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

INTRODUCTION

Although oral health in the United States has improved greatly, 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. 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. Increased morbidity may result from general oral health neglect as well as a high prevalence of conditions common in this population. 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. 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.

To address the dental health service needs of CSHCN, the Missouri Elks Benevolent Trust (EBT) initiated the Mobile Dental Program in 1992. 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.

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 BSCHN’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 BSCHN and MRDD clients. Names of these clients were obtained from either the BSCHN 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 BSCHN 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.

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 Elk’s 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 Elk’s 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 Elk’s mobile dental services at least once in the past. Of those who had never visited the mobile unit (40.7%), more than one-third (35.8%) 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 Elk’s mobile dental services for future dental care in combination with a specialist 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 needs.
Table 3: Salary comparison of mobile dental unit staff in U.S. Dollars.

<table>
<thead>
<tr>
<th></th>
<th>Missouri</th>
<th>North Carolina</th>
<th>Kentucky</th>
<th>Texas</th>
<th>Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentist</td>
<td>62,531</td>
<td>85,000</td>
<td>60,000 avg.</td>
<td>60,000</td>
<td>70/hr*</td>
</tr>
<tr>
<td>Hygienist</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>36,500 avg.</td>
<td>32,000</td>
<td>35/hr*</td>
</tr>
<tr>
<td>Assistant</td>
<td>24,668**</td>
<td>27,000</td>
<td>24,960**</td>
<td>20,000</td>
<td>14.30/hr*</td>
</tr>
<tr>
<td>Manager</td>
<td>39,104</td>
<td>50,000</td>
<td>Not Applicable</td>
<td>60,000</td>
<td>47,950</td>
</tr>
</tbody>
</table>

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

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 in-patients, except on an occasional emergency basis. Misunderstanding 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 on 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 ongoing 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.
Mobile Dental Services Evaluation

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, 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.

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.

ACKNOWLEDGMENT
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REFERENCES