Every Smile Counts

The Oral Health *of* Connecticut's Children

Connecticut Department of Public Health
Office of Oral Health

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Keeping Connecticut Healthy
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The Oral Health of Connecticut's Children

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Executive Summary

With *Every Smile Counts 2011*, the Connecticut (CT) Department of Public Health (DPH), Office of Oral Health (OOH) takes its second look at the oral health status and treatment needs of children in the state. Both *Every Smile Counts 2007* and *Every Smile Counts 2011* support development of state policies and programs to reach the goal of ensuring that all CT's children receive appropriate oral health care.

Every Smile Counts 2011 focused on two groups: low-income preschool children attending Head Start, and elementary school children statewide. More than 750 children in Head Start and 8,300 children in kindergarten and third grade received a dental screening.

The information collected in *Every Smile Counts 2011* has been organized into eight key findings. Data for each finding is presented with graphs and/or tables. Wherever possible, data from *Every Smile Counts 2007* and *Every Smile Counts 2011* was compared with national averages.

Key Findings

1. Dental decay continues to be a significant public health problem for CT's children.
2. Many children in CT do not get the dental care they need.
3. Almost 60 percent of children in CT do not have dental sealants, a well accepted clinical intervention to prevent tooth decay on molar teeth.

4. There are significant oral health disparities in CT with minority and low-income children having the highest level of dental disease.
5. Compared to 2006-2007, fewer children have untreated decay and more minority children have dental sealants.
6. Connecticut met the Healthy People 2010 objectives for reducing the prevalence of decay experience and untreated tooth decay among elementary school children, but did not meet the Healthy People 2010 objective for increasing the prevalence of dental sealants.
7. Early prevention is essential to reduce the prevalence of early childhood dental caries.
8. There has been a substantial improvement in the oral health of CT's Head Start children.

Executive Summary (cont.)

Next Steps

Every Smile Counts 2011 provides important information to why some children in CT have more decay than others. About a fifth of children experience four-fifths of tooth decay. Minority children have more disease and find it more difficult to get dental treatment. Most children are covered by some type of health insurance, either private or through the state-federal Medicaid program. But even when children have health insurance, they often have trouble getting to a dentist. This report shows that although there was a significant increase in utilization rates for Medicaid-financed dental services for children in our state, many children still are not getting appropriate oral health care.

There have been improvements in the provision of essential oral health services to children in CT. For example, more children are receiving preventive dental care in schools than in 2007 and programs such as the Home by One Program and the Head Start Initiative are working to achieve a reduction in decay prevalence for children. In addition, access to dental care has increased.

In the groups of children that were surveyed, it was found that some children have continued to get disease, and much of the disease remains untreated. Adequate interventions that reduce dental disease, such as dental sealants at an early age provided in public health or private health practices must be implemented. Efforts must also be directed to prevent decay in primary or baby teeth.

Key Strategies

The following key strategies have been identified to improve the oral health of children in CT:

- Enhance and expand comprehensive decay prevention through the lifespan.
- Continue to provide anticipatory guidance aimed at preventing dental disease for parents in health and social service settings.
- Teach parents how to use the dental health care system and advocate for oral health for themselves and their children.
- Increase the number of dental insurance (private and public) enrollees who use their annual benefits for themselves and their children.
- Continue to promote annual dental exams beginning at age one, as a *minimum* standard of dental care, particularly for high-risk children.
- Continue to increase access to dental insurance for high-risk children and adults.
- Establish access to preschool dental programs and expand community and school-based dental programs.
- Maintain an adequate number of dental providers in underserved areas.
- Continue to educate medical care providers about the relationship between oral health and general health including their role in oral disease prevention.
- Continue to build capacity in dental public health.
- Continue to increase and maintain the number of dentists participating in public insurance programs.
- Increase the number of dental sealants provided in schools, and safety net and private dental practices.
- Develop an ongoing campaign to promote oral health as part of general health and well-being for all ages.
- Increase private and public sector participation in mobilizing resources and developing policy to pursue *and sustain* these strategies.

Every Smile Counts Oral Health Survey
AT-A-GLANCE

Status	Findings
Head Start	
	Among children enrolled in Head Start:
Dental Experience	• 19% have experienced dental decay, substantially lower than in 2006-2007 (31%).
Untreated dental decay	• 10% have untreated decay, a substantial improvement from 2006-2007 (20%).
Rampant decay	• 6% have rampant decay (5 or more treated or untreated decayed teeth) compared to 14 percent in 2006-2007.
Need for care	• 7% of Head Start children are in need of treatment, compared to 18 percent in 2006-2007.
Kindergarten	
Dental Experience	• 29% have experienced dental decay, similar to the 2006-2007 results (27%)
Untreated dental decay	• 13% have untreated decay, a slight improvement from 2006-2007 (16%)
Rampant decay	• 9% have rampant decay, the same as in 2006-2007
Need for care	• 12% of kindergarten children are in need of treatment, the same as in 2006-2007.
Third Grade	
Dental Experience	• 40% have experienced dental decay, similar to the 2006-2007 results (41%)
Untreated dental decay	• 12% have untreated decay, a significant improvement from 2006-2007 (18%).
Rampant decay	• 13% have rampant decay, the same as in 2006-2007.
Need for care	• 13% of third grade children are in need of treatment, the same as in 2006-2007.
Dental sealants	• 43% percent of third graders have dental sealants, a slight improvement from 2006-2007 (38%).

The Importance of Oral Health

Dental caries (tooth decay) is a bacterial disease process affecting both children and adults. It is probably the most widespread disease known to man.[1] During childhood, tooth decay is the single most common chronic disease, five times more common than asthma.[2] Tooth decay still affects more than half of all children by the third grade; by the time children finish high school, about 80% have tooth decay.[3] The public perception is largely that tooth decay is a natural and minor occurrence that deserves little attention or dollars.[1] If left untreated, however, tooth decay can lead to difficulty in speaking, chewing, and swallowing, increased cost of care, loss of self-esteem, needless pain, and lost school days.

> ***"The mouth reflects general health and well-being."*** Former Surgeon General David Satcher, 2000

The results of not treating decay[4]

- **Pain:** Dental decay can hurt a lot and constantly. Many children do not know that teeth are not supposed to hurt.
- **Infection:** Infected teeth are reservoirs of bacteria that flood the rest of the body, leaving the child prone to many other childhood infections, including ear infections and sinus infections. Antibiotic therapy is often not successful for other infections when dental decay is not treated.
- **Nutrition Problems:** Chronically painful and infected teeth make chewing and swallowing an uncomfortable and difficult chore. Children with dental disease often do not get the nutrition they need to grow.
- **Tooth loss:** Chronic childhood dental disease often makes children's "baby" teeth fall out or be removed before their adult teeth are ready to take their place.
- **Sleep deprivation:** Children with chronically painful teeth have trouble getting a good night's sleep.
- **Attention problems:** Children with infected and painful teeth have a hard time relaxing, sitting still and paying attention in class.
- **Slower social development:** Ugly or missing teeth can make it difficult to talk and can greatly effect a child's self esteem. When a child's front teeth are damaged or missing in their very crucial early years of development, they often can't form words correctly and tend to retreat into shyness and silence.
- **Missed school days:** Children with infected and painful teeth miss more school days than other children, disrupting their educational and social experiences and increasing school districts' costs.

In 1996, children between 5 to 17 years of age missed 1,611,000 school days due to acute dental problems – an average of 3.1 days per 100 students.[5]

The mouth reflects general health and well-being. Recent studies point to associations between oral diseases and diabetes, heart disease, stroke, and preterm, low-weight births.

