



The North Carolina Oral Health Action Plan for Children Enrolled in Medicaid and NC Health Choice

June 2013

**North Carolina
Institute of Medicine**

In collaboration with the Blue Cross Blue Shield of North Carolina Foundation, the North Carolina Division of Medical Assistance, the Oral Health Section within the North Carolina Division of Public Health, and the Office of Rural Health and Community Care.

Supported by the Blue Cross and Blue Shield of North Carolina Foundation and the North Carolina Division of Medical Assistance.





North Carolina Institute of Medicine
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The North Carolina Institute of Medicine (NCIOM) is a nonpolitical source of analysis and advice on important health issues facing the state. The NCIOM convenes stakeholders and other interested people from across the state to study these complex issues and develop workable solutions to improve health, health care access, and quality of health care in North Carolina.

The full text of this report is available online at <http://www.nciom.org>

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The North Carolina Institute of Medicine's (NCIOM) Task Force on Child's Preventive Oral Health Services was convened in collaboration with the Blue Cross and Blue Shield of North Carolina Foundation, the North Carolina Division of Medical Assistance (DMA), the Oral Health Section within the North Carolina Division of Public Health, and the Office of Rural Health and Community Care.

The NCIOM Task Force on Child's Preventive Oral Health Services was charged with helping DMA develop its required dental action plan to improve access to and delivery of preventive oral health services for children ages 1-20 who are enrolled in Medicaid or the State Child Health Insurance Program (CHIP).

The Task Force was chaired by Mark Casey, DDS, MPH, dental director, Division of Medical Assistance, North Carolina Department of Human Services; Frank Courts, DDS, chair, Physicians Advisory Group Dental Committee; and Marian D. Earls, MS, FAAP, lead pediatric consultant, Community Care of North Carolina.

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In addition to the above individuals, the staff of the North Carolina Institute of Medicine contributed to the Task Force's study and the development of this report. Pam Silberman, JD, DrPH, president and CEO, guided the work of the Task Force. Berkeley Yorkery, MPP, project director served as project director for the Task Force. Kimberly Alexander-Bratcher, MPH, project director, and Anne Williams, research assistant, contributed to the report. Key staff support was also provided by Adrienne Parker, director of administrative operations, and Thalia Fuller, administrative assistant.

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Executive Summary

Dental caries, also called “tooth decay” or “cavities,” is the most prevalent chronic infectious disease among children in the United States.¹ Tooth decay, which can lead to pain and swelling, can limit a child’s ability to eat and speak, and create problems that distract from a child’s ability to learn. The pain and discomfort diminishes a child’s quality of life.^{2,3} Fortunately, dental caries is both preventable and manageable. With proper dental care and dietary choices, dental caries could almost be eliminated among children.¹

In North Carolina, 14% of children in kindergarten (ages 5-6) had untreated dental decay in at least one primary tooth.^a National data show 40% of children ages 2-8 have dental caries in their primary teeth and 21% of children ages 6-11 have dental caries in their permanent teeth. A number of factors put some children at greater risk of developing dental caries, particularly low socioeconomic status and minority race/ethnicity.⁴ In North Carolina, children with family incomes below 200% of the federal poverty level^b qualify for health care coverage, including dental services, through Medicaid or NC Health Choice, North Carolina’s State Child Health Insurance Program.⁵⁻⁷

In the fall of 2012, the Centers for Medicare and Medicaid Services (CMS) launched an oral health initiative aimed at increasing the percentage of children enrolled in Medicaid or CHIP who receive preventive dental services and dental sealants. CMS oversees both Medicaid and the Child Health Insurance Programs (CHIP)^c in all states. CMS launched this initiative in response to low utilization rates for preventive dental services across the country. The North Carolina Institute of Medicine Task Force on Children’s Preventive Oral Health Services was convened to help the Division of Medical Assistance (DMA) develop its required dental action plan to improve access to preventive oral health services for all children in response to this request from CMS. The Task Force is a collaborative effort between DMA, the Blue Cross and Blue Shield of North Carolina Foundation (BCBSNCF), the Oral Health Section within the North Carolina Division of Public Health, and the Office of Rural Health and Community Care. Financial support for the Task Force comes from BCBSNCF and DMA.

The Task Force on Children’s Preventive Oral Health Services was chaired by Mark Casey, DDS, MPH, dental director, North Carolina Division of Medical Assistance, Frank Courts, DDS, chair, Physicians Advisory Group Dental Committee, North Carolina Division of Medical Assistance and dental practitioner, and Marian Earls, MD, FAAP, lead pediatric consultant,



The Task Force on Children’s Preventive Oral Health Services was convened to help the Division of Medical Assistance develop its required dental action plan to improve access to preventive oral health services for children.

a King, Rebecca. Section Chief, Oral Health Section, Division of Public Health, North Carolina Department of Health and Human Services. Written communication May 31, 2013.

b In 2013, the federal poverty level for a family of four is \$23,550. 200% of the federal poverty level is \$47,100. Add cite: <http://aspe.hhs.gov/poverty/13poverty.cfm>.

c NC Health Choice is North Carolina’s Child Health Insurance Program.

Dental caries is the most prevalent chronic infectious disease among children in the United States. Fortunately, dental caries is both preventable and manageable.

Community Care of North Carolina. The Task Force included 35 task force and steering committee members representing dental health professionals, state policy makers, public health and other health professionals, researchers, consumer representatives, and others. The Task Force met monthly from December 2012 to May 2013.

The Task Force developed three goals. The first two were required by CMS and focus on preventive dental services administered by dental providers. In addition to these goals set by CMS, the Task Force felt it was important to include a goal looking at the role primary care providers serve in providing preventive oral health care. The Task Force Goals are to:

1. Increase the proportion of children ages 1-20 enrolled in Medicaid or NC Health Choice^d (enrolled for at least 90 days) who received any preventive dental services from dental providers by 10 percentage points, from 45% to 55% for children enrolled in Medicaid and 42% to 52% for children enrolled in NC Health Choice, over a five-year period from federal fiscal year (FFY) 2011-FFY2015.
2. Increase the proportion of children ages 6-9 enrolled in Medicaid or NC Health Choice (enrolled for at least 90 days) who receive a dental sealant on a permanent molar tooth by 10 percentage points, from 17% to 27% for children enrolled in Medicaid and 25% to 35% for children enrolled in NC Health Choice, over a five-year period from FFY 2012^e - FFY 2017.
3. Increase the utilization of preventive oral health services among children ages 6 months-20 years old enrolled in Medicaid and NC Health Choice (enrolled for at least 90 days) by any appropriate health professional by 10 percentage points, from 55% to 65% for children enrolled in Medicaid and 42% to 52% for children enrolled in NC Health Choice, over a five-year period from FFY 2011-FFY 2015.

The Task Force believes that in raising North Carolina's overall proportion of children receiving preventive dental services, sealants, and preventive oral care in the medical setting, it is important to focus on both the state data and county level data. It is critical that the state improve preventive dental services for children living in all counties in North Carolina, not just those in a few higher need urban counties. Therefore, the Task Force proposed that for each of the goals set forth, the state should work towards an improvement of at least 15 percentage points for counties in the lowest quartile of a given goal, 10 percentage points for counties in the middle two quartiles of a given goal, and 5 percentage points for those counties in the highest quartile. The Task Force

^d NC Health Choice is North Carolina's CHIP program.

^e For the purposes of this report we are using FFY 2012 as the baseline year. CMS has not yet defined the baseline year for this measure for their requirements, therefore, the baseline year may need to be changed once CMS has decided on a baseline year.

recognized that if counties just achieved these goals, that we would not reach the CMS goal of a 10 percentage point increase in use of preventive dental services or sealants. However, the Task Force expects that some counties will exceed these goals, thereby raising the state average to reach the recommended increase.

The Task Force examined data on the scope of the problem and identified barriers to children enrolled in Medicaid and NC Health Choice receiving preventive dental services and sealants. The group then developed recommendations to address Goals 1, 2 and 3, as well as crosscutting recommendations that could positively impact all three goals. The following provides a summary of the recommendations from the Task Force on Children’s Preventive Oral Health Services. The summary recommendations are numbered and correspond to the chapter where they are discussed in more detail.

Increasing Preventive Care Utilization

In 2009, North Carolina ranked among the top 10 states for the percentage of children receiving any preventive dental service.⁸ However, access to dental services and utilization of available services in North Carolina is low, with fewer than half of eligible children receiving preventive dental services. In FFY 2012, only 49% of children enrolled in Medicaid or NC Health Choice received at least one preventive service from a dentist.^{5,6} Preventive care, which includes cleanings, fluoride treatments, sealants, and space maintainers, is a critical first step to ensuring that children do not develop dental disease or that dental disease is identified early and treated. Utilization is particularly low among very young children. Only 29% of children ages 1-2 received preventive dental services in FFY 2012, despite the fact that both the American Dental Association and the American Academy of Pediatric Dentistry recommend that children see a dental provider “at the time of the eruption of the first tooth and no later than 12 months of age.” The Task Force recognized the need to increase efforts to educate families about the importance of early childhood oral health and to connect young children with a dental home.

Recommendation 3.1: Increase Outreach and Education to Families of Young Children about the Importance of Oral Health Services

The Division of Medical Assistance (DMA) and the Oral Health Section (OHS) of the Division of Public Health should develop a one page document that summarizes the major Medicaid and NC Health Choice dental benefits and provides information on how young children can receive oral care. In addition, DMA and OHS should disseminate information on how to maintain good oral health for infants and young children and on the importance of seeking dental services for children beginning at age 1. DMA should partner with other organizations and agencies to distribute this information to families.

Recommendation 3.2: Support Dental Care Coordination by North Carolina Community Care Networks

The Division of Medical Assistance and the North Carolina Community Care Networks should examine whether an additional per member per month (pmpm) payment is needed to expand the capacity of Health Check Coordinators to help families with young children enrolled in Medicaid or NC Health Choice understand the importance of oral health and connect to a dental home.

In addition to increasing education and efforts to connect young children with a dental home, more could be done to increase dentists' participation in Medicaid and NC Health Choice. Only half of the dentists in North Carolina provide services for children enrolled in Medicaid and NC Health Choice, and only a quarter of dentists in North Carolina actively participate—defined as having at least \$10,000 in Medicaid claims throughout the year.¹⁰ Increasing the number of dentists who participate in Medicaid and NC Health Choice is critical to improving access and utilization of preventive dental services.

Recommendation 3.3: Increase the Participation of Dentists in Medicaid and NC Health Choice

The North Carolina Dental Society (NCDS) should partner with the Division of Medical Assistance (DMA) to encourage more dentists to participate in Medicaid and NC Health Choice and to increase the willingness of general dentists to treat young patients.

Recommendation 3.4: Reduce Barriers Discouraging Dentists from Participating in Medicaid and NC Health Choice

The Division of Medical Assistance (DMA) should encourage more dentists to participate in Medicaid by reducing administrative barriers. DMA should not take any steps that would reduce dentist participation. In addition, the North Carolina General Assembly should change the classification of dentists from moderate to low categorical risk providers for purposes of fraud and abuse monitoring.

Promoting and Increasing Sealant Utilization

Sealants are clear or opaque materials applied to the rough surfaces, called pits and fissures, of premolars and molars to prevent tooth decay. Sealants prevent food, bacteria, plaque, and other debris from collecting within the pits and fissures of vulnerable teeth.¹¹ Sealants are designed to withstand normal wear but must be monitored. If necessary, sealants must be reapplied to ensure long-term effectiveness. Sealants may be placed as primary prevention to avert onset of caries or as secondary prevention to arrest progression of caries to cavitation. Sealants are effective in reducing dental caries by approximately 60% among children ages 6-17.¹¹ In North Carolina, 17% of children ages 6-9 enrolled in Medicaid and 19% of similar age children enrolled in NC Health Choice received a sealant in FFY 2012.^{f,6} Despite the well-supported case for their use, sealants are not very highly utilized in oral health prevention for many reasons, including underutilization by dentists, poor reimbursement by Medicaid and NC Health Choice, inability to receive reimbursement to reapply sealants if they fail, and lack of knowledge about sealants among parents. Changes to Medicaid and NC Health Choice payment and policies could increase utilization of sealants by dentists. Education of dental professionals is also needed because many dentists lack understanding of the American Dental Association guidelines for pit and fissure sealants, including the benefits of sealants over incipient caries. Finally, with further education, primary care professionals could help educate children and their families about sealants when they talk to them about the importance of oral health.

Recommendation 4.1: Increase Reimbursement for Dental Sealants

The Division of Medical Assistance (DMA) should explore changes in Medicaid payment policies to increase reimbursement to the 75th percentile of a commercial dental benchmark for dental sealants.

Recommendation 4.2: Allow Reapplication of Sealants When Medically Necessary

Educate dentists about EPSDT and the ability to seek an exception from regular coverage policy to obtain reimbursement for the reapplication of sealants when medically necessary. The Division of Medical Assistance Physician Advisory Group should create new coverage policies for Medicaid and NC Health Choice to allow reapplication of sealants on the same tooth when medically necessary.

^f It is important to note that the target is not 100% in a year. If the goal is to have 100% of children have sealants on permanent molars by age 9, we would expect about 25% of 6-9 year olds to get their molars sealed in any given year.

Recommendation 4.3: Increase Private Sector Efforts to Encourage Dentists to Provide Sealants for Medicaid and NC Health Choice Participants

The North Carolina Dental Society (NCDS) should promote the use of dental sealants and disseminate information about the efficacy of sealants. NCDS, in partnership with Old North State Dental Society, should expand existing efforts to provide sealants to children through the Give Kids a Smile/MOMs effort. Other organizations that provide continuing education for dental professionals should increase their focus on sealants.

Recommendation 4.4: Educate Primary Care Providers about Sealants

The Division of Medical Assistance, North Carolina Dental Society, North Carolina Pediatric Society, Area Health Education Centers, North Carolina Community Care Network, and other partners should expand or create continuing education opportunities for primary care professionals to educate them on sealants.

The Role of Primary Care Providers

Most oral health services are provided by dental professionals. However, primary care professionals also have a responsibility and ability to support children's oral health. Primary care providers can educate children and their families about the importance of oral health care, the need for all children ages 1 and older to have a dental home, and the impact of nutrition on children's teeth; refer children to the dentist for care; and, in North Carolina, provide some basic preventive oral health care to high-risk young children. In North Carolina there are many efforts underway within the primary care setting to improve children's oral health. However, there is a need for more guidance for primary care providers in order to clarify the expectations for oral health care provided during medical visits. Additionally, the lack of communication between primary care providers and dental professionals impedes efforts to improve the oral health of children. More professional interaction between primary care providers and dentists could promote communication and collaboration.

Recommendation 5.1: Encourage Primary Care Providers to Promote Oral Health

The Division of Medical Assistance and the North Carolina Community Care Network (NCCCN) should continue to work with primary care providers (PCPs) who see children and pregnant women and their partners to help them further encourage families with children to obtain oral health services. As part of this effort, DMA and NCCCN should develop and disseminate guidelines that specify oral health expectations for PCPs and OB/GYNs.

Recommendation 5.2: Create Systems for Greater Collaboration between Primary Care Providers and Dental Professionals

The Division of Medical Assistance, North Carolina Community Care Network, North Carolina Dental Society, the North Carolina Pediatric Society, and other partners should create systems for greater collaboration between primary care providers and dental professionals.

Crosscutting Strategies for Increasing Preventive Dental Services Utilization

Increasing children’s access to preventive dental services in North Carolina is a challenge due to a low dentist-to-population ratio and limited public resources, as well as family, dentist, and policy barriers. In discussions, the Task Force repeatedly came back to the need for additional mechanisms to deliver efficient and affordable services at times and in places convenient for children and families. The Task Force also struggled with how to ensure that North Carolina has a sufficient oral health workforce to deliver quality care. These issues came up in discussions of Goals 1 and 2. To address these challenges, the Task Force developed four crosscutting recommendations.

Recommendation 6.1: Maintain the Structure of the Oral Health Section and Increase Funding for Public Health Dental Hygienists

The North Carolina General Assembly should maintain the structure of the Oral Health Section of the Division of Public Health, including dental hygienists, and increase funding in order to hire additional dental hygienists who can provide preventive oral health services in schools, help link children with oral health problems to a dental home, participate in oral health surveillance activities, and otherwise promote oral health among children.

Recommendation 6.2: Require Limited Service Dental Providers to Provide Comprehensive Dental Services

The Division of Medical Assistance and the Physician Advisory Group should examine current dental payment policies to better support dental homes that provide continuity of care and comprehensive oral health services.

Recommendation 6.3: Pilot Private Dental Practice School-Based Programs

The North Carolina Dental Society, Oral Health Section of the Division of Public Health, and Division of Medical Assistance should seek funding to create school-based pilot programs to provide screenings, preventive services, and sealants. For this pilot, a dental practice would serve as the dental home. Dental hygienists, employed by the dental office, would need additional training to provide the dental services in schools with remote supervision by the participating dentist. The model should be evaluated after three years. If successful, and financially viable, the model should be expanded across the state.

Recommendation 6.4: Reduce Barriers for Qualified Out-of-State Dentists

The North Carolina State Board of Dental Examiners (NCSBDE) is charged with regulating dentists in the public interest. Given the relative lack of dentists in North Carolina as compared to other states and the ongoing dental shortages in some areas of the state, the NCSBDE should consider opportunities to increase the supply of high quality providers practicing in North Carolina, with special attention to underserved areas and populations.

Executive Summary

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Tooth decay, or dental caries, is the most common chronic disease among children ages 5-19.^{1,2} It affects approximately one-in-five children. Untreated tooth decay can lead to problems with eating, speaking, school attendance, and general health.² Tooth decay is preventable with proper care, nutrition, utilization of dental care, water fluorination, and medical-based oral health services. Nationally, over 50% of children ages 5-9 have at least one cavity or filling, rising to 78% by age 17.²

Children from low-income families are more likely to have tooth decay.² In North Carolina, Medicaid and NC Health Choice (our state Child Health Insurance Program) provide coverage for dental care for approximately 1.2 million children living in families with incomes below 200% of the federal poverty level.^a Although children receiving health care coverage through Medicaid and NC Health Choice have coverage for dental services, not all of these children receive dental care. In federal fiscal year (FFY) 2011, only 45% of Medicaid-enrolled children received any preventive dental service (defined as cleanings, fluoride treatments, sealants) and 42% of NC Health Choice-enrolled children received any preventive dental service.³

In the fall of 2012, the Centers for Medicare and Medicaid Services (CMS) asked states to develop a plan to increase the proportion of children ages 1-20^b enrolled in Medicaid or Children's Health Insurance Programs (CHIP) who receive any preventive dental services and the proportion of children ages 6-9 who receive a dental sealant on a permanent molar tooth by 10 percentage points over five years.⁴ The North Carolina Institute of Medicine (NCIOM) Task Force on Children's Preventive Oral Health Services partnered with North Carolina Division of Medical Assistance (DMA) to develop North Carolina's plan in response to the request from CMS. The NCIOM Task Force on Children's Preventive Oral Health Services is a collaborative effort between DMA, the Blue Cross and Blue Shield of North Carolina Foundation (BCBSNCF), the Oral Health Section within the North Carolina Division of Public Health, and the Office of Rural Health and Community Care. Financial support for the Task Force comes from BCBSNCF and DMA. The Task Force was convened to help DMA develop its required dental action plan to improve access to preventive oral health services for all children by:

1. Increasing the proportion of children ages 1-20 enrolled in Medicaid or NC Health Choice (for at least 90 days) who received any preventive dental services from dental providers by 10 percentage points, from 45% to 55% for children enrolled in Medicaid and 42% to 52% for children



Tooth decay, or dental caries, affects approximately one-in-five children.

The Task Force was convened to help DMA develop its required dental action plan to improve access to preventive oral health services for all children

a In 2013, \$47,100 is 200% of the federal poverty level for a family of four. (US Department of Health and Human Services. 2013 Poverty Guidelines. <http://aspe.hhs.gov/poverty/13poverty.cfm>. Published January 24, 2013. Accessed June 3, 2013.)

b In this report, we will use the term children to refer to the population ages 1 to 20 unless otherwise noted.

enrolled in NC Health Choice, over a five-year period from FFY 2011-FFY2015.

2. Increasing the proportion of children ages 6-9 enrolled in Medicaid or NC Health Choice (for at least 90 days) who receive a dental sealant on a permanent molar tooth by 10 percentage points, from 17% to 27% for children enrolled in Medicaid and 25% to 35% for children enrolled in NC Health Choice, over a five-year period from FFY 2012^c-FFY 2017.

In addition to these goals set by CMS, the Task Force felt it was important to include a goal that includes the role primary care providers serve in providing preventive oral health care. The CMS goals do not include preventive oral health services provided in medical settings. Primary care providers play a critical role in helping increase access to preventive oral health care. Therefore, the Task Force set a third goal to:

3. Increase the utilization of preventive oral health services among children ages 6 months-20 years old enrolled in Medicaid and NC Health Choice (for at least 90 days) by any appropriate health professional by 10 percentage points, from 55% to 65% for children enrolled in Medicaid and 42% to 52% for children enrolled in NC Health Choice, over a five-year period from FFY 2011-FFY 2015.

The Task Force believes that in raising North Carolina's overall proportion of children receiving preventive dental services, sealants, and preventive oral care in the medical setting, it is important to focus on both the state data and county level data. It is critical that the state improve preventive dental services for children living in all counties in North Carolina, not just those in a few higher need urban counties. Therefore, the Task Force proposed that for each of the goals set forth, the state should work towards an improvement of at least 15 percentage points for counties in the lowest quartile of a given goal, 10 percentage points for counties in the middle two quartiles of a given goal, and 5 percentage points for those counties in the highest quartile. The Task Force recognized that if counties just achieved these goals, we would not reach the CMS goal of a 10 percentage point increase in use of preventive dental services or sealants. However, the Task Force expects that some counties will exceed these goals, thereby raising the state average to reach the recommended increase.

The Task Force on Children's Preventive Oral Health Services was chaired by Mark Casey, DDS, MPH, dental director, North Carolina Division of Medical Assistance, Frank Courts, DDS, chair, Physicians Advisory Group Dental Committee, North Carolina Division of Medical Assistance and dental practitioner, and Marian Earls, MD, FAAP, Lead Pediatric consultant,

^c For the purposes of this report we are using FFY 2012 as the baseline year. CMS has not yet defined the baseline year for this measure for their requirements, therefore, the baseline year may need to be changed once CMS has decided on a baseline year.

