.64	686.40
Resin – four or more surfaces, anterior	2335	7	85.19	596.33
Resin – one surface Posterior Permanent	2380	103	38.49	3,964.47
Resin – two surfaces Posterior Permanent	2381	88	49.49	4,355.12
Resin – three or more surfaces Posterior Primary	2382	6	58.07	348.42
Resin – one surface Posterior Permanent	2385	163	42.04	6,852.52
Resin – two surfaces Posterior Permanent	2386	57	55.10	3,140.70
Resin – three or more surfaces Posterior Permanent	2387	5	67.45	337.25
Stainless Steel Crown – Primary	2930	185	78.03	14,435.55
Stainless Steel Crown – Permanent	2931	7	81.25	568.75
Extraction – single tooth	7110	129	36.89	4,758.81
Extraction – each additional	7120	23	29.35	675.05
Root removal	7130	1	30	30
Diagnostic-Evaluations			\$ 33,076.84	
Diagnostic-X-rays			\$ 5,625.29	
Preventive			\$ 70,413.09	
Endodontics			\$ 1,044.60	
Restorative			\$ 69,456.81	
Oral Surgery			\$ 5,463.86	
				TOTAL \$185,080.49