While the prevalence and severity of tooth decay has, in fact, declined among U.S. school-aged children, it remains a significant problem in some populations – particularly certain racial and ethnic groups and low-income children.[6]

The Importance of Oral Health

National data indicate that 80% of tooth decay in children is concentrated in 25% of the child population, with low-income children and racial/ethnic minority groups having more untreated decay on average than the U.S. population as a whole.[7]

By recognizing and understanding the oral health needs of CT's children, corresponding policies can be developed and implemented to ensure that all children receive the oral health care they need. Effective policies to protect children's oral health should be based upon a few sound principles outlined in the 2000 *Oral Health in America: A Report of the Surgeon General.* Some of the approaches to promote oral health include:

- Change perceptions regarding oral health and disease so that oral health becomes an accepted component of general health.
- Build an effective oral health infrastructure that meets the oral health needs of all Americans and integrates oral health effectively into overall health.
- Remove known barriers between people and oral health services.

- Use public-private partnerships to improve the oral health of those who still suffer disproportionately from oral diseases.

Every Smile Counts 2011 demonstrates the need to improve the oral health of CT's children. Too many children develop dental disease, which suggests the need for more effective ways to provide essential preventive and restorative services. In order to reverse these trends, resources need to be mobilized, from both public and private health care sectors.

The Oral Health of Connecticut's Children

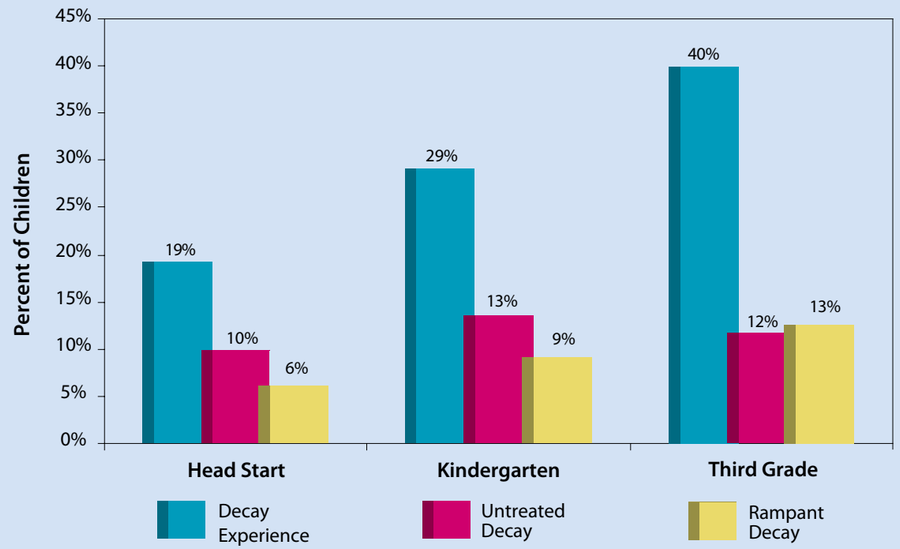
To describe the oral health of CT's children, the Department of Public Health, Office of Oral Health conducted *Every Smile Counts 2011*, a statewide oral health survey. During the 2010-2011 school year, two groups were screened: (1) kindergarten and third grade children enrolled in public elementary schools, and (2) low-income preschool children enrolled in Head Start. More than 750 children in Head Start and 8,300 children in kindergarten and third grade were screened. Detailed information on the design of the 2010-2011 oral health survey can be found in the Survey Methods section of this report.

Information from *Every Smile Counts 2011* is organized into eight key findings, which highlight the oral health of CT's children and disparities in oral health within the state.

1. Dental decay continues to be a significant public health problem for CT's children.
2. Many children in CT do not appropriate dental care.
3. Almost 60 percent of children in CT do not have dental sealants, a well accepted clinical intervention to prevent tooth decay on molar teeth.
4. There are significant oral health disparities in CT with minority and low-income children having the highest level of dental disease.
5. Compared to 2006-2007, fewer children have untreated decay and more minority children have dental sealants.
6. CT met the Healthy People 2010 objectives for reducing the prevalence of decay experience and untreated tooth decay among elementary school children, but did not meet the Healthy People 2010 objective for increasing the prevalence of dental sealants.
7. Early prevention is essential to reduce the prevalence of early childhood dental caries.
8. There has been a substantial improvement in the oral health of CT's Head Start children.

Key Finding #1: Dental Decay Continues To Be A Significant Public Health Problem For Connecticut's Children.

Percent of Connecticut Children with Decay Experience, Untreated Tooth Decay and Rampant Decay, 2010 - 2011

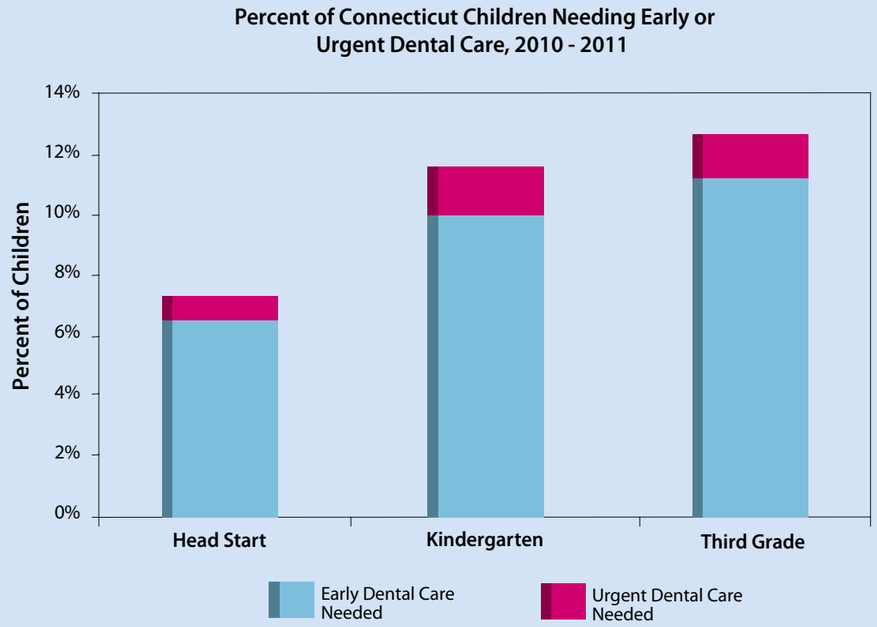


Note: Untreated decay and rampant decay are subsets of decay experience

Decay experience includes tooth decay in the primary (baby) and/or permanent (adult) teeth across the lifespan. Decay experience can be past (fillings, crowns, or teeth that have been extracted because of decay) or present (untreated tooth decay or cavities). In CT, about 19% of the 3 to 5 year old children in Head Start *already* have decay experience and 1 out of 10 have untreated tooth decay. By third grade, 40% of CT's children have experienced tooth decay and more than 1 out of 10 have untreated tooth decay, and 13% have rampant decay

Tooth decay can be painful and can become a port of entry for infections into the body. Left untreated, tooth decay often has serious consequences, including needless pain and suffering, difficulty chewing (which compromises children's nutrition and can slow their development), difficulty speaking (which can slow a child's intellectual and social development), and lost days in school.[8]

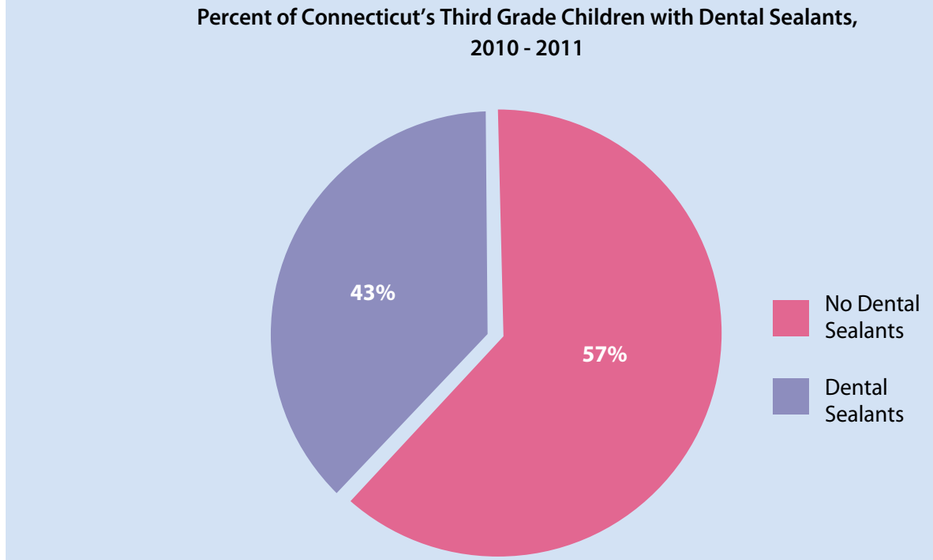
Key Finding #2: Many Children In Connecticut Do Not Get Appropriate Dental Care.