The Task Force developed three goals and recommendations on actions the state and other partners could take to achieve the goals.

Community Care of North Carolina. The Task Force included 35 task force and steering committee members representing dental health professionals, state and local policy makers, public health and other health professionals, researchers, consumer representatives, and others. The Task Force met monthly from December 2012 to May 2013. The Task Force examined data on the scope of the problem and identified barriers to children enrolled in Medicaid and NC Health Choice receiving preventive dental services and sealants. The identified barriers fell into four broad categories, those faced by families, Medicaid/policy, dental providers, and primary care providers. The group then developed recommendations to address the barriers in these four groups. The Task Force worked with DMA to produce two products: the Medicaid dental action plan in the required CMS template; and this report discusses the need, as well as the strategies, to improve access to preventive dental services for children enrolled in Medicaid or NC Health Choice.

This report has seven chapters including this introduction. Chapter 2 has background information on children’s oral health care. Chapter 3 covers goal 1 and the strategies the Task Force recommended to meet that goal. Chapter 4 covers goal 2 and the strategies the Task Force recommended to meet that goal. Chapter 5 covers goal 3 and the strategies the Task Force recommended to meet that goal. Chapter 6 includes crosscutting recommendations, those that apply to two or more of the goals, developed by the Task Force. Chapter 7 is the conclusion and includes all the recommendations of the Task Force.

This report discusses the need, as well as the strategies, to improve access to preventive dental services for children enrolled in Medicaid or NC Health Choice.

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Dental Caries

Dental caries, also called “tooth decay” or “cavities,” is the most prevalent chronic infectious disease among children in the United States according to the Centers for Disease Control and Prevention.¹ The US Surgeon General reported in 1996 that 58.6% of youth ages 5-17 years in the US had had a dental caries, making dental caries more than 5 times more common than asthma, and 7 times more common than hay fever.²

Dental caries is caused by specific tooth-adherent bacteria (cariogenic bacteria) which metabolize sugars and other carbohydrates to produce acid. Over time, the acid causes the tooth to decay, which, if untreated, can lead to infection, pain, swelling, abscess, and the spread of infection through the bloodstream.²⁻⁴ These bacteria can be transmitted from one person who hosts the bacteria to another. The transmission of cariogenic bacteria from mother to infant has been well-documented.³ Dental caries are considered a chronic disease.⁵ Oral hygiene practices and dental care seek to delay the transmission of cariogenic bacteria from mother (or other caregiver) to infant, and manage the impact of the bacteria on teeth and oral tissue from the first eruption of primary teeth and throughout an individual's life.

Tooth decay has significant consequences for children, their families, and communities. Dental caries in primary teeth put a child at higher risk of future caries in both primary and permanent teeth and can affect children's physical growth and development.^{3,6} Tooth decay, which can lead to pain and swelling, can limit a child's ability to eat and speak, and create problems which distract from a child's ability to learn. The pain and discomfort diminishes a child's quality of life.^{4,6} Untreated decay can also result in potentially life-threatening infection.³ Families must also cope with increased treatment costs for advanced decay including oral surgery, hospitalizations, and emergency room visits.⁶ Fortunately, dental caries is both preventable and manageable.

Dental disease is the greatest unmet health need of children.⁴ From 1999-2004, 23.8% of US children aged 3-5 years had untreated dental decay in at least one primary tooth.⁷ A number of factors put some children at greater risk of developing dental caries, particularly low socioeconomic status and minority race/ethnicity.² In North Carolina, 14% of children in kindergarten (ages 5-6) had untreated dental decay in at least one primary care tooth, and 3% of fifth grade students (ages 10-11) had untreated dental decay in at least one permanent tooth.^a Among children ages 2-9 in the United States, poor Mexican American children have the highest proportion of untreated decayed primary teeth (70.5%) followed by non-Hispanic black children (67.4%). This is in contrast to 37.3% of non-poor, non-Hispanic white children.² The trend



Dental caries is the most prevalent chronic infectious disease among children in the United States. Fortunately, dental caries is both preventable and manageable.

^a King, Rebecca. Section Chief, Oral Health Section, Division of Public Health, North Carolina Department of Health and Human Services. Written communication May 31, 2013.

continues among adolescents ages 12-17 years, with 47.2% of poor Mexican American adolescents, 43.6% of non-Hispanic black adolescents, and 12.1% of non-poor non-Hispanic white adolescents with untreated decay in permanent teeth.² The American Academy of Pediatric Dentistry (AAPD) reports that infants who are of low socioeconomic status, who consume a diet high in sugar, and whose mothers have a low education level are 32 times more likely to develop early childhood caries.³ Children of low-income families have five times more untreated caries than children from higher income families.⁸

Oral Health from Young Children through Adolescence

Tooth decay can begin as early as the eruption of an infant's first teeth. Both inadequate oral hygiene and inappropriate feeding practices contribute to the development of dental caries, which can be especially damaging in vulnerable primary teeth under the age of 6 years.^{2,4,9} Caries before the age of six has been termed early childhood caries, but in the past has been referred to as "nursing bottle caries" or "baby bottle tooth decay" due to the risk factor posed by infant feeding practices that allow prolonged exposure of teeth to carbohydrates or sugars. Specifically, prolonged feeding, use of a bottle past the 1st year of life, and sleeping with a bottle prolong the exposure of teeth to milk sugar. Early childhood is an optimal time for parents to establish lifelong positive oral hygiene and dietary habits. Professional preventive dental care through the establishment of a dental home at age one is also ideal for good oral health. A dental home is the "ongoing relationship between the dentist and the patient, inclusive of all aspects of oral health delivered in a comprehensive, continuously accessible, coordinated and family-centered way."^{9,10}

The prevalence of dental caries increases with age.² According to the AAPD, more than 40% of children have caries by the time they reach kindergarten, and the prevalence of caries in poor children under the age of 5 is increasing.³ Older children experience the loss of primary teeth and the eruption of permanent teeth. It is an important time to reinforce appropriate oral hygiene and dietary habits for caries prevention. Additional preventive treatments include sealants as the permanent molars erupt.⁹ As children age and enter adolescence, increased exposure to foods high in sugar and increased independence and responsibility for oral hygiene often put them at higher risk for dental caries. Among 17-year olds, the proportion of youth with dental caries increases to 77.9%.² In addition, risk of injury to the mouth during play and organized sports, and the detrimental impact of tobacco use and eating disorders, such as bulimia, on oral health become a greater focus in preventive oral health education for adolescents.⁹

Dental caries, which can lead to pain and swelling, can limit a child's ability to eat and speak, and create problems which distract from a child's ability to learn.

Dental Care Covered by Medicaid and NC Health Choice

In North Carolina, 46% of children ages 1-20^b, or approximately 1.2 million children, receive health care coverage through Medicaid or NC Health Choice, North Carolina's State Children's Health Insurance Program.¹¹⁻¹³ Children ages 0-5 who have family incomes below 200% of the federal poverty level (FPL)^c are eligible to enroll in Medicaid. Children ages 6-18 with family incomes below 100% of FPL are eligible to enroll in Medicaid and those with family incomes between 100-200% FPL are eligible to enroll in NC Health Choice.¹ In addition, young adults ages 19-20 are eligible for Medicaid if their income is less than approximately 50% FPL. In North Carolina, 65,026 young adults ages 19-20, or 22%, received health care coverage through Medicaid in FFY 2012.^{12,13} Both programs are administered by the Division of Medical Assistance (DMA) within the North Carolina Department of Health and Human Services.

Medicaid and NC Health Choice provide coverage for preventive care, diagnostic services, restorative care, endodontic care, periodontal care, dentures, extractions and other oral surgeries, and medically required orthodontics. In 2012 Medicaid and NC Health Choice dental expenditures for children totaled \$254 million in North Carolina.¹⁴ The federal government pays approximately 66% of the cost of care for Medicaid enrollees and 76% of the cost of care for NC Health Choice enrollees. The state covers the rest of the costs.^{15,16}

This Task Force focused on increasing the utilization of preventive services by children enrolled in Medicaid and NC Health Choice. Medicaid and NC Health Choice define preventive care as including cleanings and fluoride treatments; sealants for primary teeth (patients under age 8) and permanent molars (patients under age 16) once per lifetime per tooth; and space maintainers.¹⁴ Medicaid and NC Health Choice cover preventive care with no copays or coinsurance required. Most preventive services must be provided by dental professionals, however, North Carolina's Into The Mouths of Babies (IMB) program trains primary care providers to deliver preventive dental care services including oral evaluation, parent/caregiver education, and fluoride varnish application to children enrolled in Medicaid.¹⁷

In federal fiscal year (FFY) 2012, 45% of children enrolled in Medicaid received at least one preventive dental service.¹² In 2010, among children and young adults ages 2-20 who were continuously enrolled in Medicaid for 11 out of 12 month, 56% utilized oral health services provided by dentists. By including the number of children receiving fluoride varnishes by primary care providers this percentage increases to 60%. It is estimated that approximately 58% of children

This Task Force focused on increasing the utilization of preventive services by children enrolled in Medicaid and NC Health Choice.

b In this report, we will use the term children to refer to the population ages 1-20 unless otherwise noted.

c In 2013, the federal poverty level for a family of four is \$23,550. 200% of the federal poverty level is \$47,100. (Office of the Assistant to Secretary for Planning & Evaluation. US Department of Health and Human Services. 2013 Poverty Guidelines. <http://aspe.hhs.gov/poverty/13poverty.cfm>. Accessed June 6, 2013.)

ages birth-20 with private dental insurance plans utilize oral health services during the year.¹⁴ In FFY 2012, 17% of eligible children ages 6-9 enrolled in Medicaid received a sealant and 19% of eligible children enrolled in NC Health Choice ages 6-9 received a sealant.^{12,14}

Preventive Oral Health Services

As noted earlier, Medicaid and NC Health Choice cover certain preventive services, including cleanings, fluoride treatment, sealants, and space maintainers. These services are described in more detail below:

- *Cleanings (Dental Prophylaxis)*. Dental cleanings typically include the removal of plaque, calculus, and stains from the teeth through scaling and polishing.
- *Fluoride Treatment*. Fluoride is a mineral that helps prevent cavities and promote remineralization of teeth. Most children receive fluoride systemically through fluoridated community water sources. Fluoride is also applied to teeth topically at the dental or medical office in gel or varnish form.
- *Pit-and-Fissure Sealants*. Though brushing and flossing help to clean the smooth surfaces of teeth, toothbrush bristles cannot reach all the way into the grooves on the chewing surfaces of teeth to remove food particles and plaque.¹⁸ Pit-and-fissure sealants protect these vulnerable areas by providing a physical barrier to inhibit the collection of microorganisms and food particles in the grooves, or pits and fissures, of the teeth.^{18,19} The predominant available sealant materials are resin-based sealants and glass ionomer cements. The material bonds directly to the tooth and hardens into a protective barrier that prevents both the development and progression of dental decay. Research demonstrates the effectiveness of sealants in reducing the incidence of caries in children and adolescents. However sealants must remain intact or be reapplied in order to be effective.¹⁹
- *Space Maintainers*. Space maintainers are used to help hold space for permanent teeth when a primary tooth is lost prematurely, before the permanent tooth is ready to erupt.²⁰

Why North Carolina is Developing an Oral Health Action Plan

Nationally, there is great variation in utilization of preventive dental services by children enrolled in public health insurance programs—from a low of less than 15% of eligible children in Florida to a high of more than 50% of eligible children in Vermont and Idaho.

This variation and the fact that only two states have utilization rates over 50% led the Centers for Medicare and Medicaid Services (CMS), which oversees

Medicaid and NC Health Choice cover certain preventive services, including cleanings, fluoride treatment, sealants, and space maintainers.

Table 2.1
Percentage of Children Receiving Any Preventive Dental Services (2009)

State	Percentage of Children Receiving Any Preventive Dental Services (2009)	State	Percentage of Children Receiving Any Preventive Dental Services (2009)
Florida	14%	Utah	37%
Wisconsin	24%	Colorado	37%
Montana	24%	Arizona	37%
Missouri	24%	Tennessee	37%
North Dakota	27%	Kansas	38%
California	29%	West Virginia	38%
Oregon	29%	Virginia	38%
Pennsylvania	29%	South Dakota	38%
Kentucky	31%	Oklahoma	39%
Nevada	31%	Indiana	39%
New York	31%	Illinois	40%
Alaska	32%	Rhode Island	40%
New Jersey	33%	New Mexico	42%
Michigan	33%	Alabama	42%
Maryland	34%	Massachusetts	43%
Delaware	34%	North Carolina	44%
Minnesota	34%	Iowa	44%
Louisiana	34%	South Carolina	44%
Connecticut	34%	Nebraska	44%
Ohio	34%	Texas	44%
Maine	35%	Washington	45%
Mississippi	35%	Arkansas	45%
Georgia	35%	New Hampshire	46%
Hawaii	35%	Vermont	52%
Wyoming	35%	Idaho	53%
District of Columbia	36%		

Source: Mouden, Lynn. CMS Oral Health Initiative: The Road to Better Oral Health for Children. Presented to: Task Force on Children’s Preventive Oral Health Services; February 22, 2013; Morrisville, NC.

both Medicaid and the Child Health Insurance Programs (CHIP) in all states,^d to launch an oral health initiative aimed at increasing the percentage of children enrolled in Medicaid or CHIP who receive preventive dental services (see Chapter 3) and dental sealants (see Chapter 4). Specifically, CMS asked each state to develop an oral health action plan to:²¹

^d NC Health Choice is North Carolina’s Child Health Insurance Program.

1. Increase the proportion of children ages 1-20 enrolled in Medicaid or CHIP (enrolled for at least 90 days) who received any preventive dental services by 10 percentage points.
2. Increase the proportion of children ages 6-9 enrolled in Medicaid or CHIP (enrolled for at least 90 days) who receive a dental sealant on a permanent molar tooth by 10 percentage points.

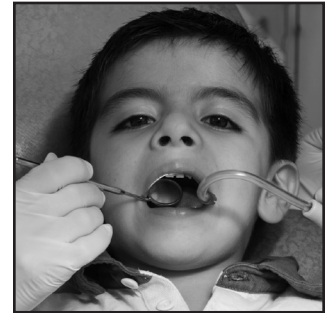
As part of the oral health action plan, CMS asked all states to identify what activities the state intends to undertake in order to achieve these dental goals and to document and assist states in documenting their current activities and collaborations to improve access. This report was developed by the Task Force on Children's Preventive Oral Health Services to document North Carolina's oral health action plan.

This report was developed by the Task Force on Children's Preventive Oral Health Services to document North Carolina's oral health action plan.

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The Centers for Medicare and Medicaid Services (CMS) has challenged state Medicaid programs to increase the use of preventive dental services across the nation.¹ North Carolina ranked among the top 10 states in 2009 for the percentage of children receiving any preventive dental service.² Yet access to dental services and utilization of available services continue to remain too low. In North Carolina, approximately 1 million children and young adults ages 1-20^a were covered by Medicaid in SFY 2012, and almost 200,000 children, ages 6-18 were covered through NC Health Choice.³ While all of these children had dental coverage, only 49% of children enrolled in Medicaid and NC Health Choice received at least one preventive service from a dentist in FFY 2012.^{3,4} (See Appendix C for more information).

While only about half of all children receive preventive dental services in a given year, this proportion varies substantially by age. Both the very young (ages 1-2), and young adults (ages 19-20) are less likely than children or adolescents of other ages to have received a preventive dental service.^b (Table 3.1)

Table 3.1
Utilization of Any Preventive Dental Services by a Dental Professional by Age (FFY 2012)

	Ages 1-2 years	Ages 3-5 years	Ages 6-9 years	Ages 10-14 years	Ages 15-18 years	Ages 19-20 years
Medicaid	29.0%	55.5%	61.5%	55.8%	40.6%	19.0%
NC Health Choice ¹			59.4%	50.4%	34.6%	

Source: Division of Medical Assistance. Form- CMS 416: Annual EPSDT Participation Report FFY2012. North Carolina Department of Health and Human Services. Division of Medical Assistance. DR2113Health_Choice Preventive_by County SFY 2012. North Carolina Department of Health and Human Services.

¹NC Health Choice does not provide coverage for children under age 6 or young adults age 19-20.

Untreated tooth decay is more than twice as prevalent among low-income children.⁵ As discussed in Chapter 2, children who have untreated dental disease are more likely to miss school, have trouble eating or speaking, and have poorer overall health.⁵ Preventive care, which includes cleanings, fluoride treatments, sealants, and space maintainers, is a critical first step to ensuring that children do not develop dental disease or that dental disease is identified early and treated.

Current Efforts to Increase Preventive Dental Services Among Children

The North Carolina Division of Medical Assistance (DMA) engages in a number of activities to promote utilization of preventive dental services. Every six months, the parents of children enrolled in Medicaid and NC Health Choice receive a newsletter with information on why oral health is important, when

^a In this report, we will use the term children to refer to the population ages 1-20 unless otherwise noted.

^b Preventive dental service refers to a service delivered by a dental health professional. Oral health service refers to service delivered by a medical or dental health professional.

Preventive care is a critical first step to ensuring that children do not develop dental disease or that dental disease is identified early and treated.

visits should begin, how frequent they should be, and how to find a provider serving Medicaid/Health Choice kids.^c DMA also sends primary care providers periodic notices about the billing guide, which includes the dental periodicity schedule, to try to encourage primary care professionals to refer patients to dentists and to talk to their patients about when they should take their children to a dentist.^c North Carolina's Medicaid and Health Choice programs also utilize care managers and care coordinators. (See Chapter 5 for more information.) DMA educates these care managers and care coordinators about the importance of oral health and their role in encouraging families to utilize their preventive dental benefits.^c

DMA also works to increase dentists' participation in Medicaid and NC Health Choice. The Dental Director of DMA and other staff attend the North Carolina Dental Society's annual meeting where they operate a booth to disseminate new dental information and recruit dentists to participate.³ They also encourage participating dentists to increase utilization of preventive dental screenings and to place sealants on permanent molars.^c DMA has provider training workshops every two years for dentists. At these workshops they discuss utilization, billing problems, how to submit claims so they will not be rejected, the dental periodicity schedule, and try to answer other questions dentists may have about participating in Medicaid and NC Health Choice.^c DMA also provides an afternoon session for the staff of any dental providers during annual Basic Medicaid provider training.^c

Increasing Preventive Dental Services among Children

CMS identified increasing the proportion of children enrolled in Medicaid or CHIP who received preventive dental services by 10 percentage points over 5 years as the first goal in their oral health initiative.¹ The Task Force set the following as goal 1 for North Carolina: increasing the proportion of children ages 1-20 enrolled in Medicaid or NC Health Choice (enrolled for at least 90 days) who received any preventive dental services from dental providers by 10 percentage points, from 45% to 55% for children enrolled in Medicaid and 42% to 52% for children enrolled in NC Health Choice, over a five-year period from FFY 2011-FFY 2015. The Task Force on Children's Preventive Oral Health Services identified existing access barriers and the root causes of these barriers as the first step to identify strategies the state could undertake to achieve the CMS goal. The Task Force focused on families, dental providers, and Medicaid policy.^d

^c Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication. May 21, 2013.

^d The Task Force also looked at what primary care providers can do to increase preventive oral health care utilization. These recommendations are covered in Chapter 5.

Families

- Parents do not bring their children in to the dentist. There is a lack of understanding and appreciation of the importance of preventive dental services (especially for very young children) among some families.¹
- Low-income families may have scheduling barriers which make it difficult to take their children to the dentist (including problems taking time off work or children out of school, difficulties finding dentists willing to take Medicaid or NC Health Choice, and/or office hours limited to the typical work day).¹
- Some families may be unaware of Medicaid or NC Health Choice coverage for dental services and what their out-of-pocket cost would be.¹
- Some low-income families have low health literacy, which makes it difficult for them to navigate the health system.¹
- Many low-income families have transportation problems.¹

Dentists

- There are not enough dentists willing to treat very young children.¹
- There is a maldistribution of existing dentists. In 2011, North Carolina had 4.3 dentists per 10,000 population compared to a national average of 5.8 dentists per population.⁶ In seven counties in North Carolina there is one or no dentist in the county.
- Current dental hygiene licensure laws require a dentist to provide on-site supervision to dental hygienists, which limits the ability of dental hygienists to provide preventive oral health services when a dentist is not physically present in the same location.
- Some dentists may choose not to treat Medicaid and/or NC Health Choice children because of discomfort serving low-income populations and/or difficulty serving children with language or cultural barriers.¹

Medicaid and NC Health Choice Policy

- Dentists are discouraged from actively participating in Medicaid or NC Health Choice because of low reimbursement rates and administrative barriers to enrolling as a Medicaid provider.¹
- Dentists are also discouraged from actively participating in Medicaid or NC Health Choice because of high no-show rates. The task force also expressed concern that cultural differences may present a challenge to some dentists serving children with Medicaid and NC Health Choice.¹

The Task Force set the following as goal 1 for North Carolina: increasing the proportion of children ages 1-20 enrolled in Medicaid or NC Health Choice (enrolled for at least 90 days) who received any preventive dental services from dental providers by 10 percentage points from FFY 2011-FFY 2015.

The Task Force developed recommendations to address these barriers. The Task Force prioritized the initial list of potential recommendations based on their potential impact and whether they are actionable and achievable (both politically and financially). Based on this process, the Task Force made four recommendations to increase the proportion of children enrolled in Medicaid and NC Health Choice who receive a preventive dental service each year:

Recommendation 3.1: Increase outreach and education to families of young children about the importance of oral health services

Recommendation 3.2: Support dental care coordination by North Carolina Community Care Networks

Recommendation 3.3: Increase the participation of dentists in Medicaid and NC Health Choice

Recommendation 3.4: Reduce administrative barriers to participation in Medicaid and NC Health Choice

The Task Force made four recommendations to increase the proportion of children enrolled in Medicaid and NC Health Choice who receive a preventive dental service each year.

