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Program evaluation of mobile dental services for children with special health care needs

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ABSTRACT

This paper summarizes an evaluation of the Elk Mobile Dental Program for children with special health care needs. Evalutation results indicated overall client satisfaction with mobile dental unt services in the absence of competent community based dental care. Evaluator recommendations included expanding the mobile dental services along with a continued effort to establish permanent community based dental care for children with special healthcare needs. Recommendations for program improvement in the areas of patient care, service coordination, and ongoing continuous quality improvement evaluation were provided to program personnel and funding organizations. Many of the improvement recommendations were initiated during the process of the program evaluation.

KEYWORDS: oral health, special needs children, access to care, community based, program evaluation.

INTRODUCTION

Although oral health in the United States has improved greatly,[1] population groups within the nation benefit differently. Children, particularly children identified as having special health care needs (CSHCN), suffer a disproportionate burden of oral health morbidity.[2] The CSHCN population, which includes children with a variety of disabilities, often require extensive medical care; as a result, dental care needs may be ignored and essential treatment delayed.[2,3] Increased morbidity may result from general oral health neglect as well as a high prevalence of conditions common in this population.[4] Unfortunately, many dentists in private practice may feel ill prepared to manage treatment of CSHCN and, further often are unwilling to accept Medicaid, the primary reimbursement source for the majority of this population.[2] Transportation difficulties, architectural and physical barriers, lack of motivation, fear, and financial concerns combined with professional issues create significant barriers to dental care access for CSHCN.[5,6]

To address the dental health service needs of CSHCN, the Missouri Elks Benevolent Trust (EBT) initiated the Mobile Dental Program in 1962. The program is a public/private partnership of EBT, the Missouri Department of Health and Senior Services— Bureau of Special Health Care Needs (MDHSS-BSHCN), and the Truman Medical Center-Lakewood in Kansas City, Missouri. These mobile dental clinics provide free dental services to medically and financially eligible CSHCN. Clients are referred from two sources: 1) active CSHCN clients of MDHSS-BSHCN with growth and development altering conditions; and 2) mentally retarded and developmentally disabled (MRRD) clients of Regional Centers for the Developmentally Disabled.[7]

Service is provided in three large vans equipped for basic dental care. Vans traverse Missouri year-round stopping at pre-set locations. Forty-one locations across the state assure coverage for all Missouri counties. Clients are notified of local visits by mail two weeks before van is due to arrive. Table 1 below displays the service history from 1996 through 2000 (J. Dane, personal communication, July 2000).

Although the program has been active for over 30 years, no systematic evaluation data was available. The purpose of the study was to perform a comprehensive program evaluation of the Missouri Elks Mobile Dental Program to determine client experiences and satisfaction with services and program infrastructure that might require change.

METHODS

Data collection methods and results were triangulated from the quantitative survey, qualitative focus groups and individual interviews. The sample represented the perspectives of both potential and actual users of dental

services, mobile dental unit program staff, representatives of funding agencies, sheltered workshop personnel, and BSHCN's care coordinators.

Client Survey

A 19 item forced-choice survey was constructed to assess if the child was receiving dental care, where the dental care was obtained, what procedures the child had when he/she visited the dentist, if the child had ever received care at the Elk's Mobile Dental Unit, and how satisfied the parents/caregivers were with the care the child had received. Open-ended questions solicited additional parent/caregiver feedback. Surveys were sent to all current BSHCN and MRDD clients. Names of these clients were obtained from either the BSHCN or from a list that the Truman Medical Center had of MRDD clients. Additionally, a 10% random sample of clients was selected from a list of BSHCN clients over the past 5-years. Data files of the three different lists were compared and duplicate names were removed. A breakdown of the number of surveys mailed to each group can be seen in Table 2. The sample pool totaled 6055 parents and caretakers who received mailed surveys in June 2000. Of the 6055 surveys sent, 645 (10.7%) were returned.

Table 1: Missouri Elks Mobile Dental Unit service history.