Seven percent of the Head Start children and about 12% of the elementary school children screened had a need for dental care – with about ***1% needing urgent dental care*** because of pain or infection. In 2010-2011 there were about 80,000 kindergarten and 3rd grade children in CT. If 1% are in urgent need of dental care, this means that 800 kindergarten and 3rd grade children are in the classroom in pain or with an oral infection. If this percentage is extrapolated to all elementary school children (K-6th grade) in CT, ***about 3,000 children may need urgent dental care because of pain or infection.***

Diagnostic dental examinations were not completed for the Every Smile Counts survey. Dental screenings - "Say 'Ah,'" were performed by taking a look inside with a dental mirror. Questions were asked, but no x-rays or more advanced diagnostic tools were part of the screening. Therefore, it would be safe to assume that some problems were missed, and that these numbers may ***underestimate the proportion of children needing dental care***.

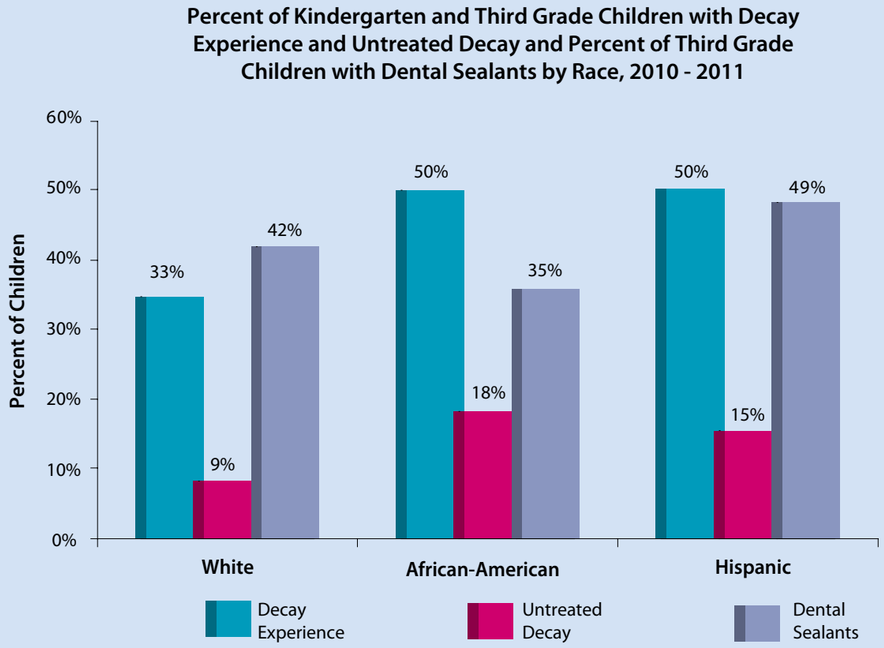
Key Finding #3: Almost 60 Percent Of Children In Connecticut Do Not Have Dental Sealants, A Well Accepted Clinical Intervention To Prevent Tooth Decay On Molar Teeth.



Dental sealants are a plastic coating applied to the chewing surfaces of the back teeth. They are a safe, effective way to prevent tooth decay among schoolchildren. Sealants have been shown to significantly reduce a child's risk for having untreated decay, In some cases, sealants can even stop tooth decay that has already started.[9] In CT, only 43% of the third grade children screened had dental sealants.

Note: Head Start and Kindergarten children were not screened for dental sealants.

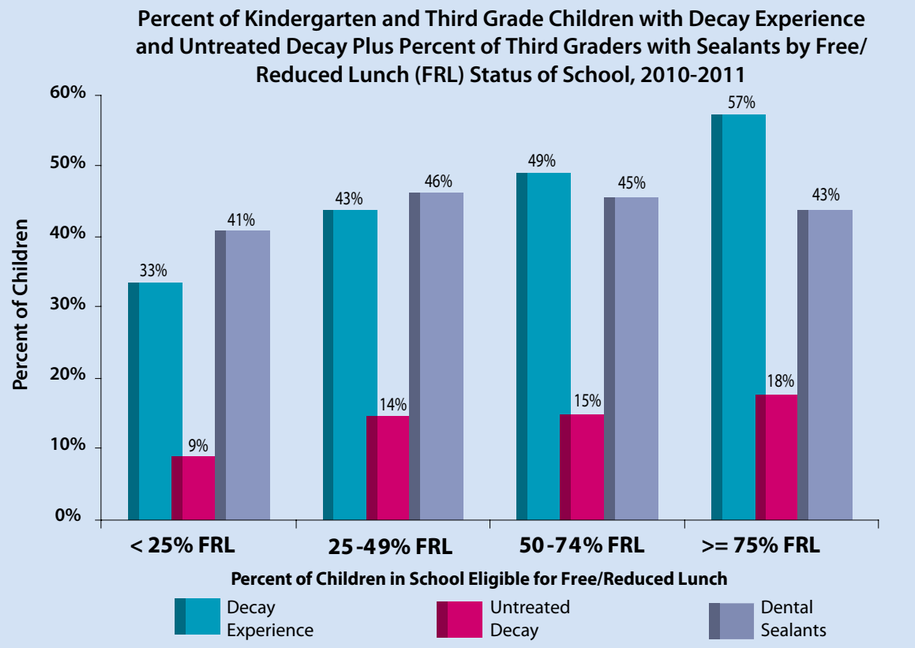
Key Finding #4: There Are Significant Oral Health Disparities In Connecticut With Minority And Low-Income Children Having The Highest Level Of Dental Disease.



In CT, African American and Hispanic children are more likely to have decay experience and untreated decay when compared to non-Hispanic White children. The prevalence of untreated decay is twice as high among minority children. The good news is that the prevalence of dental sealants is not significantly lower in minority children suggesting that Connecticut's school-based dental programs are having an impact on reducing this previously identified disparity.

Oral health disparities between racial/ethnic groups in CT are further affected by socioeconomic status. Eighty-one percent of the children in the higher income schools were White non-Hispanic while only 10 percent of the children in the lower income schools were White non-Hispanic.

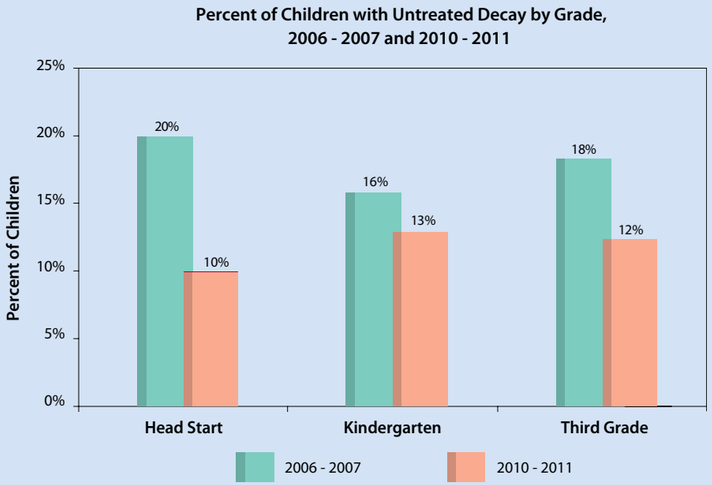
Key Finding #4 (Cont.): There Are Significant Oral Health Disparities In Connecticut With Minority And Low-Income Children Having The Highest Level Of Dental Disease.



