Oral Health Challenges Among Children with Special Health Care Needs and Children with Medical Complexity

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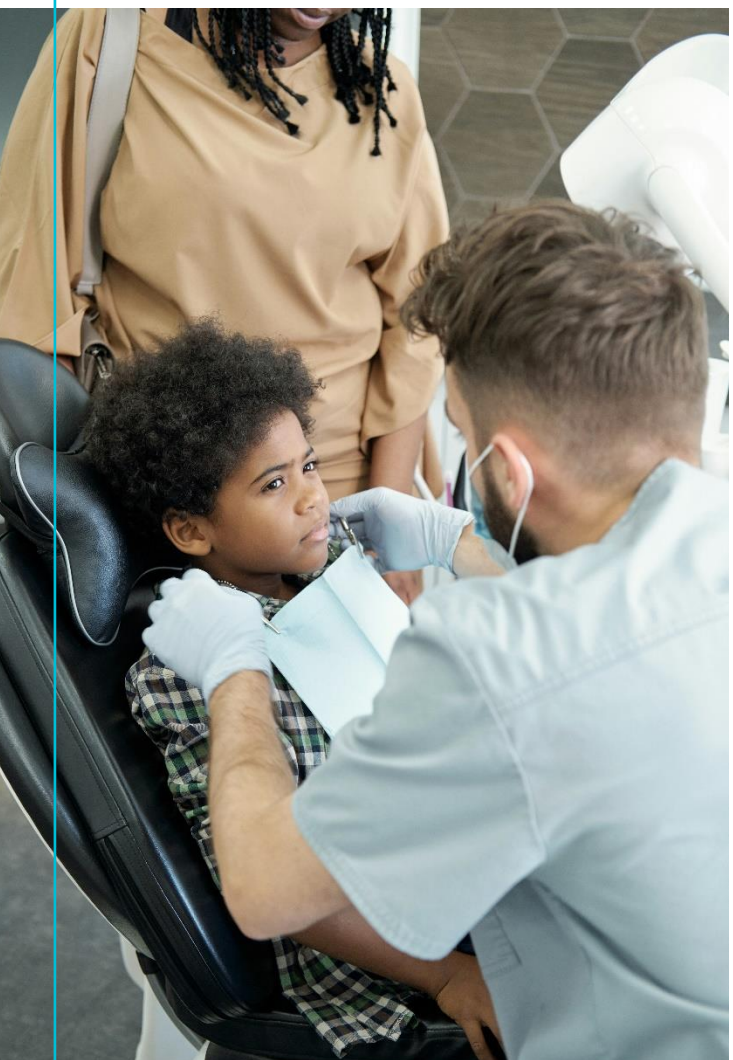
Using data drawn from the National Survey of Children's Health, this data brief compares the oral health challenges experienced by children with special health care needs, including those with medical complexity, to those of children without special health care needs.



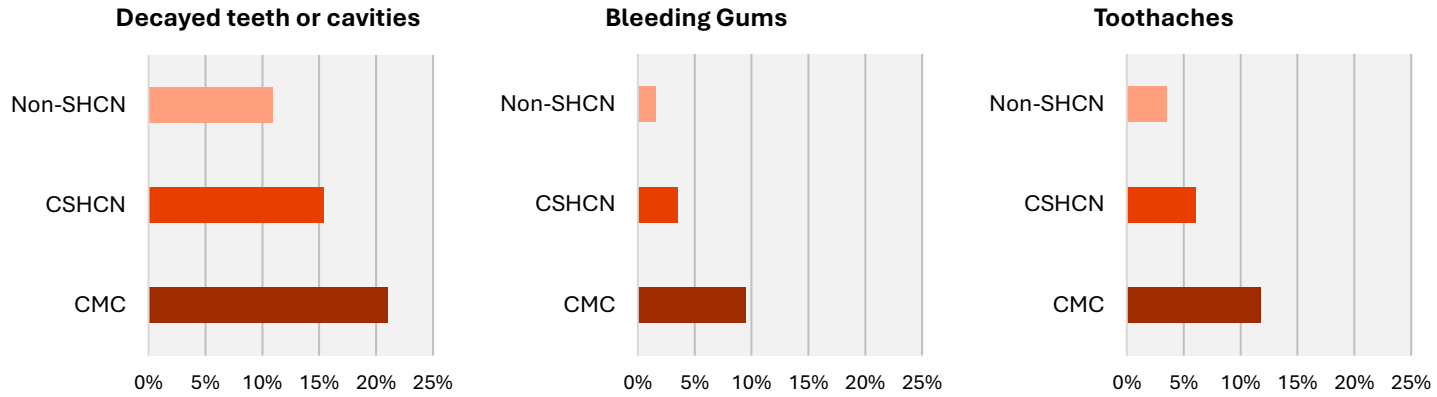
Oral health plays an integral role in supporting children's overall health and well-being. However, some children are more vulnerable to oral health problems than others. Oral health concerns are particularly prevalent among children with special health care needs,[1] those who "have or who are at increased risk of having a physical, mental, emotional or other type of health condition requiring a type or amount of health and related services beyond that required by children generally."[2] **About 20% of children younger than 18 years of age have special health care needs.**[3]

