

# DELAWARE SINILES







THE ORAL HEALTH OF DELAWARE'S CHILDREN





## **ACKNOWLEDGEMENTS**

Delaware's Division of Public Health sincerely thanks all of the Delaware schools and third grade students that participated in this project. We particularly thank all of the school administrators and school nurses that assisted the oral health screeners in obtaining parental consents, organizing the screening day, and helping facilitate the screening process. Without the cooperation of the schools, this project would not have been possible.

#### **SURVEY CONSULTANT**

Kathy Phipps, DrPH
Association of State and
Territorial Dental Directors

#### **PROJECT FUNDING**

Title V Block Grant
Delaware Division of Public Health
Maternal and Child Health Bureau

#### **COORDINATION OF STUDY SITES**

Barbara L. Antlitz, MS
Public Health Administrator
Delaware Division of Public Health

Linda C. Wolfe, EdN, RN
Director, School Support Services
Delaware Department of Education

Kristin A. Bennett, RN, MSN
Public Health Nursing Director
Delaware Division of Public Health

#### PROJECT DIRECTOR AND SCREENER

Gregory B. McClure, DMD, MPH
State Dental Director
Delaware Division of Public Health

#### **SCREENER**

Robert E. Sundquist, DMD Dentist Delaware Division of Public Health

#### **SCREENER ASSISTANTS**

Derek White
Dental Assistant
Delaware Division of Public Health

Barbara Custis

Dental Assistant

Delaware Division of Public Health

Sheila Nunez Intern Delaware Division of Public Health

Kirstyn Kellam Intern Delaware Division of Public Health



## TABLE OF CONTENTS

Executive Summary	5
Quick Facts	8
The Oral Health of Delaware's Children	9
Key Finding #1	13
Key Finding #2	14
Key Finding #3	16
Key Finding #4	17
Key Finding #5	18
Key Finding #6	19
Oral Health Resources in Delaware	20
Key Strategies	23
Survey Methods	24
Appendix 1 - Data Tables	25
Appendix 1 - References	44
Appendix 2 – Consent Form	45
Appendix 3 – Screening Form	46
Appendix 4 – Parent Questionnaire	47



## EXECUTIVE SUMMARY

With Delaware Smiles 2013, Delaware's Oral Health Program takes its second look at the oral health status and dental treatment needs of third grade children in Delaware. The previous Delaware Smiles survey was completed in 2002. In 2013, more than 800 third grade children in 23 public elementary schools received a dental screening. To share what we learned, we organized the information collected through Delaware Smiles 2013 into six key findings. These findings will help support development of state policies and programs to ensure that Delaware's children receive needed preventive and restorative oral health services.

#### **KEY FINDINGS**

- Delaware's oral health programs are working. Compared to 2002, the percent of children with untreated decay has been cut in half while the percent with protective dental sealants has almost doubled.
- Even though Delaware has seen improvements in access to oral health care, many children in Delaware are not getting the dental care they need.
- Almost half of Delaware's children have experienced tooth decay, suggesting that Delaware needs more primary prevention programs.
- Over 50 percent of children in Delaware have dental sealants, a well accepted clinical intervention to prevent tooth decay on molar teeth.
- Delaware has successfully narrowed oral health disparities for minority children, but there are still gaps among low-income children.
- Delaware has met the Healthy People 2020 objectives for reducing the prevalence of decay experience and untreated tooth decay and increasing the prevalence of dental sealants.

#### **NEXT STEPS**

The results of *Delaware Smiles 2013* provide important clues to the reasons why some children in Delaware have more decay than others. We know that poor children have more disease and find it more difficult to get dental treatment. Most children in Delaware are covered by some type of dental insurance, either privately or through the state-federal Medicaid program. Yet even when children have dental insurance, their parents often have trouble finding a dentist.

In many ways, we are doing a better job of providing essential oral health services to children in Delaware. For example, our public health sealant programs and our promotion of dental sealants as a preventive practice are working. In addition, we increased access to dental care and significantly fewer children have untreated decay.

For the third graders we surveyed, it is clear that some children continued to get disease, and much of the disease remains untreated. We have not succeeded in providing adequate interventions in public health or private health practice that affect dental disease in these children. We have provided sealants, but this preventive procedure is not applied until a child is about seven years old. We also must work to prevent decay in primary or baby teeth.



#### **KEY STRATEGIES**

## Several key strategies are identified to improve the oral health of children in Delaware:

- Expand comprehensive decay prevention to include pregnant women, infants and toddlers, through the lifespan.
- Provide anticipatory guidance to prevent dental disease to 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 exam benefits for themselves and their children.
- Promote annual dental exams as a minimum standard of dental care, particularly for high-risk children by one year of age.
- 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.

- Increase the number of dental providers in underserved areas.
- Educate medical care providers about the relationship between oral health and general health.
- Build capacity in dental public health to increase knowledge and awareness.
- Increase the number of dentists participating in public insurance programs.
- Increase the provision of dental sealants in schools, safety nets and private dental practices.
- Develop an ongoing campaign to promote oral health as part of general health and well-being.
- Increase private and public sector participation in mobilizing resources and developing policy to pursue and sustain these strategies.

## **QUICK FACTS**

#### **DECAY EXPERIENCE:**

• Forty-seven percent (47%) of third grade children experienced tooth decay in their primary or permanent teeth; slightly but not significantly lower than the 2002 results (55%).

#### **UNTREATED TOOTH DECAY:**

Sixteen percent (16%) of third grade children have untreated tooth decay;
 this is a significant improvement since 2002 (30%).

#### **DENTAL SEALANTS:**

• Fifty-four percent **(54%)** of third grade children have dental sealants, a significant improvement since 2002 **(34%)**.

#### **NEED FOR DENTAL CARE:**

 Sixteen percent (16%) of third grade children are in need of dental care, a significant improvement since 2002 (30%).

#### **DENTAL INSURANCE COVERAGE:**

• Eighty-five percent **(85%)** of parents report that their child has dental insurance; 55 percent are covered by private insurance, while 30 percent have Medicaid.

#### TIME SINCE LAST DENTAL VISIT:

 Seventy-eight percent (78%) of parents report that their child visited the dentist in the last year.

## THE ORAL HEALTH OF DELAWARE'S CHILDREN

Tooth decay (dental caries) 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.²Tooth decay still affects more than half of all children by the third grade. By the time children are in high school, about 70 percent have tooth decay.³The public perception is largely that tooth decay is a natural and minor occurrence that deserves little attention or dollars. 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 results of not treating tooth decay include:

- Pain: Tooth decay can hurt a lot and hurt 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.
- 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 tooth decay often makes children's "baby" teeth fall out 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 affect 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.
- Missed school days: Children with infected and painful teeth miss more school days than other children, disrupting their educational and social

experiences and cost school districts money. In 1996, children between five 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.<sup>4</sup>

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.<sup>5</sup> National data indicate that 80 percent of tooth decay in children is concentrated in 25 percent of the child population, with low-income children and racial/ethnic minority groups having more untreated decay than the U.S. population as a whole.<sup>6</sup>

By recognizing and understanding the oral health needs of Delaware's children, we will be able to contribute to policies that will ensure that all children receive the oral health care they need. The answers to effective policies to protect children's oral health lie in 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 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 suffer disproportionately from oral diseases.

This survey demonstrates that while Delaware has made great strides toward improving the oral health of its children, there are barriers to overcome to improve the oral health of all of Delaware's children. We need more effective ways to provide essential preventive and restorative services, especially for low-income children. To continue moving forward, we need to mobilize resources, including both the public and private health care sectors.

To describe the oral health of Delaware's children, the Delaware Oral Health Program conducted Delaware Smiles 2013, a statewide oral health survey of third grade children attending Delaware's public schools. During the 2012-2013 school year, over 800 third grade children in 23 different public schools were screened by one of two licensed dentists. Detailed information on the design of the 2012-2013 oral health survey can be found in the Survey Methods section of this report. Findings from Delaware Smiles 2013 have been organized into the following six key findings. These findings highlight the current oral health of Delaware's children and disparities in oral health within Delaware. We hope that you find this information useful as well as informative.