Eligibility for the free and/or reduced price lunch (FRL) program is often used as an indicator of overall socioeconomic status. To be eligible for the FRL program during the 2010-2011 school year, annual family income for a family of four could not exceed $40,793.[10] Information on an individual child's participation in the FRL program was not available; however, the percentage of children participating in the FRL program in each school was known. Children attending schools where more than 25 percent of the student population was eligible for the FRL had a significantly higher prevalence of decay experience and untreated decay than children attending schools where fewer than 25 percent of the student population were eligible for the FRL." There was no difference in the prevalence of dental sealants.

In Connecticut, it is more likely for children living in poverty, and for children of racial and ethnic minorities (including, but not limited to African-American or Hispanic) to develop a dental disease.

Key Finding #5: Compared To 2006 - 2007, Fewer Children Have Untreated Decay And More Minority Children Have Dental Sealants.



In recent years different organizations in CT have worked on improving access to dental care for children. These efforts have resulted in substantially fewer children with untreated decay in 2010-2011compared to 2006-2007. This is especially true for Head Start children where the prevalence of untreated decay was reduced by fifty percent.

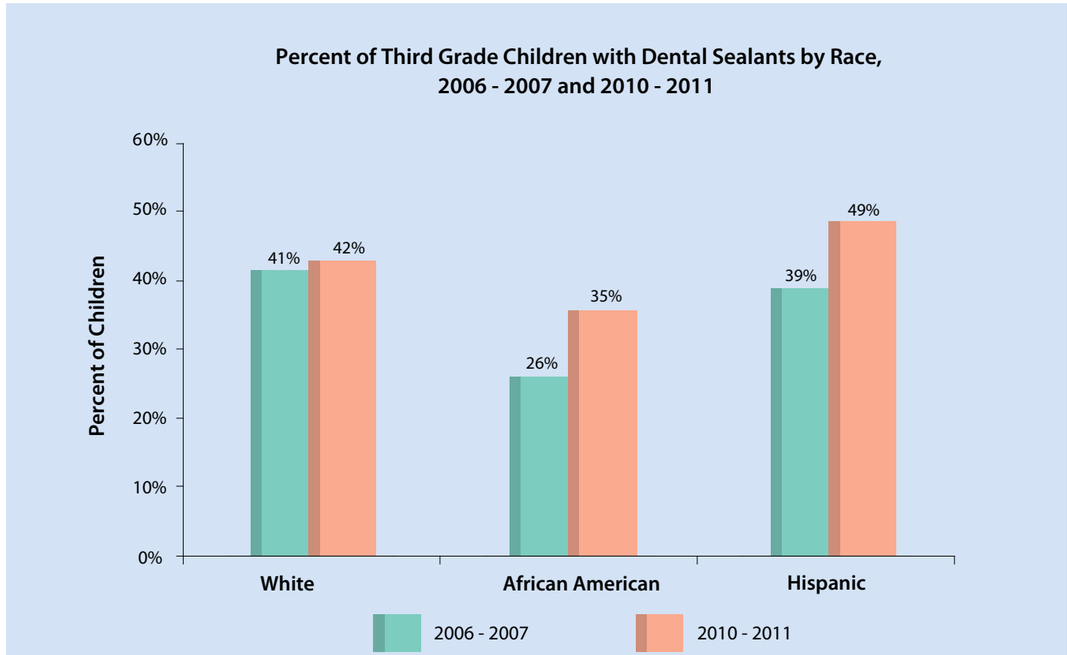
Several factors could be attributed to these improvements. In 2008, as the result of the settlement of a class action lawsuit, there was a significant increase in reimbursement rates for dental providers participating in the Medicaid (HUSKY) program in CT. In addition, a single service administrator for this program, the CT Dental Health Partnership (CTDHP) was established. Through the efforts of the CTDHP, the pool of dental providers participating in this program increased from just over 300 in 2008 to more than 1,500 dental providers (including dental hygienists) by July 2012.

In addition, the CT OOH developed the "Home by One" program in 2008 to increase awareness of the importance of good oral health for children and families who participate in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). This program stressed the importance of oral health care beginning in infancy and dental visits beginning as soon as the first teeth erupt, or by age one. Dental providers were educated in the techniques of the "age one" dental visit, and child health providers received education and training on oral health risk assessments, education, fluoride varnish application during well-baby visits, and are services that are reimbursed by the HUSKY program. Parents were provided with oral health education, guidance on dental visits by age one, and referrals to Home by One dental homes by WIC staff.

In late 2008, the nationwide and federally funded Head Start Dental Home Initiative was launched to develop a network of dentists. A regional coordinator and state leader were assigned to link Head Start children with dental homes, which offer access to comprehensive, coordinated, family-centered oral health care.

In addition, there was a significant increase in dental care utilization among children covered by the HUSKY (Medicaid and CHIP) program. In 2010, 68.1% of the children enrolled in the HUSKY A (Medicaid) program had received dental care, as compared to 55.7% in 2007.[11]

Key Finding #5 (Cont.): Compared To 2006 - 2007, Fewer Children Have Untreated Decay And More Minority Children Have Dental Sealants.

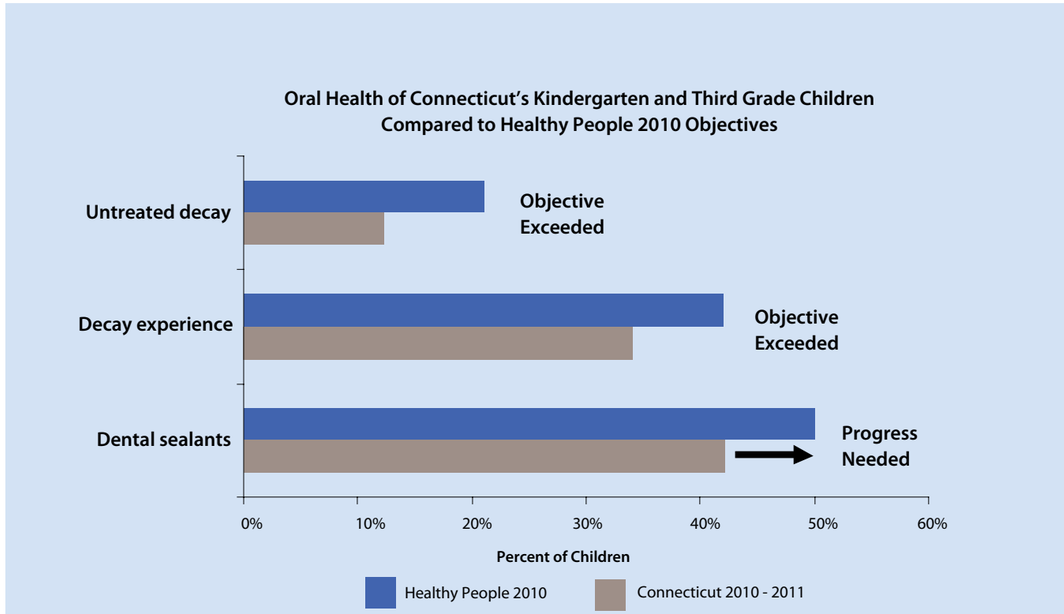


In 2006-2007, the *Every Smile Counts* survey found that a substantially lower proportion of African American children had dental sealants compared to non-Hispanic White and Hispanic children.

