2008-2009 Annual Report:
North Carolina Oral Health Section

Division of Public Health
NC Department of Health and Human Services

NORTH CAROLINA
ORAL HEALTH

North Carolina Dental Public Health

During the dental screening early one school year, the teacher told the Oral Health Section public health dental hygienist that one of her students was crying and unable to pay attention during class. The kindergartener told the dental hygienist his teeth and mouth really hurt him when he ate or drank anything cold. The hygienist found many badly decayed teeth and infections, and contacted the boy's mother. The mother was very concerned but did not have a dentist or money to pay for treatment. The dental hygienist contacted a local dental office that was able to see the child the next day. The dental hygienist encouraged the mother to apply for Medicaid, which she did, and her son had additional dental visits to take care of all his dental needs. - From an elementary school in North Carolina

Tooth decay affects more children than any other chronic childhood disease, in spite of the fact that it is almost entirely preventable. Almost 40 percent of North Carolina kindergarten children have already had tooth decay in their primary (baby) teeth by the time they start school. Children experiencing pain are distracted and unable to learn in school, cannot eat well or sleep at night, experience speech problems and suffer from reduced self-esteem. Reducing tooth decay will reduce the pain and suffering children endure from infected teeth and gums and improve the quality of children's lives. Healthy, well-educated children grow up to be healthy and more productive citizens.

Lifelong prevention and management of this infectious disease requires essential public health preventive interventions. The NC Oral Health Section (OHS) is the only organization that plans and carries out a statewide science-based oral health program. The program consists of dental educational, preventive and screening services for children and the adults who influence their health, to reduce tooth decay and promote oral health. Public health dental hygienists and dentists, living and working in the communities they serve, also positively impact school health policy, services and environments. Currently, there is one public health dental hygienist for every 14,600 public elementary school children. The OHS long-term goal is to strengthen and expand the statewide dental prevention and education program by working towards a ratio of one dental hygienist for every 7,000 elementary school children.

In order to maximize their impact, OHS staff have a long history of collaborating with a broad range of groups and agencies, such as school personnel, the UNC-CH School of Dentistry and Gillings School of Global Public Health, the North Carolina Dental Society, local dentists, local health departments, school nurses, and medical personnel (pediatricians, family physicians and nurses).

The Oral Health Section's dental preventive efforts to reduce tooth decay among North Carolina children result in decreased treatment needs and an enhanced quality of life for children and parents alike.

NC Oral Health Section: Five Major Program Areas

OHS School Sealant Clinic, Chatham County

Placing Dental Sealants, Henderson County

IMB Program Physician Dental Exam, Wayne County

1. Dental Disease Prevention:

- Community fluoridation and school-based dental sealant programs - The Centers for Disease Control and Prevention (CDC) promotes these as the two most effective public health measures to reduce dental decay.
- Community water fluoridation – 88 percent of the state's population on community water systems enjoy this preventive intervention. To encourage community water fluoridation, the Section assists communities seeking to install or upgrade their community water fluoridation systems
- Dental sealants – providing 14,600 annually for children at high risk for tooth decay. One of the top priorities for the Section is the promotion and placement of dental sealants through the community/school-based approach of projects, education and media exposure, targeting schools where many children are at high risk for dental decay. OHS staff set up a "dental office" for a week in an elementary school or community college clinic to provide this service. Between 1996 and 2009, the percent of North Carolina fifth graders with dental sealants increased from 28 percent to 44 percent.
- School-based fluoride mouthrinse program serving 77,000 children at high risk for cavities. This program serves over 200 targeted high risk schools in 54 counties. The school-based fluoride mouthrinse program is a low cost and scientifically proven safe and effective way to prevent tooth decay for high risk elementary school children. Data from the Oral Health Section's most recent statewide dental survey show that fluoride mouthrinse reduces tooth decay by about one-third in children who receive free or reduced lunch, almost eliminating the disparity between high income and low income children.
- Train and support physicians and nurses in more than 425 medical offices and local health departments to provide dental preventive services (dental screening and fluoride varnish application for the child, and oral health education for the caregiver) through the *Into the Mouths of Babes* (IMB) program. IMB serves Medicaid children up to age three-and-a-half who are at high risk for tooth decay. The aim is to prevent as much disease as possible before it occurs in these very young children. More than 134,000 services to high risk children were provided last year, reaching 47 percent of these children at their well child visits. Dental preventive procedures for young children have increased more than 10 fold since the IMB program began. Analysis from the UNC-CH Gillings School of Global Public Health shows a 40 percent reduction in cavities for children having the oral preventive procedure four or more times before age three.

2. Access to Dental Care

- Statewide, each year OHS staff screen 194,000 children and help get about 9,600 children into dental offices for needed dental care. The primary focus is on children in kindergarten and fifth grade, plus screenings occur in other grades for special projects such as volunteer dental services and dental sealant projects. OHS staff refer children in need of dental care and work with their families to help them obtain needed care. Local dentists and local heath department safety net clinics serve as valuable resources for referrals.
- OHS staff work with the NC Dental Society on the *Give Kids a Smile!* volunteer dental program. To date, more than 12,900 dental volunteers have provided over $8.7 million in oral care to more than 105,708 children across the state.

