

Blind Children and Oral Health

Valerie L. Carter and Eileen Wagner

Children in residential school settings rarely have the opportunity for formal dental care at the school site. Multi-disabled children, especially the blind, have a great need for oral health care.

Maryland School for the Blind (MSB), is a level VI (residential) school. There are approximately 185 children, ranging in age from infancy to 21.

Their oral health care needs are compounded by their disorders, medications and lack of oral hygiene at home. Gingival hyperplasia, periodontal disease, and caries are prevalent. Eighty percent of the children are residential and rely on dorm personnel, teachers and aides for oral hygiene care.

MSB established a dental clinic on the premises to accomplish the following objective: improve oral health status during the school year.

Written permission is received from parents/legal guardians of the students. Annual screenings are performed by a community provider and needed treatment rendered.

The children require frequent maintenance visits and weekly oral hygiene intervention by the dental hygienist. Throughout the school year, prophylaxis, restorative and evaluation of the oral tissue are performed.

Improvement of plaque index, bleeding index and gingival tissue has been documented at each visit. Deterioration of oral health status is seen after the children return from extended stays at home (holiday and summer).

Dental care is not a priority to families of the multi-disabled child. Improvement in oral health status can be achieved through on-site oral health care. More awareness of the dental care needs of these children is necessary.

**A COMPREHENSIVE PROGRAM FOR THE DIAGNOSIS AND TREATMENT
OF SPECIAL PATIENTS.**

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A major health need in the United States is basic dental care for children and adolescents with significant chronic illness, physically and mentally disabling conditions and genetic disorders. Historically, this population has experienced difficulty in securing access to dental treatment despite the fact that they are at higher risk to develop oral-dental disease. This problem is compounded in low income and minority population.

We have developed at the Medical University of South Carolina, College of Dental Medicine a comprehensive program to address the above problems and includes the following: 1) Implementing a multidisciplinary referral source. 2) Developing a statewide dentist network. 3) Empowering the parents/guardian to become more effective as managers of the patient's oral-dental needs. 4) Developing and implementing educational programs for dental students, residents and practicing dentists and 5) documenting a baseline information about the prevalence of oral-dental disease in this special population.

The program responds to the emerging oral-dental needs of special patients in the community and complies with the role of an academic institution regarding education, service and research. It provides also a program in which technological transfers can be applied faster and directly to the improvement of less fortunate members of our society. This program has been supported in part by a grant from the Healthy South Carolina Initiative.

California Connections Project: Improving Access to Dental Care for Children with Special Health Care Needs under Medi-Cal Managed Care.

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The objective of the project was to increase access to underutilized preventive services (oral health, nutrition, mental health and family support) for children with special health care needs. The project was undertaken by the University of Southern California's University Affiliated Program and funded by the federal Maternal and Child Health Bureau, Health Resources and Services Administration (GRANT # MCJ06R005). A needs assessment comprised of surveys, focus groups, and telephone interviews with dentists, physicians, and parents was conducted in 3 California counties. Of 254 children enrolled in managed care, 31 % were receiving dental services. Whereas, 19% of 198 children covered under fee-for-service Medi-Cal received care ($p = .005$). While the majority of parents reported their child's dentists needed more training in caring for children with special needs, only 30% of dentists reported having received such training. Needs assessment findings were used in the development of the Planning Guide for Dental Professionals Serving Children with Special Health Care Needs. The guide is written from the family's perspective, focuses on their concerns and will assist dental professionals when planning dental care. While written for dental professionals in California, the information contained in the guide may be adapted for use in other states. The project's needs assessment findings, planning guide, and recommendations for improving access to oral health services for children with special needs will be presented.

Adequacy of Corrective and Preventive Dental Care for Children With Developmental Disabilities in a Diverse Urban Setting.