In 2007, only 9 out of the 169 towns in the state had any preventive dental programs in their schools, and not all offered dental sealants. By 2012, 44 towns offered dental programs in their schools including dental sealants as one of the services. Children in 265 schools across the state had access to dental sealants, which were provided by various organizations, such as local health departments, hospitals, free-standing dental clinics for children, and community health centers. Most of these services were delivered using portable dental equipment being transported from one school to another or through services being provided on dental vans/trucks.

Significant work still needs to be done to ensure that all CT children receive age appropriate dental sealants.

Key Finding #6: Connecticut Met The Healthy People 2010 Objectives For Reducing The Prevalence Of Decay Experience And Untreated Tooth Decay Among Elementary School Children, But Did Not Meet The Healthy People 2010 Objective For Increasing The Prevalence Of Dental Sealants.

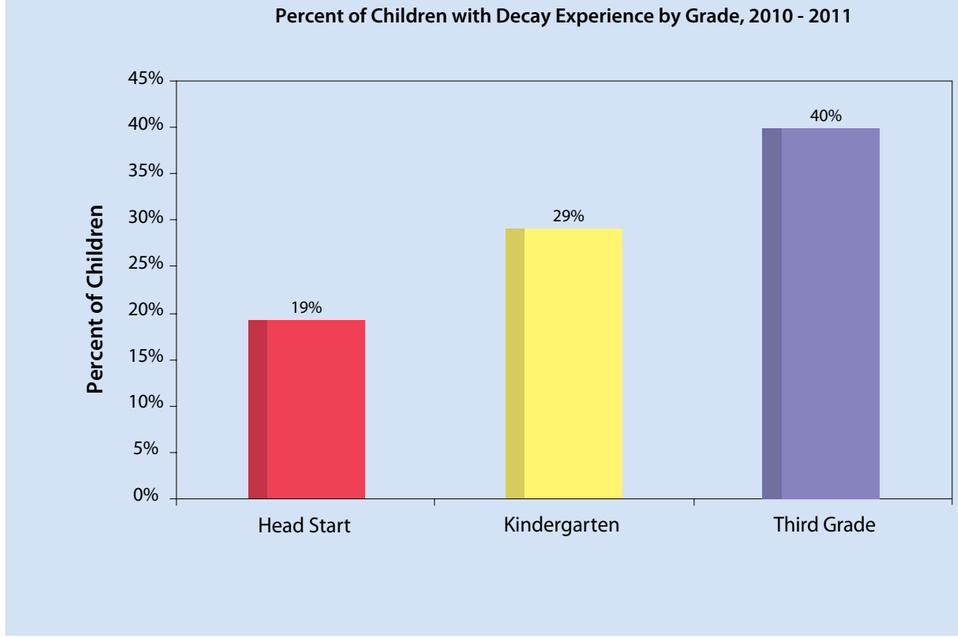


Healthy People 2010 outlined several oral health status objectives for elementary school children. These include:

- Decrease the proportion of 6-8 year olds with untreated tooth decay to 21%.
- Decrease the proportion of 6-8 year olds with decay experience to 42%.
- Increase the proportion of 8 year olds with dental sealants to 50%.

Connecticut met the Healthy People 2010 objectives for both decay experience and untreated decay, but did not meet the objective for preventive dental sealants. Dental sealants are a covered service under Medicaid/SCHIP Programs in CT and most private dental insurers also cover sealants. Both education of providers and patients about the effectiveness of dental sealants and better accessibility to sealants through school programs can increase the number of children receiving dental sealants. Children are four times more likely to receive dental sealants in schools where school dental sealant programs exist.[12]

Key Finding #7: Early Prevention Is Essential To Reduce The Prevalence Of Early Childhood Dental Caries.

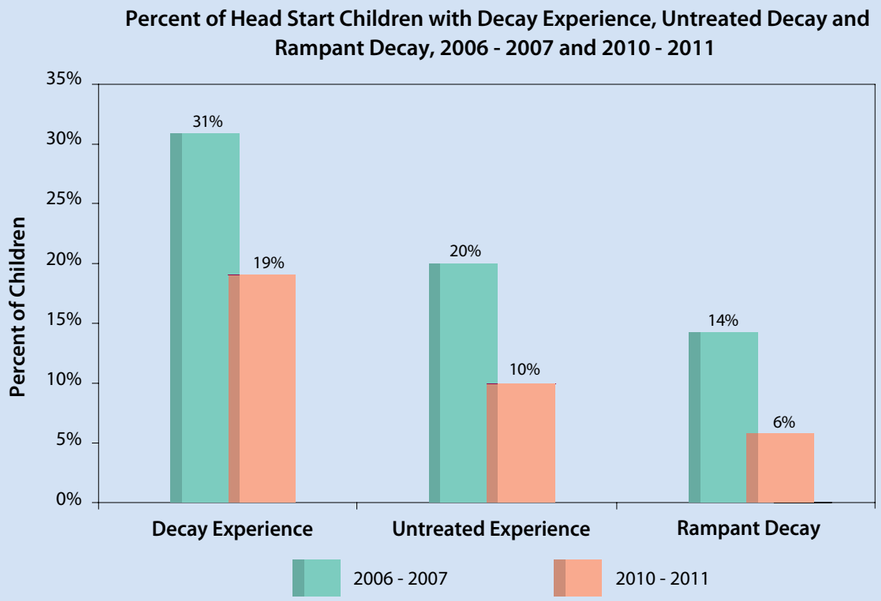


Early prevention efforts are necessary to eradicate dental disease in CT's children. The American Dental Association, the American Academy of Pediatric Dentistry and the American Association of Pediatricians recommend parent education and preventive dental care by age one. Almost 20% of 3-5 year old Head Start children in CT have decayed teeth - and the percentage with a history of decay increases with age. By the time children reach age two, it may be too late to initiate measures to prevent this bacterial disease from occurring and spreading. Medical and dental professionals should include children less than two years of age in dental disease prevention efforts.

The American Academy of Pediatric Dentistry recommends several prevention strategies focused on the mother (or the primary caregiver) and the infant.[13] Parents should be educated about: the importance of fluoride in water and toothpaste; the reasons to begin oral hygiene in infancy; proper diet; treatment of decay; and the transmission of cavity-causing bacteria from mother to child.

For high-risk children, dental decay prevention strategies should be an integral part of health care messages given by physicians (particularly pediatricians), nurses, health department staff, teachers, health educators, and day-care providers.

Key Finding #8: There Has Been A Substantial Improvement In The Oral Health Of Connecticut's Head Start Children.



Head Start is a national program that promotes school readiness by enhancing the social and cognitive development through the provision of educational, health, nutritional, social and other services to enrolled children and their families. Connecticut Head Start programs are administered and operated by community action agencies, local education agencies and other nonprofit agencies. To qualify for Head Start in 2012, a family of 4 must have an annual income less than $23,050, 100% of the federal poverty level (FPL), although there are some provisions that allow programs to enroll up to 10% of students whose family incomes are greater than 100% of the FPL.

As a result of all of the 2008 CT initiatives to increase awareness of the importance of the first dental visit by age one, the expanded dental provider pool participating in the Medicaid/HUSKY program and the network of dentists linked to Head Start programs, more children were seen by a dentist at a much earlier age and more have a dental home.

Patients

The following key strategies have been identified to improve the oral health of children in CT:

Patients

- Enhance and expand comprehensive decay prevention through the lifespan.
- Continue to provide anticipatory guidance aimed at preventing dental disease for parents in health and social service settings.
- Teach parents how to use the dental health care system and advocate for oral health for themselves and their children.
- Increase the number of dental insurance (private and public) enrollees who use their annual benefits for themselves and their children.