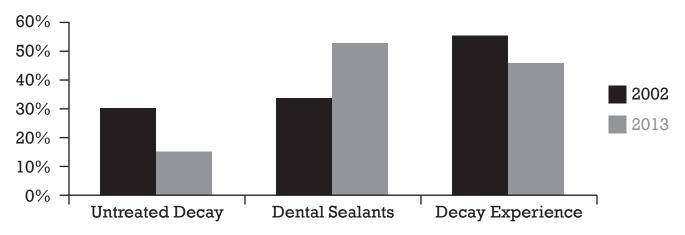
#### **KEY FINDINGS**

- Delaware's oral health programs are working. Compared to 2002, the percent of children with untreated decay has been cut in half while the percent with protective dental sealants has almost doubled.
- Even though Delaware has seen improvements in access to oral health care, many children in Delaware are not getting the dental care they need.
- Almost half of Delaware's children have experienced tooth decay, suggesting that Delaware needs more primary prevention programs.
- Over 50 percent of children in Delaware have dental sealants, a well accepted clinical intervention to prevent tooth decay on molar teeth.
- Delaware has successfully narrowed oral health disparities for minority children, but there are still gaps among low-income children.
- Delaware has met the Healthy People 2020 objectives for reducing the prevalence of decay experience and untreated tooth decay and increasing the prevalence of dental sealants.



DELAWARE'S ORAL HEALTH PROGRAMS ARE WORKING. COMPARED TO 2002, SUBSTANTIALLY FEWER CHILDREN HAVE UNTREATED DECAY AND MORE CHILDREN HAVE PROTECTIVE DENTAL SEALANTS.

Percent of Delaware's Children with Untreated Decay, Dental Sealants and Decay Experience, 2002 vs. 2013



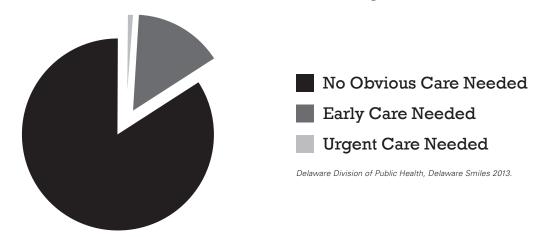
Delaware Division of Public Health, Delaware Smiles 2013.

In recent years many different organizations in Delaware, including the Oral Health Program, have worked to improve access to dental care for children. The efforts are paying off. Compared to 2002, in 2013 significantly fewer children had untreated decay and significantly more had protective dental sealants. While untreated decay declined and dental sealants increased significantly, the amount of decay experienced by Delaware children did not drop significantly.

Some efforts to improve access to dental care include Delaware's First Smile Initiative that promotes age-one dental visits and the Delaware Seal-a-Smile Program that provides preventive services and referrals for elementary school children who do not have a regular source of dental care.

## EVEN THOUGH DELAWARE HAS SEEN IMPROVEMENTS IN ACCESS TO DENTAL CARE, MANY CHILDREN IN DELAWARE ARE NOT RECEIVING THE DENTAL CARE THEY NEED.

Percent of Delaware's Children Needing Dental Care, 2013



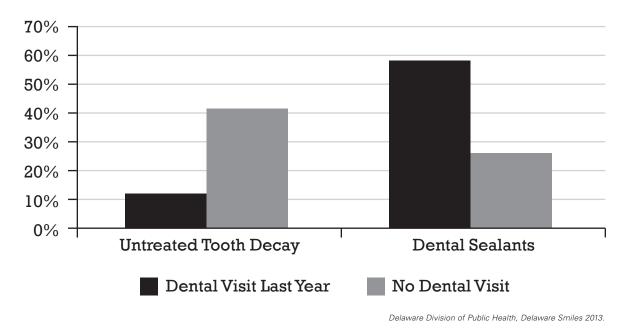
Almost 16 percent of the third grade children screened had a need for dental care, with about 1 percent needing urgent dental care because of pain or infection. In 2012-2013 there were about 10,000 third grade children in Delaware. If 16 percent need dental care, this means that 1,600 third grade children are in the classroom with a cavity and about 100 may be in pain or have an oral infection. Untreated tooth decay can hurt and if left untreated has serious consequences, including needless pain and suffering, difficulty chewing, difficulty speaking, and lost days in school.

For the Delaware Smiles survey we did not perform complete diagnostic dental examinations. We did dental screenings - "Say 'Ah,'" a look inside with a dental mirror, a set of questions, no x-rays, and none of the more advanced diagnostic tools. Therefore, it is reasonable to assume that these numbers actually *underestimate the proportion of children needing dental care*.

## KEY FINDING #2 CONT

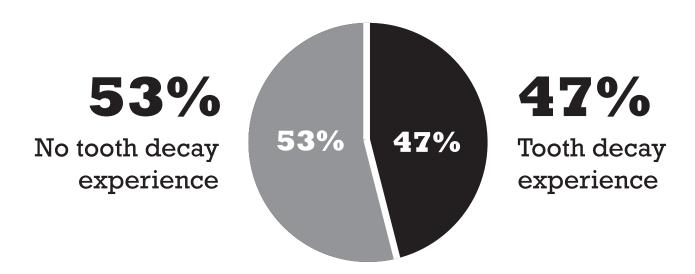
## EVEN THOUGH DELAWARE HAS SEEN IMPROVEMENTS IN ACCESS TO DENTAL CARE, MANY CHILDREN IN DELAWARE ARE NOT GETTING THE DENTAL CARE THEY NEED.

Percent of Delaware Children with Untreated Decay and Dental Sealants Stratified by Dental Visit in Last Year, 2013



About 13 percent of the parents reported that their child had NOT visited the dentist in the last year. If a child had not been to the dentist in the last year, they were significantly more likely to have untreated decay and significantly less likely to have protective dental sealants. Eleven percent (11%) of the parents reported that their child needed dental care in the last year but they were unable to obtain care. The primary reason for not obtaining dental care was cost.

ALMOST HALF OF DELAWARE'S CHILDREN HAVE EXPERIENCED TOOTH DECAY, SUGGESTING THAT DELAWARE NEEDS MORE PRIMARY PREVENTION PROGRAMS.

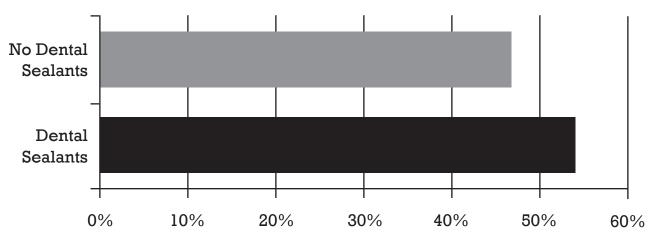


Tooth decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his or her lifetime. Decay experience can be past (fillings, crowns, or teeth that were extracted because of decay) or present (untreated tooth decay or cavities). In Delaware, about 47 percent of third grade children have experienced tooth decay.

If we want to eradicate tooth decay in Delaware's children, we have to get them started right with early prevention efforts. Medical, dental and public health professionals must focus dental disease prevention efforts on children less than two years of age because two is too late. The American Dental Association, the American Academy of Pediatric Dentistry and the American Association of Pediatricians all recommend preventive dental care and parent education by age one.

OVER 50 PERCENT OF CHILDREN IN DELAWARE HAVE DENTAL SEALANTS, A WELL ACCEPTED CLINICAL INTERVENTION TO PREVENT TOOTH DECAY ON MOLAR TEETH.

## Percent of Delaware Children with and without Dental Sealants, 2013

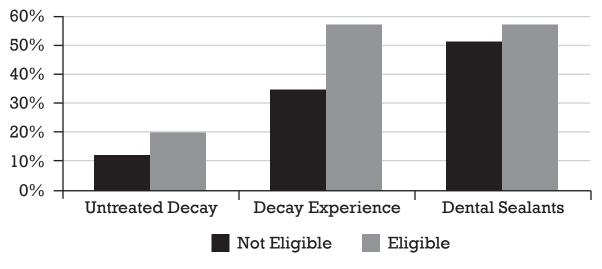


Delaware Division of Public Health, Delaware Smiles 2013.

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.<sup>7</sup> In Delaware, 54 percent of the third grade children screened had dental sealants while 46 percent could potentially benefit from this preventive service.

## DELAWARE HAS SUCCESSFULLY NARROWED ORAL HEALTH DISPARITIES FOR MINORITY CHILDREN, BUT THERE ARE STILL GAPS AMONG LOW-INCOME CHILDREN.

Percent of Delaware Children with Untreated Decay, Decay Experience and Dental Sealants Stratified by Eligibility for the FRL Program, 2013

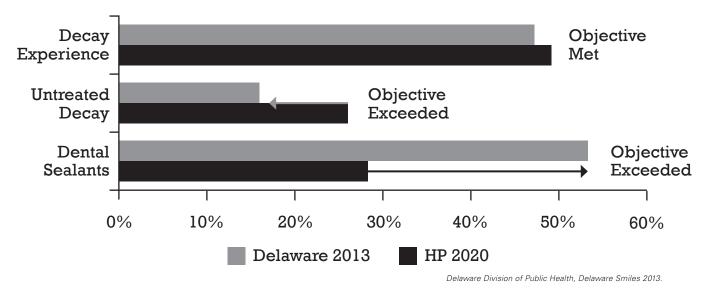


Delaware Division of Public Health, Delaware Smiles 2013.