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Recent changes in delivery systems of health care services for children and youth with special health care needs drew attention to the question of adequacy of health services for this vulnerable group. In response to the concern, and at the request of the Lanterman Regional Center for the Developmentally Disabled in Los Angeles, the University of Southern California, University Affiliated Program conducted a survey of the oral health care needs of children with developmental disabilities (DD) as part of an interdisciplinary evaluation. The purpose of the dental survey was to assess the need for corrective and preventive dental treatment and to determine the urgency of dental care for children with DD. A representative sample of 106 Lanterman Regional Center clients of diverse cultural and socioeconomic status, 4 to 17 years old, was examined. The dental evaluation consisted of an interview with the parent/guardian and a visual-tactile examination of the oral cavity with a dental mirror and explorer utilizing a portable dental chair and dental light. Results indicated that only 47% of the children had visited a dentist within the last six months, and 18% had never been to a dentist. Intra oral exam revealed that 23% of the children needed non-urgent corrective dental care and 7% needed urgent care. Untreated dental decay was found in 26% and 12% needed periodontal treatment. Markers for preventive dental care indicated that only 12% of the children received application of dental sealants and 37% had inadequate oral hygiene. It was also observed that 51% were uncooperative during the dental examination. In conclusion, the results clearly indicate a substantial unmet need for corrective services in approximately one third of the children, under utilization of preventive measures in over one third, and lack of routine dental care in more than half of the children in this survey.

Oral Health Care for Children with Special Health Care Needs: Findings from the Family Partners Project

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There is widespread concern about the health care provided to children with special health care needs. In response to these concerns, the "Family Partners" Project was initiated in 1997 to survey families of children with special health care needs regarding their experiences in obtaining a variety of health and therapeutic services, including oral health care. Overall, 2,220 families responded to the survey, providing a comprehensive picture of the health care needs of children with special needs. This paper summarizes our findings regarding their receipt of oral health care.

In the 12 months prior to the survey, the majority of respondents (72%) stated that their children received oral health care. Of those who received care, 92% were satisfied with it. The remaining 28% of children did not receive oral health care during that period: 19 percent of the families did not perceive the children as needing care, and 9% of children needed care but did not receive it (indicating an unmet need).

Unmet need was examined through bivariate analyses. Poorer children, children who received Medicaid, and children who experienced problems accessing other types of care were more likely to have unmet oral health needs. Children with autism, and children with a three-way combination of physical, developmental and mental health conditions were also more likely to have unmet needs. Much more needs to be learned about the difficulties families experience accessing oral health care for their children, and how oral health fits into the health and well-being of children with special needs.

Advancing One Vision by Connecting Multiple Words: Building a Community Resource to Improve Oral Health Care for Children with Special Needs

L. Haney

For children with disabilities, the magnitude and severity of oral health problems frequently are worse than the general population. They tend to have more untreated dental disease, a higher incidence of gum disease and more problems accessing dental care. Barriers to improved care are complex, and include limited providers, a maze of eligibility criteria for different public and private care systems, a multitude of insurance exclusions, lack of a central referral point, legal and financial issues, transportation, language and cultural issues, and lack of perceived need and training in oral hygiene for those with disabilities. The prevalent disconnect between oral and systemic health, medical and dental providers, dental and special needs organizations, public and private funding coverage, all increase the complexity of the problem. Clearly, a strong vision, dedicated leadership, unified community effort, considerable resources and communication skills are required to successfully resolve these substantial issues. The Anderson Center for Dental Care was established at Children's Hospital and Health Center - San Diego, in 1996 to improve the oral health of children in the region -- particularly those with disabilities -- through improved access to care, professional and community education, advocacy and treatment. The Center has become a unique community resource that systematically collaborates with health providers, dental and medical organizations, agencies and advocates serving children with special needs, schools and pre-schools, parents, caregivers, government agencies, community leaders, the business community and media, to improve oral health by: 1) Identifying and analyzing critical pediatric oral health issues and effective strategies to resolve them; 2) Convening and stimulating organizations and individuals to act to improve outcomes; 3) Funding and/or launching selected, strategically focused interventions; 4) Advocating and leveraging assets for increased private and public sector resources to take successful interventions to scale and systematically implement effective strategies; and 5) Linking providers with those in need of services, and funding treatment for children without resources.

