Oral Health Section
Division of Public Health
North Carolina Department of Health and Human Services

Final Report on the July 2007 - June 2008 Strategic Plan

Mission:
To promote conditions in which all North Carolinians can achieve oral health as part of overall health.

Vision:
North Carolina children – cavity-free forever

People We Serve:
• Children
• Adults who influence the health of children
• Health care providers

Goals:
To work towards eliminating disparities in oral health by using best practices* to:
   I. Reduce oral diseases through prevention, education, and health promotion
   II. Ensure that systems are implemented to monitor the public's oral health
   III. Ensure access to dental care
   IV. Provide professional education

We accomplish these goals in partnership with:
• Health care professionals and professional organizations
• Organizations that support improved health to make their communities stronger
• Individuals who care about our children's health

This document reports on the NC Oral Health Section Strategic Plan for 2007-2008 and the accomplishments achieved during that year.

* The Association of State and Territorial Dental Directors (ASTDD) in conjunction with the Centers for Disease Control & Prevention (CDC) Division of Oral Health defines a Best Practice Approach as a public health strategy that is supported by evidence for its impact and effectiveness. Evidence includes research, expert opinion, field lessons and theoretical rationale.
**Introduction:**

The North Carolina Oral Health Section has a long and distinguished history going back ninety years. At the request of North Carolina dentists to the state legislature, it became the first dental public health program in the nation in 1918. The program is nationally recognized for providing statewide dental health prevention and education services, with an emphasis on children. The mission of the Section is to promote conditions in which all North Carolinians can achieve oral health as a part of overall health.

Prevention is the foundation of oral health. No matter how many treatment resources for dental disease are established in the state, treatment alone cannot solve the problem. Therefore, the Section strives to prevent dental disease, especially in children. The Section’s goal is to eliminate disparities in oral health by using best practices. This goal is achieved through activities devoted to Dental Disease Prevention, Education and Health Promotion, Oral Health Monitoring Systems, Access to Care and Dental Public Health Residency Training. Services are best-practice based as defined by the Centers for Disease Control and Prevention (CDC), which promotes community fluoridation and school-based dental sealant programs as the two most effective public health measures to reduce dental decay.\(^1,2,3\) The Section has a small staff of public health dentists, public health dental hygienists, health educators and support staff, most residing in the communities they serve and working in cooperation with local health departments. Each year Section staff provide direct, school-based services for over 300,000 children, and preventive dental services that impact six million citizens through community water fluoridation and other population-based public health activities.

Tooth decay is the most common, chronic infectious disease of childhood, more common than asthma. It starts as a reversible white spot on the tooth and without preventive intervention, progresses to visible irreversible tooth decay that can lead to tooth loss, pain and suffering. The last 40 years have seen dramatic reductions in the prevalence of tooth decay, thanks in part to the efforts of the dental public health programs in our state.\(^4\) Lifelong prevention and management of this communicable disease requires essential public health interventions such as community water fluoridation, dental sealants and health education.

North Carolina has the most comprehensive oral health surveillance system in the nation.\(^5,6,7,8\) The results of the 2003-04 North Carolina Statewide Children’s Dental Survey show that, after decades of decline, the trend in tooth decay reduction in permanent teeth is leveling off, while the amount of tooth decay in baby teeth is increasing. While the Oral Health Section’s annual kindergarten and fifth grade surveillance data report only obvious tooth decay, the 2003-04 NC Statewide Children’s Dental Survey data report both obvious tooth decay and early tooth decay (reversible white spots). Results show that the actual amount of decay is underestimated by 35 to 40% when early cavities are not included.\(^8\) These early cavities are the ones that can repair (remineralize) in response to fluoride therapy and other preventive oral health interventions. The presence of so much early decay reinforces the need to enhance the preventive strategies the Section has in place so these early cavities do not progress to the point that they have to be filled to prevent unwanted consequences on people’s lives.\(^9\)

Although improving historically, oral health disparities and difficulties in access to dental care still exist in North Carolina and are a continuing concern for the Section.\(^8\) For example, the Latino population is growing rapidly in North Carolina. State and national surveys show that many Latinos have higher dental disease levels than other races/ethnicities.\(^8,10\) These challenges will require new strategies.
One way to help address the dental needs of vulnerable children is Into the Mouths of Babes (IMB), an innovative program that targets high risk children younger than three years of age. The IMB program is based on an effective partnership with the medical community and the Medicaid program to provide oral screening and referral where necessary, along with fluoride varnish and parent education in physicians’ offices and local health departments.10 Our most recent strategy, the Carolina Dental Home pilot program, works to improve collaborations between physicians and dentists to improve access to dental care for our youngest children.

