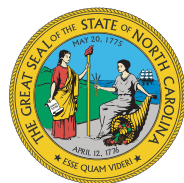


2020-2025

North Carolina Oral Health IMPROVEMENT PLAN



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**



Message from the Dental Director

May 7, 2021

Improving oral health and reducing oral health disparities in North Carolina requires a multi-faceted approach. It must consider not only the delivery of dental services but also additional health drivers ranging from the social determinants of health and environmental factors, including habits, behaviors, knowledge base and community resources. Good personal care habits, such as brushing with fluoride toothpaste, daily flossing, drinking optimally fluoridated water, maintaining a healthy diet, and regular dental care all prevent disease and support good oral health. Improving North Carolina's oral health outcomes requires dedicated providers, resources, and strategic thinking to apply evidence-based practices.

Our plan not only outlines goals and actions, but its success requires the support of those who must endeavor to implement it. The Oral Health Section values community engagement. I believe it is key to working together to accomplish our shared goal to improve oral health in North Carolina. To that end, I am delighted to share the **2020-2025 North Carolina Oral Health Improvement Plan**. This action plan was written in partnership with the safety net dental providers and oral health stakeholders committed to its implementation.

I invite you to review this document, find your county and region, see how you fit in the data and how you may contribute to our state's joint efforts to improve **Oral Health for Every Body!**¹

Sincerely,



Sarah Tomlinson, DDS, RDH
State Dental Director and
Oral Health Section Chief

¹ The motto of the Oral Health Section is Oral Health for Every Body!

For more information or to join our efforts, please call the Oral Health Section at (919) 707-5480 and ask to be connected to the Public Health Dental Hygienist who facilitates your Regional Oral Health Alliance.

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Executive Summary

The Oral Health Section and our partners are committed to implementing the **2020-2025 North Carolina Oral Health Improvement Plan**. It is filled with evidence-based strategies for local (regional) implementation providers and stakeholders and is intended to yield improved outcomes statewide. Goals to improve oral health in North Carolina fall into four focus areas, with targeted vulnerable populations represented across the lifespan. This compilation of regional plans will serve as the state's roadmap to better oral health and is based on four overarching activity areas:

1. **social determinants of health**
2. **evidence-based programs**
3. **collaborative practice models**
4. **health literacy**

The 2020-2025 North Carolina Oral Health Improvement Plan incorporates activities that address social determinants of health (SDOH) as an upstream contributor to oral health. **Social determinants of health** (SDOH) are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.² **Evidence-based public health** uses data to define problems and select proven approaches to overcome them.³ Our state plan emphasizes not only prevention strategies that

can be implemented in community settings, but also clinical preventive services delivered through collaborative practice models. **Collaborative practice** is defined as the sharing between providers, patients, and their families in decision-making, coordination, and care.⁴ Two decades ago, Healthy People 2010 identified limited health literacy as a public health problem. That same year, *A National Call to Action to Promote Oral Health* and a research plan for health literacy in dentistry were released. The **health literacy** goals of the *Call to Action* underscored those of *Healthy People 2010*: to promote oral health, improve quality of life and to eliminate health disparities.⁵

In developing their individual Regional Oral Health Plans, our partners across North Carolina identified three common momentum target populations. Regional activities targeting these groups have been pulled out and recombined into statewide reference oral health improvement plans for early childhood, pregnancy, and tobacco consumers. Four additional reference activity plans have also developed from the submitted regional plans to address social determinants of health, evidence-based prevention, collaborative practice, and health literacy. These seven reference oral health plans are in our Appendix.

² From "Social Determinants of Health," by Healthy People.gov, 2020, www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health

³ From "Guide to Evidence - Based Prevention," by Health Policy Institute of Ohio, 2013, <https://nnphi.org/wp-content/uploads/2015/08/GuideToEvidence-BasedPrevention.pdf>.

⁴ From "Collaboration in Health Care," by L Morley and A Cashell, 2017, *Journal of Medical Imaging and Radiation Sciences* 48, p. 207 - 2016, <http://dx.doi.org/10.1016/j.jmir.2017.02.071>.

⁵ From "National Call to Action to Promote Oral Health," by U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Dental and Craniofacial Research, 2003, *NIH Publication* 03(5303) www.ncbi.nlm.nih.gov/books/NBK47472/.

Introduction

Developing a State Oral Health Plan requires establishing comprehensive goals to improve oral health. For any plan to be successful, it requires the support of those who will implement it; therefore, a collaborative process is ideal. The **2020-2025 North Carolina Oral Health Improvement Plan** was written in partnership with the safety net dental providers and oral health stakeholders. All parties are committed to its implementation and success.

Community

Communities can be defined by a geographic area. Oral Health Section (OHS) staff work in regional teams throughout North Carolina. These teams correspond to the regions used by the North Carolina Association of Local Health Directors. As such, the state has been divided into 10 regions averaging about 10 counties each. Each region is different. Its residents share similar situations, cultures, and traditions that impact health and well-being.

Health Drivers

This same methodology of grouping counties into regions was used to define the North Carolina Department of Health and Human Services (NCDHHS) State Center for Health Statistics' map of social determinants of health indicators.⁶ The map, **North Carolina Social Determinants of Health by Region**, represents part of the

department's efforts to invest in better health and well-being by identifying local social needs. Economic, housing and transportation conditions are described in the map, as are social and neighborhood conditions.

Oral Health Status

Data collection and its dissemination have become more important as the work of the Division of Public Health's Oral Health Section has expanded to include additional vulnerable populations. **Regional Oral Health Snapshots**, a basic data visualization tool, was developed to offer information on a number of important oral health metrics. Metrics of the regional snapshots include: kindergartners with dental needs, populations supported by community water fluoridation, children receiving dental services in their medical home, and tobacco use.

Different areas of the state have distinct challenges regarding oral health. A plan that is specific to each region and written by those carrying out the plan's activities will have more impact than a universal plan that does not address the nuances of each area. The **North Carolina Oral Health Improvement Plan** was developed at the regional level using a data-driven and an evidence-based approach that reviewed oral health data and selected strategies and activities to create improvements.

⁶ From "Overview," *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44eaa1e0d7af43f4702b>.

Methodology

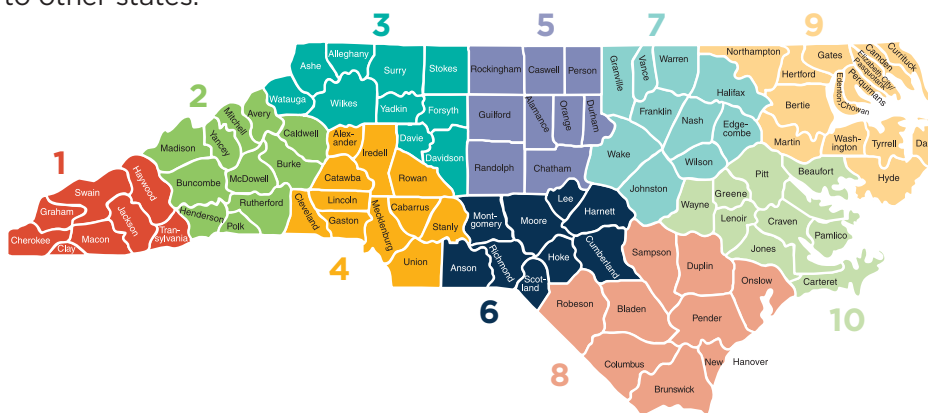
For several years, the NC Oral Health Section's frontline dental hygienists have been facilitating and hosting oral health stakeholder meetings called **Regional Oral Health Alliances (ROHA)**. ROHA meetings bring together public health providers across the spectrum, from health directors and dental providers to school nurses and tobacco control specialists, that partner as a regional team to improve oral health locally. These alliances meet regularly to discuss and overcome the major obstacles preventing their residents from achieving excellent oral health. ROHAs were instrumental to the success of this project and provided the forum for our stakeholder groups to meet and develop the **North Carolina Oral Health Improvement Plan**.

As mentioned earlier, the Oral Health Section compiled visualization tools of data points called **Regional Oral Health Snapshots**. The Snapshots list oral health variables, including environmental conditions, that support comparison between regions in comparison, to the state overall. Measures were chosen to compare region-to-region and combined to determine a state score. This state score can be used to compare North Carolina's performance in certain areas to other states.

The Snapshots and the map of Social Determinants of Health together provide an accurate and expedient oral health needs assessment for regional communities. The three domains of a community needs can be identified using a combination of the following:

- a selected community, such as our regions
- a focus, such as oral health, within that region
- components to assess that impact oral health, such as community water fluoridation.

ROHA members identified their community's resources and greatest local needs and then prioritized areas for intervention. Examples of evidence-based practices that have been shown to yield a reduction in decay are community water fluoridation, fluoride varnish application by both medical and dental providers, dental sealants, and securing dental homes for children found to have dental needs. Alliances drafted a plan of action and identified strategies that either supported the dental public health programs already in place or proposed evidenced-based programs that could be incorporated in their region.



Plan Development Timeline

- 2015-2016** - Answering the call in North Carolina's Oral Health Plan of 2014, *Revised Statewide Oral Health Strategic Plan: Collaboration for Integrated and Comprehensive Oral Health*, the Section restructured from having frontline staff work independently on the county-level to working in teams with at least two public health dental hygienists to serve regions comprised of approximately 10 counties each.
- 2016-2017** - Our Public Health Dental Hygienists convened **Regional Oral Health Alliances (ROHAs)**, comprised of 10 oral health stakeholder groups, to address oral health in their regions. Our field hygienists supported the ROHA by planning and facilitating meetings. By partnering on existing services and by promoting each other's work, the Oral Health Section realized the compounded effects of having the ongoing support of an engaged team.
- 2017-2018** - The Oral Health Section created **Oral Health Snapshots** (Snapshots) or "community assessments" for each Region and for the state overall. Each Snapshot provided information on oral health measures and helped to identify areas for improvement.
- 2018-2019** - **ROHAs** used their Snapshot to address and prioritize one area for intervention and identify evidence-based strategies for intervention to make sustainable changes. The outcome of this step was experience in creating an Action Plan that incorporated evidence-based programs and activities to support those objectives wherever possible.
- 2019-2020** - Each **ROHA** acted as a forum for the state's dental safety net to give input as the Section considered designing North Carolina's new Oral Health Plan. **ROHAs** were asked to create goals for multiple areas yielding a multi-year Oral Health Improvement Plan specific to their region. Draft Regional Oral Health Improvement Plans were shared with the Oral Health Section's Central Office for feedback and editing, and once finalized and combined, they read as one document.
- 2020-2021** - The **Oral Health Snapshots** were updated to reflect current programs. All Regional Oral Health Improvement Plans were finalized and bookended, with additional updated materials to create **2020-2025 North Carolina Oral Health Improvement Plan**. More than three hundred fifty people, representing over 200 internal and external organizations, participated in writing this plan. Contributors are listed in the Appendix.