Statewide Oral Health Survey

Statewide Oral Health Survey Exam

School Classroom Education, Person County

3. Oral Health Monitoring Systems

The OHS conducts periodic statewide children's dental surveys to measure the overall dental health status of NC children. In the latest survey, data was collected on 7,000 school children. Major findings:

- Since the 1980s, there has been a dramatic reduction in tooth decay in permanent teeth, but primary (baby teeth) have not seen the same improvement.
- There are significant disparities by race and ethnicity: untreated tooth decay is 19 percent in Whites, 30 percent in African Americans, and 38 percent in Latinos.

The OHS also conducts oral health surveillance in the form of standardized dental screenings for students in kindergarten and 5th grade. These assessments are provided annually by trained and calibrated OHS staff with assistance from local health department staff.

- Data are collected annually on more than 131,000 students.
- Data on dental disease levels, treatment needs and sealant presence are entered into the OHS surveillance database and are available to the public.
- OHS and county agencies and organizations use this data to identify communities with the greatest need for dental preventive services to most effectively target the use of resources. Data are also used to track trends over time, e.g., to quantify the dramatic increase in the percent of fifth graders with dental sealants.

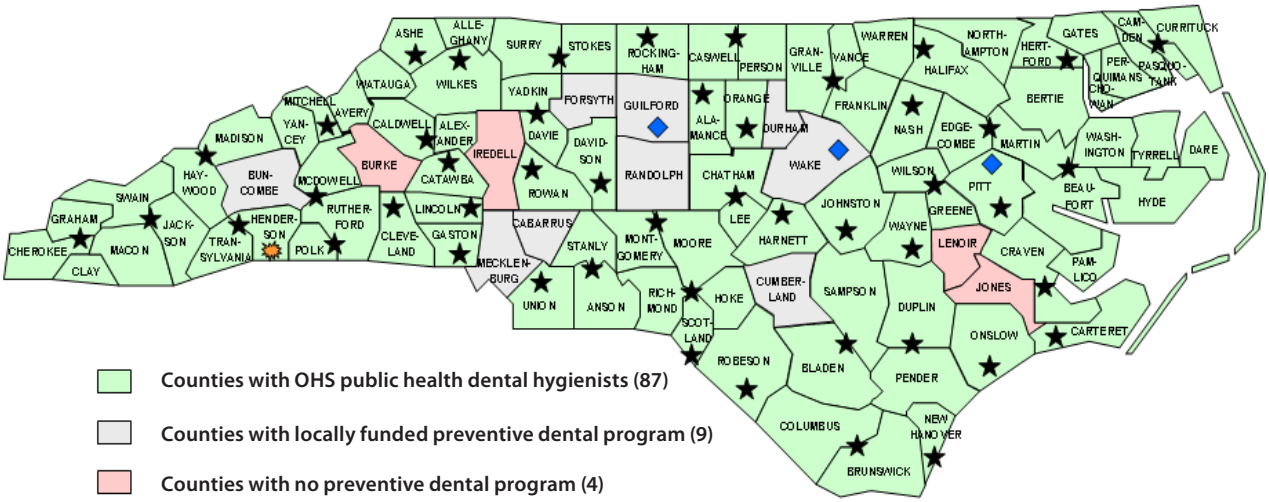
4. Health Education and Health Promotion

- Oral health is a critical part of total health. Health education and health promotion are part of every OHS service. If people do not understand the importance of keeping their teeth healthy, they will not practice good dental health behaviors to prevent and/or treat tooth decay. OHS staff create and teach educational messages to encourage individuals to value their own oral health and the oral health of individuals under their care, as well as ways to protect oral health.
- OHS staff provided 165,000 preventive educational services for children in elementary schools and community settings. Topics include dental care, sealants, nutrition, oral conditions, fluoride, plaque control, diabetes, tobacco use and injury prevention. Over 14,300 educational services were provided for adults who influence the health of children, particularly teachers, parents, childcare providers and health care professionals. Staff provide consultation and technical assistance services to local public and private health care providers.

5. Residency Training in Dental Public Health

Dental public health is one of the nine specialties recognized by the American Dental Association (ADA). Through the ADA-accredited NC Dental Public Health Residency the OHS, in partnership with the UNC-CH Gillings School of Global Public Health, provides practical experience for public health dentists with formal academic dental public health training such as a Masters in Public Health, and to prepare candidates to become board certified in dental public health. North Carolina has one of only a few such programs in the country located in a state/city health department.

NC Dental Public Health Coverage



- Counties with OHS public health dental hygienists (87)
- Counties with locally funded preventive dental program (9)
- Counties with no preventive dental program (4)
- ★ OHS public health dental hygienists (48)
- ◆ OHS public health dentist supervisors (3)
- Local hygienist under state supervision (1)

State Public Health Dental Hygienist:

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