The July 2007-June 2008 annual Strategic Plan for the Oral Health Section supports the Surgeon General's 2003 Call to Action by outlining a state oral health plan to improve the quality of life for all North Carolinians and reduce disparities in oral health.11
**GOAL I. Reduce oral disease through prevention/education/health promotion activities**

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<th>Action Steps</th>
<th>Data/Evaluation</th>
<th>Outcomes/Measures of Progress</th>
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<tbody>
<tr>
<td>• Maintain the proportion of citizens on community water systems who receive the benefits of community water fluoridation.</td>
<td>• Provide financial and technical assistance with fluoridation - <em>met</em></td>
<td>• CDC’s Water Fluoridation Reporting System (WFRS)</td>
<td>• 88% of North Carolinians on community water systems continue to receive the benefits of fluoridation.</td>
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<td>• Reports submitted to Section Chief and Management Team</td>
<td>• Granted funding to the city of Dunn.</td>
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<td>• Work with providers of services to high-risk children, age birth to three.</td>
<td>• Provide training and support for medical providers of dental preventive services to address early childhood cavities through the <em>Into the Mouths of Babes (IMB)</em> program. – <em>met</em></td>
<td>• Quarterly Medicaid reports</td>
<td>• Approximately 425 medical practices continue providing IMB preventive procedures.</td>
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<td></td>
<td>• Work with Medicaid to increase the number of preventive services provided by physicians and dentists for high risk children. – <em>met</em></td>
<td></td>
<td>• The number of Medicaid-eligible children age one to three receiving dental preventive services increased to surpass 100,000/year.</td>
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<td>• Develop educational materials for parents and caregivers of high-risk children in preschool programs such as Early Head Start. – <em>met</em></td>
<td>• Reports submitted to Section Chief and Management Team</td>
<td>• Working on new educational materials for the preschool population (e.g. focus groups, videos, educational curriculum, posters)</td>
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| • Conduct a weekly fluoride mouthrinse program (FMR) for high-risk elementary schoolchildren. | • Maintain FMR in schools with high levels of dental disease, as determined by the annual kindergarten assessment — met | • Weekly FMR rosters | • Good participation and compliance for approximately 48,000 children in targeted elementary schools rinsing weekly for a minimum of 28 weeks.  
• Did a tremendous amount of work with Legislature to get necessary funds reinstated and increased. |
| • Conduct a preventive dental sealant program for children at high risk for cavities. | • Provide sealants in school-based projects for at-risk children. — met  
• Continue sealant promotions using public/private partnerships. Private dentists and PH practitioners place sealants in a variety of settings — met | • Sealant project reports | • 2,585 high risk 5th grade students received 11,127 sealants |
| • Increase the awareness of children and others in the community about dental diseases  
• Increase the awareness of children and the community about the:  
  ➢ hazards of tobacco use,  
  ➢ benefits of proper nutrition,  
  ➢ benefits of physical activity,  
  ➢ oral manifestations of diabetes, and  
  ➢ dental injuries | • Provide educational services for children.  
• Work with Local Educational Authorities (LEAs), School Health Advisory Councils (SHACs), Parent Teacher Associations (PTAs), Parent Teacher Organizations (PTOs), etc., on issues of importance to oral health, and how oral health pertains to overall health.— met  
• Provide educational services for adults who influence the oral health of children, such as teachers, parents and health care providers. | • RDH Weekly Report of Services | • Maintained the current level of activity by Oral Health Section public health dental hygienists working on these issues. Education services provided for 144,631 children  
• Provided educational services for 13,536 adults. |
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| • Consider the adoption or advancement of information and innovations to impact oral diseases. | • Use evidence-based reviews published throughout the year to assess innovations with the potential to reduce dental diseases for possible implementation and communicate to professionals as appropriate — *met* | • Evidence-based studies              | • Conducted evidence-based review on risk factors for Early Childhood Caries.  
• Provided information on issues including OSHA, SPICE, waterline care, and Legionella. |
| • Promote Dental Health Literacy (knowledge, understanding and communication). | • Work with the State Center for Health Statistics (SCHS) to distribute the results of the 2003-2004 NC Statewide Children’s Dental Survey. — *not met*  
• Develop and distribute age-appropriate educational materials. — *not met*  
• Provide educational materials for limited English proficiency (LEP). — *met*  
• Implement the social marketing campaign on the importance of cleaning baby’s teeth with fluoride toothpaste. — *met* | • Monitor SCHS website  
• New educational materials submitted for review by the Management Team  
• New educational materials submitted for review by the Management Team  
• Reports submitted to Section Chief and Management Team | • New materials under development for the early childhood population, piloting with Early Head Start (focus groups, educational curricula, videos, posters).  
• Aired radio and TV social marketing spots in the Mecklenburg and Triad markets. |
### GOAL II. Ensure that evidence-based systems are implemented to monitor the public's oral health