Increase Outreach and Education Efforts among Young Children and Their Families

The American Dental Association and the American Academy of Pediatric Dentistry (AAPD) recommend that children see a dental provider “at the time of the eruption of the first tooth and no later than 12 months of age.”⁷ The AAPD has developed the Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance, and Oral Treatment for Children guidelines, which outlines the type of dental care children should receive by age.⁷ A modified version of these guidelines is used in the North Carolina Oral Health Periodicity Schedule for children enrolled in Medicaid and NC Health Choice.⁸

As noted previously, very young children are less likely to receive preventive dental services from a dentist than most other children. This is due, in part, to the fact that parents do not always understand the importance of bringing their children to a dentist at a very young age. Parents may also have difficulties finding dentists willing to treat young children (which is discussed more fully in Recommendation 3.3). In order to encourage more parents to bring their young children to a dentist, the Task Force recommended that the state increase efforts to educate families about the importance of early childhood oral health. Not only will this help increase the proportion of young children who receive preventive dental services, but it can help create an understanding of the importance of receiving these preventive dental services throughout the child’s life.

By age 5, 36% of young children have had at least one primary tooth treated for tooth decay, and 14% have untreated caries.^e There are many reasons that preventable oral diseases are widespread among children. Many families do not realize that the bacteria that cause dental caries can be transmitted from parent to child (See Chapter 2). They may not understand that letting an infant suck on a baby bottle for extended periods of time (e.g., when falling asleep) can cause “baby bottle” caries. Further, many families do not understand the importance of taking their young child to the dentist before the child has permanent teeth. Parents may not know how to locate a dentist serving very young children and may be unaware of Medicaid and NC Health Choice dental coverage. Some families and some communities may place less value on caring for and keeping teeth. In order to support better oral health practices, and encourage more people to seek dental care for their very young children, more efforts are needed to increase outreach and education to parents of young children, including pregnant women.¹

Many organizations and health care professionals provide services to pregnant women and the families of young children. For example, health care professionals including obstetrician/gynecologists, certified nurse midwives, pediatricians, family physicians, nurse practitioners, and physician assistants provide health care services to pregnant women and young children. Social services, public health, Women’s, Infants, and Children (WIC) nutrition agencies, and other community organizations also provide health, nutrition, and social services information to these families. The Task Force recommended that DMA and the Oral Health Section (OHS) of the Division of Public Health work with existing agencies and organizations where families already seek services, to encourage them to educate pregnant women and families about the importance of oral hygiene, and early oral health services. Pregnant women should receive information on how to maintain oral health and the importance of early dental care for their babies at some point during their prenatal care and through birth or parenting classes. Primary care professionals can help educate families with young children about how to maintain proper oral health and can help link young children—particularly those at higher-risk—to dental professionals. Similarly, social service agencies, public health, and other organizations can help educate families about the importance of early oral health services. Far more could be done to get information on the importance of early dental care to pregnant women and families of young children, therefore, the Task Force recommends:

The Task Force recommended that the state increase efforts to educate families about the importance of early childhood oral health.

^e King, Rebecca. Section Chief, Oral Health Section, Division of Public Health, North Carolina Department of Health and Human Services. Written communication May 31, 2013.

Recommendation 3.1: Increase Outreach and Education to Families of Young Children about the Importance of Oral Health Services

The Division of Medical Assistance (DMA) and the Oral Health Section of the Division of Public Health should:

- a) Educate agencies and organizations that interact with pregnant women and young children and their families about how to maintain good oral health for infants and young children, the importance of seeking dental services for children beginning at age 1, and to help link young children, particularly those at high-risk, to dental homes. Outreach efforts should include the following agencies and organizations:**
 - 1) Programs serving young children and their parents including local Departments of Social Services, Community Care of North Carolina, local health departments, early care and education providers, Head Start, SmartStart, the North Carolina PTA, the faith community, and others.**
 - 2) Programs serving pregnant women and their partners, including WIC and prenatal/birth education classes, offered through health departments, hospitals, local Departments of Social Services, and others.**
 - 3) Health care professionals serving pregnant women and their partners and young children, including OB-GYNs, family physicians, pediatricians, certified nurse midwives, physician assistants, and nurse practitioners.**
- b) DMA should develop a one page document that summarizes the major Medicaid and NC Health Choice dental benefits and information on how young children can receive oral care. DMA should partner with other organizations and agencies to distribute this information to families. Partnering organizations should include those listed above as well as schools, community based organizations, and others.**

Expanding Care Coordination to Further Promote Dental Services

Most individuals with Medicaid and NC Health Choice receive care through Community Care of North Carolina (CCNC) a non-profit, practitioner-led, patient-centered medical home model that links more than one million Medicaid recipients (80% of all North Carolina Medicaid recipients), and others

in the state, to primary care practices. There are 14 non-profit regional CCNC network entities across North Carolina covering all 100 counties. North Carolina Community Care Network, Inc. (NCCCN) serves as the umbrella coordinating organization for the 14 networks. The CCNC model was developed recognizing that many factors affect the health of low-income populations, including, but not limited to, access to health care services. As a result, each network includes a broad array of health care providers including primary care providers, federally qualified health centers, local health departments, hospitals, local management entities/managed care organizations, as well as social services agencies, and other community organizations that work together to provide high quality care and care coordination for the enrolled population.

Primary care providers under contract with CCNC receive a per member per month (pmpm) payment from the state to help manage the care provided to their enrolled patients. In addition, the network receives an additional pmpm payment to help pay for care management, disease management, and quality improvement activities; an informatics system that undergirds the quality improvement initiatives; and other resources needed to improve the care provided to the enrollees. As part of this work, CCNC uses a Case Management Information System (CMIS) which provides an electronic record of demographic and claims data for Medicaid enrollees and care management activities.⁹ The CMIS system produces “care alerts” which trigger based on claims history and gaps in recommended schedules.^f There are three alerts that are particularly relevant for children’s dental care.^g The first is a trigger for a missed well child visit. Very young children ages 0-3.5 often receive oral health services during their well child visits. (See Chapter 5.) The second is for children ages 6 months-3.5 years and is to “consider dental fluoride varnishing.” (See Chapter 5 for more information on North Carolina’s dental fluoride varnishing program.) The third is to “consider recommending annual dental visit) for children ages 2- 21 with no record of a dental visit within the past year. CCNC care managers and care coordinators are supposed to follow up on care alerts for patients.

There are 60 Health Check Coordinators (HCC) located in the 14 NCCCN networks as part of cooperative agreement between DMA, CCNC and the Women and Children’s Health Section of the Division of Public Health (DPH). The job of the HCCs is to “assist families [with children enrolled in Medicaid or NC Health Choice] in obtaining medical services and other community services and supports needed by their children.¹⁰” Their primary responsibility is to follow up by phone when an individual is delinquent on, or has missed, a preventive care visit. Networks get a “care alert” report that HCCs review. They then provide follow up with families whose children have

f Sexton, Carolyn. Care Coordination for Children Project Manager, North Carolina Community Care Network. Written (email) communication. May 20, 2013.

g Sexton, Carolyn. Care Coordination for Children Project Manager, North Carolina Community Care Network. Written (email) communication. May 20, 2013.

care alerts. Through this type of outreach to families, HCCs can help link children to dental homes in their communities. HCCs also provide outreach to new members and to hospitals to work on reducing overutilization by children enrolled in Medicaid and NC Health Choice.

Children ages 0-5 who have certain risk factors^h may be eligible for care coordination through Care Coordination for Children (CC4C), which is administered jointly by CCNC, DPH, and DMA. The goal of CC4C is to improve young children's health outcomes while reducing their medical costs. CC4C care managers help families connect with needed services and supports (e.g. medical care, child care, and transportation). CC4C care coordinators follow up on care alerts for high-needs children that they are already working with or for whom they are opening a file.

Additionally, North Carolina's CCNC networks are engaging in a number of initiatives to improve children's oral health care. (See Chapter 5 for more information) Each CCNC Network has a pediatric quality improvement specialist (QIS) responsible for working with providers to improve the quality of care provided. (See Chapter 5 for more information) The QISs have begun working with practices to encourage the use of the North Carolina Priority Risk Assessment and Referral Tool (PORRT), which includes a risk screening and referral to a dental home, to increase dental varnishing rates, and to improve the use of electronic health records, which include documentation of the child's dental home. (See Chapter 5 for more information.)

The 60 HCCs across the state provide critical outreach to the approximately 1.2 million children enrolled in Medicaid and NC Health Choice. Average case loads are quite high, which may limit outreach and education efforts. Thus, the Task Force recommends:

Recommendation 3.2: Support Dental Care Coordination by North Carolina Community Care Networks

The Division of Medical Assistance and the North Carolina Community Care Networks should examine whether an additional per member per month payment (pmpm) is needed to expand the capacity of Health Check Coordinators to help families with children enrolled in Medicaid or NC Health Choice understand the importance of oral health and connection to a dental home. The pmpm payment should be increased accordingly if additional resources are warranted.

^h Children with special health care needs (chronic physical, developmental, behavioral, or emotional conditions) who require health and related services of a type and amount beyond children generally, those exposed to severe stress during childhood, foster children not linked to a medical home, and other at-risk children may be referred for CC4C services. (Community Care of North Carolina. Care Coordination for Children (CC4C). <http://www.communitycarenc.com/emerging-initiatives/care-coordination-children-cc4c/>. Accessed June 4, 2013.)

Increasing Dentists Participation in Medicaid and NC Health Choice

Of the approximately 4,600 dentists in North Carolina, less than half of the dentists, or approximately 2,200 dentists provide services to at least one patient enrolled in Medicaid each year and approximately 1,900 dentists provide services to at least one patient enrolled in NC Health Choice each year.¹¹ Although approximately half of all dentists submitted at least one Medicaid claim last in 2011, the actual number of dentists who actively participate—defined as having at least \$10,000 in Medicaid claims throughout the year—is actually much lower. In SFY 2012, of the 1,762 billing providers, 1,240 actively participated in Medicaid; of the 1,499 NC Health Choice billing providers, only 488 actively participated.¹¹ In SFY 2012, there were four counties in North Carolina that did not have any Medicaid or NC Health Choice dental providers (Camden, Currituck, Hyde, and Tyrrell).¹¹

In addition to low numbers of dentists providing services for children enrolled in Medicaid and NC Health Choice, these dentists are not evenly distributed across the state. (See Appendix D.) In many rural areas of the state the number of dentists serving children, particularly very young children, is quite limited. Likewise, in some urban areas, a lack of participation by dentists in Medicaid and NC Health Choice limits access to dental care for children enrolled in these programs. It is critical to enroll as many dentists as possible as Medicaid and NC Health Choice providers and to encourage and support active participation in these programs to improve children's access to preventive dental services. As discussed earlier in the chapter, DMA engages in outreach efforts to increase dentists' participation in Medicaid and NC Health Choice.

Parents of young children may face additional difficulties finding dentists who are willing to treat their children. While there has been an increase in the number of pediatric dentists over the last ten years, the overall number is still limited. There are only 160 pediatric dentists practicing in the state, and in many counties there are no pediatric dentists.¹² While general dentists are more available throughout the state, some general dentists may not feel skilled in treating young children. This is due to limited training in the behavioral, developmental, and dental needs of young children. Although there have been preventive dental care guidelines for young children stating the need for early dental visits for over 30 years, it was not until the early 2000s that the American Academy of Pediatric Dentistry, the American Dental Association, the American Academy of Pediatrics, and others all began recommending the establishment of a dental home by age one.¹³ Given the differing views on when dental visits should begin, many dentists may have had limited training in this part of practice. In addition, children with extensive dental caries may need to be treated in a hospital under sedation—which may be beyond the training of general dentists.

One of the primary reasons for low dental participation is the low Medicaid and NC Health Choice reimbursement rates. The Medicaid and NC Health Choice payments for preventive dental services (\$27.21/visit) is only 44% of the National Dental Advisory Service (NDAS) median fee; and the current payment of \$28.58 per sealed tooth is only 58% of the NDAS median fee.² On average, overhead (including rent, clerical and clinical staff wages, and clerical and clinical supplies,) accounts for 62% of the revenues in a general dentistry practice and 57% of the revenues in a pediatric dentistry practice.¹⁴ Although historical experience demonstrates that increasing rates of reimbursement is an effective strategy to increase active dental participation in Medicaid and NC Health Choice, the Task Force felt that, given current financial challenges of the state as a whole, and the Medicaid program in particular, increasing reimbursement rates would not be possible in the near future.

The North Carolina Dental Society (NCDS) has approximately 3,500 dentist members.(cite http://www.ncdental.org/ncds/Mission_Statement.asp) While some members may be retired, approximately 75% of active dentists in North Carolina are members in the dental society, making the NCDS an excellent purveyor of information to active dentists across the state.ⁱ Part of the NCDS mission is to “encourage the improvement of the oral health of the public,” therefore, advocating for increased dentist participation in Medicaid and NC Health Choice fits within the organization’s mission.¹⁵ The NCDS also works with local dental societies on community outreach and legislative advocacy.^j Through these activities they reach even more dentists in North Carolina. Therefore, the Task Force recommends:

It is critical to enroll as many dentists as possible as Medicaid and NC Health Choice providers and to encourage and support active participation in these programs to improve children’s access to preventive dental services.

i Parker, Alec. Executive Director, North Carolina Dental Society. Written (email) communication, June 11, 2013.

j Parker, Alec. Executive Director, North Carolina Dental Society. Written (email) communication, June 11, 2013.

Recommendation 3.3: Increase the Participation of Dentists in Medicaid and NC Health Choice

The North Carolina Dental Society (NCDS) should:

- a) **Partner with the Division of Medical Assistance (DMA) to encourage more dentists to participate in Medicaid and NC Health Choice by:**
 - 1) **Providing information in the NCDS Gazette about the importance of treating patients enrolled in Medicaid and NC Health Choice.**
 - 2) **Highlighting dental champions that actively participate in Medicaid and NC Health Choice who can make the business case for participation.**
 - 3) **Identifying NCDS leaders who can encourage other dentists to participate in Medicaid and NC Health Choice.**

- b) **Partner with DMA to increase the willingness of general dentists to treat young patients. The NCDS can help by:**
 - 1) **Conducting focus groups or otherwise seeking information from dentists about barriers to treating young children enrolled in Medicaid and NC Health Choice.**
 - 2) **Identifying local dental champions that can encourage other general dentists in their area to treat young children.**
 - 3) **Creating a referral system of pediatric dentists willing to take referrals of children with more complex dental needs and/or more difficult behavioral problems.**
 - 4) **Encouraging dentists to reach out to pediatricians and family physicians in their community to encourage them to use the Priority Risk Assessment and Referral Tool, and to create referral networks into dental homes.**

See also recommendation 4.3: Increase private sector efforts to encourage dentists to provide sealants for participants in Medicaid and NC Health Choice.

Removing Barriers to Participating in Medicaid and NC Health Choice

In addition to the low reimbursement rates, some dentists are deterred from enrolling as Medicaid and NC Health Choice providers because of perceived administrative barriers to enrollment. DMA tries to address these concerns at their dental provider training workshops every two years. At these workshops they discuss utilization, billing problems, the dental periodicity schedule, how to submit claims so they will not be rejected, and try to answer other questions dentists may have about participating in Medicaid and NC Health Choice.³ DMA also provides an afternoon session for the staff of any dental providers during annual Basic Medicaid provider training.³

In addition to the low reimbursement rates, some dentists are deterred from enrolling as Medicaid and NC Health Choice providers because of perceived administrative barriers to enrollment.

In order to be paid for services provided to children enrolled in Medicaid and NC Health Choice, all providers, dental or otherwise, must enroll as Medicaid and NC Health Choice providers. The enrollment process includes credentialing, endorsement, and licensure verification. Providers are required to provide information on the counties they serve, their hours of operation, if they have interpretation services, if they serve special needs patients, and the ages and genders of patients they are willing to serve. Dentists must list all staff they supervise in their office, ownership information, and sign the Provider Administrative Participation Agreement, Medicaid Letter of Attestation, Medicaid Provider Certification for Signature on File, and Electronic Claims Submission Agreement.¹⁶ Applications are reviewed and approved or denied by Computer Sciences Corporation (CSC), the fiscal intermediary for Medicaid and NC Health Choice, on behalf of DMA. Additionally, as required under Sections 6401(a), 10603 and Section 1866(j) of the Affordable Care Act (ACA), providers must undergo additional screenings and trainings including training on the Basic Medicaid/Health Choice Billing Guide, audit procedures, how to identify and report fraud, and Medicaid recipient due process and appeal rights.¹⁷ Once approval is granted, providers are assigned a Medicaid Provider Number with an effective date and are notified by mail.¹⁸ At the time of enrollment, providers are charged a \$100 enrollment fee.

Medicaid and NC Health Choice providers must be re-credentialed a minimum of every three years by CSC. Providers receive a notice and instructions from CSC when it is time to be re-credentialed. When it is time to be re-credentialed providers must verify the information on file and furnish additional information on ownership. CSC also conducts a criminal background check and queries the Federal and State practitioner databases, as required by federal and state regulations.^{17, 18} Providers are charged a \$100 fee every time they are re-credentialed.

Two changes made by DMA, as part of the implementation of the Affordable Care Act, impact dentists who want to enroll or be re-credentialed as Medicaid and NC Health Choice providers. Beginning in October 2012, DMA implemented federal regulations 42 CFR 455.410 and 455.450, which require all providers

to be screened according to their categorical risk. In 2011, the North Carolina General Assembly passed Session Law 2011-399, which details which types of providers fall into each of the three categorical risk levels for Medicaid and NC Health Choice providers. Under Session Law 2011-399 dentists were classified as “moderate” categorical risk providers. As moderate categorical risk providers, dentists must undergo additional screening and an on-site visit as required by federal law.^k The Affordable Care Act also required that DMA begin collecting a federal application fee, required under Section 1866(j)(2)(C)(i)(1), from certain Medicaid and NC Health Choice providers to cover the cost of screening and other program integrity efforts. CMS sets the application fee, which is \$532 for 2013, and collects the fee for each site location prior to enrolling or re-enrolling a provider.¹⁹ DMA has determined that in North Carolina the fee does not apply to individual dentists, but does apply to solo incorporated and group dental practices.^l However, federal policy guidance from CMS to the states providing information on how to interpret the requirements of the Affordable Care Act states, “this requirement does not apply to individual physicians or non-physician practitioners.^m” The chief dental officer for the Centers for Medicare and Medicaid further clarified that the federal application fee required under Section 1866(j)(2)(C)(i)(1) is meant to apply to large group physician practices and hospitals, not to non-physician practitioners such as dentists.ⁿ

Many dentists are unaware of the new fees or the classification of dentists as moderate categorical risk providers in North Carolina Session Law 2011-399. Dentists interested in enrolling and those who must re-enroll are often surprised by the new on-site visits and other additional requirements for credentialing. The Task Force is concerned that these new requirements may deter dentists from participating as Medicaid and NC Health Choice providers.

In addition, at the time this report was being written, there has been discussion about whether to change the structure of the North Carolina Medicaid program from one that is largely fee-for-service, administered through the Division of Medical Assistance, to one where the state contracts with Comprehensive Care Entities—essentially managed care organizations—that would take responsibility for managing all of the Medicaid recipients health care needs, including medical, dental, and behavioral health. Some of the task force members were concerned that this move could result in lower dentist participation in Medicaid. Unlike at least 19 other states that had managed dental ambulatory health plans (as of 2011), the North Carolina Medicaid program has never contracted with dental managed care organizations.²⁰ Further, dentists in North Carolina have not had

k 42 CFR Section 455.432

l Casey, M. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication. June 6, 2013.

m Mann, Cindy. Director, Center for Medicaid, CHIP and Survey and Certification. CMCS Informational Bulletin December 23, 2011. <http://www.medicaid.gov/Federal-Policy-Guidance/downloads/CIB-12-23-11.pdf>

n Mouden, Lynn. Chief Dental Officer, Centers for Medicare and Medicaid Services. Oral communication. June 21, 2013.

much experience with managed oral health programs in the commercial market. In 2011 (the latest data available), there were only 3 dental HMOs operating in North Carolina (Table 3.2). Together, they covered approximately 50,000 people across the state. The companies, had—at most—contracted general dentists in 13 counties. Given the relative inexperience of the North Carolina dental community with managed dental health plans, the Task Force was concerned that any move to capitation for oral health services could create barriers to dentist participation in Medicaid.

Table 3.2
North Carolina Dentists Participating in Single-Service Dental Managed Care Plan (2011)

	Enrollees (2011)	NC General Dentists (NC counties)	NC Oral Surgeons (NC counties)	NC Orthodontists (NC counties)	NC Other dental specialists (NC counties)
Aetna Dental	26,022	151 (13)	4 (3)	20 (7)	12 (2)
American Dental	2,704	15 (6)	4 (2)	2 (2)	4 (3)
Cigna Dental	22,775	119 (13)	4 (3)	23 (8)	25 (15)

Source: North Carolina Department of Insurance. Managed Care Annual Filings. HMO Single Service, 2011. http://www.ncdoi.com/MR/MR_MC_Annual.aspx. Accessed June 7, 2013.

To reduce barriers to dental health professionals participating in Medicaid or NC Health Choice, the Task Force recommends:

Recommendation 3.4: Reduce Barriers to Participating in Medicaid and NC Health Choice

- a) **The Division of Medical Assistance (DMA) should encourage more dentists to participate in Medicaid by reducing administrative barriers, including conducting outreach to dentists to help them understand the enrollment, certification, and other administrative processes involved with Medicaid.**
- b) **The North Carolina General Assembly should modify Session Law 2011-399 to change the classification of dentists from moderate to low categorical risk providers.**
- c) **DMA should revise their policies so that solo incorporated dentists and group dental practices are not charged the federal application fee.**
- d) **DMA should study the likely impact on dental participation, before making any changes to the Medicaid and NC Health Choice payment structure for dentists, including, but not limited to, moving from fee-for-service to capitation. DMA should not take any steps that would adversely impact on participation.**

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Utilization Strategies

In North Carolina, 17% of children ages 6-9 enrolled in Medicaid and 19% of similar age children enrolled in NC Health Choice received a sealant in federal fiscal year (FFY) 2012.^{a,1} National data show 40% of children ages 2-8 have dental caries in their primary teeth and 21% of children ages 6-11 have dental caries in their permanent teeth. In primary teeth, 44% of the caries are found in pits and fissures, whereas in permanent teeth, 90% of caries are found in pits and fissures.² Evidence demonstrates that pit and fissure sealants prevent caries in children and adolescents by up to 81% at two year follow-up.³ Nationally only 30.5% of permanent molars in children ages 6-11 have been sealed.² Despite their clear effectiveness, sealants continue to be an underutilized prevention tool, especially among low-income children and adolescents who are more likely to be eligible for Medicaid or NC Health Choice.⁴

Sealants 101

As described in Chapter 2, sealants are clear or opaque materials applied to the rough surfaces, called pits and fissures, of premolars and molars to prevent tooth decay. They may be resin-based or glass ionomer cements and can be placed using multiple techniques. Sealants prevent food, bacteria, plaque and other debris from collecting within the pits and fissures of vulnerable teeth.⁴ Sealants are designed to withstand normal wear, but must be monitored and, if necessary, reapplied to ensure long-term effectiveness.