Year	Client Served	Client Visits	Procedures Performed	Estimated value of all procedures	Estimated value per patient
1966	2440	2610	19, 149	$452,232.44	$158.88
1997	2300	2132	21, 550	$357,408.92	$167.64
1998*	1548	1457	12, 015	$218,580.72	$147.96
1999	2475	3353	21, 432	$437,980.53	$130.62
2000**	2311	3220	19, 260	$415,521.80	$129.04

* Mobile unit was understaffed by two dentists for part of the year
** Under optimal working conditions the program should have been able to provide a maxium of 4320 visits in 2000

Table 2: Client Survey Sample Pool.

Client List	Number of Surveys Sent	Number of Surveys Mailed Back	Percent of Return
Current BSHCN client list from Elks Mobile Dental Unit	1797	266	11%
Current list of MRDD clients from Truman Medical Center	1826	242	13.3%
10% Random Sample from BSHCN clients from previous 5 years	2432	137	5.6%

Focus Groups

Focus groups were conducted in six geographic sites across the state. Potential participants were selected from the client list supplied by the mobile dental units, based on availability of an accurate address and telephone number. Client families were mailed an invitation to participate in one of the regional group meetings approximately two weeks before the meeting. Follow-up telephone calls were made one week before the meeting to confirm attendance and provide directions to those willing to participate. A final reminder telephone call was made the day before the group meeting. Because of poor attendance, additional strategies to recruit participants were used, including advertisement at local centers, county health departments, pediatric offices, and local Bureau of Special Health Care Needs offices. A total of 23 parents of children with special health care needs participated in focus groups.

To supplement the focus group information, 19 audio-recorded telephone interviews were completed using a structured interview guide with parents across the state. Participants were recruited in the same manner as the focus groups and were selected to participate based on their willingness to respond to interview questions. In addition, five caretakers from group homes serviced by the mobile dental van were interviewed.

Individual Interviews

To gain the staff perspective and programmatic particulars, dentists and dental assistants from the three mobile units (n = 6) were interviewed in person and by telephone. Program administrators (n = 2) from Truman Medical Center served as key informants for overall program operations and issues. Interviews with service coordinators from the Department of Health (n = 7) and Elks club members (n = 2) provided a more global impact assessment of program effects on client health and well being and community interest and involvement.

RESULTS

Client Survey

Survey results indicated that 9% of children with special health care needs never visited a dentist, due to issues related to cost (33%), transportation (6%), or inability to find a dentist (29%). Of the group surveyed, one-third (38.4%) used the Elks mobile unit for their last dental care and nearly one half (44.3%) had received their latest care from a private dentist. Fifty-nine percent of all the respondents, though, had used Elks mobile dental services at least once in the past. Of those who had never visited the mobile unit (40.7%), more than one-third (36.8%) had never heard of the service, 15.6% reported that the unit served their area at an inconvenient time, and 20.8% reported that van set-up location was inconvenient for them.

Eighty-three percent of clients using mobile unit services reported satisfaction with care. Eighty-five percent reported satisfaction with the advice received. Nearly one-half (49.4%) reported a willingness to use Elks mobile dental services for future dental care in combination with a special dentist (34.6%) and/or a private dentist (37.1%). Written comments from parents and caregivers expressed a strong preference for dentists who were trained in caring for children with special

Table 3: Salary comparison of mobile dental unit staff in U.S. Dollars.

	Missouri	North Carolina	Kentucky	Texas	Washington
Dentist	62,531	85,000	60,000 avg.	60,000	70/hr*
Hygienist	Not Applicable	Not Applicable	36,500 avg.	32,000	35/hr*
Assistant	24,668**	27,000	24,960**	20,000	14.50/h*
Manager	39,104	50,000	Not Applicable	60,000	47,950

* part time staff only
** hourly wages were transposed to average yearly wage based on 2080 for full time employment

health care needs.

Written comments from the open-ended questions on the survey suggested that limited space on the van and periodic annual van visits were problematic. Clients reported that they were not always certain of date, time, and location of van set-up in their area. Parents and caretakers identified the unmet need for procedures not provided on the unit, such as major restorative work. However, overall user satisfaction was high, focused on excellent client service and gratitude for care provided. Parents and caregivers expressed a strong preference for dentists who were trained in caring for children with special health care needs.