Oral Health Drivers

Oral diseases such as dental caries and periodontal diseases have compounding systemic effects on chronic diseases such as diabetes, hypertension, and cardiovascular conditions. As with other public health efforts, oral health prevention activities are foundational to improved outcomes. A population-based prevention approach focuses on activities regarding the social and physical environment whereas an individual approach focuses on interventions targeted to high-risk individuals.⁷ In its dental public health endeavors, the Oral Health Section uses both individual and community-based prevention activities that are endorsed by the Association of State and Territorial Dental Directors (ASTDD). Our Regional Oral Health Alliances allow community stakeholder engagement as we work together to address environmental conditions, access to care, and promote shared messages for high-risk populations.

As discussed earlier, social determinants of health (SDOH) are environmental conditions people are born, live, learn, work, play, worship, and age that affect health outcomes.⁸ Employability, and the benefit of employer health insurance, is a SDOH that greatly impacts overall health and well-being.⁹

A person's habits can frame their health environment. Habits like frequent soda and sugary drink consumption have the

potential to greatly impact one's oral health. Other habits, such as tobacco use and vaping, also have negative impacts on oral health. All 10 of the state's ROHAs have representation from the Division of Public Health's Tobacco and Control Branch and includes the NCDHHS experts on effective messaging and training that supports individual behavioral health changes.

Fluoride is a mineral that is naturally released into the environment. Almost all water contains some fluoride, but usually does not have enough to prevent tooth decay. However, fluoride can be added to water supplies as a public health measure to reduce tooth decay. To that end, community water fluoridation (CWF) is an environmental social determinant of health; those who live in areas with CWF experience 25% fewer cavities over their lifetime than people who do not. Supporting CWF as an evidence-based strategy to improve oral health has equitable effects – all citizens consuming fluoridated water regardless of social economic status, age or racial background are positively impacted. For this reason, CWF has been identified by the Centers for Disease Control and Prevention (CDC) as one of 10 great public health achievements of the 20th century.¹⁰

Daily and frequent exposure to small amounts of fluoride will best reduce

⁷ From "An Integrated Frame-Work For Assessing the Value of Community – Based Prevention," by Institute of Medicine of the National Academies, 2012, Washington (DC): National Academies Press (US); 2012 Oct 29.

⁸ From "Social Determinants of Health," by Healthy People.gov, 2020, <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>

⁹ From "Disparities in Oral Health," by Centers for Disease Control and Prevention, 2020, https://www.cdc.gov/oralhealth/oral_health_disparities/index.htm.

¹⁰ From "Ten Great Public Health Achievements – United States, 1900-1999," by Centers for Disease Control and Prevention, 1999, <https://www.cdc.gov/mmwr/preview/mmwrhtml/00056796.htm>.



the risk of tooth decay for all age groups. Experts recommend drinking water with optimal levels of fluoride and following self-care practices such as brushing at least twice a day with fluoridated toothpaste. Children under age six should use only a “pea-sized” amount of fluoride toothpaste while children under age three should use “a grain of rice” equivalent. Healthcare providers may offer a concentrated fluoride varnish to those determined to be at highest risk for dental caries. Just as fluoride is a preventive strategy, dental sealants are also an effective public health practice. Dental sealants prevent dental caries on the occlusal surfaces of molars. They reduce caries in 4 out of 5 teeth for two years and 1 out of 2 teeth for four years. Lower income children without dental sealants have 60% more cavities in their first molars than those in families with higher incomes.¹¹ It may not be a simple

matter of income that prevents children from getting sealants — awareness of dental sealants corresponds to disparities in sealant prevalence.¹²

The Patient Protection and Affordable Care Act of 2010, Title V, defines health literacy as the degree to which an individual has the capacity to obtain, communicate, process, and understand basic health information to make appropriate health decisions.¹³ Oral health literacy is the ability to obtain, process, and understand basic oral health information and services needed to make appropriate health decisions and act on them.¹⁴ Low health literacy contributes to oral disease.¹⁵ Although health literacy will not be measured in this plan, its authors believe that addressing health literacy can change health habits.¹⁶

¹¹ From “Vital Signs: Dental Sealant Use and Untreated Tooth Decay Among U.S. School-Aged Children,” by Centers for disease Control and Prevention, 2016, <https://www.cdc.gov/mmwr/volumes/65/wr/mm6541e1.htm>.

¹² From “Awareness Among US Adults of Dental Sealants for Caries Prevention” by ML Junger, SO Griffin, S Lesaja, and L Espinoza, 2019, *Prev Chronic Dis* 16, 180398, doi: <http://dx.doi.org/10.5888/pcd16.180398>,

¹³ Patient Protection and Affordable Care Act of 2010, Title V

¹⁴ From “The Invisible Barrier: Literacy and its Relationship with Oral Health,” by National Institute of Dental and Craniofacial Research, National Institutes of Health, U.S. Public Health Service, Department of Health and Human Services, 2005, *Journal of Public Health Dentistry* 65(3), 174-182, doi: 10.1111/j.1752-7325.2005.tb02808.x.

¹⁵ From “Oral Health Literacy: A Pathway to Reducing Oral Health Disparities in Maryland,” by AM Horowitz and DV Kleinman, 2012, *Journal of Public Health Dentistry* 72(Suppl 1), S26-30, <https://doi.org/10.1111/j.1752-7325.2012.00316.x>.

¹⁶ From “A Systematic Review of Interventions in Primary Care to Improve Health Literacy for Chronic Disease Behavioral Risk Factors,” by J Taggart, A Williams, S, Dennis, et al., 2012, *BMC Fam Pract* 13(49), <https://doi.org/10.1186/1471-2296-13-49>.

The Dental Safety Net

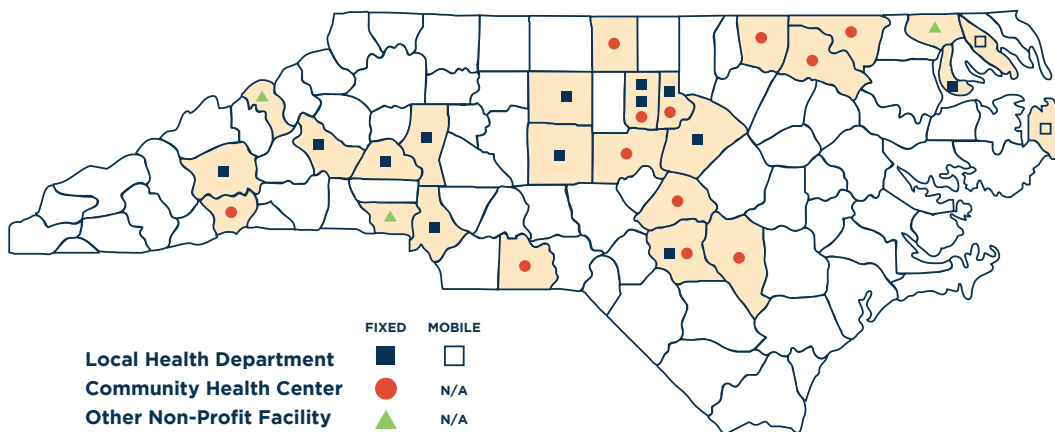
The Oral Health Section is the leader in Dental Public Health for North Carolina. As the State Dental Office, we are charged to offer dental public health programs to vulnerable populations across the lifespan and support the dental safety net.¹⁷ Employees operate under a work philosophy of **Leadership, Training, Partnership**: Section staff are committed to train external partners interested in implementing our evidence-based dental public health programs alongside us. The Oral Health Section houses a long-standing and nationally

regarded Residency in Dental Public Health which brings dentists into the work of dental public health practice.

Over the past three decades, North Carolina has devoted substantial effort in its duty to strengthen the dental safety net, those public and private non-profit facilities providing ongoing, comprehensive dental care to low-income patients. The Section has supported safety net expansion in a number of ways.

Dental Care Safety Net Facilities

Prior to 1996¹⁸



In the mid-to-late 1990s, the Section assigned public health dentists to local health departments on a part-time basis in order to provide clinical services in support of newly established safety net facilities. During this time, the Section hosted workshops on community dentistry and establishing

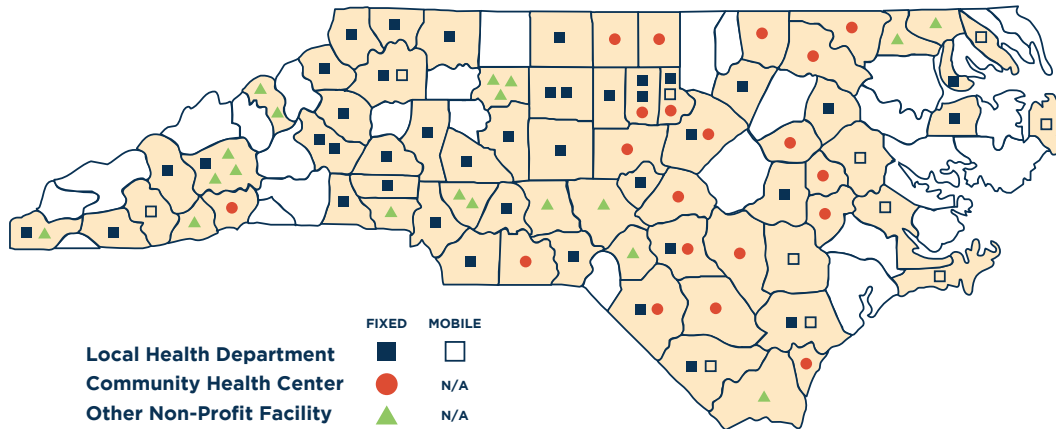
dental clinics that were attended by many local health directors and other community leaders interested in improving access to dental care. The Section produced a resource manual and a set of fact sheets to enhance our technical assistance with clinic start-up.

¹⁷ N.C. Gen. Stat. 130 Article 14. Dental Health

¹⁸ Note: Symbols indicate the base county of a facility and not necessarily its specific geographic location or counties served.

Dental Care Safety Net Facilities

March 2005

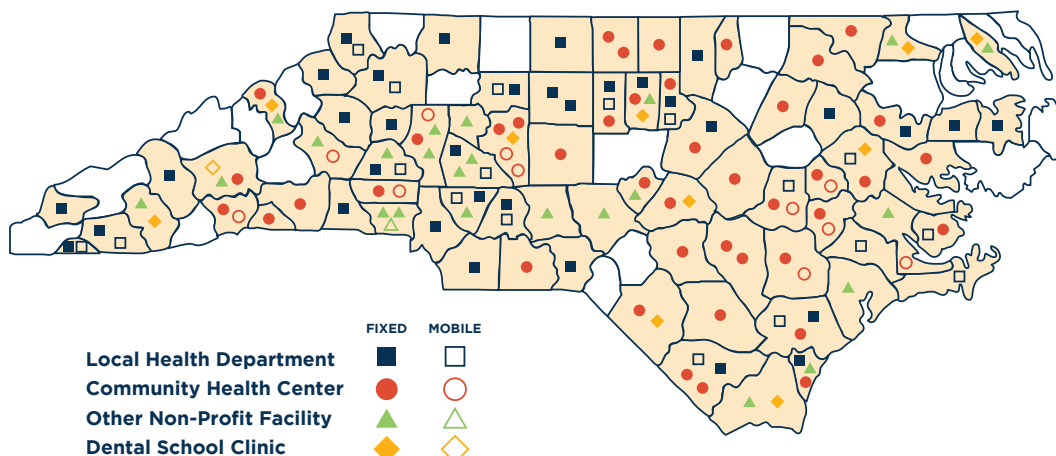


The early 2000s were spent discussing North Carolina's lack of dentists and its heightened impact on communities in rural areas, and the need for North Carolina to have a second dental school. Eventually, discussions for an additional school moved to patterning it after the successes of East Carolina University Brody School of Medicine which focused on graduating general practitioners in high-need eastern areas of the state. The state secured funds, built the

school, and its first students began classes in the summer of 2011. The core of the School of Dental Medicine's community-based educational model involves students providing dental treatment in the School's eight Community Service Learning Centers (CSLC) which are based in high-need areas across the state. Results are promising with North Carolina's dentist to population ratio moving from 47th among the 50 states to 37th.¹⁹

Dental Care Safety Net Facilities

November 2020



¹⁹ From University of North Carolina at Chapel Hill Cecil G. Sheps Center for Health Services Research data

North Carolina's dental safety net has grown over the years and today, facilities span the state and include two state-funded dental schools. Facilities that currently offer comprehensive dental services include one third of dental clinics operated by local health departments and a number of community health centers.