Children with medical complexity are an important subgroup of children with special health care needs as they experience the greatest levels of medical fragility and have the most extensive health care needs.[4] **Children with medical complexity, who make up between 1 and 2% of the pediatric population,**[5] often have chronic and severe health conditions, major functional impairments, and are frequently technology dependent.[4] These circumstances likely have an impact on children's oral health.

Chronic oral health problems are most prevalent among children with medical complexity.

Children with medical complexity were more likely to experience frequent or chronic decayed teeth or cavities, bleeding gums, and toothaches in the prior year than were other groups of children. The prevalence of these oral health problems was between two and five times greater for children with medical complexity than for children without special health care needs. Children with special health care needs also had a higher prevalence of each of the oral health problems as compared to children without special health care needs.

Prevalence of Chronic Oral Health Problems among Children with and without Special Health Care Needs and Children with Medical Complexity

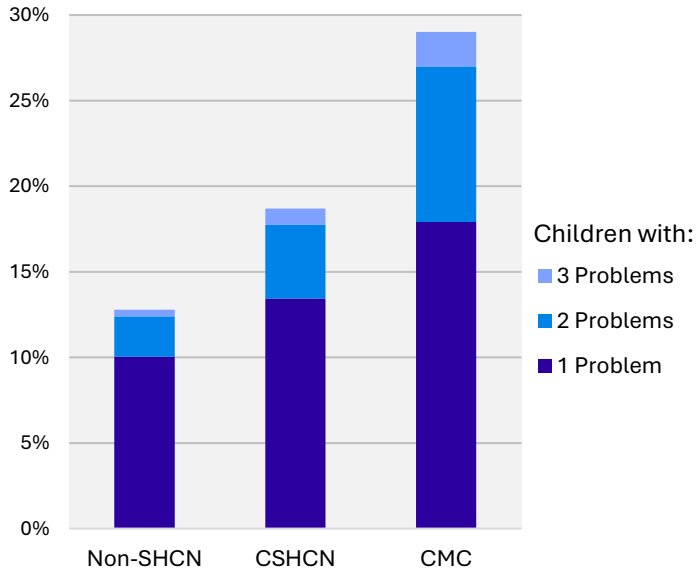


Note: Children without special health care needs (Non-SHCN); Children with special health care needs but without medical complexity (CSHCN); Children with medical complexity (CMC)

Children with medical complexity experience a greater number of oral health problems than other children.

Children with special health care needs and those with medical complexity were more likely to have experienced multiple chronic oral health problems. In the prior year, 11% of children with complexity and 5% of children with special health care needs had at least two oral health problems, as compared to 3% of children without special health care needs.

Number of Chronic Oral Health Problems among Children with and without Special Health Care Needs and Children with Medical Complexity