Dental caries is an infectious disease that may be active and progressing or arrested. Treatment depends on the stage of the disease and how fast it is progressing. Sealants may be placed as primary prevention to avert onset of caries or as secondary prevention to arrest progression of caries to cavitation. Sealants reduce caries in permanent first molars of children up to 76% after four years when reapplied as needed. After 9 years, sealants reduce caries by 65%, even when sealants were not reapplied during the last 5 years. Compared with unsealed teeth, pit and fissure sealants reduce caries for up to five years after sealant placement.⁵ Further evidence shows that sealants are effective in reducing dental caries by approximately 60% among children ages 6-17 from various socioeconomic levels and with varying levels of caries.⁴

Clinical recommendations from the American Dental Association (ADA) Council on Scientific Affairs addressed the use of pit and fissure sealants for primary and secondary prevention in both primary and permanent teeth. They also recommended that pit and fissure sealants be placed on early (noncavitated) carious lesions in children, adolescents, and young adults to reduce the percentage of lesions that progress.⁵



Despite their clear effectiveness, sealants continue to be an underutilized prevention tool, especially among children enrolled in Medicaid and NC Health Choice.

^a It is important to note that the target is not 100% in a year. If the goal is to have 100% of children have sealants on permanent molars by age 9, we would expect about 25% of 6-9 year olds to get their molars sealed in any given year.

The Task Force set the following as Goal 2 for North Carolina: increasing the proportion of children ages 6-9 enrolled in Medicaid or NC Health Choice (enrolled for at least 90 days) who receive a dental sealant on a permanent molar tooth by 10 percentage points, from FFY 2012 to FFY 2017.

Evidence from national Medicaid claims data shows program benefits of sealant use. Children who were enrolled continuously in Medicaid for four years who had their permanent molars sealed were less likely to need restorative treatment than those who had not. In addition, among children who did need restorative work, sealants also helped protect teeth for a longer time than for those whose teeth were not sealed. The restorations were also less extensive in the sealed permanent molars than those in permanent molars that were unsealed.⁵

Despite the well-supported case for their use, sealants are not highly utilized in oral health prevention. In North Carolina, 17% of children ages 6-9 enrolled in Medicaid in FFY 2012, and 19% of children ages 6-9 enrolled in NC Health Choice received a sealant on a permanent molar in FFY 2012.¹ In FFY 2011, nationally 19% of children ages 6-9 enrolled in Medicaid received a sealant.¹ Counties in North Carolina show wide variation in sealant utilization rates from 6.9% in Clay to 27.8% in Washington for children on Medicaid, and 13% in North Hampton and Mitchell to 35% or higher in four counties for children enrolled in NC Health Choice. (See Appendix C.)

Promoting and Increasing Sealant Use

The Centers for Medicare and Medicaid Services identified increasing the rate of children ages 6-9 enrolled in Medicaid or CHIP who receive a dental sealant on a permanent molar tooth by 10 percentage points over a 5-year period as the second goal in their oral health initiative.⁶ The Task Force set the following as Goal 2 for North Carolina: increasing the proportion of children ages 6-9 enrolled in Medicaid or NC Health Choice (enrolled for at least 90 days) who receive a dental sealant on a permanent molar tooth by 10 percentage points, from 17% to 27% for children enrolled in Medicaid and 19% to 29% for children enrolled in NC Health Choice, over a five-year period from FFY 2012^b to FFY 2017. The Task Force on Children's Preventive Oral Health Services identified existing access barriers and their root causes. The Task Force focused on increasing sealant use among dental providers, Medicaid policy issues, and reducing access barriers for families and children.^c These targeted barriers are specific to sealants, in addition to the general issues to increase the receipt of preventive dental services more generally, as discussed in Chapter 3.

Dentists

- Some dentists are reluctant to place sealants on the teeth of low-income children when there is incipient decay due to the fear that the child will not be a client long enough to fix sealants if a sealant fails. This underutilization points to a need for dental provider education and training on use of sealants.⁷

^b For the purposes of this report we are using FFY 2012 as the baseline year. CMS has not yet defined the baseline year for this measure for their requirements, therefore, the baseline year may need to be changed once CMS has decided on a baseline year.

^c The Task Force also looked at what primary care providers can do to increase preventive oral health care utilization. These recommendations are covered in Chapter 5.

Medicaid and NC Health Choice Policies

- Medicaid reimbursement for sealants is too low.⁸ Currently dentists in North Carolina's Medicaid and NC Health Choice program are paid \$28.58 per sealed tooth, 58% of the median national fee.
- Medicaid benefit policy does not align with evidence on sealants regarding the number of times they can or should be applied. Medicaid and NC Health Choice reimburse just once to seal each tooth, despite the evidence that sealants fail at a rate of 5-10% per year.⁹

Families

- Many families do not understand the importance of dental sealants for their children, and therefore do not seek such care for their children.⁶
- Some families have difficulties taking their children to a dentist during work hours. There is a lack of access points to obtain sealants outside the dental office.⁶ This is discussed more fully in Chapter 6.

As noted in Chapter 3, the Task Force considered a number of strategies to address the identified barriers, and prioritized those strategies based on their potential impact and whether the strategies were actionable and achievable (both politically and financially). The Task Force's four recommendations to increase by 10 percentage points the proportion of children ages 6-9 enrolled in Medicaid and NC Health Choice who receive a dental sealant on a permanent molar tooth are described below.

Recommendation 4.1: Increase reimbursement for dental sealants

Recommendation 4.2: Allow reapplication of sealants when necessary

Recommendation 4.3: Increase private sector efforts to encourage dentists to provide sealants for participants in Medicaid and NC Health Choice

Recommendation 4.4: Encourage primary care providers to educate families about the importance of sealants

Increase Reimbursement for Dental Sealants

In state fiscal year (SFY) 2012, DMA's total expenditure for sealants was the 7th largest Medicaid dental expenditure for children. The total that DMA spent on sealants was less than what DMA spent on four different restorative procedures, including one and two surface composite fillings on a posterior tooth, orthodontic treatment, and a primary stainless steel crown. Currently, DMA reimbursement for the three restorative procedures and one orthodontic service range from \$76.00 for a one surface composite filling to \$141.39 for a

The Task Force developed four recommendations to address Goal 2.

stainless steel crown on a primary tooth.^d DMA pays \$28.01 for sealants. With fewer restorative services and more time between them, DMA *may* lower expenditures.¹⁰ These savings could be reinvested into the program to increase reimbursement for dental sealants.

In addition to the administrative barriers discussed in Chapter 3, low reimbursement is also barrier to dentist participation in Medicaid and NC Health Choice. North Carolina Medicaid paid \$28.58 in 2011 for sealants while the National Dental Advisory Service national median was \$49.00. Increasing the reimbursement for dental sealants to the national median would cost less than the least expensive restorative service. In a study by the National Academy for State Health Policy, when six states increased Medicaid reimbursement rates, access to dental care improved.^e By increasing reimbursement as part of a larger strategy, the states increased provider participation and the numbers of patients treated.⁸ These increases in participation and patients treated could help North Carolina with both CMS goals. Increasing reimbursement will most directly affect goal 1—increasing preventive oral health services, but may also indirectly affect goal 2—increasing the use of sealants. There are many strategies to increase reimbursement, therefore the Task Force recommends:

Recommendation 4.1: Increase Reimbursement for Dental Sealants

The Division of Medical Assistance (DMA) should explore changes in Medicaid payment policies to increase reimbursement to the 75th percentile of a commercial dental benchmark for dental sealants. DMA should explore the possibility of increasing payments for sealants using a pay-for-performance model or other reimbursement strategy that is based, in part, on the number of children eligible for Medicaid or NC Health Choice ages 6 through 9 who receive a sealant on a permanent molar.

Change Medicaid Policy to Allow Reapplication of Dental Sealants When Needed

The current benefit package for Medicaid and NC Health Choice includes sealants for primary molars (patients under age 8) and permanent molars (patients under age 16) only once per lifetime per tooth. Medicaid statute^f requires state Medicaid programs to provide Early and Periodic Screening, Diagnostics, and Treatment (EPSDT) for recipients under 21 years of age for any medically necessary services (including dental services), if identified as part

d Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication May 28, 2013.

e The increased reimbursement rate varied across the six states (AL, MI, SC, TN, VA, WA). When budgets permitted, the reimbursement rate mirrored the dentists' usual charges. If unable to meet that threshold, the reimbursement should at least cover the cost of providing service estimated between 60–65% of the dentists' charges.

f 42 U.S.C. § 1396d(r) [1905(r) of the Social Security Act]

of a screening—even if the service is not normally covered or if it exceeds the policy limits. Under EPSDT, Medicaid will pay for reapplication of dental sealants for moderate to high-risk children. However, the dentist must request an exception from normal coverage limits. DMA would determine if the child was at low, moderate, or high risk for decay based on caries history. If the child is at moderate to high risk, based on the records submitted by the provider and a review of paid claims, the request would be approved as medically necessary.^{g,11}

Research reviewed by the American Dental Association Council on Scientific Affairs showed lowered effectiveness of sealants over time. Other studies report that sealants fail at a rate between 5% and 10% each year. With routine maintenance, sealants can prevent caries at rates of 80% to 90% after ten years or more.⁹

Allowing reapplication of sealants will help North Carolina meet both its CMS goals. Sealant reapplication will increase the use of preventive services for goal 1 and increase the use of sealants for goal 2.

DMA has the authority to change clinical policies for Medicaid and NC Health Choice,^h after consultation with the North Carolina Physician Advisory Group (PAG).^{i,12} The PAG is charged with reviewing clinical policies and recommending new Medicaid coverage policies. The PAG includes representatives from different health specialties, and includes a dental committee to review dental policies.

Placing a sealant without the ability to receive payment for repairs when necessary may discourage some dentists from utilizing sealants as preventive services. The Task Force discussed the lack of reimbursement for repairing, replacing, or restoring sealants as a hindrance to increasing their use. The Task Force concluded that Medicaid benefit policy should align with the best clinical evidence, therefore the Task Force recommends:

Recommendation 4.2: Allow Reapplication of Sealants When Medically Necessary

- a) The North Carolina Dental Society should educate dentists about EPSDT and the ability to seek an exception from regular coverage policy to obtain reimbursement for the reapplication of sealants when medically necessary.**

^g Casey M. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written Communication. May 22, 2013

^h The PAG is currently charged with reviewing and making recommendations about Medicaid clinical policy decisions; however, the pending appropriations bill would expand that to include NC Health Choice clinical policy decisions. Section 12H.6(a) of Senate Bill 402 (2013).

ⁱ NCGS §108A-54.2

- b) The Division of Medical Assistance Physician Advisory Group should create new coverage policies for Medicaid and NC Health Choice to allow reapplication of sealants on the same tooth when medically appropriate.**

Encouraging More Dentists to Place Sealants on Permanent Molars for Children Eligible for Medicaid and NC Health Choice

North Carolina may have difficulties achieving the CMS goal of increasing sealant utilization the number of children ages 6-9 years old who have a sealant on at least one permanent molar by 10 percentage points because of dentists' lack understanding of the ADA guidelines for pit and fissure sealants and their own clinical practice experience with sealants. In a recent national survey, less than 40% of dentists indicated they sealed non-cavitated carious lesions.⁷ Many dentists are concerned that they will inadvertently seal over caries and that these caries will progress to cavitation underneath the seal. Dentists may not realize that the likelihood of a noncavitated carious lesion progressing to cavitation after being sealed is less than 2.6% each year.¹³ Another common misconception is that loss of a sealant places the tooth at greater risk than if it was never sealed. When a sealant is partially or completely lost, the rate of caries formation is less than or equal to the rate in teeth that were never sealed.¹⁴

The Task Force recognized the need to reach out to practicing dental professionals (dentists, dental hygienists, dental assistants, and to a lesser extent, dental administrators) to educate them about the importance of sealants and the evolving science about when it is appropriate to place sealants. Newer dental professionals receive this training in dental school. However, many of the general dentists who have been practicing for longer periods of time lack the knowledge of the evolving science about sealants, and may have been discouraged from placing sealants due to specific cases when sealants failed.

The Task Force discussed different strategies to increase the use of sealants among practicing dentists. Task Force members recognized that other respected dentists in the community would have the most credibility in combating misconceptions about sealants. As discussed in Chapter 3, approximately 75% of practicing dentists in North Carolina are members of the North Carolina Dental Society (NCDS) making it an ideal organization to help disseminate accurate information to dentists. In addition to providing valuable information to its membership, NCDS sponsors the North Carolina Missions of Mercy (MOM) free mobile dental program. NC MOM provides diagnostic, preventive, and restorative dental services to underserved communities through one day dental clinics across the state.¹⁵

North Carolina may have difficulties achieving the goal of increasing sealant utilization because of dentists' lack understanding of the ADA guidelines for pit and fissure sealants and their own clinical practice experience with sealants.

With the active participation and support of the NCDS, the Task Force identified different ways in which the NCDS could promote greater use of dental sealants for children on Medicaid and NC Health Choice.

Recommendation 4.3: Increase Private Sector Efforts to Encourage Dentists to Provide Sealants for Medicaid and NC Health Choice Participants

- a) The North Carolina Dental Society (NCDS) should promote the use of dental sealants and disseminate information about the efficacy of sealants by:**
 - 1) Including periodic articles in the gazette and in their electronic communications about sealant research. These communications should also highlight dentists who have placed sealants on a high proportion of Medicaid and NC Health Choice children. These stories should highlight the use of dental hygienists and dental assistant 2s in placing sealants, and show how these practices can generate profits even with relatively low Medicaid reimbursement rates.**
 - 2) Identifying dental opinion leaders who can help promote the use of sealants. This may include members of the NCDS Board of Directors or other dental opinion leaders who can help sway the opinions of general practitioners. These leaders can attend local dental society meetings and promote the use of dental sealants. The NCDS or local dental societies should offer Continuing Education (CE) credits to encourage dentists to attend these meetings.**
 - 3) Creating a dental video, hosted on the NCDS website, about the science behind sealants and information about how to properly place sealants. NCDS should seek continuing education (CE) credits for the video so that dentists and dental hygienists could view the video as part of their CE requirements.**
- b) NCDS, in partnership with Old North State Dental Society and the North Carolina Dental Hygiene Association (NCDHA), should expand existing efforts to provide sealants to children through the Give Kids a Smile/ MOMs effort.**
- c) To assist NCDS in identifying dental champions, as well as communities where greater outreach and education is needed, the North Carolina Division of Medical Assistance should provide data to the NCDS about:**

- 1) **Pediatric and general dental practices that have placed sealants on a high percentage of their young (child) patients eligible Medicaid or NC Health Choice**
- 2) **Counties that have a very low percentage of children eligible for Medicaid or NC Health Choice who have received sealants**
- 3) **Other organizations, such as the North Carolina Area Health Education Centers and NCDHA, that provide continuing education for dental professionals, should increase their focus on sealants.**

Encourage Primary Care Providers to Educate Families about the Importance of Sealants

Most oral health services are provided by dental professionals. However, primary care professionals also have a responsibility to promote a child's oral health. As noted in Chapter 3 (and discussed more fully in Chapter 5), some primary care professionals provide dental varnish to young children under the age of 4, through the Medicaid Into the Mouths of Babes (IMB) program. Even if the physician is not participating in the IMB program, primary care professionals should assess a child's oral health, counsel children and their families on the importance of oral health, and help link families to a dental home as part of the Medicaid Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program, and as part of the Bright Futures recommended preventive services.¹⁶ In addition, as noted in Chapters 3 and 5, CHIPRA quality improvement specialists are working with Community Care of North Carolina (CCNC) practices to promote oral health around fluoride varnish and annual dental visits. Thus, primary care clinicians should be educated about the importance of sealants in preventing caries, and encouraged to educate families about the importance of proper oral health more generally. In recognition of the vital role of primary care in health promotion and prevention, the Task Force recommends;

Recommendation 4.4: Educate Primary Care Providers about Sealants

The Division of Medical Assistance, Oral Health Section of the Division of Public Health, North Carolina Dental Society, Old North State Dental Society, North Carolina Academy of Pediatric Dentists, North Carolina Pediatric Society, North Carolina Academy of Family Physicians, the North Carolina Medical Society, Old North State Medical Society, Area Health Education Centers, and North Carolina Community Care Network should expand or create continuing education opportunities for primary care professionals to educate them on sealants. To accomplish this, these organizations should:

- a) **Develop a one-page primer on sealants for primary care providers.**
- b) **Conduct outreach to primary care providers who are involved in the Into the Mouths of Babes program (IMB) and other primary care professionals, to educate them about the importance of sealants, and encourage them to educate the parents or caretakers of the children in their practice about the importance of having sealants placed on their children’s permanent molars.**
- c) **Expand the role of the CHIPRA quality improvement specialists who are promoting oral health among CCNC practices to also promote the use of sealants.**
- d) **Encourage pediatric dentists to reach out to primary care providers to educate them about the importance of dental sealants.**
- e) **Develop one-page educational materials about dental sealants that can be given to parents in pediatric or family practices, and/or create posters that could be posted in exam rooms.**

Chapter 5 focuses more heavily on the role of primary care professionals in promoting positive oral health.

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Most oral health services are provided by dental professionals. However, primary care professionals also have a responsibility and ability to support children's oral health. Primary care providers play a critical role in helping increase access to preventive oral health care. Primary care providers can educate children and their families about the importance of oral health care, the need for all children ages 1 and older to have a dental home, and the impact of nutrition on children's teeth; refer children to the dentist for care; and, in North Carolina, provide some basic preventive oral health care to high-risk young children. In North Carolina there are many efforts underway within the primary care setting to improve children's oral health.

Current Efforts in Primary Care Practices to Improve Children's Oral Health

The North Carolina Division of Medical Assistance (DMA), Community Care of North Carolina (CCNC), Oral Health Section (OHS) of the Division of Public Health, the Gillings School of Global Public Health at the University of North Carolina at Chapel Hill, and other partners have several initiatives aimed at using primary care professionals to help improve oral health of children. For example, several of the partnering organizations helped create the Priority Oral Health Risk Assessment and Referral Tool (PORRT) to promote referrals from primary care professionals to dentists. CCNC is also promoting oral health quality improvement efforts, as part of its Child Health Insurance Program Reauthorization Act (CHIPRA) Quality Improvement Initiative. Several local communities are working to increase collaboration between primary care professionals and dentists as well. Each of these initiatives is described in more depth below.

Into the Mouths of Babes

North Carolina has a statewide Medicaid program to increase access to preventive dental care for young children called Into the Mouths of Babes (IMB). IMB serves children 0-3.5 years enrolled in Medicaid. IMB aims to reduce the incidence of early childhood tooth decay among low-income young children by providing preventive oral health care in a medical setting. IMB also aims to reduce the burden of treating very young children on a statewide dental system that currently does not have enough dentists willing to treat these children.¹ Recognizing that accessing dental care can be a challenge for families, the IMB program capitalizes on the fact that almost 90% of infants and one-year-olds visit a physician at least once a year compared to less than 2% of infants and one-year-olds who visit a dentist at least once a year.²

The IMB program in North Carolina began training primary care providers to deliver preventive oral health services to high-risk children enrolled in Medicaid in 2000. Primary care providers can be reimbursed for services provided from tooth eruption through 3.5 years. To be reimbursed by Medicaid through IMB, a physician must do an oral evaluation, and the physician, nurse practitioner,



Primary care providers play a critical role in helping increase access to preventive oral health care.

physician assistant, or nurse must provide oral health education to parent or caregiver and apply fluoride varnish.³ Fluoride varnish treatment is recommended every three to six months for up to six applications between tooth eruption and age 3.5.⁴ Medicaid policy requires 60 days between applications and reimburses health professionals \$52 for completing the full IMB oral preventive procedure.⁴

More than 450 physician practices, residency programs, and local health departments have been trained and provide IMB services.¹ Evaluations of the IMB program show that IMB has helped to increase access to preventive dental services, reduced billing for treatment services among very young children, increased dental visits through referrals, and reduced hospitalization due to dental causes.⁵⁻⁷

In North Carolina there are many efforts underway within the primary care setting to improve children's oral health.

Zero Out Early Childhood Tooth Decay

Zero Out Early Childhood Tooth Decay (ZOE) is a 5-year joint effort among the Gillings School of Global Public Health at the University of North Carolina at Chapel Hill, OHS, Early Head Start and others.⁸ Funding for ZOE comes from the National Institutes for Health. ZOE's goal is to zero out early tooth decay among children enrolled in Early Head Start, which serves children ages 0-3. ZOE has trained Early Head Start staff in 25 sites across the state on pediatric oral health issues and motivational interviewing. Early Head Start staff in turn promote preventive services in the classroom, use motivational interviewing in parent education, and link early head start children with primary care providers who participate in the IMB program.¹ The impact of this intervention on parents and children is being evaluated through baseline and follow-up interviews of parents and clinical dental examinations of children at age 3.^a

Carolina Dental Home

Carolina Dental Home is a pilot project to increase collaboration among primary care and dental providers in Craven, Jones, and Pamlico counties with the goal of preventing tooth decay before it starts among young children ages 0-3.⁹ Primary care providers use the North Carolina Priority Oral Health Risk Assessment and Referral Tool (PORRT) (see below for more information) to screen very young children for risk factors and dental problems. The PORRT is used to refer children with multiple risk factors or dental problems to dentists. The emphasis is on increasing collaboration and establishing best practices for preventing and treating tooth decay among very young children.⁹ Funding for the pilot program is provided by a Health Resources and Services Administration (HRSA) Access to Dental Care Grant.

^a Rozier, Gary. Professor, Health Policy and Management, Director, Dental Public Health & Residency Training Program, University of North Carolina at Chapel Hill. Written communication May 31, 2013.