The Oral Health Section continues to devote resources toward maintaining and expanding North Carolina's dental care safety net. The Section provides ongoing technical assistance to safety net providers. Two staff public health dentists offer consultation and technical assistance services to local health departments. The purpose is two-fold: to promote dental clinic sustainability and to suggest strategies that would allow health departments to expand their dental public health programs.

A component of the Section's current Health Resources and Services Administration (HRSA) grant includes a **Dental Public Health Leadership Institute (DPHLI)**, which we are offering in partnership with the UNC Gillings School of Global Public Health. The **DPHLI** accepts dentists and hygienists currently practicing in a safety net site, either a local health department or a community health center, to support their professional growth and

development through professional (dental provider) mentoring and skills development. This valuable **Workforce Development Grant** also supports live-patient dental service workshops intended to encourage general practitioners to serve high-need and vulnerable populations, such as the intellectually and developmentally delayed (IDD) and the frail-elderly.

Given the importance of access to dental care for the low-income population, any approach to improve access must include the private sector. With the largest number of dental providers in the state, the private practice system represents the immediate provider pool to target for potential increased capacity for dental care for low-income children and adults. To that end, private practitioners accepting government insurance (Medicaid) are valuable contributors to the dental safety net system. Although a small number of private practitioners treat large numbers of Medicaid-enrolled patients, the majority of dentists treat few, if any, Medicaid enrollees. Enhancing dentists' participation in Medicaid represents a unique opportunity to expand access to dental care. Unfortunately, COVID-19 has put a strain on the dental safety net and may be the cause for 25% of participating dentists to drop out.²⁰

²⁰ American Dental Association Health Policy Institute survey result

North Carolina Snapshot

North Carolina Department of Health and Human Services values data-driven decision making. To support community and stakeholder understanding of both oral health status and key drivers of oral health, the Section created a data-visualization tool called an Oral Health Snapshot. Twelve data points were selected that represented health status, environmental conditions, and dental public health services in North Carolina. Below is a breakout of the data points on the Oral Health Snapshot for North Carolina, which has 10 accompanying regional-level one-pagers with the same data domains.

Data points on the **Oral Health Snapshots** include the number of children aged 6-14 who received sealants from Medicaid providers, and the percentage of:

- kindergarten children with untreated tooth decay
- adults that have dental insurance
- Medicaid eligible children 1-2 years getting preventive oral services
- Medicaid eligible children 1-20 years getting preventive dental services
- population served by public water systems with fluoridated water
- middle and high school students currently using e-cigarettes
- pregnant women with untreated caries
- adults that last visited a dentist 5 or more years ago
- adults currently smoking cigarettes
- adults age 18 and older who have had permanent teeth extracted
- adults 65 years and older with all their permanent teeth extracted

Public health dental hygienists have been offering dental assessments for North Carolina kindergarteners for decades. A knowledge of caries rate for kindergarteners reflects not only the early childhood oral health experience but it also represents the oral health status of children as they enter the public education system. The 2020 percentage of kindergarten children with untreated caries is 15.3%.

The number of children who received sealants through Medicaid enrolled dental providers is 78,000. The OHS follows the ASTDD recommendation to efficiently use dental sealants as disease prevention through school-based dental sealant programs targeted to schools identified as high-need. Section staff promote sealants to students and their parents/caregivers as a means of addressing oral health disparities. Oral health education is a key component of every dental sealant project.

The number of adults that report having access to any kind of insurance that pays for some or all of routine care, including dental insurance prepaid plans such as Health Maintenance Organizations (HMO) or government plans such as Medicaid is 56.2%. Access to care is facilitated by insurance status and is a social determinant of health.

The percentage of Medicaid eligible children 1-2 years getting preventive oral services by a medical provider is 51.3%. Medical-dental Interprofessional collaborations support both oral health and primary care. Such services include oral health education (shared



DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • + Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals



messages) and anticipatory guidance, risk assessment, and early identification of diseases with referrals to care. Into the Mouth of Babies (IMB) is a long standing national collaborative practice model that focuses on early childhood oral health. This homegrown provider partnership includes incorporating fluoride varnish application in medical settings without removing the service from the dental provider team. This grouping of oral health services has high rates of reimbursement through Medicaid and OHS staff train medical providers to offer the services and provide technical assistance in billing protocol.

More than 52% of Medicaid eligible children aged 1-20 years old are getting preventive dental services in North Carolina. Tooth decay, or dental caries, is the most common chronic disease in children and is almost entirely preventable through a combination of healthy habits, diet, and preventive dental services.

The percentage of population served by public water systems with fluoridated water is 87.6%. Oral Health Section staff

can enhance efforts by stakeholders to oppose challenges to fluoride use. Usually, a Section public health dentist and public health dental hygienist will work with community fluoridation champions already identified by that ROHA. Evidence-based literature is also available for regional teams to share with local decision makers.

The percentage of middle and high school students currently using e-cigarettes is 6.1% and 20.9% respectively. The OHS collaborates with experts in the Division of Public Health's Tobacco and Control Branch on messaging directed at users and training for school personnel and healthcare providers that supports both prevention and individual behavioral health changes.

According to data collected from the 2016 Perinatal Oral Health Screening Survey, the percentage of pregnant women with untreated caries was 30.3% in North Carolina.²¹ Public Health Dental Hygienists conducted screenings in Local Health Departments that were willing to partner in North Carolina's first targeted

²¹ A convenience sample was used, so it is not recommended in this domain that Regions be strictly compared one to another.

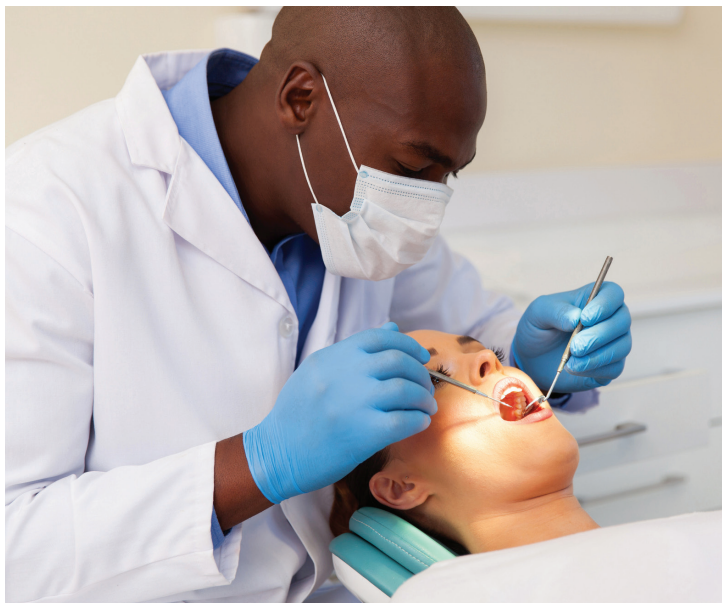
oral assessment of pregnant women. Soon thereafter, the OHS launched its Perinatal Oral Health Program, modeled after the widely successful IMB early childhood program. This new perinatal collaborative practice program promotes endorsed shared messages for medical and dental providers to use with their pregnant patients.

Tooth decay is almost entirely preventable and regular dental services support good oral health. The good news for North Carolina is that 75.5% of the state's adults have visited a dental service provider within the past two years. The percentage increases to 86.1% for those who have visited within the past two-five years. The remaining 13% of adults have visited a dentist five or more years ago.

The percentage of North Carolina adults currently smoking cigarettes is 18.5%. The OHS collaborates with the experts within the Division of Public Health's Tobacco and Control Branch on messaging directed at tobacco users and training for healthcare providers to support changing individuals' behavioral health.

Over 45% of North Carolinians age 18 or older have had permanent teeth extracted. This percentage is reflective of the improvements generated by public health preventive dental programs such as collaborative practice models, access to dental sealants and fluoride, healthy habits, and expansion of the dental safety net.

The percentage of adults aged 65 years and older who have had all their permanent teeth extracted is 17.4%. Although preventive public health programs have resulted in longer lifespans and the retention of teeth in one's elder years, it has also led to higher dental caries and periodontal disease burden for older adults. To reduce this burden, our staff work to implement oral hygiene programs in residential facilities. Improving health literacy of facility directors is key to incorporating such dental hygiene support programs. Once they understand the close relationship between oral health and overall health, they quickly see the value of oral health services for their residents.



Introduction to Regional Plans

Each of the following 10 Regional Oral Health Improvement Plans are written to **“improve the oral health of North Carolinians.”** Four strategies, or work domains, were identified early on in the development process. They were:

- **social determinants of health**
- **evidence-based programs**
- **collaborative practice models**
- **health literacy**

ROHAs were provided examples of activities that support the work in those domains:

1. Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

POSSIBLE ACTIVITIES:

- Tobacco control - healthy habits
- Community water fluoridation
- Encourage providers to take government insurance

2. Improve the oral health of North Carolinians through the use of evidence-based disease prevention.

POSSIBLE ACTIVITIES:

- Community water fluoridation
- Fluoride varnish application
- Dental sealants

3. Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

POSSIBLE ACTIVITIES:

- Into the Mouths of Babies
- Perinatal Oral Health Program
- Establish provider referral systems