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 2012-2013 school year, the annual family income for a family of four could not exceed \$42,643 Compared to children not eligible for the FRL program, children that participate in the FRL program had a significantly higher prevalence of decay experience. There was no difference in the prevalence of untreated decay or dental sealants. This suggests that lower-income children are not getting the benefit of early preventive services but are able to access a dentist for restorative treatment and the placement of dental sealants.

DELAWARE HAS MET THE HEALTHY PEOPLE 2020 OBJECTIVES FOR REDUCING THE PREVALENCE OF DECAY EXPERIENCE AND UNTREATED TOOTH DECAY AND INCREASING THE PREVALENCE OF DENTAL SEALANTS.

Oral Health of Delaware's Third Grade Children Compared to Healthy People 2020 Objectives for 6-9 Year Olds



Healthy People 2020 outlines several oral health status objectives for elementary school children. These include:

- Decrease the proportion of 6-9 year olds with decay experience to 49 percent.
- Decrease the proportion of 6-9 year olds with untreated tooth decay to 26 percent.
- Increase the proportion of 6-9 year olds with dental sealants to 28 percent.

Delaware has met or exceeded each of these *Healthy People 2020* objectives. It should be noted that the *Healthy People 2020* objectives are for children six to nine years of age while most (97 percent) of the Delaware children screened were either eight or nine years of age.

## ORAL HEALTH RESOURCES IN DELAWARE

Delaware is in an excellent position to make long lasting and profound improvements in the oral health status of children. Recent initiatives concerning oral health in the state include:

- Development of the First State Smile Initiative and website, providing a place where people can access information on oral health literacy, providers' resources, parent resources, and prenatal, infant and young children patient education cards.
- Development of a school sealant program, oral disease surveillance, an oral health plan, and oral health awareness campaigns.
- · Support for a mobile dentistry program.
- · Establishment of community dental clinics.
- · Support for a state oral health coalition.
- Funding to educate parents and medical providers about the importance of oral health.
- Development of a model medical/dental home initiative to increase age one dental visits for high risk children.
- Support for preventive dental care for perinatal clients at a Federally Qualified Health Center.
- · Publication of the KIDS COUNT Delaware Issue Brief.
- Development of training opportunities for dental hygienists, direct support professionals and family members on providing good oral hygiene at home for individuals with disabilities.

Delaware's system of dental care for low-income children revolves around the Early and Periodic Screening and Dental Treatment (EPSDT) Medicaid program. Of the approximately 380 practicing dentists in the state, 276 are enrolled as Medicaid providers. In Sussex County, there are 36 Medicaid dentists for 16,150 Medicaid-eligible children.

In Fiscal Year 2011, only 41 percent of the State's 106,581 Medicaid-eligible children received care through a combination of private dentists, community



clinics, and the Division of Public Health dental clinics, even though appointments are routinely available. This suggests that parents are not aware of the importance of dental care for their children or do not know how to navigate the oral health system. Medicaid-eligible children, as indicated in Delaware's oral health survey, are at increased risk for dental disease and require significantly more intensive care. The Medicaid program, with its excellent reimbursement and reduced administrative barriers, provides an outstanding foundation for providing services to children. With the rate of Medicaid children who receive dental care at little more than one-third of those eligible, action must be taken to link these children to dentists who have sufficient capacity to treat them.

Currently, the Delaware Medicaid program does not have a formalized referral system. Instead, enrollees are given a list of dental providers when they enroll, from which they must find a dentist willing to see them. Medicaid provides for transportation that relies on a combination of public transportation and contracted carriers. Delaware's Division of Public Health dental clinics experience a no-show rate of approximately 22 percent and it is estimated that private practices and community clinics encounter the same or higher no-show rates. The patient no-show rate is a significant problem as it deters dentists from either enrolling or accepting new Medicaid patients. Although not statistically documented, dentists have reported incidents where Medicaid clients "act out" in the waiting rooms, having a negative impact on dental practices. Efforts to mitigate these issues are being addressed by the Delaware Oral Health Coalition with the goals of increasing the number of dentists enrolled, and treating significant numbers of Medicaid patients in the state.

Kent and Sussex counties are both dental Health Provider Shortage Areas (HPSA), along with the inner city area of Wilmington. A 2012 capacity study designed to assess the supply and spatial distribution of dentists in the state, *Dentists in Delaware 2012*, reported that there are approximately 380 dentists actively practicing in Delaware. This represents a slight decline from the *Dentists in Delaware 2008* report that enumerated 396 dentists who were actively practicing. This decrease in dentists, coupled with the increasing population in the state, particularly in Kent and rural Sussex Counties, reverses the previous

trend of an increase in dentists. According to the report, the number of dentists in Sussex County exceeds the Health Provider Shortage Area threshold of one dentist for 5,000 persons, whereas Kent and New Castle counties are below the threshold. Hence, the distribution of dentists within counties is uneven. However, Kent and Sussex qualify as dental HPSAs, along with a section of Wilmington in New Castle County.

For the three counties, the estimates are 3,470 persons for each full-time equivalent dentist in Kent County (compared to 3,700 in 2008); 2,282 for New Castle County (compared to 1,800 in 2008); and 5,125 for Sussex County (compared to 4,200 in 2008). The federal government defines a dentally underserved area as one with more than 5,000 persons per FTE dentist. New Castle County has the highest percentage of dentists who are 55 years or older (70 percent). When asked if they planned to be active in dentistry five years from now, dentists in Sussex County (4 percent) and New Castle County (16 percent) were less likely to indicate being unsure or definitely planning to be inactive in five years compared to dentists in Kent County (22 percent).

The Sussex County ratio has worsened from 1:4,200 to 1:5,125 and represents a serious shortage as it is below the 5,000 persons per FTE dentists threshold. Although the total number of dentists in Sussex County increased slightly, it has not kept up with the increase in population. The increase in dentists in Sussex County reflects the increased efforts to recruit dentists to Delaware and the effect of the State Loan Repayment Program for Physicians and Dentists. Most recently, a pediatric dentist was recruited for Sussex County, using an enhanced loan repayment award. Also, the shortage of dentists in Sussex County will probably remain a problem as it is reasonable to expect that the older population of retirees settling there will need more specialized dental care. Kent County has also grown rapidly in the last seven years and that growth is likely to produce many of the same shortages observed in Sussex County. Currently, both Kent and Sussex Counties are designated dental HPSAs.



## KEY STRATEGIES

#### Several key strategies are identified to improve the oral health of children in Delaware:

#### **SYSTEMS**

- Develop preschool dental programs and expand the number of dental programs in community and school-based centers.
- Promote annual dental exams as a minimum standard of dental care, particularly for high-risk children by one year of age.
- Increase access to dental insurance for high-risk children and their parents.
- Increase the provision of dental sealants in schools and safety nets.
- Build capacity in dental public health at the state and local levels.
- Develop an ongoing campaign to promote oral health as part of general health and well-being.

#### **PATIENTS**

- Expand comprehensive decay prevention to include pregnant women, infants and toddlers through the lifespan.
- Provide anticipatory guidance to prevent dental disease to 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 utilize their annual exam benefits for themselves and their children.

#### **PROVIDERS**

- Increase the number of dental providers in underserved areas.
- Educate non-dental health care providers about the relationship of oral health and general health and their role in oral health prevention.
- Increase the number of dentists participating in Medicaid/Children's Health Insurance Program (CHIP).
- Increase the number of dentists with skills to treat young children and vulnerable groups.
- Increase the number of dental professionals providing dental sealants.
- Increase private and public sector participation in mobilizing resources and developing policy to pursue and sustain these strategies.

## APPENDIX 1 – SURVEY METHODS

Delaware Smiles 2013 sampled children in third grade. All public elementary schools with at least 10 children in third grade were included in the sampling frame (115 schools with about 9,700 third grade students). The sampling frame was stratified by county, then ordered within each county by the percent of children that participate in the free or reduced price school lunch (FRL) program. A systematic sampling scheme was used to select 23 schools: six schools in Kent, six schools in Sussex, and 11 schools in New Castle County. If a school refused to participate, a replacement school within the same sampling strata was randomly selected. Twenty of the original schools participated, along with three replacement schools providing data for all 23 sampling intervals. Of the 2,189 third grade children enrolled in the 23 participating schools, 828 were screened for a response rate of 38 percent.