North Carolina Priority Oral Health Risk Assessment and Referral Tool

The North Carolina Priority Oral Health Risk Assessment and Referral Tool (PORRT) is a risk assessment tool that was developed jointly by the Gillings School of Global Public Health at the University of North Carolina at Chapel Hill, the University of North Carolina at Chapel Hill School of Dentistry, DMA, OHS, and privately practicing pediatricians and dentists who tested the tool.¹⁰ PORRT is a short risk assessment tool for primary care providers to use to determine which children ages 0-3.5 years are most in need of a referral to a dentist.^b The PORRT also includes a section to provide the referral, a section with instructions to notify the dental office of the referral, and a section for the dental office to provide follow up information to the referring professional on whether the patient showed up for the dental appointment and the dental findings. The PORRT aims to increase primary care referrals to dentists for young children and increase communication between primary care and dental professionals.

CHIPRA

Funding from the Centers for Medicaid and Medicare Services (CMS) is supporting a number of initiatives within Community Care of North Carolina (CCNC) that include improving children's oral health as one of their objectives. The NC CHIPRA Quality Demonstration Grant is supporting efforts to: experiment with and evaluate the use of new and existing measures of quality for children, including oral health quality measures; evaluate provider-based models to improve the delivery of care; and demonstrate the impact of model pediatric electronic health records.¹¹

Oral health quality measures: Each CCNC Network has a pediatric quality improvement specialist (QIS) responsible for working with providers to improve the quality of care provided. CCNC maintains data on whether children seen in its practices have received a dental topical fluoride varnishing, the number of varnishings, and if they have had an annual dental visit. For the year ending September 2012, 62% of children enrolled in Medicaid and NC Health Choice had an annual dental visit,^c 57% of eligible children ages 0-3.5 years of age had received 3 or more dental varnishes, and 42% had received 4 or more varnishings.¹¹ These data can be further broken down by age and network. QISs review this data and work with practices to improve their performance on a number of quality indicators. The QISs have begun working with practices to train them in the use of the PORRT. The QISs also provide training on the IMB program and encourage practices to become IMB providers.¹¹

The Task Force identified a third goal to “increase the utilization of preventive oral health services among children ages 6 months-20 years old enrolled in Medicaid and NC Health Choice by any appropriate health professional by 10 percentage points, from FFY 2011-FFY 2015.

^b King, Rebecca. Section Chief, Oral Health Section, Division of Public Health, North Carolina Department of Health and Human Services. Written communication May 24, 2013.

^c Data do not capture whether the annual visit was for preventive services or treatment.

The Task Force made two recommendations to increase the utilization of preventive oral health care among children enrolled in Medicaid and NC Health Choice within the primary care setting.

Provider-lead quality improvement initiatives: CCNC is using a learning collaborative model which provides in-depth, long-term training and coaching to a smaller number of practices. Eight of the CCNC networks and 26 practices are participating in the learning collaborative (called CHIPRA-Connect). The learning collaborative is focusing on four objectives, one of which is oral health. Each of the eight networks received a full-time QIS to focus only on CHIPRA Connect practices. Each month these QISs review charts for the practices involved in the learning collaborative and provide feedback to the practices about how they can improve screening, referral, and documentation.¹¹ QISs do a monthly quality chart review that includes an indicator that looks for documentation that the child has a dental home at every well visit from age 1-20. In addition, another focus of the CHIPRA Connect effort has been to build community relationships, including between primary care providers and dentists, in order to provide comprehensive and coordinated care.¹¹ As part of this work, practices have had “mixers” where primary care providers in the community and dental professionals in the community have been invited to network in informal settings in an effort to increase communication, particularly around referrals and feedback, and understanding between the two.

Pediatric electronic health records: CCNC is working with CMS, Agency for Healthcare Research and Quality, the American Academy of Pediatrics, and other organizations on implementing and evaluating a Pediatric Electronic Health Record format.¹² CCNC is working with practices to increase their understanding and knowledge of the role of electronic health records (EHR); improve the pediatric content and functionality of EHR; and knowledge on how to use EHR to improve the quality of care provided to children. Dental indicators, including evidence of a dental home, varnishing rates, and oral health screening and counseling, are among the key measures included in the pediatric EHRs.¹¹

Promoting Oral Health in the Primary Care Setting

In addition to the two goals identified by the CMS, the Task Force on Children’s Preventive Oral Health Services identified a third goal to “increase the utilization of preventive oral health services among children ages 6 months-20 years old enrolled in Medicaid and NC Health Choice (enrolled for at least 90 days) by any appropriate health professional by 10 percentage points, from 55% to 65% for children enrolled in Medicaid and 42% to 52% for children enrolled in NC Health Choice, over a five-year period from FFY 2011-FFY 2015” as being critical to achieving the two goals set by CMS. The Task Force identified existing access barriers and the root causes of these barriers as the first step to identify strategies the state could undertake to achieve the this goal. The Task Force focused on primary care providers and Medicaid and NC Health Choice policies.

Primary Care Providers

- Primary care providers may not be talking to families about dental care and/or referring families for dental care.⁷
- Primary care providers may not be talking to families about the importance of oral health for overall health and well-being or the impact of diet on oral health.
- Primary care providers often lack training on what to look for when doing an oral screening and what action to take based on the screening.
- There is not widespread use of PORRT, the standard risk assessment or screening tool for primary care providers to use to assess and refer children to dental providers.¹¹

The Task Force developed recommendations to address these barriers. The Task Force prioritized the initial list of potential recommendations based on their potential impact and whether they are actionable and achievable (both politically and financially). Based on this process, the Task Force made two recommendations to increase the utilization of preventive oral health care among children enrolled in Medicaid and NC Health Choice within the primary care setting:

Recommendation 5.1: Encourage Primary Care Providers to Promote Oral Health

Recommendation 5.2: Create Systems for Greater Collaboration between Primary Care Providers and Dental Professionals

Raising the Profile of Oral Health during Primary Care Visits

The group recognized the importance of educating other health care professionals, including but not limited to pediatricians, family physicians, nurse practitioners, physician assistants, nurses, and others who are providing health care services to children. If health care professionals are educated about the importance of preventive oral health services (in general) and sealants (in particular), they can help educate parents about the importance of obtaining these services for their children.

The American Dental Association and the American Academy of Pediatric Dentistry recommend that children see a dental provider “at the time of the eruption of the first tooth and no later than 12 months of age.¹³” This standard is incorporated into the North Carolina Oral Health Periodicity Schedule for children enrolled in Medicaid and NC Health Choice, as well as the Bright Futures guidelines, which are used by the Divisions of Medical Assistance

If health care professionals are educated about the importance of preventive oral health services (in general) and sealants (in particular), they can help educate parents about the importance of obtaining these services for their children.

(DMA) to establish required preventive services during children's well child visits.^{d,14,15} (See Appendix E.) The Bright Futures guidelines for oral health preventive care as part of periodic primary preventive care visits recommend that an oral health risk assessment be performed at 6 months, 9 months, 12 months, 18 months, 24 months, and 30 months. Bright Futures recommends referral to a dental home at the 12 month, 18 month, 24 month, 30 month, 3 year, and 6 year visits. Bright Futures does not have any recommendations for preventive oral health during primary care visits after age 6. However, Bright Futures does recommend that the primary care provider assure that the patient has a dental home and, if not, to refer to a dentist. In addition to these recommendations, through the IMB program, DMA provides reimbursement to primary care providers for additional oral health care services (IMB includes an oral evaluation, the provision of oral health education to parent or caregiver, and fluoride varnish application) up to six times between tooth eruption and 3.5 years.

The North Carolina Oral Health Periodicity Schedule for children enrolled in Medicaid and NC Health Choice states that "promotion of oral health care is considered a joint responsibility between oral health professionals and other health care professionals."¹⁴ While most of the services outlined in the North Carolina Oral Health Periodicity Schedule refer to services that should be performed by a dental health professional, the schedule does not explicitly state what type of health professional should perform each of the services, "particularly for Medicaid eligible infants and toddlers under age 3."¹⁴ The reason for this is because the type of health professional delivering services "will be determined by other factors including local community capacity to provide care to preschool Medicaid children."¹⁴ The low overall number of dentists in North Carolina, the fact that many general dentists do not treat infants and toddlers ages 0-3 in their practices, the low number of pediatric dentists in North Carolina, and the maldistribution of dentists across the state all factor into this recommendation.¹⁶ (See chapter 6 for more information on the dentist population in North Carolina.) The North Carolina Oral Health Periodicity Schedule further states that "An oral evaluation should be done by the Primary Care Physician/Pediatrician/Dentist up to age 3."¹⁴ However, the North Carolina Oral Health Periodicity Schedule provides no further guidance for primary care professionals on how to determine whose oral health can be safely cared for by a primary care provider for the first three years versus who needs to absolutely be referred to a dentist.

d All of the child health services that can be covered through Medicaid are outlined in federal legislation (42 U. S.C. § 1396d(r) [1905(r)] of the Social Security Act: "Early and Periodic Screening, Diagnosis and Treatment Services", or EPSDT)...In North Carolina the preventive health services/periodic screening portion of Medicaid (EPSDT) program for children from birth to 21 years of age is known as Health Check. Health Check screening services are performed during Well Child visits and are reimbursed by the North Carolina Medicaid program...The components of periodic preventive health screening assessments required by the NC Health Check program are based on the American Academy of Pediatrics (AAP) Recommendations for Preventive Pediatric Health Care...as set forth in the Bright Futures Guidelines for Health Supervision of Infants, Children and Adolescents." (cite http://www.ncdhhs.gov/dma/healthcheck/FINAL_Health_Check_Billing_Guide.pdf)

The PORRT is a solid step towards guiding primary care providers' decision making around children's oral health care for young children. If a primary care provider in an area without sufficient dentists to see all young children uses the PORRT and a referral to a dentist is not recommended, then that child may be one whose oral health can be safely cared for by a primary care provider until age 3, although the PORRT should be re-administered at every well visit to make sure the child's oral health needs have not changed. The PORRT can also help identify children with significant oral health needs who should be referred to a pediatric dentist, rather than to a general dentist who sees children. Other behavioral health assessments used by primary care providers may also be a useful tool to determine if a child needs to be referred to a pediatric dentist with training in child behavior management techniques rather than to a general dentist. The North Carolina Oral Health Periodicity Schedule calls for oral hygiene, dietary counseling, and other counseling to improve oral health to be provided throughout childhood with the parent and the patient.¹⁴ The guidelines do not specify what type of health professional should provide the counseling. Ideally, the Task Force would like to see such counseling coming from both primary care providers and dental health professionals.

There is a broad need for education and counseling as well as a need to screen young children for oral health needs, and, in some cases, fluoride supplementation may be needed to prevent dental caries in young children. Fluoride, a naturally occurring mineral, is effective at preventing and reversing the early signs of dental caries.¹⁷ Fluoride has been added to community water supplies since 1949 and is the most cost-effective method for preventing caries.¹⁸ Eighty-seven percent of North Carolinians have fluoridated water available in their homes while 13% do not.¹⁸ Because of the effectiveness of fluoride at preventing dental caries, the US Preventive Services Task Force recommends that primary care providers prescribe oral fluoride supplementation "at currently recommended doses to preschool children older than 6 months of age whose primary water source is deficient in fluoride."¹⁹ Before prescribing any type of fluoride supplementation, a water sample from the child's home should be analyzed to find out exactly what level of fluoride is in their water.¹⁷ Local and state health departments conduct fluoride testing. The American Dental Association (ADA) provides details on the proper dosage for fluoride supplementation based on an individual's age and the fluoride ion level in the drinking water in their home.¹⁷ The ADA recommends fluoride supplementation for children ages 6 months-16 years if the fluoride levels in their drinking water do not meet recommended levels.¹⁷

In addition to working with children and their families, it is important to educate pregnant women about the importance of their oral health and that of their baby. (See Recommendation 3.1.) In North Carolina, pregnant women with family incomes up to 185% of the federal poverty guideline (FPG) may be eligible for Medicaid for Pregnant Women (MPW). In North Carolina, individuals receiving MPW services receive comprehensive, coordinated maternity care through

The North Carolina Oral Health Periodicity Schedule calls for oral hygiene, dietary counseling, and other counseling to improve oral health to be provided throughout childhood with the parent and the patient.

CCNC. Preconception care is an essential first building block for a healthy mother and her child. During the preconception period, the main goals of care are to: 1) screen for risks, 2) offer health promotion and education, and 3) provide interventions or referrals to address identified risks.²⁰ The oral health of pregnant women can influence the health of their developing babies.²¹ After a child is born, caregivers can transfer mutans streptococci, the primary bacteria which cause tooth caries, to young children, therefore reduction of maternal dental disease and instruction of oral hygiene are particularly important.²² Thus, the ADA and the American Academy of Pediatric Dentistry recommend oral health education and professional oral health care for pregnant women to improve their oral health and the oral health of their children.²²

The guidelines provided by DMA for primary care providers around the oral health of children are quite broad. The Task Force would like to see more explicit guidelines for primary care providers to help clarify the expectations for oral health care provided during medical visits. Additionally, providing education to pregnant women about their own oral health and the oral health of their infants is important to improve young children's oral health. Therefore the Task Force recommends:

Recommendation 5.1: Encourage Primary Care Providers to Promote Oral Health

The Division of Medical Assistance (DMA) and the North Carolina Community Care Network (NCCCN), including the CHIPRA quality improvement specialists, should continue to work with primary care providers (PCPs) who treat children and pregnant women and their partners to help them further encourage families with children to obtain oral health services.

- a) **DMA and NCCCN should develop and disseminate guidelines that specify oral health expectations for primary care professionals. These guidelines should encourage PCPs to:**
 - 1) **Provide families with education and counseling about the importance of oral health, including preventive oral health visits for all children, and sealants for children starting with the emergence of molars.**
 - 2) **Help link children to a dental home beginning at age 1.**
 - 3) **If there are not sufficient dentists available in the community who see very young children, then :**
 - i) **Refer children at higher risk, as determined by the Priority Oral Health Risk Assessment and Referral Tool (PORRT) or similar tool, to a dentist at age 1;**

- ii) **Manage children identified as lower risk , as determined by the PORRT or similar tool, through routine risk assessment, counseling, and application of varnish, and then refer them to a dental home no later than age three.**
 - iii) **Refer young children with significant oral health problems or behavioral health problems to pediatric dentists or other appropriately trained dentists (if available).**
- 4) For children ages 4 and older:**
- i) **Conduct an oral evaluation and oral health counseling, as part of a complete physical examination.**
 - ii) **Assure a dental home. If the child does not have a dental home, refer to a dentist.**
 - iii) **Prescribe fluoride supplementation when appropriate as specified by the US Preventive Services Task Force and the American Dental Association.**
- a) **Support on-going efforts to expand outreach and education for primary care providers to encourage them to participate in the Into the Mouths of Babes program.**
- b) **As part of the pregnancy medical home,**
- 1) **NCCCN should develop a care alert to trigger a dental visit during pregnancy.**
 - 2) **OB-GYNs and family physicians should be educated about the importance of educating pregnant women and their partners about the connection between the caregivers’ oral health and that of the child, as well as the importance of establishing a dental home.**

Increase Collaboration between Primary Care Providers and Dental Professionals

Although oral health is integral to the overall health and well-being of children, the health care systems for primary care and oral health are not well integrated, nor are they designed to encourage collaboration. Currently there is little professional interaction between primary care providers and dentists. Additionally, the Task Force identified common misconceptions between the two professions including many primary care providers thinking that dentists

The health care systems for primary care and oral health are not well integrated, nor are they designed to encourage collaboration.

in their community do not take Medicaid and NC Health Choice patients or are not accepting new patients, and many dentists thinking that primary care providers are not engaging in enough oral health promotion or strongly encouraging children to have a dental home. Efforts that have been piloted in some communities show promise for improving collaboration between primary care providers and dentists.

The PORRT aims to increase primary care dental referrals and increase communication between primary care and dental providers. QIS specialists are working with CCNC primary care practices to increase the use of the PORRT through trainings and other activities. These efforts are increasing the use of PORRT by primary care providers. A common, formal referral system is the first step towards increasing the rate of successful referrals to dentists. However, one challenge has been getting dentists to return the follow-up portion of the PORRT to primary care providers. This step is critical because without follow-up from the dentist, primary care providers do not know if patients received needed dental care.

The community mixers that are part of the CHIPRA Connect initiative have also helped promote communication and collaboration between primary care and dental health professionals.¹¹ This type of interaction is a way to share information, dispel common misperceptions, and open lines of communication between primary care providers and dental professionals in a community.

Electronic means of exchanging information also holds promise for improving care coordination and communication between different types of providers. CCNC practices use an electronic provider portal so that health professionals can securely access specific types of Medicaid and NC Health Choice health information. The CCNC provider portal includes information about patients' visit history (including inpatient, emergency department, office visit, and imaging history), claims data, medication list and other information.²³ Currently primary care and specialty professionals, Health Check coordinators, and pharmacists can access this data. Dentists do not currently have access to the portal. One of the primary goals of the provider portal is to foster better care coordination between providers. The use of electronic health records (EHRs) is another means of securely sharing patient information. Certain types of health professionals, including pediatricians, family physicians, and dentists can qualify for incentive payments from the Centers for Medicaid and Medicare Services if they adopt and use certified electronic health records. As a result, more health professionals have begun to adopt electronic health records,^e although, the use of electronic health records is not universal. Over time, as more professionals adopt and use EHRs, they should be able to share patient health information electronically (when necessary for the treatment of a particular patient). The

^e Williams, Rachael. Assistant Program Manager, Medicaid HIT, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication, May 24, 2013

North Carolina Health Information Exchange (NC HIE) is the state designated entity for health information exchange. Over the next several years, the goal is to connect as many EHRs to the NC HIE to enable the sharing of patient health information across North Carolina's provider community. However, it may take several more years before the use of EHRs and connection to the NC HIE is so prevalent to make it easy to share patient-level data across health professionals. The lack of communication between primary care providers and dental professionals impedes efforts to improve the oral health of children. Therefore, the Task Force recommends:

Recommendation 5.2: Create Systems for Greater Collaboration between Primary Care Providers and Dental Professionals

The Division of Medical Assistance, Oral Health Section of the Division of Public Health, North Carolina Community Care Network (NCCCN), North Carolina Dental Society, North Carolina Academy of Pediatric Dentists, Old North State Dental Society, North Carolina Pediatric Society, North Carolina Academy of Family Physicians, and North Carolina Area Health Education Centers Program, should create systems for greater collaboration between professionals. These organizations, and other appropriate partners, should work together to:

- a) Create a formal referral system, encouraging primary care providers to send a referral to the child's dental home, and encouraging dentists to send treatment records back to the PCP.**
- b) Explore ways to open up the NCCCN provider portal or other mechanisms to exchange clinical information such as shared electronic health records.**
- c) Encourage "mixers," video webinars, or joint local meetings or educational opportunities to create opportunities for collaboration between dental professionals and medical professionals.**

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As discussed throughout this report, increasing children’s access to preventive dental services in North Carolina is a challenge due to a low dentist-to-population ratio and limited public resources, as well as family, dentist, and policy barriers. In discussions, the Task Force repeatedly came back to the need for more mechanisms to deliver efficient and affordable services at times and in places convenient for children and families. The Task Force also struggled with how to ensure that North Carolina has a sufficient oral health workforce to deliver quality care. These two issues came up in discussions of Goals 1 and 2. To answer these challenges, the Task Force developed four crosscutting recommendations.

Schools were identified as an excellent place to reach children in a manner that is often more convenient for families. Providing services to children while in school reduces some of the problems that low-income families have with obtaining dental services. For example, providing services directly in the school setting reduces transportation barriers, as the child does not need to travel to get services. It also eliminates problems that working parents may have in taking time off work to take their children to the dentist. Currently public health hygienists, employed by the Oral Health Section (OHS) of the North Carolina Division of Public Health, provide dental health prevention and education through North Carolina schools. Although they do not have the necessary personnel to reach all children enrolled in public schools, public health hygienists provide direct prevention services, such as dental screenings in elementary schools, in addition to activities on placement of dental sealants and fluoride mouth rinse in classrooms.¹ Mobile dental providers also provide services at school sites in some locations. Rather than requiring the parent and child to travel to a dentist’s office, mobile dental providers go to the children. The Task Force discussed different strategies that could increase access to preventive dental services and sealants for children in school and other community-based settings.

Recommendation 6.1: Maintain the structure of the Oral Health Section and increase funding for public health dental hygienists

Recommendation 6.2: Require limited service dental providers to provide comprehensive dental services

Recommendation 6.3: Pilot private dental practice school-based programs

Recommendation 6.4: Reduce barriers for qualified out-of-state dentists

The Task Force developed recommendations to increase the number of dentists in North Carolina serving children enrolled in Medicaid and NC Health Choice. (See Chapter 3.) However, data show that even if these efforts are successful,



The Task Force developed recommendations that could increase access to preventive dental services and sealants for children in school and other community-based settings.

North Carolina still will not have enough dentists to meet the needs of the population. Having an adequate number of dentists is critical to meeting Goals 1 and 2, therefore the Task Force also developed a recommendation to decrease barriers faced by dentists moving into North Carolina:

Recommendation 6.4: Remove barriers for qualified out-of-state dentists

Importance of Public Health Dental Hygienists

OHS provides dental health prevention and education for children across the state with a focus on elementary school children. Public health dental hygienists provide most of the services. These staff often live in the communities they serve, work with local public health departments, and provide community-based services. Public health dental hygienists provide sealants to high-risk populations through school-based programs. As discussed in Chapter 4, sealants prevent caries and programs that provide them can be cost-saving.² The hygienists conduct weekly fluoride mouth-rinse (FMR) programs for children in targeted high-risk elementary schools, which can help reduce caries in children in high-risk schools.¹ They also promote preventive services for younger children. For example, the hygienists provide training and support for primary care practices and local health departments participating in the Into the Mouths of Babies (IMB) program. The IMB program has been shown to reduce caries-related treatment by 17% at 6 years of age in children who had the recommended 4-6 visits.¹ In addition, the hygienists work with Early Head Start staff participating in the Zero Out Early Childhood Tooth Decay Project (discussed more fully in Chapter 5). They also improve access to dental care for underserved populations through screening and referrals to a dental home.¹ These programs reached approximately 180,500 children in SFY 2011-2012.^a

The OHS standardized screenings in kindergarten and fifth grade serve as a way of monitoring the public's oral health. These annual screenings provide information at both the county and state level.¹ These screening tools would help measure the state's progress in reaching CMS goal 1 as a proxy for preventive services. The fifth grade assessment can be used for surveillance of dental sealant for CMS goal 2.