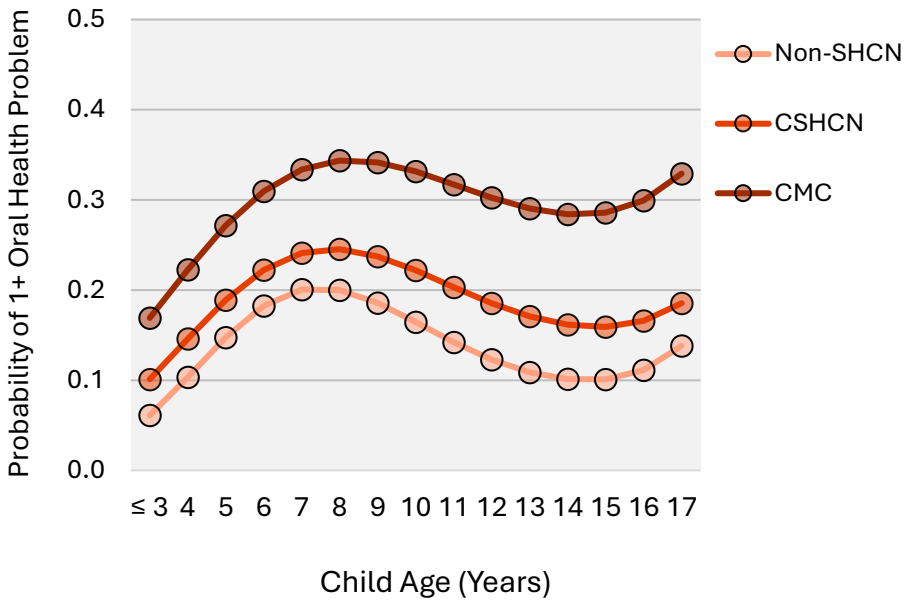


Note: Children without special health care needs (Non-SHCN); Children with special health care needs but without medical complexity (CSHCN); Children with medical complexity (CMC)

The risk of experiencing chronic oral health problems peaks prior to adolescence and increases again before children transition to adult dental care.

At every age, children with medical complexity have a greater risk of oral health problems as compared to other children. However, the risk of experiencing oral health problems varies for children at different ages, and this pattern is largely similar for children with and without special health care needs and medical complexity.

Risk of Chronic Oral Health Problems by Age among Children with and without Special Health Care Needs and Children with Medical Complexity



For all three groups of children, the likelihood of having a chronic oral health problem increases from early childhood through age 7 or 8, followed by a declining risk throughout much of adolescence. The risk of oral problems increases again from ages 15 to 17, leading up to the stage when most children transition to adult dental care. While children with medical complexity and special health care needs experience a heightened vulnerability to oral health challenges in general, these findings highlight the ages during which children may benefit from additional, targeted dental care and support.

Note: Children without special health care needs (Non-SHCN); Children with special health care needs but without medical complexity (CSHCN); Children with medical complexity (CMC)

Data and Methods

We analyzed data from the National Survey of Children's Health (NSCH), a national household survey about the health of children aged 0 to 17 years[6]. The NSCH is administered by the US Census Bureau and the Maternal and Child Health Bureau within the Health Resources and Services Administration. The analysis for this brief uses data from 2016 through 2023, leveraging the most recent survey data available, and is based on the largest nationally representative sample of children with special health care needs and medical complexity that has been assembled to date. Survey weights were used in the analysis. Children with special health care needs were identified using the Child and Adolescent Health Measurement Initiative screener.[2] Children with medical complexity were identified using an algorithm developed by Yu et al.[5] In this brief, we refer to children with special health care needs who do not have medical complexity as "children with special health care needs;" we refer to children with special health care needs who have medical complexity as "children with medical complexity."

We examined three measures of oral health. Parents were asked whether, in the last 12 months, their child had frequent or chronic difficulty with decayed teeth or cavities, bleeding gums, or toothaches. In addition to analyzing each of these as dichotomous measures, we also constructed a variable assessing the number of chronic oral health problems (0 to 3) and a variable assessing whether the child experienced at least one chronic health problem. The sample excluded children younger than 1 year of age. The sample size for the analysis was 322,984.

The first set of bar charts shows the percentage of children with frequent or chronic decayed teeth or cavities (left), bleeding gums (center), and toothaches (right) in the past 12 months. The second bar chart shows the percentage of children with one, two, or three oral health problems in the past 12 months.

The line graph shows the probability of having at least one chronic oral health problem by age and by child group. This graph illustrates the results of a regression model. To ensure reliability of the estimates, children aged 1-3 were binned together. We fit an unadjusted modified Poisson regression model to estimate the relative risk of chronic oral health problems. To assess the age-related pattern in the risk of oral health problems, and whether this pattern differed by child group, we fit three models testing the interaction between the child group (non-SHCN, CSHCN, CMC) and age, age^2, and age^3. We compared the models using likelihood ratio tests and graphed the best fitting model (child group *x* age^3). The cubic interaction term for CSHCN and CMC was significant at $p<.001$ and $p=.018$, respectively.

References

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