Issue BRIEF

Centers for Medicare & Medicaid Services
ORAL HEALTH Initiative

Reducing Early Childhood Tooth Decay: An Overview for State Policymakers

States across the nation are redesigning their health care systems to promote higher quality health care services, healthier populations, and lower per capita costs. Medicaid and the Children's Health Insurance Program (CHIP) are playing key roles in health system redesign for the 31 million children enrolled in these programs.

One aspect of health care that has been recognized as a key contributor to overall health, both in childhood *and* into adulthood, is children's oral health care. Redesigning the way Medicaid and CHIP approach the specific problem of early childhood caries (ECC, the disease that causes tooth decay) to focus on preventing and managing it rather than paying high bills for cases that become severe, could produce better care, better health, and lower costs. The strategies required are similar to those already in use to prevent or manage other common chronic diseases.

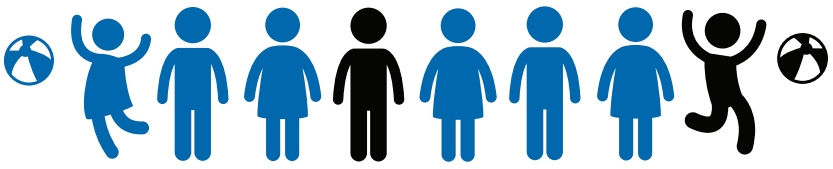
WHAT IS ECC?

ECC causes severe tooth decay in children younger than age 6. The disease is **infectious** and **transmissible** and is caused by bacteria in the mouth that weaken tooth enamel and create lesions (cavities). The bacteria can be transmitted whenever saliva is shared—when siblings share sippy cups or when a mother cleans a pacifier with her mouth before giving it to her baby. The disease is both **progressive** and **chronic**. ECC-causing bacteria often exist in a baby's mouth before teeth erupt and then multiply quickly. If left unaddressed, ECC will continue into permanent teeth. Fortunately, similar to many other chronic illnesses, ECC is **preventable** and **manageable**.

How big is the problem of ECC?

Along with asthma and obesity, ECC is one of the most common chronic diseases of childhood in the United States, affecting about 23 percent of the nation's 2- to 5-year-olds.

Figure 1. Among 2- to 5-year-olds, one child in four has ECC

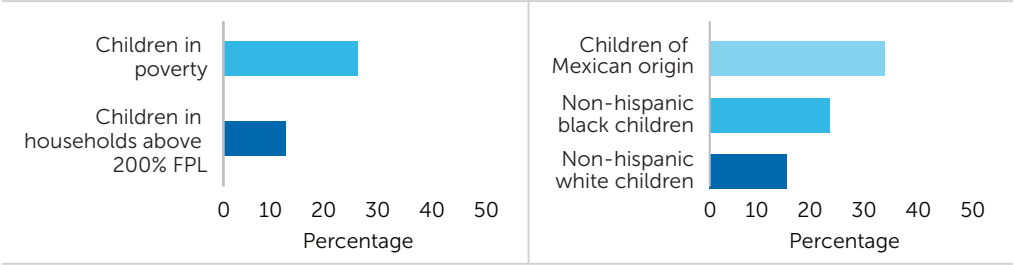


Source: Centers for Disease Control and Prevention (CDC)/National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey, 2011–2012.

The treatment of ECC can be traumatic for children and parents and costly for payers. Severe cases might require hospital-based restoration or surgical removal of decayed teeth.

Among children in this age group, those who live in poverty are more likely than children in higher-income households to have untreated ECC. Children of Mexican origin and black non-Hispanic children are more likely than white non-Hispanic children to have untreated ECC. The effects can be dramatic: children with ECC may experience pain, difficulty eating, developmental complications, and loss of days in day care or preschool. Untreated disease can lead to other serious infections.

Figure 2. Untreated ECC disproportionately affects children from low-income and minority households



Proportion of Children with Untreated ECC

Source: CDC/NCHS, National Health and Nutrition Examination Survey, 1999–2002
Note: FPL = federal poverty level

Effective approaches to ECC must reflect the current understanding of the disease process. Experts now know that surgical treatment alone does not stop the disease.

What are the recommended prevention and management approaches?

The current clinical understanding of ECC and the availability of effective prevention and management approaches create an opportunity to include oral health services into broader system redesign efforts.

Assessing and addressing children's individual risk of ECC are critical components of prevention and management (Table 1). The American Academy of Pediatric Dentistry (AAPD), the American Academy of Pediatrics (AAP), and other leading professional associations recommend that health care providers assess each child's risk for ECC using a combination of factors. Key factors include family history of tooth decay, low socioeconomic status, diet, fluoride exposure and tooth brushing habits, and clinical findings such as visible cavities or fillings.