As of March 2013, OHS employed 37 state hygienists, 1 local hygienist under state supervision, and 3 state supervisors. The staff are divided into three regions across the state. In the western region, 16 state hygiene positions and 1 local hygienist are tasked with providing services to 39 counties. In the central region, 7 dental hygiene positions cover 15 counties. Finally, in the eastern region, 16 dental hygiene positions cover 46 counties. Due to budget cuts, 5 of the dental

^a King R. Section Chief, Oral Health Section, Division of Public Health, North Carolina Department of Health and Human Services. Written communication. May 23, 2013.

The many contributions of the Oral Health Section are critical to the state's ability to meet Goals 1 and 2.

hygiene positions across the state are vacant. The increased demand on fewer employees has caused a decline in the number of children receiving services and the counties served. There are 8 counties with local preventive dental programs, but 10 counties in the state have no preventive dental program.^b From 2006-2007 to 2011-2012, the ratio of public health dental hygienists to the elementary school population decreased from 1:13,500 to 1:18,000. In SFY 2010-2011, before budget cuts and staff reduction, OHS provided dental services to approximately 240,000 children (39,500 more children than in SFY 2012).¹ At the time this report was being written, there was discussion in the North Carolina General Assembly about eliminating funding for state public health hygienists (SB 402). Funding would be transferred from the OHS to local health departments with dental clinics for the provision of clinical services. The net cut in funding for public health hygienists would be counterproductive and significantly impact the state's ability to provide preventive dental services to children.

A number of Oral Health Section activities address all three of the task force's goals. OHS staff screen elementary school children (with an emphasis on those in kindergarten and fifth grade) identify those in need of dental care, educate parents about why oral health is important, and help them find a local dental home (goals 1 and 3). They conduct sealant projects and work with local resources to provide sealants to children at high risk for tooth decay (goal 2). They train and provide support for medical providers in the Into the Mouths of Babes program, who provide dental evaluations and refer children to a dental home, provide targeted oral health education, and apply fluoride varnish (goals 1 and 3).

The many contributions of the OHS are critical to the state's ability to meet the CMS goals for children's preventive oral health. The Guide to Community Preventive Services recommends both school based sealants and water fluoridation conducted by OHS. Sealants are directly related to CMS goal 2 and water fluoridation helps protect the sealants by preventing dental caries. The proposed reduction in funding for OHS would decrease the training for primary care providers in the Into the Mouths of Babes (IMB) program. (See Chapter 5.) The funding reduction would also decrease access to oral health services for children enrolled in Medicaid and NC Health Choice. (See Chapter 3.) Without adequate funding, the surveillance tools to monitor the state's progress toward reaching the CMS goals are also in jeopardy.

Public health dental hygienists in OHS provide dental education and outreach and improved access to dental care to many children at high risk of dental disease. The programs and interventions they use are evidence-based or promising practices. Rather than cut funding to public health hygienists, the Task Force recommended expansion of these state-funded hygienists. Currently,

Public health dental hygienists in OHS provide dental education and outreach and improved access to dental care to many children at high risk of dental disease.

^b King R. Section Chief, Oral Health Section, Division of Public Health, North Carolina Department of Health and Human Services. Written communication. May 21, 2013.

there are not enough public health dental hygienists to reach the most vulnerable children in the state, and cuts to the OHS would significantly impair the state's ability to provide needed preventive oral health services. Therefore, the Task Force recommends:

Recommendation 6.1: Maintain the Structure of the Oral Health Section and Increase Funding for Public Health Dental Hygienists

- a) The North Carolina General Assembly should maintain the structure of the Oral Health Section of the Division of Public Health (OHS), including dental hygienists, in order to meet the Centers for Medicaid and Medicare Services goals of increasing preventive dental services and increasing utilization of sealants among children ages 6 to 9.**
- b) The North Carolina General Assembly should increase funding to OHS, in order to hire additional dental hygienists who can provide preventive oral health services in schools, help link children with oral health problems to a dental home, participate in oral health surveillance activities, and otherwise promote oral health among children.**

Ensure Limited Service Dental Providers Provide Comprehensive Services

Mobile dental providers focus on underserved populations and those at higher risk for dental disease. They may provide dental services at schools, housing communities, worksites, and various other locations. Mobile dental providers typically have either a mobile dental van or bus that can be parked on school property or in other community settings, or have mobile dental equipment that can be set up in a classroom or other facility. The mobile dental units may be owned and operated by hospitals, dental offices, charities, and others. They may provide preventive and restorative services along with education and outreach.

Some mobile dental providers provide the full range of dental care in their mobile operations. Others offer more limited care. As discussed in Chapters 3 and 5, it is important to provide children with a dental home that can provide comprehensive care including preventive and treatment services. The American Academy of Pediatric Dentistry notes that children who have a dental home are more likely to receive appropriate preventive and routine oral health care.³ Limited service dental providers should ensure that their patients are linked to a dental home to ensure continuity of quality care.

Currently Medicaid policy allows any willing provider to enroll in the program. This means that a mobile dental provider may provide very limited services to this at risk population without the guarantee of transferring records to a dental

home, ensuring comprehensive care, or a referral for specialized care if it is needed. Mobile dental providers may increase access to oral health care, but it is important to ensure that they fit within a comprehensive system of care. The Task Force discussed the need to ensure that children receive high quality care. To ensure children enrolled in Medicaid and NC Health Choice receive high quality care, children who receive screening or treatment from a mobile dental provider should be linked with a dental home or provided comprehensive care from the mobile provider. Therefore the Task Force recommends:

Recommendation 6.2: Require Limited Service Dental Providers to Provide Comprehensive Dental Services

The Division of Medical Assistance and the Physician Advisory Group should examine current dental payment policies to support dental homes that provide continuity of care and comprehensive oral health services. Payment policies should ensure that dental providers who offer diagnostic and preventive services, but not comprehensive restorative care:

- a) Have referral systems to refer patients to dental homes that can offer comprehensive oral health services.**
- b) Transfer the appropriate diagnostic records, including oral health images, to the dental home in a timely manner.**

Piloting a New Model for Increasing Children’s Access to Dental Services

Both North Carolina’s public health dental hygienists and mobile dental providers make dental services more accessible to children and their families by providing services at schools. However, they are typically not strongly linked to dental homes in the community they serve. The model of providing services for children in school settings was one the Task Force felt should be expanded, but Task Force members were interested in new models that provide a stronger link to dental homes in the local community.

The Task Force focused on what private dentists could do to expand the reach of their practices to the schools. This would serve the goal of promoting preventive dental services while at the same time providing a stronger link to a dental home. The Task Force recommended pilot testing a model in which private dental practices would employ dental hygienists and dental assistants who would provide reversible preventive services to children in a school-based setting. This would include limited oral exams, prophylaxis, fluoride varnish, oral hygiene instruction, and sealants. School-based sealant programs have been shown to be cost-effective in other states.^{4,5} Children who need more extensive dental work would be referred back to the private dental practice. The practice would

provide the dental home and more involved treatment for all the children served in the school-based program.

While there is a shortage of dentists in North Carolina compared to the nation, North Carolina has a large number of skilled licensed dental hygienists (RDH) who are under-employed or unemployed.⁶ These RDHs are well-trained in the concepts of oral health, but traditionally have provided services for an adult population. With some retraining, they could be prepared to serve North Carolina's population of school-aged children. To make this model work, North Carolina would need to ensure that RDHs have the requisite training about pediatric oral growth and development, cariology, pediatric behavior management, and other necessary skills to provide limited oral exams, prophylaxis, fluoride varnish, oral hygiene instruction, and sealants to a child patient population. RDHs would also need public health skills to successfully implement this model. This training, and a competency exam, could be developed by either of the state's dental schools. RDHs that successfully complete the program would be provided with a pediatric dental certification or other similar qualification. In addition to ensuring the RDHs have the right training, a dentist interested in providing mobile services would need to invest in mobile dental equipment including a chair, light, and dental unit for each RDH.

Using data from DMA as well as subsidized school-lunch rates and data on historically underserved areas, the pilot program could target schools with high numbers of at-risk children. This model could increase the availability and utilization of preventive dental services with only limited retraining of RDHs. This model might prove particularly attractive to dentists who recently graduated from dental school seeking to establish a client base and dental practice in underserved areas. To be successful, this model would need cooperation from schools, providers willing to test the model, and approval by North Carolina Board of Dental Examiners.

The Task Force believes a new model is needed to aggressively pursue the CMS goals to increase utilization of preventive dental services and sealants among children enrolled in Medicaid and NC Health Choice. A model that uses existing oral health professionals to deliver care to children where they are holds the promise of reaching large numbers of eligible children who may not otherwise seek out dental care. Therefore the Task Force recommends:

Recommendation 6.3: Pilot Private Dental Practice School-Based Programs

- a) The North Carolina Dental Society, Oral Health Section of the Division of Public Health, and Division of Medical Assistance should seek funding to create school-based pilot programs to provide screenings, preventive services, and sealants. For this pilot:**

- 1) Dental practice would serve as the dental home.**

- 2) **Dental hygienists would need additional training and to be certified to provide reversible preventive procedures under general supervision (without having a dentist physically present at the schools or requiring prior exam from a dentist).**
 - 3) **Dental hygienists and dental assistants employed by the dental office would provide the dental services in schools, and would be supervised, remotely by participating dentist.**
 - 4) **Participating practices should work with appropriate partners, such as the oral health section, school nurses, and school-based and school-linked health centers, to help identify appropriate schools with high numbers of at-risk children, obtain parental consent, and create a system of care.**
 - 5) **Participating practices and local health departments should work with local school nurses, and, if available, school-based and school-linked health centers, to promote services.**
 - 6) **The model should be evaluated after three years. Evaluation should include an assessment of unmet treatment needs. If successful, and financially viable, the model should be expanded across the state, and should be tested for viability in other settings, such as head start, child care centers, primary care offices, etc.**
- b) **The North Carolina Board of Dental Examiners should allow dental hygienists and dental assistants to provide reversible preventive procedures under general supervision (without having a dentist physically present at the schools or requiring prior exam from a dentist) for this pilot.**

Enable More Dentists to Move to North Carolina

North Carolina has an overall shortage of dentists, which exacerbates problems finding dentists who are willing to treat children eligible for Medicaid or NC Health Choice. In 2011, North Carolina had 4.4 dentists per 10,000 population compared to a national average of 6.0 dentists per population.⁷ This disparity is expected to increase due to a rapidly increasing population and declining retention rates for North Carolina educated dentists.⁷ North Carolina is ranked 47th in the nation in the proportion of dentists to population.⁷ Further, there is a maldistribution of dentists. In seven counties in North Carolina there is one or no dentist in the county.⁸

North Carolina has two dental schools. The University of Chapel Hill (UNC) School of Dentistry graduates 80 students each year. The UNC School of Dentistry has approval to increase its class size from 80 to 100 students, but

In 2011, North Carolina had 4.4 dentists per 10,000 population compared to a national average of 6.0 dentists per population. This disparity is expected to increase due to a rapidly increasing population and declining retention rates for North Carolina educated dentists.

these plans have been delayed until funding is available. East Carolina University (ECU) opened a School of Dental Medicine in 2011 with a class size of 50. ECU recruits students from North Carolina with an emphasis on students from disadvantaged backgrounds and underserved areas. Students will do their clinical training in community service learning centers in underserved areas around the state. Starting in 2015, North Carolina's dental schools will graduate 130 dentists each year. Unfortunately, over the past 5 years approximately 165 dentists have retired each year, so even if all the graduates of UNC and ECU's dental schools stayed in state, there would not be enough to replace the number of dentists retiring.⁷ Even with the boost from ECU's new dental school, North Carolina is expected to have 4.1 dentists per 10,000 residents in 2018.⁷

In 2010, North Carolina gained 93 dentists from out of state.^c Dentists coming into North Carolina from out-of-state come from two sources. The first is new graduates from other states. The second are dentists who have practiced in another state who gain licensure by credential. New graduates from other states can qualify for licensure by passing the written exam and the clinical dental exam that North Carolina participates in and fulfilling the obligations outlined by the North Carolina State Board of Dental Examiners.⁹ The National Board Dental Examinations, the written exam, is required by all dental licensing agencies in the United States.¹⁰ In addition to the national written exam, graduates must take a clinical exam accepted by the state in which they plan to practice. North Carolina is a part the Council of Interstate Testing Agencies, Inc. (CITA), which is an independent regional testing agency that administers the CITA dental and dental hygiene clinical licensure examinations in the states of Alabama, Louisiana, North Carolina, and the territory of Puerto Rico. There are 5 regional dental exams in the United States, including CITA, and three states that administer a state dental exam.¹⁰ Each state Board of Dental Examiners determines which exams are accepted for licensure in their state. Some states accept just their state or regional exam while others accept all dental exams for licensure. North Carolina accepts only the CITA examination.⁹

Licensed dentists coming into North Carolina from another state may qualify for licensure by credentials. In order to qualify for licensure by credentials, an applicant must meet the following criteria:

- Graduated from and have a DDS or DMD degree from a program of dentistry in a school or college accredited by the Commission on Dental Accreditation of the American Dental Association and approved by the North Carolina State Board of Dental Examiners.
- Have been actively practicing dentistry for at least five years.

^c In addition to these 93 dentists, there were 44 dentists who were previously licensed in North Carolina who graduated from a non-UNC institution who were inactive in 2009 who became active again in 2010. These dentists may have been inactive and living in North Carolina or they may have left the state and returned to practice in North Carolina in 2010. (Gaul, Katie. Cecil G. Sheps Center for Health Services Research. Written (email) communication. June 6, 2013)

- Have not been subject of final or pending disciplinary action in any state, territory, or the military.
- Produce evidence that the applicant has no felony convictions and that the applicant has no other criminal convictions that would affect the applicant's ability to render competent dental care.
- Have not failed an exam administered by the North Carolina State Board of Dental Examiners.

In addition to meeting these requirements, applicants for licensure by credential must pay a \$395 dental license fee.^d

This is the only way an actively practicing dentist can qualify for licensure in North Carolina. North Carolina does not have license reciprocity with any other states.⁹

As discussed in Chapter 3, less than half of the dentists in the state provide services for people enrolled in Medicaid. This leaves a very limited number of dentists providing services for children enrolled in Medicaid and NC Health Choice. While the state is making efforts to increase the number of dentists participating in Medicaid and NC Health Choice (see Chapter 3, Recommendation 3.3), increasing the overall number of dentists in the state is another strategy that must be pursued. Therefore the Task Force recommends:

Recommendation 6.4: Reduce Barriers for Qualified Out-of-State Dentists

The North Carolina State Board of Dental Examiners (NCSBDE) is charged with regulating dentists in the public interest. Given the relative lack of dental professionals in North Carolina as compared to other states and the ongoing dental shortages in some areas of the state, the NCSBDE should consider opportunities to increase the supply of high quality providers practicing in North Carolina, with special attention to underserved areas and populations. Such opportunities could include, but are not limited, to the following:

- a) **Reducing or eliminating the current five year's required practice in another state in order to qualify for a provisional license if the provider is willing to serve underserved populations for that portion of the five years that is waived.**
- b) **Creating reciprocity arrangements with other states.**
- c) **Accepting more regional dental examinations.**

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Dental caries, also called “tooth decay” or “cavities,” is the most prevalent chronic infectious disease among children in the United States.¹ Tooth decay has significant consequences for children, their families, and communities. Dental caries can affect children’s physical growth and development.^{2,3} The pain and swelling can limit a child’s ability to eat and speak, and can create problems which distract from a child’s ability to learn. Fortunately, dental caries is both preventable and manageable.



In the fall of 2012, the Centers for Medicare and Medicaid Services (CMS) asked states to develop a plan to increase the proportion of children ages 1 to 20^a enrolled in Medicaid or Children’s Health Insurance Programs (CHIP) who receive any preventive dental services and the proportion of children ages 6-9 who receive a dental sealant on a permanent molar tooth by 10 percentage points over five years.⁴ The North Carolina Institute of Medicine Task Force on Children’s Preventive Oral Health Services was convened to help DMA develop its required dental action plan to improve access to preventive oral health services for all children in response to the request from CMS. The Task Force developed three goals. The first two were required by CMS and focus on preventive dental services provided by dental providers:

1. Increasing the proportion of children ages 1-20 enrolled in Medicaid or NC Health Choice^b (enrolled for at least 90 days) who received any preventive dental services from dental providers by 10 percentage points, from 45% to 55% for children enrolled in Medicaid and 42% to 52% for children enrolled in NC Health Choice, over a five-year period from FFY 2011-FFY2015.
2. Increasing the proportion of children ages 6-9 enrolled in Medicaid or NC Health Choice (enrolled for at least 90 days) who receive a dental sealant on a permanent molar tooth by 10 percentage points, from 17% to 27% for children enrolled in Medicaid and 25% to 35% for children enrolled in NC Health Choice, over a five-year period from FFY 2012^c to FFY 2017.

In addition to these goals set by CMS, the Task Force felt it was important to include a goal looking at the role primary care providers serve in providing preventive oral health care. Therefore, the Task Force set a third goal to:

3. Increase the utilization of preventive oral health services among children ages 6 months to 20 years old enrolled in Medicaid and NC Health Choice

This report includes a multifaceted approach that, if implemented, will significantly improve access and utilization of preventive oral health services by children enrolled in Medicaid and NC Health Choice.

^a In this report, we will use the term children to refer to the population ages 1 to 20 unless otherwise noted.

^b NC Health Choice is North Carolina’s CHIP program.

^c For the purposes of this report we are using FFY 2012 as the baseline year. CMS has not yet defined the baseline year for this measure for their requirements, therefore, the baseline year may need to be changed once CMS has decided on a baseline year.

(enrolled for at least 90 days) by any appropriate health professional by 10 percentage points, from 55% to 65% for children enrolled in Medicaid and 42% to 52% for children enrolled in NC Health Choice, over a five-year period from FFY 2011-FFY 2015.

This report targets low-income children who are enrolled in Medicaid or NC Health Choice. These children are at much higher risk of developing caries than are children with higher incomes and are more likely to have untreated caries.^{5,6} With proper dental care and dietary choices, dental caries could almost be eliminated among children.¹

The Task Force examined the main barriers to the utilization of preventive oral health services by children enrolled in Medicaid and NC Health Choice and developed recommendations to address these barriers. *The North Carolina Oral Health Action Plan for Children Enrolled in Medicaid and NC Health Choice* includes a wide variety of recommendations that could be pursued and promoted by both public and private stakeholders. The report includes a multifaceted approach that, if implemented, will significantly improve access and utilization of preventive oral health services by children enrolled in Medicaid and NC Health Choice. In turn, this will help promote the health and well-being of some of our most vulnerable children.

	NCGA	DMA	Oral Health Section of the Division of Public Health	NCCCN	NCDS	Other
Increasing Preventive Care Utilization						
<p>Recommendation 3.1: Increase Outreach and Education to Families of Young Children about the Importance of Oral Health Services</p> <p>The Division of Medical Assistance (DMA) and the Oral Health Section (OHS) of the Division of Public Health should develop a one page document that summarizes the major Medicaid and NC Health Choice dental benefits and provides information on how young children can receive oral care. In addition, DMA and OHS should disseminate information on how to maintain good oral health for infants and young children and on the importance of seeking dental services for children beginning at age 1. DMA should partner with other organizations and agencies to distribute this information to families.</p>		✓	✓	✓		✓ Local DSSs, local health departments, early care and education providers, Head Start, Smart Start, PTA, health professional serving pregnant women and their partners
<p>Recommendation 3.2: Support Dental Care Coordination by North Carolina Community Care Networks</p> <p>The Division of Medical Assistance and the North Carolina Community Care Networks should examine whether an additional per member per month (pmpm) payment is needed to expand the capacity of Health Check Coordinators to help families with young children enrolled in Medicaid or NC Health Choice understand the importance of oral health and connect to a dental home.</p>		✓		✓		
<p>Recommendation 3.3: Increase the Participation of Dentists in Medicaid and NC Health Choice</p> <p>The North Carolina Dental Society (NCDS) should partner with the Division of Medical Assistance (DMA) to encourage more dentists to participate in Medicaid and NC Health Choice and to increase the willingness of general dentists to treat young patients.</p>		✓			✓	

	NCGA	DMA	Oral Health Section of the Division of Public Health	NCCCN	NCDS	Other
<p>Recommendation 3.4: Reduce Barriers Discouraging Dentists from Participating in Medicaid and NC Health Choice</p> <p>The Division of Medical Assistance (DMA) should encourage more dentists to participate in Medicaid by reducing administrative barriers. DMA should not take any steps that would reduce dentist participation. In addition, the North Carolina General Assembly should change the classification of dentists from moderate to low categorical risk providers for purposes of fraud and abuse monitoring.</p>	✓	✓				
Promoting and Increasing Sealant Utilization						
<p>Recommendation 4.1: Increase Reimbursement for Dental Sealants</p> <p>The Division of Medical Assistance (DMA) should explore changes in Medicaid payment policies to increase reimbursement to the 75th percentile of a commercial dental benchmark for dental sealants.</p>		✓				
<p>Recommendation 4.2: Allow Reapplication of Sealants When Medically Necessary</p> <p>Educate dentists about EPSDT and the ability to seek an exception from regular coverage policy to obtain reimbursement for the reapplication of sealants when medically necessary. The Division of Medical Assistance Physician Advisory Group should create new coverage policies for Medicaid and NC Health Choice to allow reapplication of sealants on the same tooth when medically necessary.</p>		✓				<p>✓ DMA Physician Advisory Group</p>
<p>Recommendation 4.3: Increase Private Sector Efforts to Encourage Dentists to Provide Sealants for Medicaid and NC Health Choice Participants</p> <p>The North Carolina Dental Society (NCDS) should promote the use of dental sealants and disseminate information about the efficacy of sealants. NCDS, in partnership with Old North State Dental Society, should expand existing efforts to provide sealants to children through the Give Kids a Smile/MOMs effort. Other organizations that provide continuing education</p>		✓			<p>✓</p>	<p>✓ Old North State Dental Society, AHEC</p>