Increase private and public sector participation in mobilizing resources and developing policy to pursue and sustain these strategies.

Providers

The following key strategies have been identified to improve the oral health of children in CT:

Providers

- Maintain an adequate number of dental providers in underserved areas.
- Continue to educate medical care providers about the relationship between oral health and general health including their role in oral disease prevention.

Increase private and public sector participation in mobilizing resources and developing policy to pursue and sustain these strategies.

Systems

The following key strategies have been identified to improve the oral health of children in CT:

Systems

- Continue to promote annual dental exams beginning at age one, as a *minimum* standard of dental care, particularly for high-risk children.
- Continue to increase access to dental insurance for high-risk children and adults.
- Establish access to preschool dental programs and expand community and school-based dental programs.
- Continue to build capacity in dental public health.
- Continue to increase and maintain the number of dentists participating in public insurance programs.
- Increase the number of dental sealants provided in schools, and safety net and private dental practices.
- Develop an ongoing campaign to promote oral health as part of general health and well-being for all ages.

Increase private and public sector participation in mobilizing resources and developing policy to pursue and sustain these strategies.

Survey Methods

Every Smile Counts 2011 sampled children in Head Start, kindergarten and third grade. The survey methods were developed to collect statewide estimates.

For Head Start, the sampling frame consisted of all Head Start centers in CT with three or more children in the 3-5 year old age range (88 centers). Using implicit stratification by County, twenty centers were randomly selected of which nineteen agreed to participate.

For the elementary school survey, all public elementary schools with at least 25 children in kindergarten and/or third grade were included in the sampling frame (634 schools with 39,844 kindergarten and 41,848 third grade students). The sampling frame was ordered by region then by percent of children that participate in the free/reduced school lunch (FRL) program. A systematic sampling scheme was used to select 79 schools.

If a school refused to participate, a replacement school within the same sampling strata was randomly selected. If the sample school plus the replacement school refused to participate, no data were collected in that sampling stratum. Of the 79 elementary school strata, data are available for 74.

Letters in English and Spanish were sent home to parents explaining the goals of the survey. Parents were asked to return signed forms only if they did not want their child to be surveyed.

All children enrolled and present on the day of the screening were examined unless a parent/guardian returned a consent form specifically requesting that the child not take part in the survey.

Dental hygienists completed the screenings using gloves, penlights, and disposable mouth mirrors. The diagnostic criteria outlined in the Association of State and Territorial Dental Director's publication *Basic Screening Surveys: An Approach to Monitoring Community Oral Health* were used. The screeners attended a full-day training session, which included a didactic review of the diagnostic criteria along with a visual calibration session.

Information on age was obtained from the child or the child's teacher while the screener determined gender and race.

The sampling scheme was self-weighting and the data were not weighted for non-response. Data analysis was completed using the survey procedures within SAS version 9.2.

Data Tables - Kindergarten and Third Grade

Table 1.1
Demographic Characteristics of Children Screened Compared to Participating Schools, Schools in the Sample and Schools in Sampling Frame

	Number of Schools	Number in Kindergarten	Number in 3rd Grade	Percent on FRL*	Percent Minority
All Schools in Frame	624	39,844	41,848	33.5%	39.2%
Schools in Sample	79	5,436	5,505	31.1%	36.0%
Participating Schools	74	5,054	5,171	31.9%	36.8%
Children Screened	NA	4,069	4,339	NA	37.2%

*Free or reduced price school lunch program (FRL)

Table 1.2
Race, Ethnicity, Gender and Age of Children Screened

	Kindergarten (n=4,069)	Third Grade (n=4,339)	Total* (n=8,410)
Race (% of children)			
White	75.15	74.4	74.7
Black	13.57	14.3	14.0
Asian	4.77	5.3	5.0
American Indian	0.22	0.4	0.3
Pacific Islander	0.32	0.3	0.3
Multi-racial	0.1	0.1	0.1
Missing/Unknown	5.87	5.4	5.6
Ethnicity (% of children)			
Not Hispanic	79.04	81.8	80.5
Hispanic	20.96	18.2	19.6
Missing/Unknown	0.0	0.0	0.0
Race/Ethnicity (% of children)			
Non-Hispanic White	60.3	62.4	61.4
Non-Hispanic Black	11.6	12.1	11.9
Hispanic (any race)	21.0	18.2	19.5
Missing/Unknown	7.1	7.3	7.2
Gender (% of children)			
Male	51.2	52.3	51.8
Female	48.8	47.7	48.2
Missing/Unknown	0.0	0.0	0.0
Age (% of children)			
4	0.3	-	0.1
5	67.3	-	32.6
6	31.5	-	15.2
7	0.8	0.2	0.5
8	-	59.1	30.5
9	-	37.8	19.5
10	-	2.8	1.4
11	-	0.1	0.1
12	-	0.0	0.0
Missing/Unknown	0.1	0.0	0.1

*Grade is missing for 2 children

Data Tables - Kindergarten and Third Grade

Table 1.3
Oral Health Status of Connecticut's Kindergarten and Third Grade Children (95% CI)

	Kindergarten (n=4,069)	Third Grade (n=4,339)	Total (n=8,410)
% with decay experience (all teeth)	28.6 (25.3-31.8)	39.6 (36.5-42.7)	34.3 (31.5-37.0)
% with untreated decay (all teeth)	12.5 (10.4-14.6)	11.7 (10.1-13.3)	12.1 (10.5-13.7)
% with decay experience (permanent teeth only)	0.7 (0.4-1.0)	8.4 (6.4-10.3)	4.7 (3.6-5.8)
% with untreated decay (permanent teeth only)	0.2 (0.1-0.4)	2.0 (1.2-2.8)	1.2 (0.7-1.6)
% with rampant decay*	9.2 (7.3-11.1)	13.3 (11.1-15.6)	11.3 (9.5-13.1)
% needing treatment	11.6 (9.7-13.5)	12.6 (9.4-15.8)	12.1 (10.0-14.3)
% with dental sealants	NA	NA	NA

*Rampant decay: Decay experience on 5 or more teeth

Note: Information on rampant decay was missing for 19 children. Information on sealants was missing for 17 3rd grade children.

Table 1.4A
Distribution of Decay Experience Between Primary and Permanent Teeth (% of children)

	Kindergarten (n=4,069)	Third Grade (n=4,339)	Total (n=8,410)
No decay experience	71.4	60.4	65.7
Primary teeth only	27.8	31.2	29.6
Primary & permanent teeth	0.4	5.7	3.2
Permanent teeth only	0.3	2.7	1.5

Table 1.4B
Distribution of Untreated Decay Between Primary and Permanent Teeth
(% of children)

	Kindergarten (n=4,069)	Third Grade (n=4,339)	Total (n=8,410)
No untreated decay	87.5	88.3	87.9
Primary teeth only	12.3	9.6	10.9
Primary & permanent teeth	0.1	0.9	0.5
Permanent teeth only	0.1	1.1	0.7

Table 1.4C
Need for Dental Treatment
(% of children)

	Kindergarten (n=4,069)	Third Grade (n=4,339)	Total (n=8,410)
No treatment needed	88.4	87.4	87.9
Needs early dental care	10.0	11.2	10.6
Needs urgent dental care	1.6	1.5	1.5

Table 1.5A
Oral Health Status of Connecticut's Kindergarten Children
Stratified by Race and Ethnicity (95% Confidence Interval)

	Non-Hispanic White (n=2,455)	Non-Hispanic Black (n=473)	Hispanic (n=853)
% with decay experience	22.4 (19.3-25.6)	35.7 (31.4-40.0)	40.6 (36.8-44.3)
% with untreated decay	8.8 (7.0-10.7)	18.4 (15.0-21.8)	18.4 (15.1-21.7)
% with rampant decay*	5.8 (4.5-7.2)	14.0 (10.4-17.5)	15.6 (11.5-19.7)
% needing treatment	8.5 (6.8-10.1)	18.0 (14.3-21.6)	15.5 (11.9-19.1)