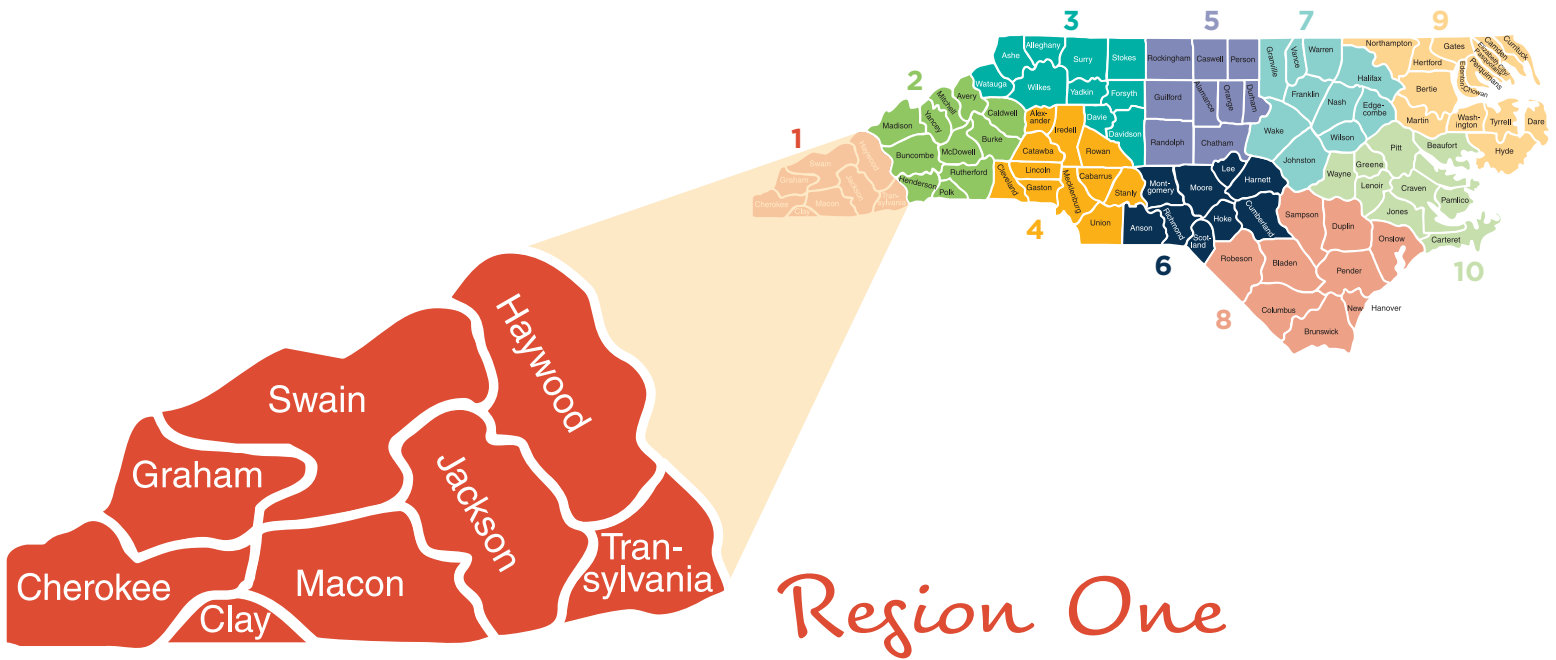
4. Improve the oral health of North Carolinians by increasing health literacy through culturally competent messages that educate the public, dental teams, and policy makers.

POSSIBLE ACTIVITIES:

- Health literacy activities for the public
- Oral Health messages on social media
- Provider training on shared messages

Alliance plans are presented in the following order:

1. Introduction to the region.
2. Regional Oral Health Snapshots.
3. Targeted domains and corresponding activities.



Situated in the Appalachian Mountains bordering Tennessee and Georgia, the counties in Region One are located in the westernmost part of North Carolina. The estimated population for Region One is 228,000 with most of its residents residing in Haywood County. The median household income for the region is about \$39,500 per year. While 18% of Region One’s residents are living below the federal poverty line, unemployment rates are 6.5%, almost two percentage points below the state’s average. Counties exhibiting the highest concentration of residents living below poverty include Swain, Jackson and Macon counties.

The overall average of the three domains which include Social and Neighborhood Resources, Economic Resources, and Housing and Transportation indicate higher disparities within many areas throughout Region One. Although 13.2% of North Carolinians across the state do not have health insurance, the prevalence is much higher for Region One at 16.2%. The highest concentration of residents without health insurance are in Swain, Graham, and Cherokee counties. Differences pertaining to levels of education between counties, the percentage of families struggling to pay rent and utilities, residents without access to a vehicle, and eight census tracts classified as food deserts also affect disparities related to oral health within this region.²²

²² From “North Carolina Social Determinants of Health - Local Health Departments Region 1,” *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44ea1e0d7af43f4702b>.

NC ORAL HEALTH REGIONAL SNAPSHOT

REGION 1

CHILDREN	SOCIAL DETERMINANTS	ADULTS
<p>1</p> <p>13.0% </p> <p>of kindergarten children have untreated tooth decay</p>	<p>2</p> <p>48.8% [^] </p> <p>of adults have access to dental insurance</p>	<p>3</p> <p>36.0%* </p> <p>of pregnant women have untreated tooth decay</p>
<p>4</p> <p>1,633+ </p> <p>children aged 6-14 years received sealants by Medicaid Dental Providers.</p>	<p>5</p> <p>17.9% of the population served by public water systems receive fluoridated water </p>	<p>6</p> <p>52.1% </p> <p>of adults aged 18+ years have had permanent teeth extracted</p>
<p>7</p> <p>47.9% </p> <p>of Medicaid eligible children & teens aged 1-20 years received preventive dental services</p>	<p>8</p> <p>6.4% of middle school students and 19.5% of high school students who currently use e-cigarettes </p>	<p>9</p> <p>24.6% of adults aged 65+ years had all of their permanent teeth extracted </p>
<p>10</p> <p>44.7% of Medicaid eligible children aged 1-2 years received preventive oral health services </p>	<p>11</p> <p>23.3% of adults currently smoke cigarettes </p>	<p>12</p> <p>16.3% </p> <p>of adults last visited a dentist 5 or more years ago</p>

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • + Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region One Oral Health Improvement Plan

The Regional Oral Health Alliance (ROHA) for Region One is committed to partnering to improve oral health of the region's most vulnerable residents by addressing three population groups: early childhood, pregnant women and those who smoke. The Alliance will work to address social determinants of health, support collaborative practice models and improve oral health literacy.

Early Childhood Oral Health Improvement Plan

For this target population, Region One's Oral Health Snapshot shows:

- 44.7% of children aged 1-2 years have received preventive oral health services through Medicaid and
- 13% of kindergarten children have untreated tooth decay.

GOALS:

- Decrease % of kindergarten children with untreated tooth decay.
- Increase % of children aged 1-2 years that have received preventive oral health services through Medicaid.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Promote healthy dental habits by sharing messages childcare facilities can send to parents/guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.
- Promote a region-wide campaign of the **Brush, Book, Bed** program.²³

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Support collaborative practice between school health administrators and community dental providers.
- Increase the number of providers participating in Carolina Dental Home medical/dental collaborative practice program by supporting provider training.

²³ The American Academy of Pediatrics program is a collaborative campaign with clear oral health messages for parents of young children.

- Increase provider participation in Carolina Dental Home by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote the importance and care of primary (baby) teeth by identifying an appropriate social media campaign that can be promoted at regular intervals by ROHA membership.
- Promote a region-wide campaign of the Brush, Book, Bed program. The American Academy of Pediatrics program is a collaborative campaign with clear oral health messages for parents of young children.
- Provide “Baby Teeth are Important” educational banner in early childhood facilities such as pediatric offices, health departments and dental offices.
- Promote the ToothTalk learning module in early childhood facilities such as pediatric offices, health departments and dental offices.

Perinatal Oral Health Improvement Plan

For this target population, Region One’s Oral Health Snapshot shows:

- 36% of pregnant women have untreated tooth decay.

GOAL:

- Decrease % of pregnant women with untreated tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Increase the proportion of pregnant women getting dental services by supporting enrollment into Medicaid for Pregnant Women.
- Decrease the number of women that smoke during pregnancy by promoting smoking cessation through supporting provider training, program enrollment and smoking cessation messages.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by supporting provider training.

- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by strengthening and supporting care coordination through effective referral lists.
- Increase dental referrals to counseling for smoking cessation through training dentists on the 5A's of smoking cessation: Ask, Advise, Assess, Assist, and Arrange.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote messages found in the *North Carolina Collaborative Practice Framework* for providers to use with their pregnant patients on the importance of oral health during pregnancy.
- Post “Oral Healthcare during Pregnancy” educational banner in facilities such as medical offices, health departments, pregnancy centers and dental offices.
- Promote messages on the dangers of smoking during pregnancy and oral health information in newsletters distributed by regional tobacco prevention manager.

Tobacco Control Plan

For this target population, Region One’s Oral Health Snapshot shows:

- 19.5% of high school students are currently using e-cigarettes.
- 6.4% of middle school students are currently using e-cigarettes.

GOAL:

- Decrease % of middle and high schoolers using e-cigarettes.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Address youth vaping by promoting tobacco cessation counseling and other cessation aids.
- Address youth vaping by supporting the evidence-based school health tobacco prevention programs (ex. Catch My Breath, Tox Box, etc.).

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Partner with Regional tobacco prevention manager to increase dental referrals to counseling for smoking cessation through training dentists on the 5A's of smoking cessation: Ask, Advise, Assess, Assist, and Arrange.
- Decrease the proportion of youth vaping by providing training and tools to school administrators on tobacco cessation.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Select and promote an effective social media campaign on the dangers of tobacco, such as TRU.
- Include youth vaping and oral health information in newsletters distributed by regional tobacco prevention manager.

Potential Barriers

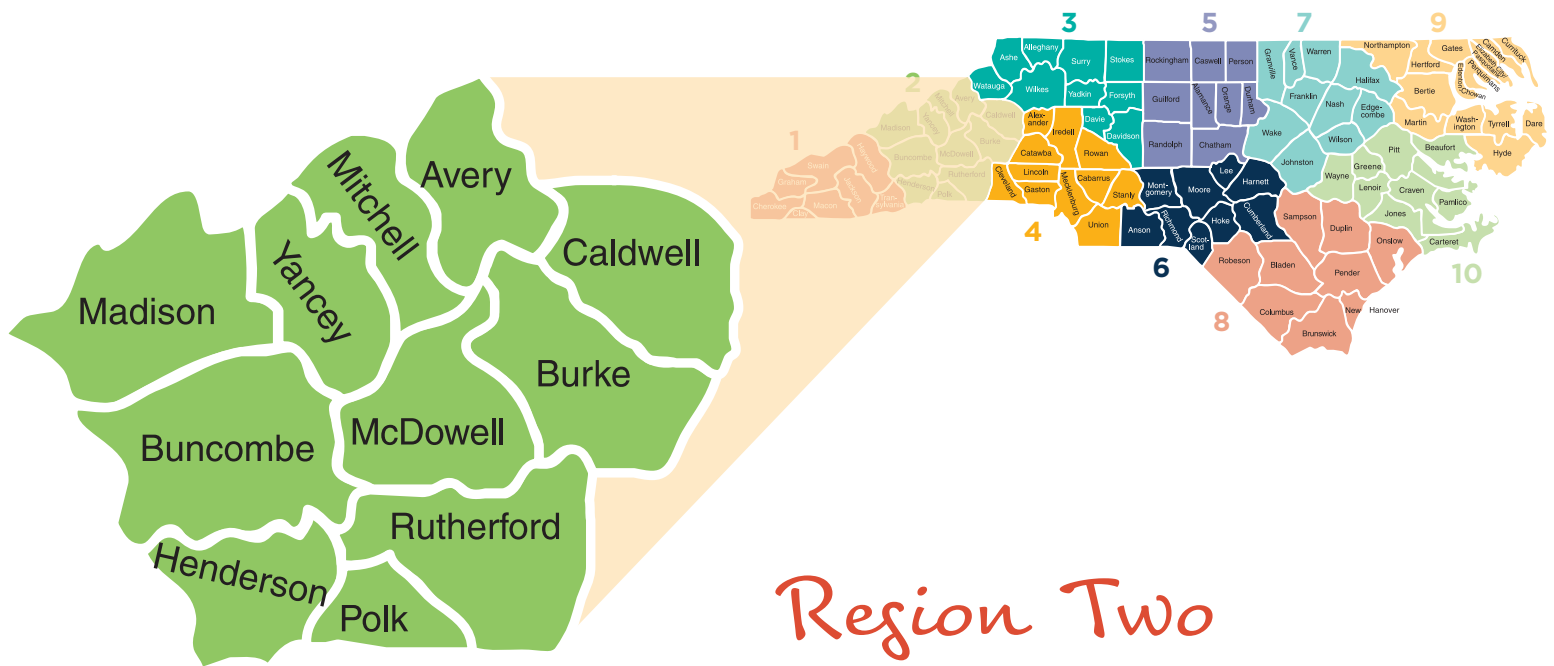
The ROHA identified potential implementation barriers to meeting goals in the Region One Oral Health Improvement Plan. Chief among barriers to early childhood oral health goals is securing partnership of the groups targeted for plan activities. For example, potential Medicaid providers may not decide to enroll and, notwithstanding the few early childhood facilities in the region, there may be hesitation to brush the children's teeth due to COVID-19. Other obstacles are resource barriers, likely cost or transportation issues.