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<tr>
<td>• Provide on-going surveillance of oral conditions.</td>
<td>• Conduct calibrated kindergarten and fifth grade assessments. – <em>met</em></td>
<td>• Calibrated kindergarten and fifth grade assessment data(^{12})</td>
<td>• Used data to monitor and adjust OHS program</td>
</tr>
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<td></td>
<td>• Monitor the number of oral health preventive clinical services provided by state and local public health dental hygienists working “Under Direction.” – <em>met</em></td>
<td>• Working “Under Direction” Reporting Form.</td>
<td>• Recorded “Under Direction” clinical data submitted to NC Institute of Medicine (IOM).</td>
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<td>• Consider adding new oral health questions to the Child Health Assessment and Monitoring Program Survey (CHAMP). - <em>met</em></td>
<td>• CHAMP(^{12}) data</td>
<td>• Developed oral health questions, submitted to CHAMP and provided funding for dental related questions. Worked with UNC-CH School of Dentistry – Dept. of Pediatric Dentistry</td>
</tr>
<tr>
<td></td>
<td>• Monitor the results of the Behavioral Risk Factor Surveillance Surveys (BRFSS). - <em>met</em></td>
<td>• BRFSS(^{13}) data</td>
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<td></td>
<td>• Monitor the results of the Pregnancy Risk Assessment Monitoring System (PRAMS) survey - <em>met.</em></td>
<td>• PRAMS(^{14}) data</td>
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<td></td>
<td>• Monitor oral cancer incidence and mortality in the state via <em>NC Cancer Facts and Figures.</em> - <em>met</em></td>
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<td>• Conduct periodic statewide surveys of oral health status and related conditions.</td>
<td>• Review the results of past statewide surveys to develop evidence-based programs to improve the oral health of citizens. - <em>met</em></td>
<td>• 2003-2004 NC Statewide Children’s Dental Survey database</td>
<td>• Based on survey results, obtained Legislative funding for fluoride mouthrinse program</td>
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<td>• Conduct preliminary planning for the next state-wide survey to be conducted in 2010 to compare data with the National 2010 Oral Health Objectives. – <em>under discussion</em></td>
<td>• Calibrated kindergarten and fifth grade assessment data(^{12})</td>
<td>• Progress in planning and developing the next state-wide survey</td>
</tr>
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<td></td>
<td>• Monitor emerging issues in oral health – <em>met</em></td>
<td>• Systematic search of evidence-based reviews published throughout the year</td>
<td>• Working to identify risk factors for ECC through an evidence based review on the risk factors for early childhood caries</td>
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<td>• Collect data on dental</td>
<td>• Work with State Center for Health Statistics to post</td>
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<td>health services.</td>
<td>assessment data on state web site. – <em>not met</em></td>
<td>• RDH Weekly Report of Services</td>
<td>• Use data for program development, presentations, educational</td>
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<td>• Maintain current Weekly Report of Services.</td>
<td>• FMR reporting forms</td>
<td>• An increase in the number of these services provided</td>
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<td>• Monitor the number and type of services provided by public health dental</td>
<td>• WFRS</td>
<td>• Worked with Legislature to request funds to continue and expand</td>
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<td>hygienists working &quot;Under Direction&quot;. - <em>met</em></td>
<td>• Quarterly Medicaid reports</td>
<td>FMR program</td>
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<td>• Initiate FMR in additional schools and monitor the safety and number of</td>
<td>• Reports submitted to Management Team</td>
<td>• 88% of North Carolinians on community water systems continue to</td>
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<td>children participating in FMR. - <em>met</em></td>
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<td>receive the benefits of fluoridation</td>
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<td>• Monitor the number of North Carolinians receiving fluoridated community</td>
<td></td>
<td>• Increased number of children receiving <em>IMB</em> services to exceed</td>
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<td>water. - <em>met</em></td>
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<td>100,000 annually.</td>
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<td>• Monitor the number of eligible Medicaid children receiving <em>IMB</em> services.</td>
<td></td>
<td>• Provided information for programmatic queries (e.g. Results</td>
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<td></td>
<td>- <em>met</em></td>
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<td>Based Budgeting (RBB), Program Management Data Base (PMD),</td>
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<td>• Respond to requests for program information. – <em>met</em></td>
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<td>multiple Legislative inquiries.</td>
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### GOAL III. Ensure access to dental care

