



CDHP *Issue Brief*

Early Childhood Caries Trends Upward

On August 26, 2005 the Centers for Disease Control and Prevention (CDC) released a new report in its Morbidity and Mortality Weekly Report (MMWR) surveillance summary titled, *Surveillance for Dental Caries, Dental Sealants, Tooth Retention, Edentulism, and Enamel Fluorosis—United States, 1988-1994 and 1999-2002* (available at: <http://cdhp.org/newsbytes/newsbytes.asp>).¹ The report compares findings of two National Health and Nutrition Examination Surveys (NHANES). It is the first release of national oral health data in the five years since publication of *Oral Health in America – A Report of the Surgeon General*.

Dental caries trends higher among the nation's youngest children

Despite a decrease in caries prevalence among permanent teeth of 6-19 year olds, a 15.2% increase in disease was noted among the nation's *youngest* children ages 2 through 5 years. Likewise, CDC reported a trend toward decrease in *untreated* tooth decay among permanent teeth of children ages 6-19 years old, but this decrease was not observed among pre-school children ages 2 through 5 years.

- CDC reports that more than one-in-four (28%) pre-school children have experienced tooth decay.
- This findings suggests that over 4 million children are affected nationwide – a jump of over 600,000 additional preschoolers over a decade.

Trend may presage long term caries increase in children

Because tooth decay in the primary teeth predicts future tooth decay in permanent teeth, the upturn in caries experience in today's preschoolers may be expected to continue into their permanent teeth as they grow older. To keep this from happening, it is essential to identify children at greatest risk for caries as early as possible and initiate comprehensive dental treatment that is consistent with professional "age one dental visit" policies and establishment of the "dental home." The challenge to the dental care system is significant as pre-school age children have the lowest rates of dental care of all age groups in the US and therefore currently miss an important and timely opportunity for effective prevention.

Oral health disparities impact poor children

Low-income children have the greatest odds of having tooth decay, have the most severe experience with tooth decay, and are most likely to have untreated cavities.

- Children ages 2-11 in families with income under \$18,000² were nearly twice as likely to experience decay as children in families with twice that income level (55% versus 31%).
- Decay severity was more than twice as great for poor children as their higher income peers (5.22 "dfs" versus 1.96 dfs).
- Children in poverty were more than twice as likely to have untreated cavities as their higher income peers (33% versus 13%).

Oral health disparities impact children of color

Children of color are more likely to experience tooth decay and have their cavities untreated. Because children of color are the fastest growing subpopulation of children in the U.S., their higher caries experience

¹ <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5403a1.htm>

² Federal poverty level for family of four in 2002.

predicts an upturn in disease prevalence over the coming years unless special efforts are made to address their oral health needs.

- 55% of Mexican-American children ages 2-11 experienced cavities in their primary teeth compared to 43% of Black non-Hispanic and 38% of White non-Hispanic children.
- Mexican-American children experience 1.5 times more cavities than Black and White children (4.62 “dfs” versus 2.98 dfs and 3.06 dfs).
- 32% of Mexican-American children ages 2-11 had *untreated* tooth decay in their primary teeth compared to 27% of Black non-Hispanic and 18% of White non-Hispanic children.

Implications of Findings

The Healthy People 2010 Objective for children ages 2 to 4 is to “reduce the proportion of young children with dental caries experience in their primary teeth” from the baseline of 18% to a target of 11%. CDC’s new data show a trend in the wrong direction.

The data included in CDC’s *Surveillance for Dental Caries, Dental Sealants, Tooth Retention, Edentulism, and Enamel Fluorosis—United States, 1988-1994 and 1999-2002* suggest that:

1. Greater attention needs to be focused on the oral health needs of *toddlers and preschoolers* because caries prevalence in young children remains high (28%) and is trending upward.
2. Future research should consider the possibility that higher decay rates in young children may portend a rebound in caries experience because early caries experience is the best predictor of future caries experience.
3. More detailed information is needed about 2-5 year olds’ caries experience in order to pinpoint where the problem is most severe.

The best opportunity for true primary prevention is in infants and toddlers because caries is established as an active disease process before age two.

Consistent with recommendations of the Surgeon General’s *National Call to Action to Promote Oral Health* and professional guidelines of the American Academy of Pediatric Dentistry:

1. Evidence-based preventive interventions including use of fluorides (and sealants for older children) should be vigorously expanded.
2. Interventions for early childhood caries—including perinatal parental education, early establishment of a dental home, risk identification, anticipatory guidance, preventive services, and intensive disease management—should be vigorously developed and implemented.
3. Programs that target low-income maternal and child populations including WIC and Head Start should continue to develop and expand their oral health programs.
4. Medical and dental care providers should continue to develop, evaluate, and adopt clinical protocols for risk identification and early preventive intervention.