Letters to parents in English and Spanish explained the survey goals. Parents were asked to complete a short questionnaire and return a signed consent form. Only those children whose parents returned a positive consent form were screened. Two dentists 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.9

All statistical analyses were performed using the SAS software complex survey procedures (Version 9.3; SAS Institute Inc., Cary, NC). Sample weights produce population estimates based on selection probabilities and indicating the number of children in each sampling interval.

CHARACTERISTICS OF CHILDREN SURVEYED COMPARED TO PARTICIPATING SCHOOLS, SCHOOLS IN THE ORIGINAL SAMPLE AND SCHOOLS IN THE SAMPLING FRAME (BASED ON 2010-2011 ENROLLMENT DATA AND CHILDREN SURVEYED).

	# OF SCHOOLS	# OF CHILDREN IN 3 <sup>RD</sup>	PERCENT ON FRL <sup>1</sup>	% WHITE	% BLACK	% HISPANIC
SCHOOLS IN SAMPLING FRAME	115	9,706	52%	47%	32%	15%
PARTICIPATING SCHOOLS	23	2,189	53%	48%	29%	15%
PARTICIPATING CHILDREN <sup>2</sup>	NA	828	46%	55%	26%	11%
PARTICIPATING CHILDREN <sup>3</sup>	NA	828	41%	47%	25%	13%

Delaware Division of Public Health, Delaware Smiles 2013.

#### NA=Not applicable

NOTE: Compared to the state as a whole and the participating schools, a lower percentage of participating children were eligible for the free or reduced price school lunch program.

<sup>&</sup>lt;sup>1</sup> Free or reduced price school lunch program (FRL)

<sup>&</sup>lt;sup>2</sup> Percents for FRL & race/ethnicity exclude missing from the denominator

<sup>&</sup>lt;sup>3</sup> Percents for FRL & race/ethnicity include missing in the denominator

## RACE/ETHNICITY, GENDER, AGE AND FREE OR REDUCED LUNCH PROGRAM PARTICIPATION AND COUNTY OF SCHOOL FOR PARTICIPATING CHILDREN.

DEMOGRAPHIC CHARACTERISTIC	NUMBER OF CHILDREN	WEIGHTED PERCENT				
RACE/ETHNICITY (% OF CHILDREN)						
WHITE	426	46.7				
BLACK/AFRICAN AMERICAN	197	25.4				
HISPANIC/LATINO	88	12.5				
ASIAN	36	5.2				
AMERICAN INDIAN/ALASKA NATIVE	7	0.8				
NATIVE HAWAIIAN/PACIFIC ISLANDER	1	0.1				
MULTI-RACIAL	16	2.2				
MISSING/UNKNOWN	57	7.1				
GENDER (% OF CHILDREN)						
MALE	394	46.9				
FEMALE	427	52.3				
MISSING/UNKNOWN	7	0.8				
AGE (% OF CHILDREN)						
7 YEARS	2	0.2				
8 YEARS	523	63.1				
9 YEARS	283	34.0				
10 YEARS	12	1.7				
MISSING/UNKNOWN	8	1.0				
PARTICIPATES IN FRL PROGRAM (% OF CHILDE	REN)					
NO	392	46.3				
YES	336	41.1				
MISSING/UNKNOWN	100	12.6				
COUNTY (% OF CHILDREN)						
KENT	237	23.3				
NEW CASTLE	382	58.4				
SUSSEX	209	18.3				

Delaware Division of Public Health, Delaware Smiles 2013.



DENTAL INSURANCE, TIME SINCE LAST DENTAL VISIT AND DIFFICULTY IN OBTAINING DENTAL CARE FOR PARTICIPATING CHILDREN.

CHARACTERISTIC	NUMBER SCREENED	WEIGHTED PERCENT					
DENTAL INSURANCE (% OF CHILDREN)	DENTAL INSURANCE (% OF CHILDREN)						
YES	454	54.9					
MEDICAID	249	30.4					
NO	73	8.2					
MISSING	52	6.4					
TIME SINCE LAST DENTAL VISIT (% OF CHILI	DREN)						
WITHIN THE LAST YEAR	641	77.7					
WITHIN THE PAST 2 YEARS	80	9.0					
WITHIN THE PAST 5 YEARS	14	1.2					
MY CHILD HAS NEVER BEEN TO DENTIST	24	2.6					
DON'T KNOW/NOT SURE	10	1.4					
MISSING	59	8.1					
COULD NOT OBTAIN DENTAL CARE (% OF C	HILDREN)						
YES	96	10.8					
NO	629	75.7					
DON'T KNOW	10	1.4					
MISSING	93	12.1					

Delaware Division of Public Health, Delaware Smiles 2013.

REASONS FOR NOT VISITING THE DENTIST IN THE LAST YEAR (UNADJUSTED). LIMITED TO THOSE WHO STATED THAT THEIR CHILD HAD NOT BEEN TO THE DENTIST IN THE LAST YEAR.

REASON	NUMBER OF RESPONSES
COST	42
NO REASON TO GO	27
MY CHILD IS TOO YOUNG	1
DO NOT HAVE OR KNOW A DENTIST	22
DIFFICULTY IN GETTING APPOINTMENT	12
FEAR, APPREHENSION, PAIN, DISLIKE GOING	8
CANNOT GET TO THE DENTAL OFFICE	10
OTHER	29

Delaware Division of Public Health, Delaware Smiles 2013.

#### Other reasons listed:

Appointment, Crazy year, Dentist is in my insurance plan, Did not have insurance for six months, Finding dentist and fitting schedule, Had no coverage but have it now, I work, It was recent, Lost the number when I called around I was told they didn't take Medicaid, Mother has insurance card, Moved (x3) My dentist passed away, No insurance (x2), No renew Medicaid, Returning from Mexico in July,

Time got away/forgot, Too busy to make an appt, Transportation (x3)



REASONS FOR NOT GETTING THE DENTAL CARE THEIR CHILD NEEDED (UNADJUSTED). LIMITED TO THOSE WHO STATED THAT THERE WAS A TIME DURING THE PAST 2 YEARS THAT THEY COULD NOT GET THE DENTAL CARE THEIR CHILD NEEDED.

REASON	NUMBER OF RESPONSES
COULD NOT AFFORD IT	55
NO INSURANCE	37
DENTIST DID NOT ACCEPT MEDICAID/INSURANCE	11
DENTAL PROBLEMS NOT SERIOUS ENOUGH	2
WAIT TOO LONG IN CLINIC	2
DIFFICULTY IN GETTING APPOINTMENT	11
DON'T LIKE/TRUST/BELIEVE IN DENTISTS	2
NO DENTIST AVAILABLE	2
DIDN'T KNOW WHERE TO GO	13
NO WAY TO GET THERE	8
HOURS NOT CONVENIENT	10
SPEAK A DIFFERENT LANGUAGE	2
HEALTH OF ANOTHER FAMILY MEMBER	2
OTHER	8

Delaware Division of Public Health, Delaware Smiles 2013.

#### Other reasons listed:

Braces, Delta Dental - High co-pay, Dental clinic traumatized my child and it is hard for us to go to the dentist, Missed appt due to having to work, Need suggestion, They said he needs braces but I can't afford them, Finding and fitting schedule, Insurance does not cover a lot of each visit, Ortho work - said child too young insurance won't pay, Work doesn't pay for it

PERCENT OF DELAWARE'S THIRD GRADE CHILDREN WITH **DECAY EXPERIENCE** (TREATED OR UNTREATED DECAY) IN THEIR **PRIMARY OR PERMANENT** TEETH BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	PERCENT WITH DECAY EXPERIENCE	LOWER 95% CONFIDENCE LIMIT	UPPER 95% CONFIDENCE LIMIT			
ALL 3RD GRADE CHILDREN (N=822)	47.2	40.2	54.2			
RACE/ETHNICITY (% OF CHILDREN)						
WHITE (N=425)	41.7	33.4	49.9			
BLACK/AFRICAN AMERICAN (N=197)	47.9	39.4	56.4			
HISPANIC/LATINO (N=88)	62.8	45.7	79.9			
GENDER (% OF CHILDREN)						
MALE (N=394)	49.0	40.1	57.8			
FEMALE (N=427)	45.4	39.0	51.8			
PARTICIPATES IN FRL PROGRAM (% OF CHILDR	EN)					
NO (N=391)	37.0	27.9	46.0			
YES (N=336)	56.8	52.8	60.8			
DENTAL INSURANCE (% OF CHILDREN)						
HAS INSURANCE (N=453)	38.4	31.3	45.5			
MEDICAID (N=249)	62.7	56.6	68.8			
NO INSURANCE (N=73)	44.7	29.5	59.8			
TIME SINCE LAST DENTAL VISIT (% OF CHILDRE	EN)		3			
WITHIN LAST YEAR (N=640)	44.8	37.3	52.4			
MORE THAN 1 YEAR AGO (N=118)	52.3	42.6	62.1			
COUNTY (% OF CHILDREN)			60.8 45.5 68.8 59.8 52.4 62.1			
KENT (N=234)	55.0	49.4				
NEW CASTLE (N=380)	42.6	32.3	52.9 60.7			
SUSSEX (N=208)	51.9	43.1	60.7			

Decay experience: Refers to having untreated decay or a dental filling, crown, or other type of restorative dental material. Also includes teeth that were extracted because of tooth decay.