The barriers to meeting the perinatal oral health goal are similar to those connected to the early childhood plan. Of the limited number of facilities that provide prenatal care in Region One, facility administrators of those providers may not be willing to partner. Also, not all dentists provide care to women during pregnancy, and even fewer accept government dental insurance (Medicaid). This last barrier is specifically addressed in the work plan.

Barriers to meeting the tobacco control goal include possible lack of participation by targeted community sites, especially with the COVID-19 pandemic's impact on schools and their limitations on visitors. Our ROHA has determined that the abundance of misinformation regarding the risks of e-cigarettes is an issue that will be difficult to overcome. This is compounded by the easy accessibility of vaping products to teens.

Measuring Success

As Region One addresses its oral health goals, oral health status is expected to improve. The tracking system to measure progress and success in the improvement plan is the Regional Oral Health Snapshot. As the Public Health Epidemiologist for the Oral Health Section updates this data visualization tool, progress should be reflected with an improved data points in its various oral health indicators. This is not a perfect tracking system; the Oral Health Snapshot will not track the implementation of healthy habits nor does it track activities surrounding health literacy. However, by implementing the work outlined in the oral health improvement plan, improved oral health should be reflected in the data on the Snapshots.




Region Two

Located in western North Carolina, Region Two is where the Piedmont rises into the Blue Ridge Mountains and is home to Asheville, the state’s largest western city located in Buncombe County. As a result, 34% of Region Two’s population of 735,385 residents live in Buncombe County. The median household income for this region is \$43,172 annually, with 16.1% of residents living below the federal poverty level. The three counties with the highest concentrations of residents living below the poverty line are Yancey, McDowell, and Burke.

The percentage of unemployed and uninsured residents are comparable to the state’s averages. The rate of unemployment in Region Two is about 7.1%, slightly less than North Carolina’s unemployment rate of 8.3%. The number of individuals without health insurance almost mirrors North Carolina’s average at 13.5%. Even so, disparities in relation to Social and Neighborhood Resources, Economic Resources, and Housing and Transportation are still apparent within this region. Thirty-six census tracts are classified as food deserts and 5.7% of families do not have access to a vehicle.²⁴

²⁴ From “North Carolina Social Determinants of Health - Local Health Departments Region 2,” *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44ea1e0d7af43f4702b>.

CHILDREN	SOCIAL DETERMINANTS	ADULTS
<p>1</p>  <p>14.9% of kindergarten children have untreated tooth decay</p>	<p>2</p>  <p>48.8% ^ of adults have access to dental insurance</p>	<p>3</p>  <p>33.0%* of pregnant women have untreated tooth decay</p>
<p>4</p>  <p>4,705+ children aged 6-14 years received sealants by Medicaid Dental Providers.</p>	<p>5</p>  <p>72.2% of the population served by public water systems receive fluoridated water</p>	<p>6</p>  <p>52.1% of adults aged 18+ years have had permanent teeth extracted</p>
<p>7</p>  <p>54.8% of Medicaid eligible children & teens aged 1-20 years received preventive dental services</p>	<p>8</p>  <p>6.4% of middle school students and 19.5% of high school students who currently use e-cigarettes</p>	<p>9</p>  <p>24.6% of adults aged 65+ years had all of their permanent teeth extracted</p>
<p>10</p>  <p>45.8% of Medicaid eligible children aged 1-2 years received preventive oral health services</p>	<p>11</p>  <p>23.3% of adults currently smoke cigarettes</p>	<p>12</p>  <p>16.3% of adults last visited a dentist 5 or more years ago</p>

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • + Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region Two Oral Health Improvement Plan

The Regional Oral Health Alliance (ROHA) for Region Two is committed to partnering to improve oral health of the region's most vulnerable residents by addressing three population groups: early childhood, pregnant women and those who smoke. This Alliance will work to address social determinants of health, support collaborative practice models, promote evidence-based oral disease prevention and improve oral health literacy.

Early Childhood Oral Health Improvement Plan

For this target population, Region Two's Oral Health Snapshot shows:

- 45.8% of Medicaid eligible children aged 1-2 received oral health preventive services.
- 14.9% of kindergarten children have untreated tooth decay.

GOALS:

- Increase the percentage of Medicaid eligible children aged 1-2 receiving oral health preventive services.
- Decrease the percent of untreated decay in kindergarten students.

STRATEGY ONE: Improve the oral health of young children by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage Toothbrushing Is Fun and/or Smile Crusaders programs in childcare facilities, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Promote healthy dental habits by sharing messages childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.
- Promote a region-wide campaign of the Brush, Book, Bed program. The American Academy of Pediatrics program is a collaborative campaign with clear oral health messages for parents of young children.

STRATEGY TWO: Increase the oral health of young children by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the Into the Mouth of Babes (IMB) program by supporting provider training.
- Increase provider participation in the IMB program by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health literacy of parents of young children through culturally competent messages that educate the public, dental teams and policy makers.

ACTIVITIES:

- Promote healthy dental habits by sharing messages childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.
- Connect the public, dental teams, and policy makers to the ToothTalk website.
- Promote a region-wide campaign of the Brush, Book, Bed program. The American Academy of Pediatrics program is a collaborative campaign with clear oral health messages for parents of young children.

Perinatal Oral Health Improvement Plan

For this target population, Region Two's Oral Health Snapshot shows:

- 33% of Pregnant women have untreated tooth decay.

GOAL:

- Reduce the percentage of pregnant women with untreated tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage medical and dental providers to accept Medicaid by highlighting the 10% increase in reimbursement rates.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Train perinatal support personnel to have their clients apply for Medicaid for Pregnant Women enrollment.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Provide *North Carolina Collaborative Practice Framework* training to health departments, FQHC's, Pregnancy Resource Centers that provide prenatal services and support services.
- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by supporting provider training.
- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote shared messages found in the *North Carolina Collaborative Practice Framework* for providers to use with their pregnant patients on the importance of oral health during pregnancy.
- Promote oral health best practices by connecting pregnant women, healthcare providers and policy makers to the ToothTalk, perinatal oral health program (pOHP) and baby oral health program (bOHP) websites.

Tobacco Control Plan

For this target population, Region Two's Oral Health Snapshot shows:

- 6.4 % of middle school students currently use e-cigarettes.
- 19.5% of high school students currently use e-cigarettes.

GOALS:

- Reduce percentage of middle school students using e-cigarettes.
- Reduce percentage of high school students using e-cigarettes.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Provide training to school nurses, counselors, teachers through MAHEC and other venues to encourage use of evidence-based tobacco cessation programs, such as 5A's Brief Cessation Counseling, NOT Program and QuitlineNC.
- Support evidence-based school-wide health tobacco prevention programs to school administrators (ex. Catch my Breath, ASPIRE and INDEPTH).

STRATEGY TWO: Improve the oral health of North Carolinians by promoting the use of evidenced-based disease prevention.

ACTIVITIES:

- Support the evidence-based school-wide health tobacco prevention program (ex. Catch My Breath).
- Encourage schools to utilize either Aspire or INDEPTH Alternative to Suspension Programs for students caught vaping on campus.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote effective social media campaign on tobacco cessation.
- Select and promote an effective social media campaign on the dangers of vaping.
- Provide training through MAHEC on e-cigarettes and other emerging products and tobacco cessation with healthcare providers, policy makers and school personnel.

Potential Barriers

The ROHA identified potential implementation barriers to meeting the early childhood oral health goals. They include securing interest and time of those targeted for trainings, both healthcare providers and childcare center staff. Beyond the limited access to childcare facilities, there is also a hesitation within this facility community to brush the children's teeth due to COVID-19 (fear of toothbrushing creating a viral aerosol). Lastly, ROHA members were concerned they would have difficulty developing unified messaging to parents on the importance of pediatric dental health and securing funding for activities.

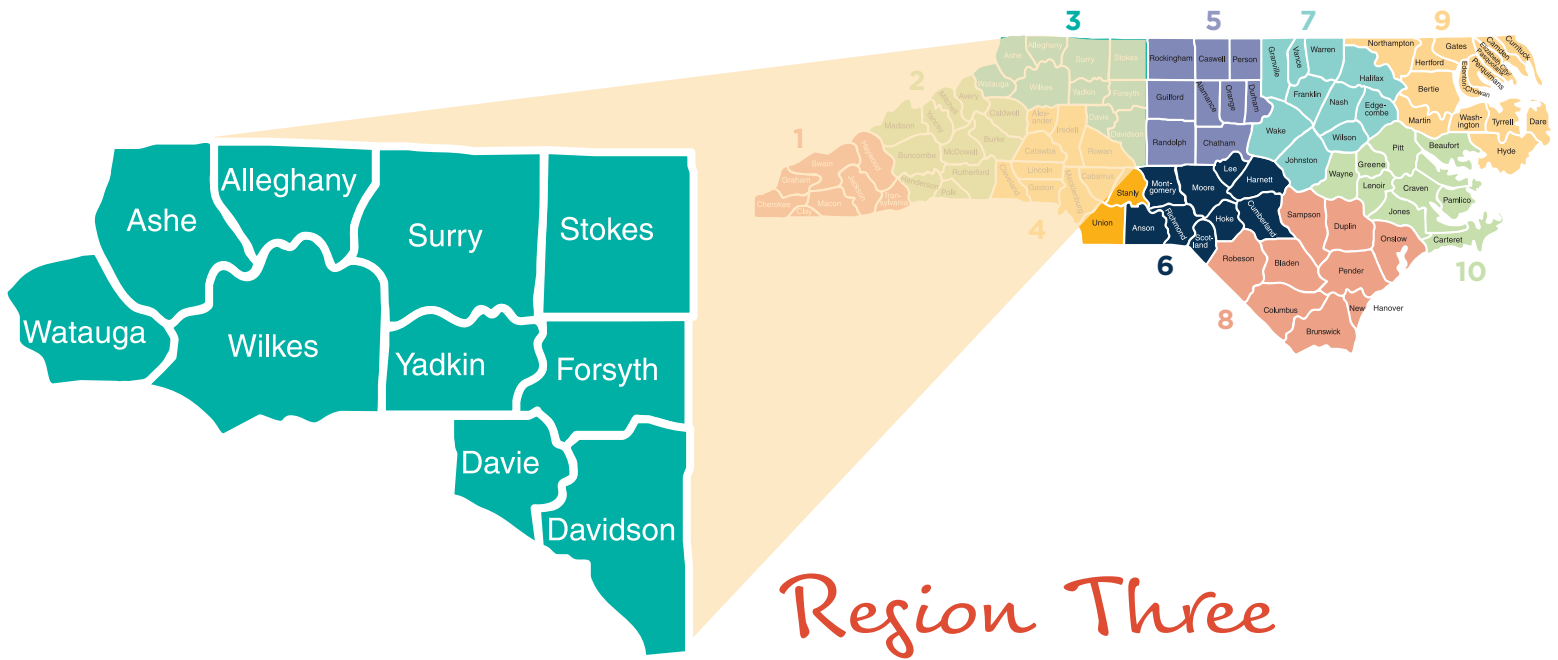
Potential obstacles to meeting the perinatal oral health goal are securing the interest and time of already busy health personnel for training and the limited number of dentists enrolled as Medicaid Providers, especially as it relates to Medicaid for Pregnant Women.