Table 1. Risk assessments and care plans promote ECC prevention and management

Prevention and management component	Objectives
Individual risk assessment	• To determine whether a child is at low, moderate, or high risk of developing ECC, from infancy to age 6 —Based on a child's biological risks, protective factors, and clinical findings • To help the health care provider and family understand the disease factors for a specific child and aid in individualizing conversations about prevention and management • To anticipate disease progression or stabilization
Individual care plan	• To establish the types and frequency of diagnostic, preventive, management, and restorative care for an individual child • To recommend dietary counseling that could lead to change in eating and brushing habits and other behaviors —Based on a child's age, risk level, and level of patient/parent cooperation • To promote treatment of the disease process instead of treatment of the disease outcome (that is, cavities)

Source: American Academy of Pediatric Dentistry. "Guideline on Caries-Risk Assessment and Management for Infants, Children, and Adolescents." Chicago, IL: American Academy of Pediatric Dentistry, 2014. Available at http://www.aapd.org/media/Policies_Guidelines/G_CariesRiskAssessment.pdf.

Health care providers use a child's age; risk profile (low, moderate, or high); and parents' level of engagement to develop a care plan for each child. This plan specifies how often the child should be seen for diagnostic purposes, changes and expectations regarding diet and fluoride exposure, and steps to monitor existing signs of decay or to restore teeth.

Risk assessment tools can help dental practitioners, physicians, and other nondental health care providers become actively involved in identifying and referring high-risk children. Clinical management protocols can help clinicians transform risk assessments into clinical plans of action. The potential benefits of tools and protocols—if they are widely used—are that they streamline procedures and decision making, often yield a greater chance of compliance and success, and help make the recommendations of groups such as AAPD and AAP the norm for clinical practice.

However, individual risk assessments and care plans are not yet widely used in Medicaid and CHIP, in part because some policies and payment methods that predate current clinical guidelines do not explicitly support their use or are narrowly interpreted.

What are the steps for state Medicaid programs and CHIP?

Fortunately, states can promote the prevention and management of ECC in a range of ways. Some of the most direct approaches can be implemented within current Medicaid and CHIP policies. They include the following:

States can use the availability of risk-assessment tools and clinical management protocols to justify changes to periodicity schedules for children's dental services, reconsider the types of professionals who can be reimbursed for risk assessment and parent education, and set expectations about monitoring quality of care and measuring outcomes.

Emphasizing prevention

- If Medicaid and CHIP in your state already reimburse pediatricians and family physicians (or other primary care providers) for applying fluoride varnish to baby teeth, encourage or reinforce the practice with explicit language in state regulations, rules, periodicity schedules, and handbooks for well-child visits.
- Using Medicaid and CHIP provider handbooks and direct provider outreach, encourage pediatricians and family physicians to prescribe oral fluoride supplements (starting at age 6 months) for children in communities with less than optimal fluoride in the water supply. This *My Water's Fluoride* tool enables residents of participating states to learn the fluoridation status of their water systems.
  - —Commercial health plans are required by federal law to cover preventive services, such as fluoride supplements and varnish, with no cost-sharing for families.
- In communities with less than optimal fluoride in the water supply, Medicaid may experience higher dental treatment costs. A study in New York state showed Medicaid savings of about $24 per person, per year because of cavities prevented by fluoridated water.[1] About one-third of the U.S. population does not receive fluoridated water.[2]

Assessing and addressing risk

- Join states that reimburse pediatricians and family physicians for administering oral health risk assessments for children in Medicaid and CHIP. Make it easier for these providers to refer high-risk children to a nearby dentist with the find-a-dentist tool and interactive map from InsureKidsNow.gov.
- Revise Medicaid early and periodic screening, diagnosis, and treatment (EPSDT) medical and dental periodicity schedules to require ECC risk assessments at recommended intervals.
  - —Ensure Medicaid dental contractors do not set benefit limits that fall short of EPSDT.
- Adopt and include as a benefit the American Dental Association's three Current Dental Terminology billing codes, introduced in 2014, that enable Medicaid and CHIP to reimburse health care providers for assessing a child's risk of ECC.
- Revise Medicaid benefit, reimbursement, and other policies to support the development of individualized oral health care plans for high-risk children.

Educating and engaging parents

- Allow Medicaid administrative claiming for nonclinical service providers who conduct risk assessment, outreach, education, and care coordination for families with Medicaid-enrolled children who have high risk for early childhood dental disease.

Supporting providers

- States that participate in an Improvement Partnership to improve children's health care services and outcomes can use the partnership to support medical and dental providers as they incorporate ECC prevention and management approaches into their practices.

ENDNOTES

[1] Jayanth Kumar, Olubunmi Adekugbe and Thomas Melnik. "Geographic Variation in Medicaid Claims for Dental Procedures in New York State: Role of Fluoridation Under Contemporary Conditions." *Public Health Reports*, vol. 125, no. 5, 2010, pp. 647-54.

[2] Centers for Disease Control and Prevention. "2012 Water Fluoridation Statistics." Available at: http://www.cdc.gov/fluoridation/statistics/2012stats.htm.

About this series

This overview is the first in a series of products about redesigning the approach to early childhood caries (ECC)—away from treatment and toward prevention and management—in Medicaid and CHIP. The series is produced as part of the Centers for Medicare & Medicaid Services' Oral Health Initiative by Mathematica Policy Research and the Children's Dental Health Project.

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