	NCGA	DMA	Oral Health Section of the Division of Public Health	NCCCN	NCDS	Other
for dental professionals, such as the North Carolina Area Health Education Centers, should increase their focus on sealants.						
<p>Recommendation 4.4: Educate Primary Care Providers about Sealants</p> <p>The Division of Medical Assistance, North Carolina Dental Society, North Carolina Pediatric Society, Area Health Education Centers, North Carolina Community Care Network, and other partners should expand or create continuing education opportunities for primary care professionals to educate them on sealants.</p>		✓	✓	✓	✓	NCAPD, NCPS, NCAFP, NCMS, ONSMS, AHEC
Role of Primary Care Providers						
<p>Recommendation 5.1: Encourage Primary Care Providers to Promote Oral Health</p> <p>The Division of Medical Assistance and the North Carolina Community Care Network (NCCCN) should continue to work with primary care providers (PCPs) who see children and pregnant women and their partners to help them further encourage families with children to obtain oral health services. As part of this effort, DMA and NCCCN should develop and disseminate guidelines that specify oral health expectations for PCPs and OB/GYNs.</p>		✓		✓		
<p>Recommendation 5.2: Create Systems for Greater Collaboration between Primary Care Providers and Dental Professionals</p> <p>The Division of Medical Assistance, North Carolina Community Care Network, North Carolina Dental Society, the North Carolina Pediatric Society, and other partners should create systems for greater collaboration between primary care providers and dental professionals.</p>		✓	✓	✓	✓	NCAPD, NCPS, AHEC

	NCGA	DMA	Oral Health Section of the Division of Public Health	NCCCN	NCDS	Other
Crosscutting Strategies for Increasing Preventive Dental Services Utilization						
<p>Recommendation 6.1: Maintain the Structure of the Oral Health Section and Increase Funding for Public Health Dental Hygienists</p> <p>The North Carolina General Assembly should maintain the structure of the Oral Health Section of the Division of Public Health, including dental hygienists, and increase funding in order to hire additional dental hygienists who can provide preventive oral health services in schools, help link children with oral health problems to a dental home, participate in oral health surveillance activities, and otherwise promote oral health among children.</p>	✓ Funding TBD		✓			
<p>Recommendation 6.2: Require Limited Service Dental Providers to Provide Comprehensive Dental Services</p> <p>The Division of Medical Assistance and the Physician Advisory Group should examine current dental payment policies to better support dental homes that provide continuity of care and comprehensive oral health services.</p>		✓				✓ DMA Physician Advisory Group
<p>Recommendation 6.3: Pilot Private Dental Practice School-Based Programs</p> <p>The North Carolina Dental Society, Oral Health Section of the Division of Public Health, and Division of Medical Assistance should seek funding to create school-based pilot programs to provide screenings, preventive services, and sealants. For this pilot, a dental practice would serve as the dental home. Dental hygienists, employed by the dental office, would need additional training to provide the dental services in schools with remote supervision by the participating dentist. The model should be evaluated after three years. If successful, and financially viable, the model should be expanded across the state.</p>		✓	✓		✓	✓ NC Board of Dental Examiners

	NCGA	DMA	Oral Health Section of the Division of Public Health	NCCCN	NCDS	Other
<p>Recommendation 6.4: Reduce Barriers for Qualified Out-of-State Dentists</p> <p>The North Carolina State Board of Dental Examiners (NCSBDE) is charged with regulating dentists in the public interest. Given the relative lack of dentists in North Carolina as compared to other states and the ongoing dental shortages in some areas of the state, the NCSBDE should consider opportunities to increase the supply of high quality providers practicing in North Carolina, with special attention to underserved areas and populations.</p>						<p>✓ NC Board of Dental Examiners</p>

Abbreviations:

- AHEC Area Health Education Center
- NCCCN North Carolina Community Care Network
- DMA Division of Medical Assistance, North Carolina Department of Health and Human Services
- DSS Department of Social Services
- NCAFP North Carolina Academy of Family Physicians
- NCAPD North Carolina Academy of Pediatric Dentists
- NCDS North Carolina Dental Society
- NCGA North Carolina General Assembly
- NCMS North Carolina Medical Society
- NCPS North Carolina Pediatric Society
- ONSMS Old North State Medical Society
- PTA Parent Teacher Associations

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Full Recommendations of the Task Force **Appendix A**

on Children's Preventative Oral Health Services

Chapter 3: Increasing Preventive Care Utilization

Recommendation 3.1: Increase Outreach and Education to Families of Young Children about the Importance of Oral Health Services

The Division of Medical Assistance (DMA) and the Oral Health Section of the Division of Public Health should:

- a) Educate agencies and organizations that interact with pregnant women and young children and their families about how to maintain good oral health for infants and young children, the importance of seeking dental services for children beginning at age 1, and to help link young children, particularly those at high-risk, to dental homes. Outreach efforts should include the following agencies and organizations:
 - 1) Programs serving young children and their parents including local Departments of Social Services, Community Care of North Carolina, local health departments, early care and education providers, Head Start, SmartStart, the North Carolina PTA, the faith community, and others.
 - 2) Programs serving pregnant women and their partners, including WIC and prenatal/birth education classes, offered through health departments, hospitals, local Departments of Social Services, and others.
 - 3) Health care professionals serving pregnant women and their partners and young children, including OB-GYNs, family physicians, pediatricians, certified nurse midwives, physician assistants, and nurse practitioners.
- b) DMA should develop a one page document that summarizes the major Medicaid and NC Health Choice dental benefits and information on how young children can receive oral care. DMA should partner with other organizations and agencies to distribute this information to families. Partnering organizations should include those listed above as well as schools, community based organizations, and others.

Recommendation 3.2: Support Dental Care Coordination by North Carolina Community Care Networks

The Division of Medical Assistance and the North Carolina Community Care Networks should examine whether an additional per member per month payment (pmpm) is needed to expand the capacity of Health Check Coordinators to help families with children enrolled in Medicaid or NC Health Choice understand the importance of oral health and connection to a dental home. The pmpm payment should be increased accordingly if additional resources are warranted.

Recommendation 3.3: Increase the Participation of Dentists in Medicaid and NC Health Choice

The North Carolina Dental Society (NCDS) should:

- a) Partner with the Division of Medical Assistance (DMA) to encourage more dentists to participate in Medicaid and NC Health Choice by:
 - 1) Providing information in the NCDS Gazette about the importance of treating patients enrolled in Medicaid and NC Health Choice.
 - 2) Highlighting dental champions that actively participate in Medicaid and NC Health Choice who can make the business case for participation.
 - 3) Identifying NCDS leaders who can encourage other dentists to participate in Medicaid and NC Health Choice.
- b) Partner with DMA to increase the willingness of general dentists to treat young patients. The NCDS can help by:
 - 1) Conducting focus groups or otherwise seeking information from dentists about barriers to treating young children.
 - 2) Identifying local dental champions that can encourage other general dentists in their area to treat young children enrolled in Medicaid and NC Health Choice.
 - 3) Creating a referral system of pediatric dentists willing to take referrals of children with more complex dental needs and/or more difficult behavioral problems.

- 4) **Encouraging dentists to reach out to pediatricians and family physicians in their community to encourage them to use the Priority Risk Assessment and Referral Tool, and to create referral networks into dental homes.**

Recommendation 3.4: Reduce Barriers to Participating in Medicaid and NC Health Choice

- a) **The Division of Medical Assistance (DMA) should encourage more dentists to participate in Medicaid by reducing administrative barriers, including conducting outreach to dentists to help them understand the enrollment, certification, and other administrative processes involved with Medicaid.**
- b) **The North Carolina General Assembly should modify Session Law 2011-399 to change the classification of dentists from moderate to low categorical risk providers.**
- c) **DMA should revise their policies so that solo incorporated dentists and group dental practices are not charged the federal application fee.**
- d) **DMA should study the likely impact on dental participation, before making any changes to the Medicaid and NC Health Choice payment structure for dentists, including, but not limited to, moving from fee-for-service to capitation. DMA should not take any steps that would adversely impact on participation.**

Chapter 4: Promoting and Increasing Sealant Utilization Strategies

Recommendation 4.1: Increase Reimbursement for Dental Sealants

The Division of Medical Assistance (DMA) should explore changes in Medicaid payment policies to increase reimbursement to the 75th percentile of a commercial dental benchmark for dental sealants. DMA should explore the possibility of increasing payments for sealants using a pay-for-performance model or other reimbursement strategy that is based, in part, on the number of children eligible for Medicaid or NC Health Choice ages 6 through 9 who receive a sealant on a permanent molar.

Recommendation 4.2: Allow Reapplication of Sealants When Medically Necessary

- a) **The North Carolina Dental Society should educate dentists about EPSDT and the ability to seek an exception from regular coverage policy to obtain reimbursement for the reapplication of sealants when medically necessary.**
- b) **The Division of Medical Assistance Physician Advisory Group should create new coverage policies for Medicaid and NC Health Choice to allow reapplication of sealants on the same tooth when medically appropriate.**

Recommendation 4.3: Increase Private Sector Efforts to Encourage Dentists to Provide Sealants for Medicaid and NC Health Choice Participants

- a) **The North Carolina Dental Society (NCDS) should promote the use of dental sealants and disseminate information about the efficacy of sealants by:**
 - 1) **Including periodic articles in the gazette and in their electronic communications about sealant research. These communications should also highlight dentists who have placed sealants on a high proportion of Medicaid and NC Health Choice children. These stories should highlight the use of dental hygienists and dental assistant 2s in placing sealants, and show how these practices can generate profits even with relatively low Medicaid reimbursement rates.**
 - 2) **Identifying dental opinion leaders who can help promote the use of sealants. This may include members of the NCDS Board of Directors or other dental opinion leaders who can help sway the opinions of general practitioners. These leaders can attend local dental society meetings and promote the use of dental sealants. The NCDS or local dental societies should offer Continuing Education (CE) credits to encourage dentists to attend these meetings.**
 - 3) **Creating a dental video, hosted on the NCDS website, about the science behind sealants and information about how to properly place sealants. NCDS should seek continuing education (CE) credits for the video so that dentists and dental hygienists could view the video as part of their CE requirements.**

- b) NCDS, in partnership with Old North State Dental Society and the North Carolina Dental Hygiene Association (NCDHA), should expand existing efforts to provide sealants to children through the Give Kids a Smile/ MOMs effort.**
- c) To assist NCDS in identifying dental champions, as well as communities where greater outreach and education is needed, the North Carolina Division of Medical Assistance should provide data to the NCDS about:**
 - 1) Pediatric and general dental practices that have placed sealants on a high percentage of their young (child) patients eligible Medicaid or NC Health Choice**
 - 2) Counties that have a very low percentage of children eligible for Medicaid or NC Health Choice who have received sealants**
 - 3) Other organizations, such as the North Carolina Area Health Education Centers and NCDHA, that provide continuing education for dental professionals, should increase their focus on sealants.**

Recommendation 4.4: Educate Primary Care Providers about Sealants

The Division of Medical Assistance, Oral Health Section of the Division of Public Health, North Carolina Dental Society, Old North State Dental Society, North Carolina Academy of Pediatric Dentists, North Carolina Pediatric Society, North Carolina Academy of Family Physicians, the North Carolina Medical Society, Old North State Medical Society, Area Health Education Centers, and North Carolina Community Care Network should expand or create continuing education opportunities for primary care professionals to educate them on sealants. To accomplish this, these organizations should:

- a) Develop a one page primer on sealants for primary care providers.**
- b) Conduct outreach to primary care providers who are involved in the Into the Mouths of Babes program (IMB) and other primary care professionals, to educate them about the importance of sealants, and encourage them to educate the parents or caretakers of the children in their practice about the importance of having sealants placed on their children's permanent molars.**
- c) Expand the role of the CHIPRA quality improvement specialists who are promoting oral health among CCNC practices to also promote the use of sealants.**

- d) **Encourage pediatric dentists to reach out to primary care providers to educate them about the importance of dental sealants.**
- e) **Develop one-page educational materials about dental sealants that can be given to parents in pediatric or family practices, and/or create posters that could be posted in exam rooms.**

Chapter 5: The Roll of Primary Care Providers

Recommendation 5.1: Encourage Primary Care Providers to Promote Oral Health

The Division of Medical Assistance (DMA) and the North Carolina Community Care Network (NCCCN), including the CHIPRA quality improvement specialists, should continue to work with primary care providers (PCPs) who treat children and pregnant women and their partners to help them further encourage families with children to obtain oral health services.

- a) **DMA and NCCCN should develop and disseminate guidelines that specify oral health expectations for primary care professionals. These guidelines should encourage PCPs to:**
 - 1) **Provide families with education and counseling about the importance of oral health, including preventive oral health visits for all children, and sealants for children starting with the emergence of molars.**
 - 2) **Help link children to a dental home beginning at age 1.**
 - 3) **If there are not sufficient dentists available in the community who see very young children, then :**
 - i) **Refer children at higher risk, as determined by the Priority Oral Health Risk Assessment and Referral Tool (PORRT) or similar tool, to a dentist at age 1;**
 - ii) **Manage children identified as lower risk , as determined by the PORRT or similar tool, through routine risk assessment, counseling, and application of varnish, and then refer them to a dental home no later than age three.**
 - iii) **Refer young children with significant oral health problems or behavioral health problems to pediatric dentists or other appropriately trained dentists (if available).**

- 4) For children ages 4 and older:**
 - i) Conduct an oral evaluation and oral health counseling, as part of a complete physical examination.**
 - ii) Assure a dental home. If the child does not have a dental home, refer to a dentist.**
 - iii) Prescribe fluoride supplementation when appropriate as specified by the US Preventive Services Task Force and the American Dental Association.**
- a) Support on-going efforts to expand outreach and education for primary care providers to encourage them to participate in the Into the Mouths of Babes program.**
- b) As part of the pregnancy medical home,**
 - 1) NCCCN should develop a care alert to trigger a dental visit during pregnancy.**
 - 2) OB-GYNs and family physicians should be educated about the importance of educating pregnant women and their partners about the connection between the caregivers' oral health and that of the child, as well as the importance of establishing a dental home.**

Recommendation 5.2: Create Systems for Greater Collaboration between Primary Care Providers and Dental Professionals

The Division of Medical Assistance, Oral Health Section of the Division of Public Health, North Carolina Community Care Network (NCCCN), North Carolina Dental Society, North Carolina Academy of Pediatric Dentists, Old North State Dental Society, North Carolina Pediatric Society, North Carolina Academy of Family Physicians, and North Carolina Area Health Education Centers Program, should create systems for greater collaboration between professionals. These organizations, and other appropriate partners, should work together to:

- a) Create a formal referral system, encouraging primary care providers to send a referral to the child's dental home, and encouraging dentists to send treatment records back to the PCP.**

- b) Explore ways to open up the NCCCN provider portal or other mechanisms to exchange clinical information such as shared electronic health records.**
- c) Encourage “mixers,” video webinars, or joint local meetings or educational opportunities to create opportunities for collaboration between dental professionals and medical professionals.**

Chapter 6: Crosscutting Recommendations

Recommendation 6.1: Maintain the Structure of the Oral Health Section and Increase Funding for Public Health Dental Hygienists

- a) The North Carolina General Assembly should maintain the structure of the Oral Health Section of the Division of Public Health (OHS), including dental hygienists, in order to meet the Centers for Medicaid and Medicare Services goals of increasing preventive dental services and increasing utilization of sealants among children ages 6 to 9.**
- b) The North Carolina General Assembly should increase funding to OHS, in order to hire additional dental hygienists who can provide preventive oral health services in schools, help link children with oral health problems to a dental home, participate in oral health surveillance activities, and otherwise promote oral health among children.**

Recommendation 6.2: Require Limited Service Dental Providers to Provide Comprehensive Dental Services

The Division of Medical Assistance and the Physician Advisory Group should examine current dental payment policies to support dental homes that provide continuity of care and comprehensive oral health services. Payment policies should ensure that dental providers who offer diagnostic and preventive services, but not comprehensive restorative care:

- a) Have referral systems to refer patients to dental homes that can offer comprehensive oral health services.**
- b) Transfer the appropriate diagnostic records, including oral health images, to the dental home in a timely manner.**

Recommendation 6.3: Pilot Private Dental Practice School-Based Programs

- a) **The North Carolina Dental Society, Oral Health Section of the Division of Public Health, and Division of Medical Assistance should seek funding to create school-based pilot programs to provide screenings, preventive services, and sealants. For this pilot:**
- 1) Dental practice would serve as the dental home.**
 - 2) Dental hygienists would need additional training and to be certified to provide reversible preventive procedures under general supervision (without having a dentist physically present at the schools or requiring prior exam from a dentist).**
 - 3) Dental hygienists and dental assistants employed by the dental office would provide the dental services in schools, and would be supervised, remotely by participating dentist.**
 - 4) Participating practices should work with appropriate partners, such as the oral health section, school nurses, and school-based and school-linked health centers, to help identify appropriate schools with high numbers of at-risk children, obtain parental consent, and create a system of care.**
 - 5) Participating practices and local health departments should work with local school nurses, and, if available, school-based and school-linked health centers, to promote services.**
 - 6) The model should be evaluated after three years. Evaluation should include an assessment of unmet treatment needs. If successful, and financially viable, the model should be expanded across the state, and should be tested for viability in other settings, such as head start, child care centers, primary care offices, etc.**
- b) **The North Carolina Board of Dental Examiners should allow dental hygienists and dental assistants to provide reversible preventive procedures under general supervision (without having a dentist physically present at the schools or requiring prior exam from a dentist) for this pilot.**

Recommendation 6.4: Reduce Barriers for Qualified Out-of-State Dentists

The North Carolina State Board of Dental Examiners (NCSBDE) is charged with regulating dentists in the public interest. Given the relative lack of dental professionals in North Carolina as compared to other states and the ongoing dental shortages in some areas of the state, the NCSBDE should consider opportunities to increase the supply of high quality providers practicing in North Carolina, with special attention to underserved areas and populations. Such opportunities could include, but are not limited, to the following:

- a) Reducing or eliminating the current five year's required practice in another state in order to qualify for a provisional license if the provider is willing to serve underserved populations for that portion of the five years that is waived.**
- b) Creating reciprocity arrangements with other states.**
- c) Accepting more regional dental examinations.**

Dental Care Utilization Data, Federal Fiscal Year 2011

Appendix B

Table B.1
Dental Care Utilization Data, Federal Fiscal Year 2011

	<1	1-2	3-5	6-9	10-14	15-18	19-20	Total
Medicaid								Total Ages 1-20
FFY2011 - Enrolled for at least 90 days	60,282	151,327	220,164	211,003	214,893	145,906	63,138	1,006,431
Total Any Dental Services	368	30,226	114,655	131,058	128,119	73,055	19,225	496,338
Percent Any Dental Services	0.6%	20.0%	52.1%	62.1%	59.6%	50.1%	30.4%	49.3%
Total Preventative Dental Services	245	28,441	109,931	125,855	119,138	60,962	13,181	457,508
Percent Preventive Dental Services	0.4%	18.8%	49.9%	59.6%	55.4%	41.8%	20.9%	45.5%
Total Dental Treatment Services	32	3,449	40,781	65,690	67,808	47,976	13,626	239,330
Percent Dental Treatment Services	0.1%	2.3%	18.5%	31.1%	31.6%	32.9%	21.6%	23.8%
Total Receiving Any Dental or Oral Health Services	6,118	83,227	122,303	131,062	128,119	73,056	19,225	556,992
Percent Receiving Any Dental or Oral Health Services	10.1%	55.0%	55.6%	62.1%	59.6%	50.1%	30.4%	55.3%
NC Health Choice								Total Ages 6-18
FFY2011 - Enrolled for at least 90 days	N/A	N/A	N/A	59,225	73,363	54,199	N/A	186,787
Total Any Dental Services	-	-	-	30,755	39,259	17,465	-	87,479
Percent Any Dental Services	-	-	-	51.9%	53.5%	32.2%	-	46.8%
Total Preventative Dental Services	-	-	-	28,061	35,961	15,130	-	79,152
Percent Preventive Dental Services	-	-	-	47.4%	49.0%	27.9%	-	42.4%
Total Dental Treatment Services	-	-	-	12,972	15,313	7,518	-	35,803
Percent Dental Treatment Services	-	-	-	21.9%	20.9%	13.9%	-	19.2%

Note: NC Health Choice does not provide coverage for children under age 6 or young adults ages 19-20.
 Medicaid: Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication, June 19, 2013. Data from Corrected WCI Electronic_Form_CMS_416_12_2011.
 NC Health Choice: Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication, June 19, 2013. Data from CARTS for Health Choice FFY 11.