#### Related Healthy People 2020 Objective

**OH-1.2**: Reduce the proportion of children aged six to nine years who have dental caries experience in their primary or permanent teeth

- Baseline: 54.4 percent of children aged six to nine years had dental caries experience in at least one primary or permanent tooth in 1999–2004.
- Target: 49.0 percent



PERCENT OF DELAWARE'S 3RD GRADE CHILDREN WITH UNTREATED DECAY IN THEIR PRIMARY OR PERMANENT TEETH BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	PERCENT WITH UNTREATED DECAY	LOWER 95% CONFIDENCE LIMIT	UPPER 95% CONFIDENCE LIMIT		
ALL 3RD GRADE CHILDREN (N=822)	16.1	12.6	19.6		
RACE/ETHNICITY (% OF CHILDREN)					
WHITE (N=425)	12.9	8.0	17.8		
BLACK/AFRICAN AMERICAN (N=197)	22.7	16.5	28.9		
HISPANIC/LATINO (N=88)	14.6	6.1	23.2		
GENDER (% OF CHILDREN)					
MALE (N=394)	17.1	11.6	22.5		
FEMALE (N=427)	15.3	10.7	19.9		
PARTICIPATES IN FRL PROGRAM (% OF CHILDR	EN)				
NO (N=391)	12.8	7.4	18.1		
YES (N=336)	20.0	16.3	23.6		
YES (N=336)       20.0       16.3       23.6         DENTAL INSURANCE (% OF CHILDREN)         HAS INSURANCE (N=453)       13.4       8.5       18.3         MEDICAID (N=249)       18.4       14.6       22.1         NO INSURANCE (N=73)       26.4       12.1       40.7         TIME SINCE LAST DENTAL VISIT (% OF CHILDREN)         WITHIN LAST YEAR (N=640)       12.3       8.6       15.9         MORE THAN 1 YEAR AGO (N=118)       41.8       32.0       51.6         COUNTY (% OF CHILDREN)         KENT (N=234)       22.2       17.7       26.8         NEW CASTLE (N=380)       11.6       7.1       16.1         SUSSEX (N=208)       22.7       17.1       28.3					
HAS INSURANCE (N=453)	13.4	8.5	18.3		
MEDICAID (N=249)	18.4	14.6	22.1		
NO INSURANCE (N=73)	26.4	12.1	40.7		
TIME SINCE LAST DENTAL VISIT (% OF CHILDRE	EN)		3		
WITHIN LAST YEAR (N=640)	12.3	8.6	15.9		
MORE THAN 1 YEAR AGO (N=118)	41.8	32.0	51.6		
COUNTY (% OF CHILDREN)					
KENT (N=234)	22.2	17.7	26.8		
NEW CASTLE (N=380)	11.6	7.1	16.1		
SUSSEX (N=208)	22.7	17.1	28.3		

Untreated decay: Dental cavities or tooth decay that have not received appropriate treatment.

#### Related Healthy People 2020 Objective

**OH-2.2**: Reduce the proportion of children aged six to nine years with untreated dental decay

- Baseline: 28.8 percent of children aged six to nine years had untreated dental decay in at least one primary or permanent tooth in 1999–2004.
- Target: 25.9 percent.

#### Current National Estimate (NHANES, 2009-2010)10

• 17.0% of children aged six to nine years had untreated decay in 2009-2010.

## PERCENT OF DELAWARE'S THIRD GRADE CHILDREN WITH DENTAL SEALANTS ON THEIR PERMANENT MOLAR TEETH BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	PERCENT WITH DENTAL SEALANTS	LOWER 95% CONFIDENCE LIMIT	UPPER 95% CONFIDENCE LIMIT			
ALL 3RD GRADE CHILDREN (N=822)	53.6	48.0	59.2			
RACE/ETHNICITY (% OF CHILDREN)						
WHITE (N=425)	56.0	48.0	64.0			
BLACK/AFRICAN AMERICAN (N=197)	52.0	45.3	58.7			
HISPANIC/LATINO (N=88)	62.0	48.0	76.0			
GENDER (% OF CHILDREN)						
MALE (N=394)	49.6	42.6	56.5			
FEMALE (N=427)	57.0	49.7	64.3			
PARTICIPATES IN FRL PROGRAM (% OF CHILDR	EN)					
NO (N=391)	51.0	44.5	57.5			
YES (N=336)	57.1	47.9	66.2			
YES (N=336)       57.1       47.9       66.2         DENTAL INSURANCE (% OF CHILDREN)         HAS INSURANCE (N=453)       51.4       45.9       56.9         MEDICAID (N=249)       59.4       49.2       69.7         NO INSURANCE (N=73)       45.3       26.3       64.2         TIME SINCE LAST DENTAL VISIT (% OF CHILDREN)         WITHIN LAST YEAR (N=640)       57.2       51.6       62.8         MORE THAN 1 YEAR AGO (N=118)       26.2       17.1       35.4         COUNTY (% OF CHILDREN)         KENT (N=234)       54.5       41.4       67.5         NEW CASTLE (N=380)       50.0       43.4       56.6         SUSSEX (N=208)       64.0       55.4       72.5						
HAS INSURANCE (N=453)	51.4	45.9	56.9			
MEDICAID (N=249)	59.4	49.2	69.7			
NO INSURANCE (N=73)	45.3	26.3	64.2			
TIME SINCE LAST DENTAL VISIT (% OF CHILDRE	EN)		<u>.</u>			
WITHIN LAST YEAR (N=640)	57.2	51.6	62.8			
MORE THAN 1 YEAR AGO (N=118)	26.2	17.1	35.4			
COUNTY (% OF CHILDREN)						
KENT (N=234)	54.5	41.4	67.5			
NEW CASTLE (N=380)	50.0	43.4	56.6			
SUSSEX (N=208)	64.0	55.4	72.5			

Dental sealants: Plastic-like coatings that are applied to the chewing surfaces of back teeth. The applied sealant resin bonds into the grooves of teeth to form a protective physical barrier.

#### Related Healthy People 2020 Objective

**OH-12.2**: Increase the proportion of children aged six to nine years who have received dental sealants on one or more of their permanent first molar teeth.

- Baseline: 25.5 percent of children aged six to nine years received dental sealants on one or more of their first permanent molars in 1999–2004.
- Target: 28.1 percent.

#### Current National Estimate (NHANES, 2009-2010)10

32.1 percent of children aged six to nine years had dental sealants in 2009-2010.



#### PERCENT OF DELAWARE'S THIRD GRADE CHILDREN NEEDING EARLY OR URGENT DENTAL CARE BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	PERCENT NEEDING DENTAL CARE	LOWER 95% CONFIDENCE LIMIT	UPPER 95% CONFIDENCE LIMIT			
ALL 3RD GRADE CHILDREN (N=822)	15.9	12.5	19.2			
RACE/ETHNICITY (% OF CHILDREN)						
WHITE (N=425)	12.8	8.1	17.5			
BLACK/AFRICAN AMERICAN (N=197)	21.8	15.7	27.8			
HISPANIC/LATINO (N=88)	13.7	5.8	21.5			
GENDER (% OF CHILDREN)						
MALE (N=394)	16.7	11.3	22.0			
FEMALE (N=427)	15.2	10.8	19.6			
PARTICIPATES IN FRL PROGRAM (% OF CHILDR	EN)					
NO (N=391)	12.0	7.0	17.0			
YES (N=336)	20.7	17.1	24.4			
DENTAL INSURANCE (% OF CHILDREN)						
HAS INSURANCE (N=453)	12.8	8.1	17.4			
MEDICAID (N=249)	19.6	16.1	23.2			
NO INSURANCE (N=73)	21.8	9.6	34.0			
YES (N=336)       20.7       17.1       24.4         DENTAL INSURANCE (% OF CHILDREN)         HAS INSURANCE (N=453)       12.8       8.1       17.4         MEDICAID (N=249)       19.6       16.1       23.2         NO INSURANCE (N=73)       21.8       9.6       34.0         TIME SINCE LAST DENTAL VISIT (% OF CHILDREN)         WITHIN LAST YEAR (N=640)       12.4       8.8       16.0         MORE THAN 1 YEAR AGO (N=118)       38.6       28.5       48.8         COUNTY (% OF CHILDREN)         KENT (N=234)       21.3       17.7       25.0         NEW CASTLE (N=380)       11.1       6.9       15.4         SUSSEX (N=208)       24.1       18.2       29.9						
WITHIN LASTYEAR (N=640)	12.4	8.8	16.0			
MORE THAN 1 YEAR AGO (N=118)	38.6	28.5	48.8			
COUNTY (% OF CHILDREN)						
KENT (N=234)	21.3	17.7	25.0			
NEW CASTLE (N=380)	11.1	6.9	15.4			
SUSSEX (N=208)	24.1	18.2	29.9			