*Rampant decay: Decay experience on 5 or more teeth

Table 1.5B
Oral Health Status of Connecticut's Third Grade Children
Stratified by Race and Ethnicity (95% Confidence Interval)

	Non-Hispanic White (n=2,455)	Non-Hispanic Black (n=473)	Hispanic (n=853)
% with decay experience	33.3 (30.8-35.8)	49.6 (44.3-55.0)	50.4 (44.8-56.0)
% with untreated decay	9.0 (7.7-10.2)	17.7 (14.0-21.5)	15.3 (12.0-18.6)
% with rampant decay	10.0 (8.1-11.9)	20.5 (16.4-24.7)	17.4 (13.3-21.4)
% needing treatment	10.4 (6.3-14.5)	18.5 (14.9-22.1)	14.7 (10.9-18.4)
% with dental sealants	41.9 (38.0-45.9)	34.9 (28.6-41.3)	48.7 (40.3-57.1)
% with decay experience in their permanent teeth	5.4 (4.0-6.7)	15.8 (10.2-21.5)	12.8 (9.2-16.3)
% with untreated decay in their permanent teeth	1.1 (0.7-1.6)	5.7 (2.4-9.0)	2.9 (1.2-4.6)

Table 1.5C
Oral Health Status of Connecticut's Kindergarten and Third Grade Children
Stratified by Race and Ethnicity (95% Confidence Interval)

	Non-Hispanic White (n=5,164)	Non-Hispanic Black (n=997)	Hispanic (n=1,644)
% with decay experience	28.1 (25.9-30.3)	43.3 (15.6-20.5)	45.3 (41.3-49.4)
% with untreated decay	8.9 (7.6-10.2)	18.1 (15.6-20.5)	16.9 (14.2-19.7)
% with rampant decay	8.0 (6.7-9.3)	17.4 (14.8-20.0)	16.5 (13.0-20.1)
% needing treatment	9.5 (7.1-11.9)	18.3 (15.7-20.8)	15.1 (11.8-18.4)

Table 1.6A
Oral Health Status of Connecticut's Kindergarten Children
Stratfield by Percent on FRL (95% CI)

	"Higher Income" < 25% FRL (n=2,150)	25-49% FRL (n=781)	50-74% FRL (n=535)	"Lower Income" > 75% FRL (n=603)
% with decay experience	21.6 (18.0-25.2)	31.0 (26.8-35.2)	35.5 (29.4-41.6)	43.9 (39.0-48.9)
% with untreated decay	8.0 (6.1-9.8)	15.1 (11.1-19.1)	16.3 (9.5-23.0)	22.1 (18.3-25.8)
% with rampant decay*	5.5 (4.0-6.9)	9.2 (7.1-11.4)	12.2 (6.8-17.6)	19.6 (14.2-25.0)
% needing treatment	7.5 (5.9-9.2)	15.5 (11.6-19.4)	16.6 (9.8-23.4)	16.6 (10.7-22.5)

*Rampant decay: Decay experience on 5 or more teeth

Table 1.6B
Oral Health Status of Connecticut's Third Grade Children
Stratfield by Percent on FRL (95% CI)

	"Higher Income" < 25% FRL (n=2,567)	25-49% FRL (n=720)	50-74% FRL (n=490)	"Lower Income" > 75% FRL (n=562)
% with decay experience	33.1 (30.5-35.7)	42.9 (35.5-50.3)	49.0 (40.5-57.5)	56.8 (50.1-63.4)
% with untreated decay	9.0 (7.6-10.4)	14.0 (8.9-19.2)	14.5 (10.6-18.3)	18.3 (13.2-23.5)
% with rampant decay	8.8 (7.2-10.3)	19.2 (13.2-25.2)	19.5 (10.5-28.4)	21.2 (16.0-26.4)
% needing treatment	11.1 (6.0-16.2)	13.6 (8.3-18.9)	14.7 (10.9-18.5)	16.5 (10.1-23.0)
% with dental sealants	41.1 (37.0-45.1)	45.6 (31.1-60.1)	45.3 (26.5-64.0)	43.4 (28.3-58.5)
% with decay experience in their permanent teeth	5.1 (3.7-6.5)	8.3 (2.6-14.1)	13.5 (7.1-19.9)	19.0 (11.9-26.2)
% with untreated decay in their permanent teeth	1.0 (0.5-1.4)	2.5 (0.0-5.1)	4.3 (1.2-7.3)	4.3 (0.1-8.5)

Table 1.6C
Oral Health Status of Connecticut's Kindergarten and Third Grade Children
Stratified by Race and Ethnicity (95% CI)

	"Higher Income" < 25% FRL (n=4,718)	25-49% FRL (n=1,501)	50-74% FRL (n=1,025)	"Lower Income" > 75% FRL (n=1,166)
% with decay experience	29.9 (25.4-30.3)	36.7 (31.4-42.0)	42.0 (35.5-48.4)	50.2 (45.3-55.0)
% with untreated decay	8.5 (7.2-9.8)	14.6 (10.6-18.6)	15.4 (10.2-20.6)	20.2 (16.7-23.8)
% with rampant decay	7.3 (6.1-8.5)	14.0 (10.5-17.6)	15.7 (8.9-22.5)	20.4 (16.5-24.4)
% needing treatment	9.5 (6.5-12.5)	14.6 (10.5-18.7)	15.7 (10.4-21.0)	16.6 (10.9-22.2)

Table 1.7A
Oral Health Status of Connecticut's Kindergarten and Third Grade Children;
2006 - 2007 Compared to 2010 - 2011 (95% CI)

	Kindergarten		Third Grade		K & 3rd Grade	
	2006 - 2007 (n=4,315)	2010 - 2011 (n=4,069)	2006 - 2007 (n=4,440)	2010 - 2011 (n=4,339)	2006 - 2007 (n=8,755)	2010 - 2011 (n=8,410)
% with decay experience	27.3 (24.4-30.1)	28.6 (25.3-31.8)	40.6 (36.3-44.8)	39.6 (36.5-42.7)	34.1 (31.4-36.9)	34.3 (31.5-37.0)
% with untreated decay	15.5 (12.9-18.0)	12.5 (10.4-14.6)	17.8 (14.8-20.8)	11.7 (10.1-13.3)	16.7 (14.2-19.1)	12.1 (10.5-13.7)
% with rampant decay	9.1 (7.6-10.7)	9.2 (7.3-11.1)	13.6 (11.4-15.9)	13.3 (11.1-15.6)	11.5 (9.9-13.0)	11.3 (9.5-13.1)
% needing treatment	12.2 (9.7-14.6)	11.6 (9.7-13.5)	12.5 (10.1-14.9)	12.6 (9.4-15.8)	12.4 (10.3-14.5)	12.1 (10.1-14.3)
% with dental sealants	NA	NA	38.1 (34.3-42.0)	42.6 (38.6-46.6)	NA	NA

Table 1.7B
Oral Health Status of Connecticut's Kindergarten and Third Grade Children
Stratified by Race and Ethnicity; 2006 - 2007 Compared to 2010 - 2011 (95% CI)