Data by County

Table C.1

Preventive Care and Sealant Utilization Rates for Children Enrolled Continuously for at Least 90 Days in Medicaid and NC Health Choice, by County, Federal Fiscal Year 2012

County	Preventive Dental Care Utilization Rates		Sealant Utilization Rates	
	Medicaid FFY 2012	NC Health Choice FFY 2012	Medicaid FFY 2012	NC Health Choice FFY 2012
Alamance	58.4%	58.4%	19.2%	24.8%
Alexander	57.5%	51.0%	25.5%	26.1%
Alleghany	50.3%	61.9%	18.3%	34.2%
Anson	36.9%	34.2%	16.6%	26.1%
Ashe	44.2%	46.4%	12.7%	21.3%
Avery	46.2%	47.7%	15.2%	19.4%
Beaufort	43.7%	47.8%	23.9%	34.7%
Bertie	39.7%	37.8%	17.0%	26.3%
Bladen	43.0%	49.7%	14.2%	32.5%
Brunswick	45.2%	43.3%	17.7%	26.4%
Buncombe	56.0%	56.7%	18.8%	26.4%
Burke	49.7%	48.0%	16.9%	23.6%
Cabarrus	51.9%	46.3%	17.5%	25.8%
Caldwell	44.8%	43.5%	13.9%	29.0%
Camden	29.5%	32.1%	9.1%	29.4%
Carteret	44.6%	46.5%	17.1%	22.5%
Caswell	42.2%	50.9%	13.3%	25.8%
Catawba	52.4%	52.1%	20.2%	27.1%
Chatham	55.9%	45.7%	19.5%	25.0%
Cherokee	48.5%	44.3%	17.6%	24.1%
Chowan	33.3%	31.0%	10.1%	23.9%
Clay	38.5%	38.4%	7.8%	24.4%
Cleveland	49.3%	48.5%	18.3%	28.6%
Columbus	39.4%	41.2%	15.2%	24.6%
Craven	48.5%	51.4%	14.5%	19.6%
Cumberland	48.8%	49.1%	24.0%	33.4%
Currituck	32.6%	25.6%	8.7%	22.0%
Dare	41.6%	39.8%	9.7%	15.7%
Davidson	43.9%	44.4%	16.3%	24.3%
Davie	49.4%	47.7%	19.1%	28.9%
Duplin	54.8%	54.0%	22.2%	27.1%
Durham	52.2%	50.7%	17.8%	23.7%
Edgecombe	41.4%	46.2%	14.1%	25.5%
Forsyth	53.3%	50.3%	16.5%	21.8%
Franklin	50.3%	50.6%	13.6%	26.5%
Gaston	51.9%	48.9%	18.6%	28.5%

County	Preventive Dental Care Utilization Rates		Sealant Utilization Rates	
	Medicaid FFY 2012	NC Health Choice FFY 2012	Medicaid FFY 2012	NC Health Choice FFY 2012
Gates	44.9%	51.1%	24.3%	49.0%
Graham	51.7%	53.8%	26.9%	29.5%
Granville	42.7%	44.6%	14.3%	22.1%
Greene	47.5%	54.9%	22.2%	22.8%
Guilford	55.1%	50.6%	18.5%	23.8%
Halifax	42.9%	43.5%	11.9%	19.8%
Harnett	47.1%	50.1%	15.3%	25.3%
Haywood	56.0%	58.3%	23.9%	31.9%
Henderson	48.8%	49.8%	11.6%	17.9%
Hertford	40.9%	43.9%	22.1%	34.1%
Hoke	47.2%	44.5%	13.6%	21.5%
Hyde	45.9%	44.2%	16.8%	15.8%
Iredell	44.0%	51.1%	17.5%	24.5%
Jackson	41.5%	42.5%	15.8%	31.9%
Johnston	50.3%	54.0%	12.5%	18.2%
Jones	46.2%	50.4%	14.6%	39.2%
Lee	54.2%	50.3%	11.4%	14.2%
Lenoir	44.7%	49.5%	18.9%	28.9%
Lincoln	47.9%	47.1%	19.4%	33.1%
Macon	43.8%	45.5%	12.4%	21.7%
Madison	46.7%	46.5%	15.8%	20.5%
Martin	49.2%	44.5%	26.5%	27.5%
McDowell	46.4%	41.8%	15.1%	21.3%
Mecklenburg	48.9%	45.9%	19.4%	26.9%
Mitchell	44.6%	50.9%	9.0%	13.3%
Montgomery	50.5%	54.1%	14.0%	23.2%
Moore	51.8%	51.5%	16.8%	26.4%
Nash	47.3%	51.6%	15.5%	24.7%
New Hanover	47.2%	47.8%	18.5%	29.1%
Northampton	40.6%	39.5%	12.2%	12.7%
Onslow	39.7%	43.1%	16.9%	30.4%
Orange	57.1%	47.6%	16.7%	20.6%
Pamlico	45.4%	51.9%	18.8%	27.1%
Pasquotank	26.7%	24.3%	13.3%	27.6%
Pender	47.2%	44.9%	17.6%	25.8%
Perquimans	36.9%	32.5%	18.8%	48.0%
Person	42.1%	39.0%	12.5%	23.0%
Pitt	37.9%	37.4%	14.7%	31.0%
Polk	59.2%	58.8%	23.1%	27.3%

Preventive Care and Sealant Utilization Data by County

Appendix C

County	Preventive Dental Care Utilization Rates		Sealant Utilization Rates	
	Medicaid FFY 2012	NC Health Choice FFY 2012	Medicaid FFY 2012	NC Health Choice FFY 2012
Randolph	52.3%	50.9%	18.8%	22.5%
Richmond	37.3%	45.2%	11.5%	21.9%
Robeson	41.6%	44.5%	14.0%	23.2%
Rockingham	48.3%	49.1%	13.6%	19.7%
Rowan	45.7%	42.4%	14.3%	26.3%
Rutherford	53.1%	51.8%	16.0%	21.5%
Sampson	47.4%	49.6%	15.8%	24.4%
Scotland	44.6%	45.4%	17.8%	26.4%
Stanly	45.3%	49.5%	17.2%	27.5%
Stokes	48.5%	50.1%	17.0%	18.7%
Surry	56.3%	55.6%	17.8%	23.4%
Swain	32.7%	33.5%	13.8%	24.6%
Transylvania	48.7%	44.9%	14.7%	20.7%
Tyrrell	40.7%	40.8%	18.8%	31.0%
Union	51.7%	53.2%	20.2%	27.8%
Vance	44.0%	42.0%	15.7%	22.7%
Wake	53.0%	51.9%	18.0%	26.3%
Warren	44.5%	44.1%	14.0%	25.8%
Washington	48.1%	43.7%	17.4%	24.2%
Watauga	46.1%	52.6%	14.8%	19.8%
Wayne	40.3%	44.1%	13.3%	23.1%
Wilkes	57.6%	61.0%	21.0%	25.2%
Wilson	48.5%	51.1%	18.5%	22.2%
Yadkin	46.7%	49.4%	12.8%	25.7%
Yancey	46.5%	48.9%	15.9%	23.5%
NORTH CAROLINA	48.8%	48.7%	16.6%	24.7%

Medicaid Data: Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication, June 18, 2013. CMS 416 Line 12D-Sealants by county FFY 2012.
 NC Health Choice Data: Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication. DR2113Health_Choice Preventive_by County SFY 2012 and DR2404_Dental_Summary_D0100_D9999_and_D1351_FFY2012_as_of_Jun122013.



Table D.1

Dental Providers who Serve Medicaid and NC Health Choice per 1,000 Children Enrolled in Medicaid and NC Health Choice, by County, State Fiscal Year 2012

County	Number of Billing Providers ^a Serving Children Enrolled in Medicaid and NC Health Choice	Number of Children Enrolled in Medicaid and NC Health Choice	Billing Providers per 1,000 Children Enrolled in Medicaid and NC Health Choice
Alamance	41	20,330	2.0
Alexander	5	4,729	1.1
Alleghany	3	1,518	2.0
Anson	3	4,162	0.7
Ashe	5	3,249	1.5
Avery	3	2,165	1.4
Beaufort	9	7,056	1.3
Bertie	1	3,229	0.3
Bladen	7	5,618	1.2
Brunswick	18	12,943	1.4
Buncombe	57	28,296	2.0
Burke	17	12,313	1.4
Cabarrus	34	22,720	1.5
Caldwell	12	11,394	1.1
Camden	0	854	0.0
Carteret	19	6,170	3.1
Caswell	1	3,047	0.3
Catawba	37	20,928	1.8
Chatham	10	6,323	1.6
Cherokee	5	3,605	1.4
Chowan	2	2,099	1.0
Clay	3	1,365	2.2
Cleveland	18	15,381	1.2
Columbus	11	10,171	1.1
Craven	21	11,390	1.8
Cumberland	50	44,395	1.1
Currituck	0	2,132	0.0
Dare	12	3,533	3.4
Davidson	12	21,997	0.5
Davie	6	4,593	1.3
Duplin	9	9,568	0.9
Durham	59	35,257	1.7
Edgecombe	8	11,358	0.7
Forsyth	56	47,249	1.2
Franklin	8	8,239	1.0

County	Number of Billing Providers^a Serving Children Enrolled in Medicaid and NC Health Choice	Number of Children Enrolled in Medicaid and NC Health Choice	Billing Providers per 1,000 Children Enrolled in Medicaid and NC Health Choice
Franklin	8	8,239	1.0
Gaston	42	29,200	1.4
Gates	1	1,276	0.8
Graham	2	1,435	1.4
Granville	10	6,755	1.5
Greene	3	3,468	0.9
Guilford	97	59,768	1.6
Halifax	11	9,092	1.2
Harnett	15	15,953	0.9
Haywood	12	7,235	1.7
Henderson	13	12,386	1.0
Hertford	4	3,714	1.1
Hoke	5	7,362	0.7
Hyde	0	663	0.0
Iredell	34	17,923	1.9
Jackson	5	4,556	1.1
Johnston	27	24,976	1.1
Jones	1	1,336	0.7
Lee	17	9,379	1.8
Lenoir	14	10,092	1.4
Lincoln	16	8,959	1.8
Macon	4	4,546	0.9
Madison	3	2,743	1.1
Martin	3	3,750	0.8
McDowell	4	6,580	0.6
Mecklenburg	133	119,396	1.1
Mitchell	5	1,934	2.6
Montgomery	5	4,956	1.0
Moore	9	9,330	1.0
Nash	13	13,897	0.9
New Hanover	55	20,078	2.7
Northampton	1	3,544	0.3
Onslow	25	15,682	1.6
Orange	35	9,255	3.8
Pamlico	4	1,480	2.7
Pasquotank	5	5,336	0.9
Pender	9	6,934	1.3
Perquimans	1	1,635	0.6
Person	4	4,922	0.8

County	Number of Billing Providers ^a Serving Children Enrolled in Medicaid and NC Health Choice	Number of Children Enrolled in Medicaid and NC Health Choice	Billing Providers per 1,000 Children Enrolled in Medicaid and NC Health Choice
Pitt	27	21,103	1.3
Polk	2	2,093	1.0
Randolph	18	20,800	0.9
Richmond	6	8,990	0.7
Robeson	17	29,634	0.6
Rockingham	20	12,516	1.6
Rowan	24	20,108	1.2
Rutherford	7	9,821	0.7
Sampson	9	12,208	0.7
Scotland	8	7,160	1.1
Stanly	13	7,632	1.7
Stokes	5	5,113	1.0
Surry	12	10,835	1.1
Swain	3	2,632	1.1
Transylvania	5	3,709	1.3
Tyrrell	0	579	0.0
Union	20	21,048	1.0
Vance	13	9,485	1.4
Wake	158	81,650	1.9
Warren	2	3,218	0.6
Washington	2	2,262	0.9
Watauga	11	2,967	3.7
Wayne	22	19,056	1.2
Wilkes	14	9,662	1.4
Wilson	14	13,155	1.1
Yadkin	3	4,953	0.6
Yancey	3	2,465	1.2

^aBilling providers includes any dental practice—group or solo—that was paid for dental services rendered to at least one child enrolled in Medicaid or NC Health Choice in state fiscal year 2012. Billing providers should not be confused with individual participating (attending or rendering) dentists. There are an estimated 2200 individual dentists participating in the NC Medicaid and NC Health Choice dental programs. Due to limitations in the Division of Medical Assistance’s current information system there is not as much confidence placed in the accuracy of the count of attending or rendering providers (individual dentists). (Casey, Mark. Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication, June 20, 2013.)

Number of Billing Providers Serving Children Enrolled in Medicaid and NC Health Choice: Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication, June 19, 2013. Data from DR2408_Dental_Summary_Billing_Attending_Counts_SF2012.

“Medicaid Data: Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication, June 18, 2013. CMS 416 Line 12D-Sealants by county FFY 2012.

NC Health Choice Data: Casey, Mark. Dental Director, Division of Medical Assistance, North Carolina Department of Health and Human Services. Written (email) communication. DR2113Health_Choice Preventive_by County SFY 2012.



North Carolina Division of Medical Assistance Oral Health Periodicity Schedule

The North Carolina Division of Medical Assistance (DMA) Oral Health Periodicity Schedule follows a modified version of the American Academy of Pediatric Dentistry's (AAPD) *Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance, and Oral Treatment for Children*. The DMA periodicity schedule has been developed in consultation with local authorities in the field of pediatric oral health care. This schedule is designed for the care of children who have no contributing medical conditions and are developing normally. Promotion of oral health care is considered a joint responsibility between oral health professionals and other health care professionals. This periodicity schedule recommends appropriate intervals of care which correspond to reasonable standards of dental practice. The schedule is not intended to prescribe by whom the services should be provided particularly for Medicaid eligible infants and toddlers under age 3. This will be determined by other factors including local community capacity to provide care to preschool Medicaid children. The DMA Oral Health Periodicity Schedule can be modified for children with special health care needs or if disease or trauma contributes to variations from the norm. All services rendered under DMA Dental Services Clinical Coverage Policy guidelines must be medically necessary.

Table D.1
North Carolina Division of Medical Assistance Oral Health Periodicity Schedule

Recommendation	AGE				
	Birth–12 months	12–24 months	2–6 years	6–12 years	12 years & Older
Clinical oral evaluation ^{1,2}	*	*	*	*	*
Assess oral growth and development ³	*	*	*	*	*
Caries risk assessment ^{4,5}	*	*	*	*	*
Radiographic assessment ⁶			*	*	*
Prophylaxis and topical fluoride ^{5,6}	*	*	*	*	*
Fluoride supplementation ^{7,8}	*	*	*	*	*
Anticipatory guidance/counseling ⁹	*	*	*	*	*
Oral hygiene counseling ¹⁰	Parent/ caregiver	Parent/ caregiver	Patient and parent/caregiver	Patient and parent/caregiver	Patient
Dietary Counseling ¹¹	*	*	*	*	*
Injury prevention counseling ¹²	*	*	*	*	*
Counseling for non-nutritive habits ¹³	*	*	*	*	*
Assessment for substance abuse counseling referral				*	*
Periodontal assessment ^{5,6}				*	*
Assessment of developing malocclusion			*	*	*
Assessment for pit & fissure sealants ¹⁴			*	*	*
Assessment and/or removal of 3 rd molars					*
Transition to adult dental care					*
Referral to primary care physician, if needed	*	*	*	*	*

¹The Primary Care Physician/Pediatrician/Dentist should perform the first/initial oral health screening following AAP/AAPD guidelines

²An oral evaluation should be done by the Primary Care Physician/Pediatrician/Dentist up to age 3. Every infant should receive an oral health risk assessment from his/her primary health care provider or qualified health care professional by 6 months of age that includes: (1) assessing the patient’s risk of developing oral disease using an accepted caries-risk assessment tool; (2) providing education on infant oral health; and (3) evaluating and optimizing fluoride exposure. The evaluation should include an assessment of pathology and injuries.

³By clinical examination

⁴All children should be referred to a dentist for the establishment of a dental home no later than age 3 and by 12 months of age if possible. Children determined by the PCP/Pediatrician to be at risk for early childhood caries (ECC) should be referred to a dentist as early as 6 months, after the first tooth erupts, or 12 months of age (whichever comes first) for establishment of a dental home. Children at risk for ECC are defined as:

- Children with special health care needs
- Children of mothers with a high caries rate
- Children with demonstrable caries, heavy plaque, and demineralization (“white spot lesions”)
- Children who sleep with a bottle or breastfeed throughout the night

Once dental care is established with a dental professional, it is recommended that every child enrolled in Medicaid see the dentist for routine care every six months.

⁵Must be repeated at regular intervals to maximize effectiveness.

⁶Timing, selection and frequency determined by child’s history, clinical findings, susceptibility to oral disease and the child’s ability to cooperate with the procedure.

⁷Consider when systemic fluoride exposure is suboptimal.

⁸Up to at least age 16.

⁹Appropriate oral health discussion and counseling should be an integral part of each visit for care.

¹⁰Initially, responsibility of parent; as child develops, joint responsibility with parent; then when indicated, responsibility lies with child

¹¹At every appointment; initially discuss appropriate feeding practices, the role of refined carbohydrates and frequency of snacking in caries development and childhood obesity

¹²Initial discussions should include play objects, pacifiers, and car seats; when learning to walk, include injury prevention. For school-age children and adolescent patients, counsel regarding routine playing and sports, including the importance of mouthguards.

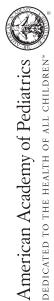
¹³At first, discuss the need for additional sucking: digits vs. pacifiers; then the need to wean from the habit before malocclusion or skeletal dysplasia occurs. For schoolaged children and adolescent patients, counsel regarding any existing parafunctional habits such as fingernail biting, clenching or bruxism.

¹⁴For caries-susceptible primary and permanent molars; placed as soon as possible after eruption.

Note: Please refer to DMA Clinical Coverage Policy No. 4A -- Dental Services for covered services and limitations.



Recommendations for Preventive Pediatric Health Care Bright Futures/American Academy of Pediatrics



The recommendations in this statement do not indicate an exclusive course of treatment or standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

Developmental, psychosocial, and chronic disease issues for children and adolescents may require frequent counseling and treatment visits separate from preventive care visits. These guidelines represent a consensus by the American Academy of Pediatrics (AAP) and Bright Futures. The AAP continues to emphasize the great importance of continuity of care in comprehensive health supervision and the need to avoid fragmentation of care.

Each child and family is unique; therefore, these Recommendations for Preventive Pediatric Health Care are designed for the care of children who are receiving competent parenting, have no manifestations of any important health problems, and are growing and developing in satisfactory fashion. Additional visits may become necessary if circumstances suggest variations from normal.

	PRENATAL		INFANCY							EARLY CHILDHOOD					MIDDLE CHILDHOOD					ADOLESCENCE																	
			NEWBORN ¹	5- ² or 1 mo	2 mo	4 mo	6 mo	9 mo	12 mo	15 mo	18 mo	24 mo	30 mo	3 y	4 y	5 y	6 y	7 y	8 y	9 y	10 y	11 y	12 y	13 y	14 y	15 y	16 y	17 y	18 y	19 y	20 y	21 y					
AGE																																					
HISTORY																																					
Initial/Interval																																					
MEASUREMENTS																																					
Length/Height and Weight																																					
Head Circumference																																					
Weight for Length																																					
Body Mass Index																																					
Blood Pressure ¹⁰																																					
SENSORY SCREENING																																					
Vision																																					
Hearing																																					
DEVELOPMENTAL/BEHAVIORAL ASSESSMENT																																					
Developmental Screening ¹¹																																					
Autism Screening ¹²																																					
Developmental Surveillance ¹³																																					
Psychosocial/Behavioral Assessment																																					
Alcohol and Drug Use Assessment																																					
PHYSICAL EXAMINATION¹⁰																																					
PROCEDURES¹¹																																					
Newborn Metabolic/Hemoglobin Screening ¹²																																					
Immunization ¹³																																					
Hematoctrit or Hemoglobin ¹⁴																																					
Lead Screening ¹⁵																																					
Tuberculin Test ¹⁶																																					
Dyslipidemia Screening ¹⁷																																					
STI Screening ¹⁸																																					
Cervical Dysplasia Screening ¹⁹																																					
ORAL HEALTH²⁰																																					
ANTICIPATORY GUIDANCE²⁰																																					

1. If a child comes under care for the first time at any point on the schedule, or if any items are not accomplished at the suggested time, a prenatal visit is recommended for parents who are at high risk, for first-time parents, and for those who request a conference. The prenatal visit should include anticipatory guidance, pertinent medical history, and a discussion of benefits of breastfeeding. URL: <http://aappublications.org/doi/10.1093/peds/117/1/149>.

2. Every infant should have a newborn evaluation after birth. Breastfeeding infants should receive formal breastfeeding evaluation, encouragement, and instruction as recommended in AAP statement "Breastfeeding and the Use of Human Milk" (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/5/1431>].

3. If the patient is uncooperative, rescreen within 6 months per the AAP statement "Eye Examination in Infants, Children, and Adolescents" (2004) [URL: <http://aappublications.org/doi/10.1093/peds/113/5/714>].

4. All newborns should be screened per AAP statement "Newborn Hearing Screening: Principles and Guidelines for Early Hearing Detection and Intervention Programs" (2000) [URL: <http://aappublications.org/doi/10.1093/peds/106/1/103>]. Additionally, screening should be done in accordance with state law where applicable.

5. Newborn metabolic and hemoglobinopathy screening should be done according to state law. Results should be reviewed at 12-18 months, modified, depending on entry point into schedule and individual need.

6. If the patient is uncooperative, rescreen within 6 months per the AAP statement "Eye Examination in Infants, Children, and Adolescents" (2004) [URL: <http://aappublications.org/doi/10.1093/peds/113/5/714>].

7. Hearing measurement in infants and children with specific risk conditions should be performed at visits before age 3 years.

8. AAP Council on Children With Disabilities, AAP Section on Developmental Behavioral Pediatrics, AAP Bright Futures Steering Committee, AAP Medical Home Initiatives for Children With Special Needs Project Advisory Committee, Identifying Infants and Children Who Are Developmentally Disabled: Update on Definitions, Identification, and Data Management (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/1/149>].

9. Gupta VB, Hyman SL, Johnson CP, et al. Identifying children with autism early? Pediatrics. 2007;119:152-152 [URL: <http://aappublications.org/doi/10.1093/peds/119/1/152>].

10. At each visit, age-appropriate physical examination is essential, with infant totally undressed, older child undressed and fully draped.

11. Newborn metabolic and hemoglobinopathy screening should be done according to state law. Results should be reviewed at 12-18 months, modified, depending on entry point into schedule and individual need.

12. Newborn metabolic and hemoglobinopathy screening should be done according to state law. Results should be reviewed at 12-18 months, modified, depending on entry point into schedule and individual need.

13. See AAP Pediatric Nutrition Handbook, 5th Edition (2003) for a discussion of universal and selective screening options. See also AAP statement "Immunization: Update on Definitions, Identification, and Data Management" (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/1/149>].

14. For children at risk of lead exposure, consult the AAP statement "Lead Exposure in Children: Prevention, Detection, and Management" (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/1/149>].

15. For children at risk of lead exposure, consult the AAP statement "Lead Exposure in Children: Prevention, Detection, and Management" (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/1/149>].

16. For children at risk of lead exposure, consult the AAP statement "Lead Exposure in Children: Prevention, Detection, and Management" (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/1/149>].

17. For children at risk of lead exposure, consult the AAP statement "Lead Exposure in Children: Prevention, Detection, and Management" (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/1/149>].

18. For children at risk of lead exposure, consult the AAP statement "Lead Exposure in Children: Prevention, Detection, and Management" (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/1/149>].

19. For children at risk of lead exposure, consult the AAP statement "Lead Exposure in Children: Prevention, Detection, and Management" (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/1/149>].

20. For children at risk of lead exposure, consult the AAP statement "Lead Exposure in Children: Prevention, Detection, and Management" (2005) [URL: <http://aappublications.org/doi/10.1093/peds/115/1/149>].

KEY

● = to be performed, with appropriate action to follow, if positive
 ○ = to be performed, with appropriate action to follow, if positive
 ○ = range during which a service may be provided, with the symbol indicating the preferred age
 → = range during which a service may be provided, with the symbol indicating the preferred age



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