Focus Groups and Interviews

A thematic framework based on access to care was used to categorize comments made during client focus groups and interviews. Areas addressed were availability and accessibility of services, and client willingness to use services. Issues raised during client focus groups and interviews validated survey data and administrative problems identified by program staff.

As with survey data, lack of awareness of van setup and scheduling in communities was problematic. Logistical factors interfering with service delivery, most commonly, scheduling initial appointments, follow-up appointments, van setup locations, and van space limitations, were identified by clients. Conversely, clients failing to keep appointments led to inefficiencies in planning and delivering services. Staff identified administrative issues, such as mailing list inaccuracies and duplications, and lack of service coordination among the participating agencies. While clients rated overall services to be satisfactory, they identified areas needing service enhancement or change. Most critical were the need to have a source for urgent dental care and resources for complex restorative work.Focus group and interview data demonstrated dental health care access problems and care coordination issues at the local and state levels. Access to care for Medicaid clients and Medicaid reimbursement to providers were consistently identified as significant administrative care issues. Clients reported that local providers refused Medicaid-paying patients, except on an occasional emergency basis. Confusion by both clients and Department of Health care coordinators regarding Medicaid eligibility requirements also limited access to services. The enrollment process identified potential clients from the lists at the MDHSS-BSHCN needs program and children who participate in sheltered workshops and group homes for the developmentally disabled. However, case-finding using these two lists was insufficient and overlooked children who were eligible for dental services. As a result of this evaluation, a need was identified to develop a working relationship with the Missouri Department of Mental Health and the Missouri Department of Social Services to determine additional eligible Elks program participants.

Clients repeatedly stressed that for many of them the Elks mobile dental service was the only dental care resource available to care for their children. Clients identified that van providers had a special understanding of care delivery issues unique to this population, such as privacy and education needs, that they viewed to be essential to effective service delivery. These findings provided the most convincing data that the mobile dental service was needed, giving impetus to program improvements and increased funding.

Interviews with the mobile unit dental staff highlighted their commitment and satisfaction as care providers for these handicapped children. However, the interviews also revealed perceived inequities in staff compensation packages resulting in difficulty in recruiting and retaining dentists for the mobile dental unit. A financial evaluation of similar programs in other states demonstrated below median salaries for mobile unit dentists when compared with median salaries for dentists in traditional practice. Findings were similar for program manager salaries. In contrast, salaries for mobile unit dental assistants were above the U.S. median, which may be explained by long-term length of employment among this van staff (Table 3). Compensation packages for dentists were available in all state programs reviewed. Benefits included health, dental, life, and malpractice insurances, and paid time off. Loan repayment and tuition reimbursement were issues that could be addressed mobile dental unit dentists reported during interviews. Lack of these benefits was a deterrent to recruitment and retention of dentists, as reported by administrative staff.

DISCUSSION

This evaluation of a mobile dental service for CSCHN provides valuable information of how to improve program service delivery, to increase client satisfaction, and shows a need to expand services. This study also illustrates a model for program evaluation and on-going continuous quality improvement. In a time of limited state funding, a program evaluation may be an important tool for decision making about the existence and operation of programs.

An overall judgment of this program's effectiveness was made based on program quality, worth, and impact. Program quality was identified by consistent client reports of satisfaction with dental services provided on the mobile dental units. Furthermore, these services were not only viewed by the parents and/or caregivers as technically competent, but services also were provided by a staff trained to work with special health care needs populations. Program impact was highlighted throughout the evaluation with participating clients reporting both their gratitude and frustration that the mobile dental program was the only dental care available to this population.

There was also a significant potential client pool who did not realize mobile dental services were available (36.8%) and other eligible clients who had never visited an Elks unit (40.7%). While client visits and procedures performed demonstrated widespread distribution of services across the state, a number of potentially eligible children were not accessing the van services.