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</table>
| - Increase access to dental care for children. | - Provide dental screening, referral and follow-up services for children:  
  o Kindergarten and fifth grade  
  o More at Four  
  o Sealants  
  o School nurse requests  
  o *Give Kids a Smile! – all met*  
- Collaborate with school nurses to assist families in securing needed dental care for their children. – *met*  
- Provide technical assistance to local health departments and not-for-profit groups wishing to start new dental clinics. – *met*  
- Provide technical assistance to support efforts to expand the appropriate number of dental and dental hygiene students trained in NC to best meet the needs of our citizens. - *met*  
- Contact local health directors to offer training on dental public health for public health dental hygienists to meet the requirements for working “Under Direction”. – *met*  
- Provide preventive services for targeted high-risk | - Calibrated kindergarten and fifth grade assessment data\(^{12}\)  
- RDH Weekly Report of Services  
- Reports from field staff  
- Maintain a list of safety-net dental clinics  
- Discussions by the Management Team  
- Keep a database of the public health dental hygienists trained to work “Under Direction.”  
- Quarterly Medicaid | - For 187,727 children who were screened and of whom 32,649 were in need of dental care, approximately 12,400 received their needed care  
- Continued technical assistance to communities interested in safety-net dental clinics.  
- Provided Safety Net list to CareLine and NC Dental Society, and used it to assist people who needed dental care.  
- Participated in discussions as requested to increase the number of dental and dental hygiene students being trained (e.g. ECU’s new Dental School).  
- Responded to all requests for “under direction” training and provide training as needed.  
- Maintain the current level of
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<td>populations. – <em>met</em></td>
<td>• Monitor the provision of <em>IMB</em> oral preventive services. – <em>met</em></td>
<td>Reports</td>
<td>activity by Oral Health Section public health dental hygienists working on this issue</td>
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<td>• Support medical providers participating in the <em>Into the Mouth of Babes</em> program. – <em>met</em></td>
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<td>• Increased the number of children receiving <em>IMB</em> services to exceed 100,000/year.</td>
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<td>• Develop pilot <em>Carolina Dental Home</em> (CDH) in Craven/Pamlico/Jones Counties to increase collaborations between physicians and dentists. – <em>met</em></td>
<td></td>
<td>• Approximately 425 medical practices continue providing IMB preventive procedures.</td>
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<td>• Work to enhance referral systems that help Medicaid recipients identify dentists willing to treat them (Priority Oral Health Risk Assessment and Referral Tool – PORRT). - <em>met</em></td>
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<td>• Progress in developing CDH pilot program</td>
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<td>• Collaborate with the North Carolina Dental Society (NCDS) on the &quot;dental home&quot; concept. – <em>met</em></td>
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<td>• Progress on PORRT.</td>
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<td>• As per NC IOM 1999 Dental Care Access Task Force recommendation #22(^{15}), convene a committee to identify educational materials to educate Medicaid recipients about the importance of ongoing preventive dental care. – <em>not met</em></td>
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<td>• Continued involvement of NCDS in the CDH pilot project</td>
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<td>• Committee can not be set up until OHS can fill the two health educator positions</td>
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**GOAL IV. Provide professional education**
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<th>Strategies</th>
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<th>Outcomes/Measures of Success</th>
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| • Enhance health care providers’ ability to intervene/support better oral health outcomes. | • Contact local health directors to offer training on dental public health for public health dental hygienists to meet the requirements for working “Under Direction”. Provide training as needed. – *met*  
• Collaborate with members of the NCDS, UNC School of Dentistry and Area Health Education Centers (AHEC) to educate dental professionals about providing dental services for pregnant women.- *met* | • Keep a database of the public heath dental hygienists trained to work “Under Direction”  
• Meet with members of the NCDS, UNC School of Dentistry and AHEC about how to educate dental professionals about providing dental services for pregnant Medicaid women.  
• Discussions by the Management Team  
• Weekly Report of Services  
• Reports submitted to Management Team | • Provided “Under Direction” training for 11 dental hygienists.  
• Served on UNC and NC Dental Society committees working towards increasing dental services for pregnant women.  
• Residency paper completed on the knowledge, opinions and attitudes of pregnant women and mothers.  
• Residency paper on revising the Spanish version of a questionnaire on the “dental home” concept.  
• Presentations provided to a variety of professional and lay audiences, including 40 for IMB.  
• Written information for Legislature.  
• Developed articles on such |
| | | | |
| | • Review NY state guidelines on pregnancy and oral health for potential application in NC. - *met*  
• Work with the Women’s Health Branch (WHB), Women’s and Children’s Health Section, NC Division of Public Health, to educate Medicaid eligible pregnant women that dental services are covered and encourage them to use these services. - *met*  
• Provide presentations to local and state healthcare professionals, dental societies, universities and community colleges. – *met* | | |
<p>| | • Provide written educational materials to healthcare professionals including articles in professional journals promoting the Oral Health Section mission. | | |</p>
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| • Expand the dental public health workforce. | • Provide Residency training in the American Dental Association (ADA) recognized specialty of Dental Public Health. – *met* | • Residency Reports  
• Weekly Report of Services  
• Poll staff | • Provided specialty training for one resident.  
• Number of health professional students rotating through OHS. |
| | • Provide rotations for students in dental hygiene and MPH programs. – *met* | | |