Similarly, the possible barriers to meeting the tobacco control goals are securing support from school administrators for training, especially during the coronavirus pandemic. There is also a large pool of unconcerned parents who, with their lack of health literacy around the risks and dangers of teen vaping, consider it safe. Resource issues may also impede progress, whether it be current policy (no reimbursement for dental office tobacco cessation services), or lack of funding to implement a MAHEC course.

Measuring Success

As our region addresses their oral health goals, we expect the data points to improve. The tracking system to measure our progress and success will be our Regional Oral Health Snapshot. As the Public Health Epidemiologist for the Oral Health Section updates this data visualization tool, progress should be reflected with an improved data point.

This is not a perfect system - our Oral Health Snapshot will not track healthy habits (social determinants of oral health such as daily tooth brushing or "low-sugar" diets) nor does it track health literacy. However, by increasing our work in these areas (healthy habits and health literacy), we may see improved oral health reflected in the data on the Snapshots.



Region Three

Region Three comprises the northwestern corner of North Carolina where the Piedmont rises into the Blue Ridge Mountains. The estimated population for Region Three is 886,849, with 41.4%, a large majority of residents, residing in Forsyth County. The annual median household income for this region is \$41,087. It is estimated that 18.6% of Region Three residents are living below the federal poverty line. The highest concentration of residents living below the poverty line are in Watauga County, the westernmost part of this region.

SDOH data for some domains align closely to North Carolina's: 13.1% of the population is uninsured and unemployment is 8.2% for this region. Other factors influencing SDOH include 59 Census Tracts that have been classified as food deserts, the percentage of residents that do not have access to a vehicle, differences in educational backgrounds, and percentage of families spending more than 30% of their income on rent.²⁵

²⁵ From "North Carolina Social Determinants of Health - Local Health Departments Region 3," *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44ea1e0d7af43f4702b>

NC ORAL HEALTH REGIONAL SNAPSHOT

REGION 3

CHILDREN	SOCIAL DETERMINANTS	ADULTS
<p>1</p>  <p>15.0% of kindergarten children have untreated tooth decay</p>	<p>2</p>  <p>55.0%[^] of adults have access to dental insurance</p>	<p>3</p>  <p>39.0%* of pregnant women have untreated tooth decay</p>
<p>4</p>  <p>7,750+ children aged 6-14 years received sealants by Medicaid Dental Providers.</p>	<p>5</p>  <p>88.5% of the population served by public water systems receive fluoridated water</p>	<p>6</p>  <p>43.8% of adults aged 18+ years have had permanent teeth extracted</p>
<p>7</p>  <p>56.6% of Medicaid eligible children & teens aged 1-20 years received preventive dental services</p>	<p>8</p>  <p>6.4% of middle school students and 19.5% of high school students who currently use e-cigarettes</p>	<p>9</p>  <p>21.6% of adults aged 65+ years had all of their permanent teeth extracted</p>
<p>10</p>  <p>58.0% of Medicaid eligible children aged 1-2 years received preventive oral health services</p>	<p>11</p>  <p>18.5% of adults currently smoke cigarettes</p>	<p>12</p>  <p>13.2% of adults last visited a dentist 5 or more years ago</p>

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • * Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region Three Oral Health Improvement Plan

Over the next several years, the Regional Oral Health Alliance (ROHA) for Region Three is committed to partnering to improve oral health of the region's most vulnerable residents by addressing three population groups: early childhood, pregnant women and those who smoke. This Alliance will work to address social determinants of health, support collaborative practice models and improve oral health literacy.

Early Childhood Oral Health Improvement Plan

For this target population, Region Three's Oral Health Snapshot shows:

- 58% of children aged 1-2 years have received preventive oral services through Medicaid.
- 15% of kindergarten children have untreated tooth decay.

GOALS:

- Increase % of children aged 1-2 years who have received preventive oral health services through Medicaid and
- Decrease % of kindergarten children with untreated tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Promote healthy dental habits by sharing messages childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the IMB program by supporting provider training.
- Increase provider participation in the IMB program by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Share messages childcare facilities can send to parents/guardians of their enrolled infants and toddlers on the importance of fluoride varnish.
- Share oral health education and safety net referral information Spanish version.

Perinatal Oral Health Improvement Plan

For this target population, Region Three's Oral Health Snapshot shows:

- 39% of pregnant women have untreated dental caries.

GOAL:

- Decrease % of pregnant women with untreated tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Train Pregnancy Care Center (PCC) providers on helping women enroll in Medicaid for Pregnant Women.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by supporting provider training.
- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by strengthening and supporting care coordination through effective referral lists.
- Share a current dental referral resource list for identified PCCs.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Implement perinatal oral health education for staff and clients of PCCs.
- Train perinatal support personnel to have their clients apply for Medicaid for Pregnant Women enrollment by explaining the benefits of dental care during pregnancy.

Tobacco Control Plan

For this target population, Region Three's Oral Health Snapshot shows:

- 6.4% of middle school students currently use e-cigarettes.
- 19.5% of high school students currently use e-cigarettes.

GOALS:

- Decrease % of middle schoolers using e-cigarettes.
- Decrease % of high schoolers using e-cigarettes.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITY:

- Support the evidence-based, school-wide health tobacco prevention programs (ex. Catch My Breath, Tox Box, etc.) to school administrators and school nurses.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITY:

- Increase dental referrals to counseling for smoking cessation through training dentists on the 5A's of smoking cessation: **Ask, Advise, Assess, Assist, and Arrange.**

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITY:

- Promote an effective social media campaign about the dangers of tobacco, such as TRU.

Potential Barriers

The ROHA identified potential implementation barriers to meeting the early childhood oral health goals. These include the possibility of limited access to childcare facilities and hesitation of these facilities to brush the children's teeth due to COVID-19 and a lack of dental health follow through due to cost, transportation, and distance to care. Likely barriers to meeting perinatal oral health goals are that facility administration may not be willing to partner, there are only a limited number of facilities that provide prenatal care from which to target for partnership, and the area has a limited number of dentists providing care to pregnant women, especially Medicaid recipients. Finally, the ROHA identified potential barriers to meeting the tobacco control goals. They determined that community agencies may

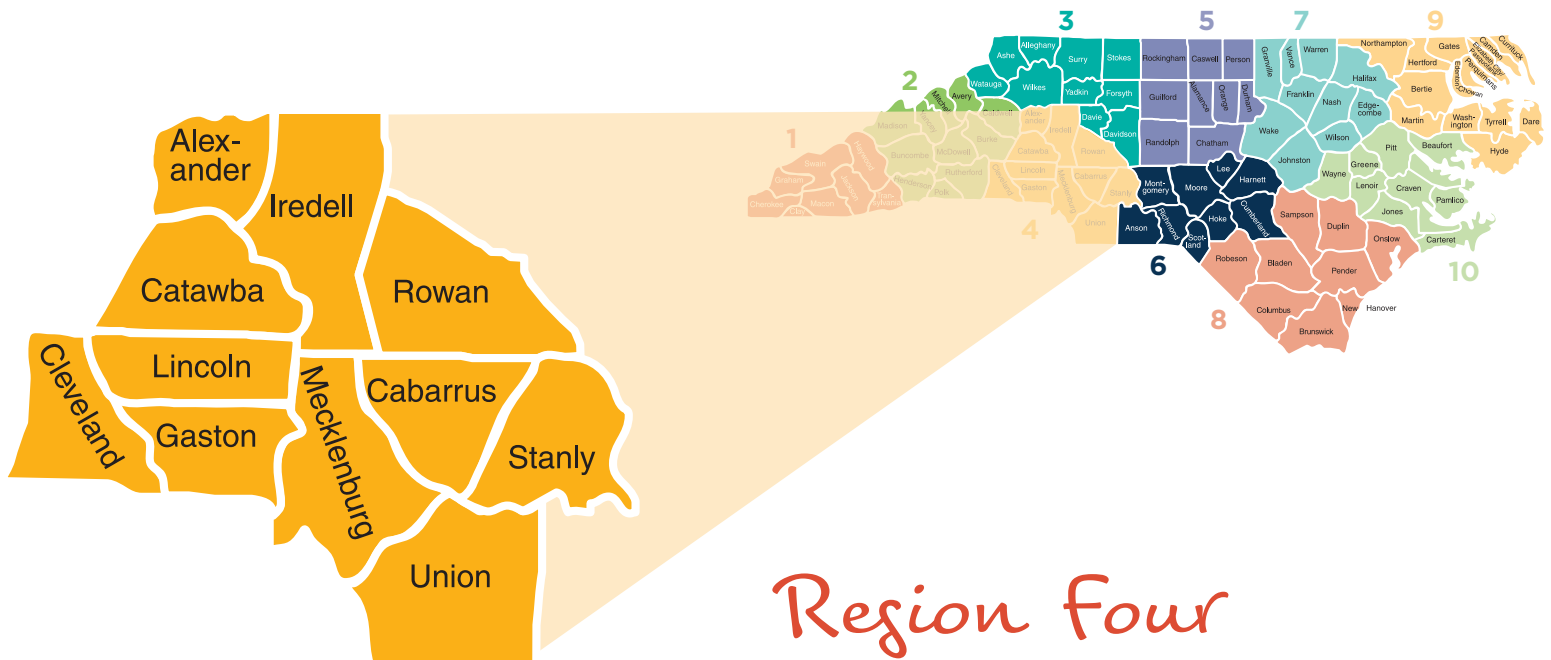


not be willing to partner in the plan, the ROHA must overcome an abundance of misinformation regarding the risks of e-cigarettes, and teens appear to have easy access to vaping products.