Research over the last 25 years has consistently indicated substantial levels of unmet needs in parents of children with disabilities.[8] Findings from this study, however, indicate that parents/caregivers have experienced inconsistent care coordination services. Children with disabilities and their families have complex needs that require interventions from many different services, including health, education, and social services. They experience numerous contacts with different agencies, and one of the biggest problems lies in the lack of service coordination between the different agencies and the resulting confusion and increased demands experienced by parents as a result.[8]

Other important results found in this study had to do with funding issues. Problems associated with the Medicaid payment system, leading to patient exclusion from available dental providers and services, were identified as a systems issue. Data from Health Care Financing Administration (HCFA) show that few children who are covered by Medicaid receive the preventive dental care recommended under the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program.[9] The EPSDT program is a part of Medicaid and requires that states pay for a comprehensive set of child health services, including dental services and ensure delivery of those services.[2] Yet the U. S. Department of Health and Human Services Office of the Inspector General reported in 1996 that only 18% of Medicaid-eligible-children received even a single preventive dental service.[2] In Missouri, 27% of the children enrolled in Medicaid in 1995 were able visit a dentist during that year.[10] Though this number is better than the national average, it is still discouragingly low.

Even though oral health has been an adjunct to all federal child health programs and many state programs, the oral health of low-income children is not improving and Medicaid dental programs across the country are failing to meet the need and demand for dental care.[2] State Medicaid programs face a myriad of difficulties in meeting the demand for dental care. Difficulties range from low levels of provider participation to difficulties in teaching beneficiaries how to negotiate the dental care system.[2] Approximately 80% of states attribute low utilization rates to the shortage of dentists willing to accept Medicaid patients.

Other funding issues relate to recruitment and retention of dental providers to the mobile dental vans. Cost comparison data from similar programs across other states revealed dental personnel salaries to be inadequate and the need for financial support to offset accrued educational expenses as being the major deterrents for dentist recruitment and retention.

Implications for Practice

As a result of active participation in this evaluation process, program stakeholders remain engaged in continuous quality improvement for program monitoring. Specific programmatic recommendations implemented by the Bureaus of Dental Health and Special Health Care Needs at the Missouri Department of Health and Senior Services as a result of the program evaluation include the following:

- Improvements in program marketing with media and print exposure;
- Institution of an internal orientation program for case managers;
- Expansion of outreach services through upgraded case management services;
- Coordination between the Missouri Department of Mental Health and Bureau of Special Health Care Needs to assure all eligible Mental Health clients receive program information;
- Exploration of an educational offering for local dentists who provide services for children with special health care needs;
- Consideration of feasibility to contract for urgent and follow-up services for children with special health care needs with local dentists in the community;
- Development of ongoing continuous quality improvement (CQI) plan for the mobile dental services.

Program issues identified in this evaluation served as triggers for planning. Because program stakeholders were involved in the evaluation process and analysis of findings, program changes to correct service delivery problems were made as they surfaced. These changes are improving program operations. In addition, the practical necessity to demonstrate program value for continued program funding by the legislature was supported by the evaluation findings, not simply by identifying program successes but also by revealing the needs for programmatic change and enhancements.

The strengths and limitations of all research studies reflect the design of the study. Limitations of this study include the poor survey response rate from parents and/or caregivers of CSHCN thus resulting in a potential lack of representative data. Focus group data from a critical case sampling,[11] however, supported the findings from the survey data that included both users and non-users of the mobile van unit. In that the focus groups were comprised of parents and/or caregivers that had used the mobile van, response bias is an obvious possibility. Parents/ caregivers of CSHCN who had not used the van service were not interviewed. Although data from surveys, focus group, and key informant interviews included both positive and negative feedback about the service, the voices of those who had not used the services were not personally heard. It is not the intent of this study to generalize the findings; as with any evaluation study, this project sought to generate knowledge for future program decision-making.

CONCLUSION

In summary, oral health is an important component of overall health for children. It contributes to wellness of the child, eliminates pain and discomfort, and enhances the quality of life. Furthermore, good oral health maximizes the chances of adequate nutrition, speech, and appearance. The emphasis on oral care for children with disabilities should be the same as it is for children without disabilities and must include prevention through home dental care and regular office checkups. Future challenges demand collaboration in efforts to ensure that effective, accessible, and high quality population-based and personal oral health services are available throughout the

nation. A specialized mobile dental van service for CSHCN appears to be a good way to meet the oral health needs of this vulnerable population.

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