* Issues as OSHA, SPICE, dental waterlines, and Legionella.
Our Partners:

- American Academy of Family Physicians
- American Academy of Pediatrics
- American Association of Public Health Dentistry
- Association of State and Territorial Dental Directors
- Centers for Disease Control and Prevention (CDC) Division of Oral Health
- Centers for Medicare and Medicaid (CMS)
- Faith-based organizations
- Head Start/Early Head Start and Migrant Head Start
- Health Resources Services Administration (HRSA)
- Healthy Carolinians
- Latino advocacy groups
- Local and regional health departments
- Local, state and national dental and medical professional organizations
- Maternal and Child Health Bureau
- MCH Center for Leadership in Pediatric Dentistry, UNC School of Dentistry, Chapel Hill
- Medical residency programs
- More at Four
- National Institute for Dental and Craniofacial Research (NIDCR), National Institutes for Health (NIH)
- North Carolina Academy of Family Physicians
- North Carolina Academy of Pediatric Dentistry
- North Carolina Association of Local Health Directors
- North Carolina Committee for Dental Health
- North Carolina Community Colleges, Colleges and Universities
- North Carolina Dental Assistants Association
- North Carolina Dental Hygiene Association
- North Carolina Dental Society
- North Carolina Department of Public Instruction and Local Educational Authorities (LEAs)
- North Carolina Division of Medical Assistance (Medicaid)
- North Carolina Division of Public Health School Health Matrix
- North Carolina Institute of Medicine
- North Carolina Institute of Public Health
- North Carolina Medical Society
- North Carolina Office of Research, Demonstration and Rural Health
- North Carolina Pediatric Society
- North Carolina Society of Public Health Education (NCSOPHE)
- North Carolina State Board of Dental Examiners
- Old North State Dental Society
- Old North State Medical Society
- Other public health agencies and advocacy groups
- Other Sections within Division of Public Health
- Parent/Teacher Associations (PTAs)
- Parent/Teacher Organizations (PTOs)
- School Health Advisory Councils (SHACs)
- Smart Start/NC Partnership for Children
- UNC School of Dentistry
- UNC School of Public Health
- Women, Infants and Children (WIC)
Resources