## PERCENT OF DELAWARE'S THIRD GRADE CHILDREN NEEDING URGENT DENTAL CARE BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	PERCENT NEEDING URGENT DENTAL CARE	LOWER 95% CONFIDENCE LIMIT	UPPER 95% CONFIDENCE LIMIT		
ALL 3RD GRADE CHILDREN (N=822)	1.2	0.5	2.0		
RACE/ETHNICITY (% OF CHILDREN)					
WHITE (N=425)	1.5	0.1	3.0		
BLACK/AFRICAN AMERICAN (N=197)	1.0	0.0	2.4		
HISPANIC/LATINO (N=88)	1.8	0.0	4.3		
GENDER (% OF CHILDREN)					
MALE (N=394)	1.4	0.1	2.8		
FEMALE (N=427)	1.0	0.1	2.0		
PARTICIPATES IN FRL PROGRAM (% OF CHILDR	EN)				
NO (N=391)	1.1	0.0	2.3		
YES (N=336)	1.6	0.2	2.9		
DENTAL INSURANCE (% OF CHILDREN)					
HAS INSURANCE (N=453)	0.6	0.0	1.5		
MEDICAID (N=249)	1.8	0.1	3.5		
NO INSURANCE (N=73)	3.7	0.0	7.9		
TIME SINCE LAST DENTAL VISIT (% OF CHILDRE	EN)		<u>*</u>		
WITHIN LASTYEAR (N=640)	0.8	0.1	1.5		
MORE THAN 1 YEAR AGO (N=118)	4.6	0.0	9.7		
COUNTY (% OF CHILDREN)					
KENT (N=234)	1.3	0.0	2.9  1.5  3.5  7.9  1.5  9.7  3.2  1.1  5.2		
NEW CASTLE (N=380)	0.5	0.0	1.1		
SUSSEX (N=208)	3.5	1.7	5.2		

Urgent dental care: Child had pain or infection at the time of the screening.

PERCENT OF DELAWARE'S THIRD GRADE CHILDREN WITH DECAY EXPERIENCE (TREATED OR UNTREATED DECAY) IN THEIR PERMANENT TEETH BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	PERCENT WITH DECAY EXPERIENCE PERMANENT TEETH	LOWER 95% CONFIDENCE LIMIT	UPPER 95% CONFIDENCE LIMIT
ALL 3RD GRADE CHILDREN (N=822)	9.1	6.0	12.1
RACE/ETHNICITY (% OF CHILDREN)			
WHITE (N=425)	7.4	3.7	11.1
BLACK/AFRICAN AMERICAN (N=197)	8.7	3.5	14.0
HISPANIC/LATINO (N=88)	9.3	2.4	16.2
GENDER (% OF CHILDREN)			
MALE (N=394)	9.1	4.1	14.0
FEMALE (N=427)	9.1	6.0	12.3
PARTICIPATES IN FRL PROGRAM (% OF CHILDR	EN)		
NO (N=391)	7.0	3.1	11.0
YES (N=336)	10.3	6.8	13.8
DENTAL INSURANCE (% OF CHILDREN)			
HAS INSURANCE (N=453)	8.2	4.0	12.3
MEDICAID (N=249)	10.8	6.4	15.1
NO INSURANCE (N=73)	4.5	0.0	10.7
TIME SINCE LAST DENTAL VISIT (% OF CHILDRE	EN)		3
WITHIN LASTYEAR (N=640)	8.6	4.6	12.5
MORE THAN 1 YEAR AGO (N=118)	5.1	0.4	9.7
COUNTY (% OF CHILDREN)			
KENT (N=234)	7.8	3.6	12.0
NEW CASTLE (N=380)	10.0	5.3	13.8  12.3  15.1  10.7  12.5  9.7  12.0  14.7  11.4
SUSSEX (N=208)	7.7	4.0	11.4

# PERCENT OF DELAWARE'S THIRD GRADE CHILDREN WITH UNTREATED DECAY IN THEIR PERMANENT TEETH BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	PERCENT WITH UNTREATED DECAY PERMANENT TEETH	LOWER 95% CONFIDENCE LIMIT	UPPER 95% CONFIDENCE LIMIT				
ALL 3RD GRADE CHILDREN (N=822)	2.2	1.0	3.5				
RACE/ETHNICITY (% OF CHILDREN)							
WHITE (N=425)	1.9	0.2	3.5				
BLACK/AFRICAN AMERICAN (N=197)	2.4	0.0	4.9				
HISPANIC/LATINO (N=88)	3.9	0.0	8.6				
GENDER (% OF CHILDREN)							
MALE (N=394)	1.9	0.5	3.3				
FEMALE (N=427)	2.5	1.0	4.1				
PARTICIPATES IN FRL PROGRAM (% OF CHILDR	EN)						
NO (N=391)	1.9	0.2	3.6				
YES (N=336)	2.6	0.9	4.4				
DENTAL INSURANCE (% OF CHILDREN)							
HAS INSURANCE (N=453)	2.3	0.7	3.9				
MEDICAID (N=249)	2.1	0.1	4.0				
NO INSURANCE (N=73)	3.9	0.0	9.9				
TIME SINCE LAST DENTAL VISIT (% OF CHILDRI	EN)						
WITHIN LASTYEAR (N=640)	1.6	0.4	4.4  3.9  4.0  9.9  2.7  9.1  5.0  2.8  7.0				
MORE THAN 1 YEAR AGO (N=118)	4.6	0.1	9.1				
COUNTY (% OF CHILDREN)							
KENT (N=234)	2.9	0.8	5.0				
NEW CASTLE (N=380)	1.6	0.4	2.8				
SUSSEX (N=208)	3.4	0.0	7.0				

MEAN NUMBER OF DECAYED OR FILLED PRIMARY TEETH, MEAN NUMBER OF DECAYED OR FILLED PERMANENT TEETH AND MEAN NUMBER OF DECAYED OR FILLED PRIMARY AND PERMANENT TEETH BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	MEAN NUMBER OF PRIMARY TEETH DECAYED OR FILLED		R OF NUMBER OF PERMANENT H TEETH ED DECAYED		MEAN NUMBER OF TEETH DECAYED OR FILLED	
	MEAN	SE	MEAN	SE	MEAN	SE
ALL 3RD GRADE CHILDREN (N=822)	1.48	0.14	0.18	0.03	1.66	0.15
RACE/ETHNICITY						
WHITE (N=425)	1.26	0.15	0.15	0.04	1.41	0.17
BLACK/AFRICAN AMERICAN (N=197)	1.41	0.15	0.16	0.04	1.55	0.17
HISPANIC/LATINO (N=88)	2.28	0.45	0.22	0.11	2.50	0.46
GENDER (% OF CHILDREN)						
MALE (N=394)	1.53	0.14	0.20	0.05	1.72	0.15
FEMALE (N=427)	1.43	0.16	0.16	0.03	1.59	0.18
PARTICIPATES IN FRL PROGRAM						
NO (N=391)	1.00	0.14	0.15	0.04	1.15	0.15
YES (N=336)	1.96	0.13	0.20	0.04	2.16	0.13
DENTAL INSURANCE						
HAS INSURANCE (N=453)	1.14	0.14	0.17	0.04	1.31	0.15
MEDICAID (N=249)	1.99	0.12	0.21	0.04	2.19	0.10
NO INSURANCE (N=73)	1.43	0.34	0.05	0.03	1.48	0.35
TIME SINCE LAST DENTAL VISIT						
WITHIN LASTYEAR (N=640)	1.38	0.16	0.17	0.04	1.54	0.18
MORE THAN 1 YEAR AGO (N=118)	1.53	0.18	0.13	0.09	1.66	0.19
COUNTY						0.13 0.15 0.10 0.35 0.18 0.19 0.13 0.24 0.23
KENT (N=234)	1.63	0.13	0.12	0.04	1.75	0.13
NEW CASTLE (N=380)	1.41	0.21	0.21	0.05	1.61	0.24
SUSSEX (N=208)	1.52	0.22	0.16	0.04	1.67	0.23