Measuring Success

The tracking system to measure progress and success in the Region Three Oral Health Improvement Plan will be the Regional Oral Health Snapshot. As the ROHA addresses its oral health goals, Snapshot data points are expected to improve. The Oral Health Section is committed to having its Public Health Epidemiologist update Snapshots, a key component in our community assessment and our data visualization tool, at regular intervals.

It should be understood that this is not a perfect system - our Regional Oral Health Snapshot will not track healthy habits (social determinants of oral health such as daily tooth brushing or “low-sugar” diets) nor does it track health literacy. However, by increasing our work in these areas (healthy habits and health literacy), we may see improved oral health reflected in the data on the Snapshots.



Region Four

Region Four surrounds Lake Norman and is home to Charlotte, North Carolina’s largest city. Not surprisingly, Region 4 has the largest population in the state with 2,369,802 residents. Almost half, 42.7%, of the region’s residents live in Mecklenburg County, where Charlotte is located. The median household income for this region is the second highest in the state behind Region Seven at \$57,590 per year. Most of Region Four’s 14.3% of residents living below the federal poverty line reside in Cleveland, Rowan, and Alexander counties.

When comparing the percentage of residents who are uninsured in Region Four to the entire state, the rate is almost identical at 13.1%. In correlation with the residents living below the federal poverty line, most of the region’s uninsured individuals live in Cleveland and Rowan counties. Almost half of the region’s residents spend more than 30% of their income on rent, and their levels of education vary significantly among counties. Additionally, 170 Census Tracts have been classified as food deserts and there is a high percentage of families without a vehicle.²⁶


²⁶ From “North Carolina Social Determinants of Health - Local Health Departments Region 4,” *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44ea1e0d7af43f4702b>.

CHILDREN

SOCIAL DETERMINANTS

ADULTS

1




11.3%
of kindergarten children have untreated tooth decay

2




51.3%[^]
of adults have access to dental insurance

3




8.0%*
of pregnant women have untreated tooth decay

4




20,434+
children aged 6-14 years received sealants by Medicaid Dental Providers.

5




98.6% of the population served by public water systems receive fluoridated water

6




46.1%
of adults aged 18+ years have had permanent teeth extracted

7




54.6%
of Medicaid eligible children & teens aged 1-20 years received preventive dental services

8




6.4% of middle school students and
19.5% of high school students who currently use e-cigarettes

9




13.6% of adults aged 65+ years had all of their permanent teeth extracted

10




41.2% of Medicaid eligible children aged 1-2 years received preventive oral health services

11



18.2% of adults currently smoke cigarettes

12



15.0%
of adults last visited a dentist 5 or more years ago

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • + Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region Four Oral Health Improvement Plan

Over the next several years, the Regional Oral Health Alliance (ROHA) for Region Four is committed to partnering to improve oral health of the region's most vulnerable residents by addressing three population groups: early childhood, pregnant women and those who smoke. This Alliance will work to address social determinants of health, support collaborative practice models, improve oral health literacy and promote evidence-based oral disease prevention.

Early Childhood Oral Health Improvement Plan

For this target population, Region Four's Oral Health Snapshot shows:

- 41.2% of children aged 1-2 years received preventive oral health services through Medicaid.
- 11.3% of kindergarten children have untreated tooth decay.

GOALS:

- Increase the percentage of children aged 1-2 years who receive preventive oral health services through Medicaid.
- Decrease the percentage of kindergarten children who have untreated tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Promote healthy dental habits by sharing messages that childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Ensure CCHC's (Child Care Health Consultants) have a resource list of local providers.
- Disseminate a list of dentists accepting Medicaid to childcare centers and health/community fairs.
- Increase the number of providers participating in the IMB medical/dental collaborative practice program by supporting provider training.
- Increase provider participation in the IMB program by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Connect the public, dental teams, and policy makers to the ToothTalk website.
- Promote the importance and care of primary (baby) teeth by identifying an appropriate social media campaign that can be promoted at regular intervals by ROHA membership.
- Provide “Baby Teeth are Important” educational banner in early childhood facilities such as pediatric offices, health departments and dental offices.
- Distribute dental health education material and a Medicaid dental provider list to parents through Early Head Start, Care Coordination for Children, Parents as Teachers and health fairs.

Perinatal Oral Health Improvement Plan

For this target population, Region One’s Oral Health Snapshot shows:

- 8% of pregnant women have untreated tooth decay.

GOAL:

- Decrease the % of women with untreated tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Train perinatal support personnel to have their clients apply for Medicaid for Pregnant Women enrollment.
- Encourage medical and dental providers to accept Medicaid by highlighting the 10% increase in reimbursement rates.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by supporting provider training.
- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote messages found in the *North Carolina Collaborative Practice Framework* for providers to use with their pregnant patients on the importance of oral health during pregnancy.
- Promote early childhood oral health best practices by connecting pregnant women to the ToothTalk website, pOHP(UNC) website.
- Post “Oral Healthcare during Pregnancy” educational banner in facilities such as medical offices, health departments, pregnancy centers and dental offices.
- Promote common messages found in the *North Carolina Collaborative Practice Framework* to health departments, Federally Qualified Health Clinics and Pregnancy Resource Centers.

Tobacco Control Plan

For this target population, Region One’s Oral Health Snapshot shows:

- 6.4% of middle school students currently use e-cigarettes.
- 19.5% of high school students currently use e-cigarettes.

GOALS:

- Decrease % of middle schoolers using e-cigarettes.
- Decrease % of high schoolers using e-cigarettes.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITY:

- Provide training and tools to school administrators and school nurses on tobacco prevention programs (Catch My Breath and Tox Box).

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase dental referrals to counseling for smoking cessation through training dentists on the 5A’s of smoking cessation: Ask, Advise, Assess, Assist, and Arrange.
- Decrease the proportion of youth vaping by providing training and tools to school administrators on tobacco cessation.

STRATEGY THREE: Improve the oral health of North Carolinians by promoting the use of evidence-based disease prevention.

ACTIVITIES:

- Support the evidence-based school-wide health tobacco prevention programs (ex. Catch My Breath, Tox Box, etc.).
- Encourage schools to utilize Aspire, prevention and cessation training for students caught vaping on campus.

STRATEGY FOUR: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITY:

- Select and promote an effective social media campaign on the dangers of vaping.

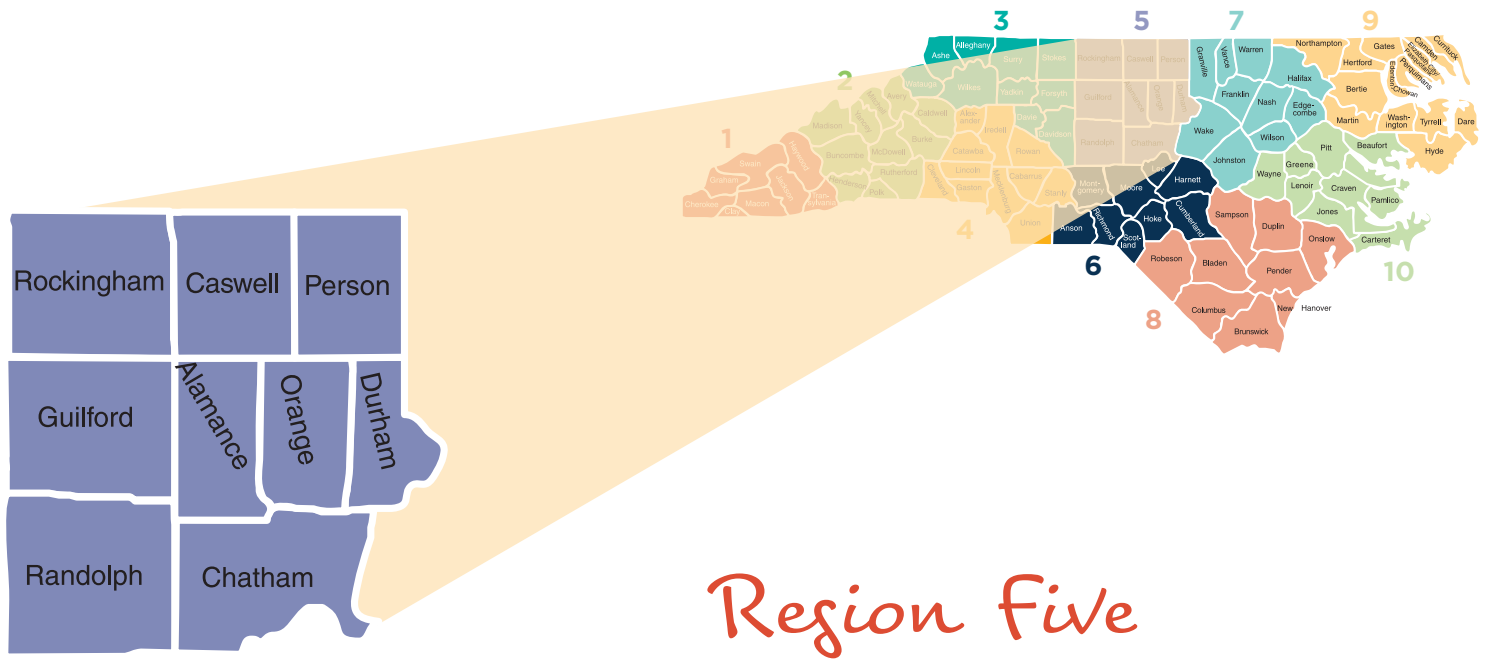
Potential Barriers

The ROHA identified a number of potential implementation barriers to meeting the early childhood health goals. Those are as follows: caregiver and provider obstacles, securing the interest and time of educators to attend training programs, limited access to childcare facilities and hesitation of these facilities to brush the children's teeth due to COVID-19 and lack of support for IMB program by pediatricians. Potential barriers to the perinatal oral health goal appear to be heavily provider-based and include: securing the interest and time of healthcare providers for trainings, Medicaid reimbursement rates for dentists, convincing dentists that treatment is safe throughout pregnancy and to accept Pregnancy Medicaid. Finally, the ROHA felt that key obstacle to the tobacco control goals would be securing the interest and time of community partners.

Measuring Success

As our region addresses its oral health goals, we expect the data points to improve. The tracking system to measure our progress and success will be our Regional Oral Health Snapshot. The Public Health Epidemiologist for the Oral Health Section will update the Snapshot as needed and progress toward goals should be reflected with an improved data point.

Granted, the Oral Health Snapshot will not clearly track the implementation of some healthy habits (social determinants of oral health such as daily tooth brushing or "low-sugar" diets) nor does it track health literacy. However, by increasing our work in these areas (both healthy habits and health literacy), improved oral health could be reflected in the updated data on the Snapshots.



Region Five

Region Five is located in the Piedmont area of the state and is home to the University of North Carolina at Chapel Hill and Duke University. This region has the third highest population in the state with 1,468,166 residents. As a result of housing two of North Carolina’s larger cities, Greensboro and High Point, 34% of Region Four’s population resides in Guilford County. Although this region has a median household income of \$50,437 annually, 16.7% of residents live below the federal poverty line. The counties with the highest concentrations of individuals living below the federal poverty line are Caswell and Rockingham.

