

Dental care utilization and expenditures in children with special health care needs

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Dental caries is the single most prevalent chronic disease of childhood.^{1,2} Approximately one-half of U.S. children experience dental caries by age 9 years and about 80 percent by age 17 years.³ Dental disease is not distributed evenly within the general population, with certain subgroups known to be affected at substantially higher rates than are other subgroups.¹ Children with special health care needs (CSHCN) are among those at increased risk for poor dental health.^{1,2,4} The incidence of dental disease among CSHCN is of concern because of their large and increasing numbers in the U.S. population and because of the added barriers that they face in gaining access to dental care compared with those faced by other children. Approximately 16 to 18 percent of children in the United States, or about 12.5 million children, have a special health care need (SHCN), defined as a chronic physical, developmental, behavioral or emotional condition that requires health services beyond what is required by children without SHCN.⁵⁻⁷

A CSHCN status designation can include many different med-

ABSTRACT

Background. The authors compared children with special health care needs (CSHCN) and children without special health care needs (SHCN) with respect to the odds, amount and determinants of having any dental care and dental care expenditures.

Methods. The authors assessed data from the 2004 Medical Expenditures Panel Survey, Agency for Healthcare Research and Quality, to identify a sample of 8,518 children aged 2 to 17 years. The authors used logistic regression to determine the effect of having SHCN on the probability of having any dental care expenditure, for total dental care expenditures and procedure-specific expenditures. They tested the modifying effect between CSHCN and other variables on the probability of having any dental care expenditure.

Results. Compared with children without SHCN, CSHCN did not differ in the probability (odds ratio = 0.91, 95 percent confidence interval [CI] = 0.76 to 1.09) or amount ($\beta = 30.17$, 95 percent CI = -162.93 to 223.27) of total dental care expenditures. Likewise, CSHCN did not differ in their likelihood of having undergone a preventive, restorative, diagnostic or other procedure. Known determinants of dental care utilization did not modify the relationships between having SHCN and any dental care expenditure.

Conclusions. Despite the reported difficulty in CSHCN's accessing dental care, the authors found that CSHCN had dental care utilization and expenditures that were comparable with those of children without SHCN. Furthermore, the association of CSHCN status and any dental care expenditure was not modified by known determinants of dental care utilization. Future research should focus on characterizing risk for dental disease among CSHCN more accurately and identifying factors that affect dental care utilization in CSHCN, including provider and parent characteristics.

Practice Implications. The study results highlight low rates of dental care utilization among all young children, including CSHCN. Efforts to increase dental care utilization among children are warranted and need to include broad-based provider and parent initiatives.

Key Words. Access to care; dental care for children.
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ical conditions, and, thus, making broad statements about the prevalence of dental disease among CSHCN compared with children without SHCN is difficult. Nevertheless, children with certain chronic conditions—such as cerebral palsy, juvenile idiopathic arthritis, developmental disabilities and autism—have more clinically determined dental disease and a greater number of parent-reported dental problems than do children without SHCN.⁸⁻¹⁴ The need for dental care is the most common unmet health care need among CSHCN,¹⁵ and is greater in CSHCN than in children without SHCN despite their higher rates of dental insurance coverage and preventive dental care visits.¹⁶

Thirty percent of pediatricians perceived barriers in referring children with significant developmental delays to dentists.¹⁷ Delayed access to dental care can lead to serious consequences for all children but can be particularly serious for children with chronic medical conditions. Specific consequences for CSHCN whose dental care was delayed can include postponed organ transplants, cardiac and other critical surgeries, breathing difficulties and systemic infections.¹

Recognizing the increased need for dental health care among CSHCN, professional guidelines recommend that CSHCN be given special attention regarding the number of recommended dental visits and preventive services compared with children at low-to-moderate risk. The American Academy of Pediatric Dentistry's risk assessment guidelines recommend placing CSHCN who are not able to perform daily self-maintenance activities such as oral hygiene in the highest risk category for dental disease, which requires more frequent and intensive preventive services.¹⁸ The American Academy of Pediatrics recommends that CSHCN be given priority for the establishment of a dental home by age 1 year.¹⁹

Differences in the probability of having a dental visit or differential expenditures on dental care between CSHCN and children without SHCN are not well documented. The authors of one study used Medical Expenditure Panel Survey (MEPS) data from 2000 and found that CSHCN had significantly higher costs than did children without SHCN in every health service category except for dental care.⁵ The authors found no differences in dental care expenditures or number of dental care visits between CSHCN and children without SHCN.⁵ Results from a

recent study in which the National Survey of Children's Health (NSCH) was used showed that CSHCN receive preventive dental care at the same or a higher rate than did children without SHCN.²⁰ No study investigator, however, has examined use or expenditures for different types of dental services.

We conducted a study to investigate the differences between CSHCN and other children in terms of their probability of any dental care expenditures, according to dental procedure category type and the total amount of dental care expenditures. Whether there would be a difference in the way the determinants of dental care utilization affect the receipt of dental care for CSHCN as compared with other children was unknown. Therefore, we decided to test for factors that might modify the effect of SHCNs on the likelihood of dental care expenditures.

Because dental care is reported to be the greatest unmet health care need among CSHCN, we hypothesized that CSHCN will receive less dental care than will children without SHCN. Specifically, we hypothesized that CSHCN will have a lower probability of receiving any dental care and procedure-specific dental care and expenditures than will children without SHCN (estimates resulting from the analysis of this hypothesis on any expenditure are the same as for any use) and that CSHCN will have a lower total amount of dental care expenditures than will children without SHCN. We tested a third hypothesis that the magnitude of the effect of having SHCN on the probability of having any dental care expenditures will be modified by the child's age, family income, race, insurance type, parent's education level, health status and having a usual source of medical care.

PARTICIPANTS AND METHODS

Data source. We used MEPS, which is a comprehensive set of surveys providing nationally representative estimates for health care costs, utilization and insurance coverage developed by the Agency for Healthcare Research and Quality. The 2004 data set includes 13,018 households and

ABBREVIATION KEY. CSHCN: Children with special health care needs. MCHB: Maternal and Child Health Bureau. MEPS: Medical Expenditure Panel Survey. NSCH: National Survey of Children's Health. SHCN: Special health care needs. SSI: Supplemental security income.

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