SE=Standard error

MEAN NUMBER OF DECAYED PRIMARY TEETH, MEAN NUMBER OF DECAYED PERMANENT TEETH AND MEAN NUMBER OF DECAYED PRIMARY AND PERMANENT TEETH BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	MEAN NUMBER OF PRIMARY TEETH DECAYED (DT)		MEAN NUMBER OF PERMANENT TEETH DECAYED (DT)		MEAN NUMBER OF TEETH DECAYED (DT + DT)		
	MEAN	SE	MEAN	SE	MEAN	SE	
ALL 3RD GRADE CHILDREN (N=822)	0.26	0.04	0.04	0.01	0.30	0.04	
RACE/ETHNICITY							
WHITE (N=425)	0.23	0.05	0.02	0.01	0.25	0.05	
BLACK/AFRICAN AMERICAN (N=197)	0.40	0.08	0.04	0.02	0.43	0.10	
HISPANIC/LATINO (N=88)	0.16	0.07	0.12	0.10	0.28	0.13	
GENDER							
MALE (N=394)	0.26	0.05	0.04	0.02	0.30	0.06	
FEMALE (N=427)	0.27	0.06	0.03	0.01	0.30	0.07	
PARTICIPATES IN FRL PROGRAM							
NO (N=391)	0.20	0.05	0.04	0.02	0.24	0.05	~i
YES (N=336)	0.36	0.05	0.04	0.01	0.39	0.06	2013
DENTAL INSURANCE							miles
HAS INSURANCE (N=453)	0.21	0.05	0.04	0.02	0.25	0.05	re Sr
MEDICAID (N=249)	0.32	0.04	0.03	0.02	0.34	0.05	lawa
NO INSURANCE (N=73)	0.41	0.13	0.04	0.03	0.45	0.13	h, De
TIME SINCE LAST DENTAL VISIT							-lealt
WITHIN LASTYEAR (N=640)	0.18	0.04	0.02	0.01	0.19	0.04	blic A
MORE THAN 1 YEAR AGO (N=118)	0.82	0.14	0.12	0.09	0.94	0.14	of Pu
COUNTY							sion (
KENT (N=234)	0.45	0.08	0.03	0.01	0.48	0.08	Divi
NEW CASTLE (N=380)	0.15	0.04	0.03	0.02	0.17	0.04	Delaware Division of Public Health, Delaware Smiles 2013.
SUSSEX (N=208)	0.40	0.05	0.05	0.03	0.45	0.08	Dela

SE=Standard error

PERCENT OF DELAWARE'S THIRD GRADE CHILDREN WITH ZERO TO 15 DECAYED OR FILLED PRIMARY, PERMANENT AND PRIMARY PLUS PERMANENT TEETH.

NUMBER OF DECAYED OR FILLED TEETH	PRIMARY TEETH (% OF CHILDREN)	PERMANENT TEETH (% OF CHILDREN)	PRIMARY & PERMANENT TEETH (% OF CHILDREN)
0	55.8	90.9	53.0
1	10.5	3.5	11.30
2	9.5	3.7	9.4
3	5.9	1.1	5.3
4	6.4	0.5	7.0
5	4.1	0.0	4.8
6	3.0	0.1	3.1
7	2.0	0.0	2.2
8	2.5	0.0	2.5
9	0.1	0.1	0.6
10	0.0	0.0	0.4
11	0.0	0.0	0.0
12	0.1	0.0	7.0 4.8 3.1 2.2 2.5 0.6 0.4 0.0 0.0 0.1
13	0.0	0.0	0.1
14	0.0	0.0	0.0
15	0.0	0.0	0.1

**How to interpret this table**: 55.8 percent of children had no decayed or filled primary teeth; 90.9 percent had no decayed or filled permanent teeth; and 53.0 percent had no decayed or filled primary or permanent teeth.

## MEAN NUMBER OF DENTAL SEALANTS ON PERMANENT MOLARS BY SELECTED CHARACTERISTICS.

CHARACTERISTIC (NUMBER WITH DATA)	MEAN NUMBER OF	DENTAL SEALANTS
	MEAN	SE
ALL 3RD GRADE CHILDREN (N=822)	1.69	0.13
RACE/ETHNICITY		
WHITE (N=425)	1.81	0.19
BLACK/AFRICAN AMERICAN (N=197)	1.67	0.13
HISPANIC/LATINO (N=88)	1.97	0.22
GENDER		
MALE (N=394)	1.60	0.14
FEMALE (N=427)	1.77	0.15
PARTICIPATES IN FRL PROGRAM		
NO (N=391)	1.58	0.20
YES (N=336)	1.86	0.16
DENTAL INSURANCE		
HAS INSURANCE (N=453)	1.61	0.16
MEDICAID (N=249)	1.93	0.19
NO INSURANCE (N=73)	1.53	0.30
TIME SINCE LAST DENTAL VISIT		
WITHIN LAST YEAR (N=640)	1.84	0.14
MORE THAN 1 YEAR AGO (N=118)	0.79	0.15
COUNTY		
KENT (N=234)	1.99	0.16 0.16 0.19 0.30 0.14 0.15 0.26 0.16 0.20
NEW CASTLE (N=380)	1.42	0.16
SUSSEX (N=208)	2.20	0.20

SE=Standard error

PERCENT OF DELAWARE'S THIRD GRADE CHILDREN WITH ZERO TO FOUR DENTAL SEALANTS ON THEIR PERMANENT FIRST MOLARS.

NUMBER OF MOLARS WITH DENTAL SEALANTS	PERCENT OF CHILDREN
0	46.4
1	8.1
2	7.7
3	5.3
4	32.5

Delaware Division of Public Health, Delaware Smiles 2013.

**How to interpret this table**: 46.4 percent of children did not have any dental sealants while 8.1 percent had a dental sealant on just one of their four permanent first molars. A total of 32.5 percent of children had sealants on all four of their permanent first molars.

#### DEMOGRAPHIC AND ACCESS TO CARE INFORMATION BY COUNTY.

	KENT		NEW CASTLE			SUSSEX			
CHARACTERISTIC	KE	LOWER CL	UPPER CL	KE	LOWER CL	UPPER CL	KE	LOWER CL	UPPER CL
% ELIGIBLE FOR FRL PROGRAM	44.2	38.0	50.3	36.2	20.9	51.5	52.9	40.3	65.6
% NON-HISPANIC WHITE	53.5	38.8	68.3	43.4	29.3	57.5	48.4	32.5	64.4
DENTAL INSURANCE									
% WITH PRIVATE INSURANCE	52.6	36.9	68.4	62.2	48.1	76.3	34.8	25.6	44.0
% WITH MEDICAID	33.0	17.1	49.0	24.2	10.8	37.6	47.1	37.9	56.3
% WITH NO INSURANCE	7.3	4.0	10.7	7.7	4.5	10.9	11.1	6.7	15.5
% UNKNOWN/MISSING	7.0	1.4	12.6	5.9	2.9	8.9	7.1	5.0	9.1
TIME SINCE LAST DENTAL VISIT									
% WITH VISIT IN LAST YEAR	79.5	75.3	83.7	78.2	70.2	86.2	73.7	66.6	80.8
% WITH VISIT OVER 1 YEAR AGO	14.3	12.7	15.8	11.0	6.6	15.4	16.9	11.6	22.2
% UNKNOWN/MISSING	6.2	0.9	11.6	10.8	3.1	18.4	9.5	5.6	13.3
% WITH VISIT OVER 1 YEAR AGO       14.3       12.7       15.8       11.0       6.6       15.4       16.9       11.6       22.2         % UNKNOWN/MISSING       6.2       0.9       11.6       10.8       3.1       18.4       9.5       5.6       13.3         TROUBLE ACCESSING DENTAL CARE         % WITH TROUBLE ACCESSING CARE       8.6       5.9       11.4       9.9       5.8       13.9       16.7       11.4       21.9									
% WITH TROUBLE ACCESSING CARE	8.6	5.9	11.4	9.9	5.8	13.9	16.7	11.4	21.9