Oral Health Management of HIV Infected Children and Adolescents: A Training Tool for Providers

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With funding support from the HIV/AIDS Bureaus of the Health Resources and Services Administration, DHHS, The New York State Department of Health/AIDS Institute has developed a training module for dental providers on The Oral Management of Adolescents and Children with HIV Infection. The AIDS Institute identified a panel of experts on this topic who have reviewed the literature and prepared a training curriculum with appropriate educational tools. Principal sections of the teaching module include: Management of Oral Lesions; Modifications of Dental Therapy; Preventive Care; and The Medical/Psychosocial/Oral Health Services Network to Support the Patient and Family. An overview of the module with training strategies targeting Ryan White and other federally-supported care providers will be presented. Additionally, several innovative HIV oral health programs will highlight their successes in integrating oral health care within a primary healthcare network model.

Addressing the Special Needs of Deaf Children: An Innovative Approach

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Health care providers must have unique communication skills to deal with the special needs of deaf children. Programs designed to improve knowledge, attitude and behavior should be innovative to meet the special needs of this population. To address the needs of deaf children in New York City, the New York State Department of Health provided funds to the Bellevue Hospital Center's Pediatric Dental Center for expanding the dental services to hearing impaired patients and their families. The purpose of this program was to enhance communication for instilling healthy behaviors and reduce fear associated with dental treatment.

To accomplish this, a collaborative effort was undertaken with the School for the Deaf. A dental suite was established in the school for providing all preventive services. A deaf student was trained to become a dental assistant. Later, the student was employed at Bellevue as a dental assistant to provide health education in the class rooms and for chair side assisting in the clinic. Lesson plans were developed by the dental assistant to communicate with the children using sign language. The program has been in operation for more than 13 years. Preventive services including dental sealants are provided in the school to more than 400 deaf children. Those children requiring treatment are scheduled at the Pediatric Dental Clinic. Using this approach, the program has been to enhance self-care, reduce fear and increase the utilization of preventive services for deaf children.

Predicting the response of autistic children to oral health care

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Providing dental care for autistic children can be a challenge as a result of their limited communication skills, low threshold for frustration, need for sameness, tantrums and self-injurious behaviors. Professional recommendations include frequent, short office visits with a gradual introduction of treatment procedures. Pediatric patients from the largest regional center specializing in education for autistic children near Boston, MA, participate in a program of regular dental care at a local children's rehabilitation hospital. Patients are seen by pediatric dental residents from Boston University in the same clinic every six months for preventive and definitive care. Despite this program's sensitivity to the special needs of autistic children, behavioral outbursts and need for restraint do occur from time to time. This analysis attempts to determine the treatment conditions which may lead to these behaviors, allowing the practitioner to anticipate those situations in which problems are more likely. Information was collected on 150 autistic children, ages 5-18, over an average of four office visits. For the 130 patients included in this analysis, data was collected on two or more visits. 85% of first visits and 53% of second visits involved only examination and preventive care while the remaining visits involved restorative treatments or extractions. Stepwise regression was performed to determine what aspects of care best predicted patient behaviors. Variables included behaviors during transition into the clinic and the chair, type of treatment provided and length of appointment, as well as treatment provided and patient behaviors for the previous visit. Three outcomes were examined - level of cooperation during visit and degree of behavioral intervention required during examination and during treatment. For all three outcomes, the best predictors of current behavior were behaviors during the previous visit ($R^2 = .401, .604, .483$, respectively, for the three outcomes; $p < 0.001$). Of the cooperative patients, 88% were previously cooperative and 63% required no intervention on their previous visit. In contrast, patients who were resistant and required involuntary oral access tended to be resistant in the past (69%) and previously required restraint (68%). More than 70% of patients requiring no intervention at the second visit, either during examination or treatment, also required no intervention at the first visit. In contrast, of those requiring restraint, nearly 70% required restraint in the past. This predictability of patient behavior suggests that, by recording a patient's response to treatment, clinicians may be able to anticipate future problems. Additional analysis is planned to examine the roles of patient age and level of functioning, the data for which is being processed. Future studies will explore changes in behavior across several consecutive visits.