	Non-Hispanic White		Non-Hispanic Black		Hispanic	
	2006 - 2007 (n=5,579)	2010 - 2011 (n=5,164)	2006 - 2007 (n=938)	2010 - 2011 (n=997)	2006 - 2007 (n=859)	2010 - 2011 (n=1,644)
% with decay experience	28.9 (26.4-31.3)	28.1 (25.9-30.3)	42.8 (37.6-48.0)	43.3 (39.5-46.6)	49.3 (43.7-55.0)	45.3 (41.3-49.4)
% with untreated decay	13.0 (10.7-15.3)	8.9 (7.6-10.2)	25.0 (20.6-29.4)	18.1 (15.6-20.5)	26.9 (22.1-31.7)	16.9 (14.2-19.7)
% with rampant decay	7.9 (6.6-9.1)	8.0 (6.7-9.3)	16.4 (13.2-19.6)	17.4 (14.8-20.0)	18.1 (11.3-24.9)	16.5 (13.0-20.1)
% needing treatment	9.1 (7.5-10.6)	9.5 (7.1-11.9)	19.8 (16.4-23.3)	18.3 (15.7-20.8)	15.3 (8.5-22.2)	15.1 (11.8-18.4)
3rd Grade Children Only	2006 - 2007 (n=2,852)	2010 - 2011 (n=2,708)	2006 - 2007 (n=938)	2010 - 2011 (n=997)	2006 - 2007 (n=859)	2010 - 2011 (n=1,644)
% with dental sealants	40.9 (36.7-45.0)	41.9 (38.0-45.9)	25.5 (20.3-30.7)	34.9 (28.6-41.3)	38.8 (28.1-49.4)	48.7 (40.3-57.1)

Table 2.1
Participation in the Connecticut Head Start Oral Health Survey

	Number of Sites	Enrollment	Number Screened	Response Rate
Head Start Sites in CT with 3+ Children	88	6,437	NA	NA
Participating Sites	19	1,280	774	

Table 2.2
Age, Gender, Ethnicity, and Race of the Head Start Children Screened

Variable	Number of Children	Percent of Children
Age		
3 years	176	22.7
4 years	407	52.6
5 years	191	24.7
Gender		
Male	371	47.9
Female	401	51.8
Missing/Unknown	2	0.3
Ethnicity		
Not Hispanic	437	56.5
Hispanic	337	43.5
Race		
White	461	59.6
African American or Black	272	35.1
Asian	24	3.1
American Indian/Alaska Native	8	1.0
Missing/Unknown	9	1.2
Race/Ethnicity		
Non-Hispanic White	209	27.0
Non-Hispanic Black	194	25.1
Hispanic (any race)	337	43.5
Other Race or Unknown	34	4.4

Table 2.3
Oral Health Status of Connecticut's Head Start Children

	Kindergarten	Third Grade	Total
Caries Free	774	80.7	72.4 - 89.1
Caries Experience	774	19.3	10.9 - 27.6
Untreated Decay	774	9.6	4.6 - 14.5
Rampant Decay (or a history of)	774	6.3	3.7 - 9.0
Urgency of Need for Dental Care	774		
No obvious problem		92.8	87.5 - 98.1
Early dental care needed		6.5	1.6 - 11.3
Urgent dental care needed*		0.8	0.1 - 1.5

*Urgent dental care: child had pain or an infection at the time of the screening

Table 2.4
Oral Health Status of Connecticut's Head Start Children
Stratified by Age, Percent of Children (95% Confidence Interval)

	3 Years (n=176)	4 Years (n=407)	5 Years (n=191)
Caries Free	76.7 (69.5-83.9)	82.1 (69.3-94.8)	81.7 (72.2-91.2)
Caries Experience	23.3 (16.1-30.5)	17.9 (5.2-30.7)	18.3 (8.8-27.8)
Untreated Decay	15.9 (7.5-24.3)	7.9 (1.1-14.6)	7.3 (3.2-11.4)
Rampant Decay (or a history of)	9.1 (3.0-15.1)	4.9 (0.5-9.4)	6.8 (3.5-10.1)
Needs Dental Treatment (Early & Urgent)	11.9 (3.7-20.2)	5.7 (0.0-12.2)	6.3 (1.1-11.5)

Table 2.5
Oral Health Status of Connecticut's Head Start Children
Stratified by Race/Ethnicity, Percent of Children (95% Confidence Interval)

	Non-Hispanic White (n=209)	Non-Hispanic Black (n=194)	Hispanic (n=337)	Other/Unknown (n=34)
Caries Experience	21.6 (18.0-25.2)	31.0 (26.8-35.2)	35.5 (29.4-41.6)	43.9 (39.0-48.9)
Untreated Decay	8.0 (6.1-9.8)	15.1 (11.1-19.1)	16.3 (9.5-23.0)	22.1 (18.3-25.8)
Rampant Decay (or a history of)	5.5 (4.0-6.9)	9.2 (7.1-11.4)	12.2 (6.8-17.6)	19.6 (14.2-25.0)
Needs Dental Treatment (Early & Urgent)	7.5 (5.9-9.2)	15.5 (11.6-19.4)	16.6 (9.8-23.4)	16.6 (10.7-22.5)

Table 2.6
Oral Health Status of Connecticut's Head Start Children
Stratified by Race/Ethnicity

	Non-Hispanic White (n=209)		Minority, Other & Unknown (n=565)	
	Percent	95% CI	Percent	95% CI
Caries Experience	20.6	10.8-30.3	18.8	9.9-27.6
Untreated Decay	9.6	3.2-16.0	9.6	4.2-14.9
Rampant Decay (or a history of)	7.7	3.4-11.9	5.8	3.3-8.4
Needs Dental Treatment (Early & Urgent)	7.7	2.6-12.7	7.1	1.0-13.1

Table 2.7
Oral Health Status of Connecticut's Head Start Children;
2006 - 2007 Compared to 2010 - 2011

	2006 - 2007 (n=609)		2010 - 2011 (n=774)	
	Percent of Children	95% CI	Percent of Children	95% CI
Caries Free	69.4	62.6-76.2	80.7	72.4 - 89.1
Caries Experience	30.6	23.8-37.4	19.3	10.9 - 27.6
Untreated Decay	19.5	15.5-23.6	9.6	4.6 - 14.5
Rampant Decay (or a history of)	14.0	7.5-20.6	6.3	3.7 - 9.0
Urgency of Need for Dental Care				
No obvious problem	81.9	77.6-86.2	92.8	87.5 - 98.1
Early dental care needed	17.8	13.6-21.9	6.5	1.6 - 11.3
Urgent dental care needed	0.3	0.1-0.8	0.8	0.1 - 1.5

Table 2.8
Oral Health Status of Connecticut's Head Start Children by Race/Ethnicity;
2006 - 2007 Compared to 2010 - 2011 (95% CI)

	Non-Hispanic White		Non-Hispanic Black		Hispanic	
	2006 - 2007 (n=101)	2010 - 2011 (n=209)	2006 - 2007 (n=151)	2010 - 2011 (n=194)	2006 - 2007 (n=198)	2010 - 2011 (n=337)
Caries Experience	21.4 (11.5-31.2)	20.6 (10.8-30.3)	30.6 (20.4-40.9)	20.1 (14.1-26.1)	27.2 (21.6-32.9)	17.5 (4.3-30.7)
Untreated Decay	11.0 (3.3-18.8)	9.6 (3.2-16.0)	22.7 (15.5-29.8)	9.8 (5.9-13.7)	17.3 (12.7-22.0)	9.5 (1.8-17.2)
Rampant Decay (or a history of)	6.1 (1.6-10.5)	7.7 (3.4-11.9)	17.1 (7.5-26.7)	5.7 (3.0-8.3)	11.6 (5.0-18.21)	5.6 (1.9-9.4)
Needs Dental Treatment (Early & Urgent)	11.0 (3.3-18.8)	7.7 (2.6-12.7)	21.8 (13.5-30.1)	7.2 (1.8-12.6)	16.5 (12.5-20.5)	7.7 (0.3-15.1)

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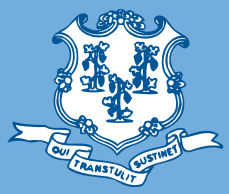

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