# RESULTS OF DELAWARE SMILE SURVEYS, 2002 COMPARED TO 2012.

VARIABLE	2002	2012
GRADES SCREENED	3RD	3RD
TYPE OF SAMPLE	PROBABILITY	PROBABILITY
TYPE OF CONSENT	POSITIVE	POSITIVE
NUMBER OF PARTICIPATING SCHOOLS	19	23
NUMBER OF PARTICIPATING CHILDREN	1,032	828
RESPONSE RATE*	38%	38%
ELIGIBLE FOR FREE/REDUCED MEALS		
%YES	38.7	41.4
% NO	54.7	46.3
% UNKNOWN	6.6	12.6
RACE/ETHNICITY		
%WHITE	59.7	46.7
% BLACK/AFRICAN AMERICAN	24.6	25.4
% HISPANIC/LATINO	7.4	12.5
% OTHER/UNKNOWN	8.3	15.4
% WITH CARIES EXPERIENCE (95% CI)	54.5 (49.5 – 59.4)	47.2 (40.2 – 54.2)
% WITH UNTREATED DECAY (95% CI)	29.9 (25.3 – 34.4)	16.1 (12.6 – 19.6)
% WITH DENTAL SEALANTS (95% CI)	34.3 (29.7 – 38.8)	47.2 (40.2 - 54.2) 16.1 (12.6 - 19.6) 53.6 (48.0 - 59.2) 15.9 (12.5 - 19.2) 1.2 (0.5 - 2.0)
% NEEDING ANY TREATMENT (95% CI)	30.4 (25.6 – 34.9)	15.9 (12.5 – 19.2)
% NEEDING URGENT TREATMENT (95% CI)	1.5 (0.3 – 2.7)	1.2 (0.5 – 2.0)

<sup>\*</sup> For 2002, response rate uses enrollment in all 23 schools in original sample as the denominator.

Red shaded cells: statistically significant improvement compared to 2002.

#### REFERENCES

- Burt BA, Eklund SA. Dentistry, Dental Practice, and the Community. Saunders, Philadelphia, 1999
- 2. Edelstein B, Douglass C. Dispelling the cavity free myth. Public Health Reports 1995, 110:522-30.
- 3. Dye BA, Tan S, Smith V, Lewis BG, Barker LK, Thornton-Evans G, et al. Trends in oral health status: United States, 1988–1994 and 1999–2004. National Center for Health Statistics. Vital Health Stat 11(248), 2007.
- 4. National Center for Health Statistics. Current estimates from the National Health Interview Survey, 1996 (Vital and Health Statistics; Series 10, Data from the National Health Survey; no. 200). Hyattsville, MD: U.S. Department of Health and Human Services, National Center for Health Statistics, 1996.
- 5. Vargas CM, Crall JJ, Schneider DA. Sociodemographic distribution of pediatric dental caries, NHANES III, 1988-1994. J Am Dent Assoc 1998,129:1229-38.
- 6. Kaste LS, Selwitz RH, Oldakowski RJ, Brunelle JA, Winn DM, Brown LJ. Coronal caries in the primary and permanent dentition of children and adolescents 1-17 years of age: United States 1988-91. J Dent Research 1996, 75:631-41.
- 7. Heller KE, Reed SG, Bruner FW, Eklund SA, Burt BA. Longitudinal evaluation of sealing molars with and without incipient dental caries in a public health program. J Public Health Dent. 1995;55:148-53.
- 8. U.S. Department of Agriculture, Child Nutrition Programs, School Lunch Program, Income Eligibility Guidelines SY 2012-2013, http://www.gpo.gov/fdsys/pkg/FR-2012-03-23/pdf/2012-7036.pdf.
- 9. Association of State and Territorial Dental Directors. Basic Screening Surveys: An Approach to Monitoring Community Oral Health. Available at: www.astdd.org/ basic-screening-survey-tool/
- 10. Dye BA, Li X, Thornton-Evans G. Oral health disparities as determined by selected Healthy People 2020 oral health objectives for the United States, 2009–2010. NCHS data brief, no 104. Hyattsville, MD: National Center for Health Statistics. 2012.



# APPENDIX 2 – CONSENT FORM

#### Dear Parent/Guardian:

Your child's school has been chosen to take part in the Delaware Division of Public Health Smile Survey of third graders. The purpose of the Smile Survey is to gather information on the dental health needs of children throughout Delaware. This will allow us to create a plan to improve dental care for all of Delaware's children.

If you choose to let your child participate, a dentist will perform a one-minute "smile check" using only a mouth mirror. Dental gloves will be worn and we will use a new, disposable, sterilized mirror for each child. Results of your child's assessment will be kept confidential and your child will not be named in any Smile Survey report. As a token of appreciation, your child will receive a toothbrush. Parents and the school nurse will receive a letter describing the results of the screening.

This screening does not take the place of regular dental check-ups by your family dentist. Even if you have a family dentist, we encourage you to participate in the Smile Survey. By surveying all children in selected schools, we will have a better understanding of the dental health needs of children throughout Delaware.

If you give permission for your child to have this quick "smile check", please check the YES box below and return the form to your child's teacher right away.

As you know, a healthy mouth is part of total health and wellness and makes a child more ready to learn. By letting your child take part in this dental screening, you will help contribute new information that may benefit all of Delaware children. If you have any questions about the Smile Survey, please contact Barbara Antlitz at 302.744.4554 or by email at Barbara.Antlitz@state.de.us

Sincerely,

a. .. ., a.

Gregory B. McClure, DMD, MPH Dental Director

Child's Name:		
Child's Teacher:		
Cilia s reaction.		
YES, I want my child to receive a dental screening		
Parant/Cuardian Signatura	Doto	
Parent/Guardian Signature	Date	

**Smile Survey** 

## APPENDIX 3 – SCREENING FORM

	Student ID:
<b>Delaware Oral Health</b> October/November/December/Ja	
Screen Date: Screener Code: Screener Code:	School Code:
Child's Age:  Gender:  1=Male 2=Female	
Number of Permanent Teeth Present:	
Primary Teeth  Number of Decayed Primary Teeth:  Number	er of Restored Primary Teeth:
PermanentTeeth  Number of Decayed PermanentTeeth:  Number	er of Restored Permanent Teeth:
Number of Sealants on Permanent Molars: Treatm	ent Urgency: 0=No obvious problem 1=Early dental care 2=Urgent care
Number of Permanent Molars: Number of Decayed Permanent M	Molars: Number of Restored Permanent Molars:
Comments:	
* All boxes must contain a valid code	
Rev. 10/24/12	

# APPENDIX 4 - PARENT QUESTIONNAIRE

#### **DELAWARE SMILE SURVEY**

#### Please complete this form and return it to your child's teacher tomorrow.

Child's Name:					
School					
Is your child eligible for the free or reduced lunch program? NoYes					
Which of the following describes your child (check al					
White Black or African American					
	·				
Asian	Native Hawaiian or Other Pacific Islander				
Please answer these questions to help us learn more about and will not be shared. If you do not want to answer the quality have his or her teeth checked.	·				
Do you have any kind of insurance that pays for some o insurance obtained through work, purchased directly, as Medicaid Yes (Medicaid) No	r all of your child's DENTAL care? Include dental s well as government programs like Medicaid. Specify if				
2. How long has it been since your child last visited a dent	ist or a dental clinic for any reason? (Check one)				
1 Within the past year (go to question 4)	4 My child has never been to the dentist				
2 Within the past 2 years (go to question 3)	(go to question 3)				
3 Within the past 5 years (go to question 3)	5 Don't know/Not sure (go to question 3)				
3. What is the main reason your child has NOT visited the	dentist in the last year? (Check all that apply)				
1 Cost	5 Difficulty in getting appointment				
2 No reason to go (no dental problems)	6 Fear, apprehension, pain, or dislike going				
3 My child is too young to see a dentist	7 Cannot get to the dental office/clinic				
4 Do not have or know a dentist	8 Other reason				
4. During the past 2 years, was there a time when you w	vanted dental care for your child but could not get it?				
Yes (go to question 5)No (You are finished -					
5. The last time your child could not get the dental care you could not get care? (Check all that apply)	u wanted for him/her, what was the main reason he/she				
1 Could not afford it	9 Didn't know where to go				
2 No insurance	10 No way to get there				
3 Dentist did not accept Medicaid/insurance	11 Hours not convenient				
4 Dental problems not serious enough	12 Speak a different language				
5Wait too long in clinic/office	13 Health of another family member				
6 Difficulty in getting appointment	77 Other reason				
7 Don't like/trust/believe in dentists	88 Don't know/don't remember				
8 No dentist available					







Delaware Health and Social Services Division of Public Health Bureau of Oral Health and Dental Services 417 Federal Street, Dover, DE 19901 August 2013