Children with Special Needs: The No New Cavities Club at Neurodevelopmental Preschools (Developmental Disability Centers)

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There has been minimal attempt to apply chemotherapeutic and behavioral approaches to prevent and control caries in special needs children. Our goal is to engage in a partnership with caretakers so children can be cavity-free or have no new cavities. The objectives of this clinic are threefold: 1) to provide exemplary, preventive services at the youngest possible age; 2) to train dental and other health personnel to provide these services; and 3) to generate and disseminate new knowledge.

Neurodevelopmental preschools, which provide services from birth to 3 for children with special needs and their families, present a safe, convenient environment for the coordination of efforts to control dental disease. The initial effort was initiated at the Wonderland Developmental Center in Seattle by University of Washington faculty. Two weeks before the initial visit with the children, a parent's meeting was scheduled. Parental responses were enthusiastic, with only one parent noting previous dental visits.

With the help of parents and staff, 48 children, including eleven siblings of the special needs children were examined and fluoride varnish applied. Five of the 31 children had caries. Parents also received tooth cleaning instruction and additional counseling. Follow-up visits both to the University for treatment and to the Preschool for prevention were scheduled. Additional Neurodevelopmental Preschools are being enrolled.

PRESENCE OF SEALANTS AS AN INDICATOR OF ORAL HEALTH STATUS AMONG SPECIAL OLYMPICS ATHLETES

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This study presents data collected on oral health status of self-selected samples of Special Olympics athletes from 19 Special Olympics sites in the U.S., representing 17 states, in 1999. Athletes in these analyses range in age from 8 to 20 years (mean age 14.0, n=3046). Data were collected visually and by self-report by trained screeners using a standardized protocol. Our research evaluated whether having sealants was related to having molar decay, tooth pain, or need for urgent treatment. Sealants were assessed on permanent molars only. Untreated molar decay and treatment urgency were assessed on both permanent and primary teeth. Current tooth pain was self-reported. Results indicate that 21.0% of athletes had sealants; 13.9% of athletes with sealants had untreated molar decay, compared with 24.8% of athletes without sealants; 7.1% of athletes with sealants self-reported tooth pain, compared with 10.6% of athletes without sealants; and 2.2% of athletes with sealants needed urgent treatment, compared with 9.3% of athletes without sealants. Chi-square analysis demonstrated that athletes with sealants were significantly less likely to have untreated molar decay ($p=.001$), tooth pain ($p=.008$), or need urgent treatment ($p=.001$). These results suggest that preventive care may have substantial impact on multiple aspects of oral health of Special Olympics athletes. Efforts should be made to ensure access to preventive care for this population. Supported by Boston University and Special Olympics Inc., using a protocol developed in collaboration with the Centers for Disease Control and Prevention.

Partnering to Provide Cost Effective Accessible dental Care

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MSB is a private residential school serving children in Maryland since 1953. Students are infants to 21 years old. All students are visually impaired or blind. Most students are multi-handicapped. Children throughout the state attend MSB based on their education needs and this being the least restrictive environment. Students are from families of all socio-economic groups.

Multi-handicapped children have more difficulty accessing dental care. Insurers may send the child to a community dentist who is not equipped to accommodate the special needs of a multi-handicapped child. Children who live in a residential school also have difficulty accessing community dentists who are not open when children are at home. Other factors impacting on the child's oral health are existing medical conditions, oral defensiveness and medications the children take daily.

Dental care at school was provided by dental residents from a local University. We were notified last spring that for dental services to continue from the University, the cost would increase 800 percent. We began to explore other service delivery options.

Students dental care is funded by private insurance and/or medical assistance. Some children have no health/dental insurance. While affiliated with the University, medical assistance and private insurances were billed for services. Some families were able to pay for services. The fees were very low. Only a few hundred dollars a year was recovered by MSB.