Although the percentage of residents without health insurance is just slightly below the statewide percentage at 13%, Durham, Randolph, and Alamance counties have the highest concentration of residents without health insurance. Residents with a high school diploma vary from 7.6% in Orange County to 24.9% in Caswell, indicating vast differences in levels of education throughout the region. Much like other regions throughout the state, factors also impacting SODH indices are the 118 Census Tracts classified as food deserts as well as the percentage of families without a vehicle.²⁷


²⁷ From “North Carolina Social Determinants of Health - Local Health Departments Region 5,” *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44ea1e0d7af43f4702b>.

CHILDREN

SOCIAL DETERMINANTS


ADULTS

1




16.8%
of kindergarten children have untreated tooth decay

2




62.3% ^
of adults have access to dental insurance

3




21.0%*
of pregnant women have untreated tooth decay

4




11,363+
children aged 6-14 years received sealants by Medicaid Dental Providers.

5




92.5% of the population served by public water systems receive fluoridated water

6




43.0%
of adults aged 18+ years have had permanent teeth extracted

7




57.9%
of Medicaid eligible children & teens aged 1-20 years received preventive dental services

8




3.5% of middle school students and
20.2% of high school students who currently use e-cigarettes

9




15.7% of adults aged 65+ years had all of their permanent teeth extracted

10




53.4% of Medicaid eligible children aged 1-2 years received preventive oral health services

11



15.8% of adults currently smoke cigarettes

12



12.1%
of adults last visited a dentist 5 or more years ago

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • ^ Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region Five Oral Health Improvement Plan

Over the next several years, the Regional Oral Health Alliance (ROHA) for Region Five is committed to working together to improve oral health of their most vulnerable residents by addressing three population groups: early childhood, school aged children and pregnant women. This Alliance has created an action plan that incorporates work in four areas: address social determinants of health, support collaborative practice models, improve oral health literacy and promote evidence based oral disease prevention.

Early Childhood Oral Health Improvement Plan

For this target population, Region Five's Oral Health Snapshot shows:

- 53.4% of children aged 1-2 years received preventive oral health services through Medicaid.

GOAL:

- Increase % of children aged 1-2 years who have received preventive oral health services through Medicaid.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITY:

- Increase the number of childcare facilities participating in Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the IMB program by supporting provider training.
- Increase provider participation in the IMB program by strengthening and supporting care coordination through effective referral lists.
- Develop and implement a policy for interdepartmental referrals from WIC to the dental clinic and vice versa.

STRATEGY THREE: Improve the oral health of North Carolinians by promoting the use of evidence-based disease prevention.

ACTIVITIES:

- Increase the number of providers participating in the IMB program by supporting provider training.
- Increase provider participation in the IMB program by strengthening and supporting care coordination through effective referral lists.

STRATEGY FOUR: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Share messages on school and health department websites about the importance and safety of appropriate daily use of fluoride toothpaste.
- Share messages about a dental home by age one on school and health department websites.
- Connect the public, dental teams, and policy makers to the ToothTalk website by providing the hyperlink on school and health department websites.

Childhood Oral Disease Prevention Plan

For this target population, Region Five's Oral Health Snapshot shows:

- 57.9% of children and teens aged 1-20 years received preventive dental series through Medicaid.

GOAL:

- Increase the number of children and teens aged 1-20 years receiving preventive dental services through Medicaid.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Increase the number of childcare facilities that are implementing Smile Crusaders program, highlighting a dental home by age one.
- Promote healthy dental habits by sharing messages childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Develop and implement a policy for interdepartmental referrals from WIC to the dental clinic and vice versa.
- Provide preventive dental services on school sites through the implementation of mobile clinics in elementary/middle schools.
- Increase the number of dentists/physicians participating in oral health services by strengthening and supporting their referral system.

STRATEGY THREE: Improve the oral health of North Carolinians by promoting the use of evidence-based disease prevention.

ACTIVITIES:

- Provide preventive sealants to children and teens through sealant projects at schools and community sites.

- Increase the number of providers participating in the IMB program by supporting provider training.
- Increase provider participation in IMB program by strengthening and supporting care coordination through effective referral lists.

STRATEGY FOUR: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Publish oral health preventive messages around sealants and fluoride in school newsletters.

Perinatal Oral Health Improvement Plan

For this target population, Region Five’s Oral Health Snapshot shows:

- 21% of pregnant women have untreated tooth decay.

GOAL:

- Decrease the percentage of pregnant women with untreated decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Promote the *North Carolina Collaborative Practice Framework* to medical and dental providers, which highlights the importance of healthy dental habits throughout pregnancy.
- Increase dentist enrollment in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Increase dentist enrollment in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Train perinatal support personnel to have their clients apply for Medicaid for Pregnant Women enrollment.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Develop and implement a policy for interdepartmental referrals from WIC to the dental clinic and vice versa.
- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by supporting provider training, and by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health of North Carolinians by promoting the use of evidence-based disease prevention.

ACTIVITY:

- Increase the number of women receiving dental care during pregnancy by supporting provider training on the *North Carolina Collaborative Practice Framework*.

STRATEGY FOUR: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITY:

- Promote messages found in the *North Carolina Collaborative Practice Framework* for providers to use with their pregnant patients on the importance of oral health during pregnancy.

Potential Barriers

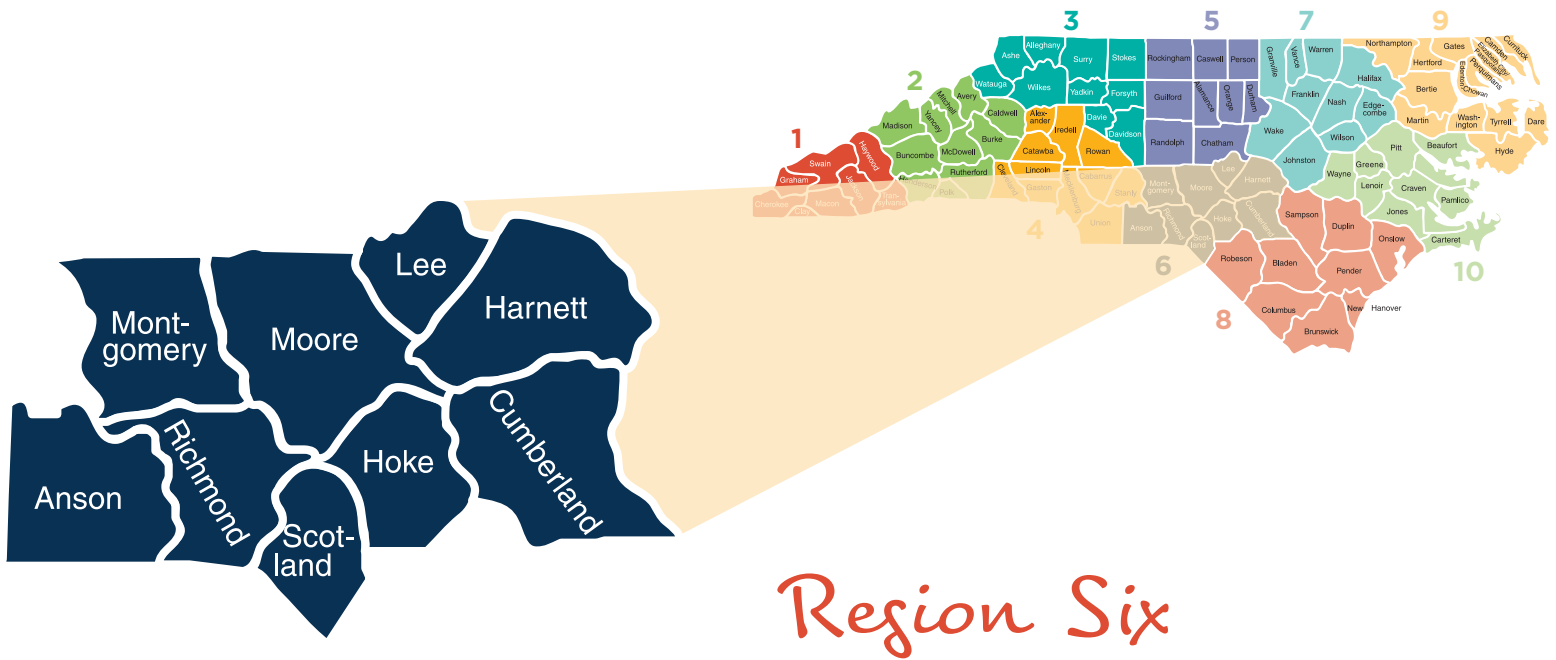
The ROHA identified potential implementation barriers to meeting the improvement goals for all populations targeted in the Oral Health Improvement Plan. Possible obstacles to the early childhood oral health goal surround the difficulty to train and educate those who provide services, whether health care or childcare, to very young children. Not only is it thought that securing the time and interest of health and education professionals will be difficult, but this complication is likely to be compounded by the lack of access to sites due to COVID-19.

The ROHA identified a number of potential difficulties in meeting the childhood disease prevention goal. They include: the region's dentists' reluctance or inability to expand their patient load, lack of desire to offer mobile services, possibly during this COVID-space, and lack of access to childcare facilities due to COVID-19.

The ROHA identified potential implementation barriers to meeting the perinatal goal: securing the time and interest of health professionals to attend training, Medicaid reimbursement rates for dentists are lower than private insurance, convincing dentists that treatment is safe throughout pregnancy and to accept Pregnancy Medicaid.

Measuring Success

As our region addresses its oral health goals, we expect the data points to improve. The tracking system to measure our progress and success will be our Regional Oral Health Snapshot. As the Public Health Epidemiologist for the Oral Health Section updates this data visualization tool, progress should be reflected with an improved data point. Using the Regional Snapshot has its drawbacks. The Oral Health Snapshot does not track health literacy, for example. However, by increasing our work in these areas (healthy habits and health literacy), we may see improved oral health status in our populations reflected on the Snapshots.



Region Six

Located in the Sandhills of North Carolina, Region Six is home to the celebrated Pinehurst No. 2 golf course and the multicultural Fort Bragg Army installation. The majority of Region Six’s population of 791,703 people reside in Cumberland County. The median household income for this region is \$42,598, with 19% of residents living below the federal poverty line. The highest concentration of poverty can be found in Richmond and Scotland counties.

Region Six’s unemployment rate is 10.6%, which is over 2 percentage points higher than the state average, and yet, the percentage of uninsured is in alignment with the state. The highest concentration of residents without health insurance is in Montgomery, Anson, and Lee counties. Region Six has only 49 Census Tracts that have been designated as food shortage areas, fewer than other regions. Still, other disparities exist in regard to education levels across the region and access to a vehicle.²⁸


²⁸ From “North Carolina Social Determinants of Health - Local Health Departments Region 6,” *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44ea1e0d7af43f4702b>.

CHILDREN

SOCIAL DETERMINANTS

ADULTS

1




24.1%
of kindergarten children have untreated tooth decay

2




60.4% ^
of adults have access to dental insurance

3




27.0%*
of pregnant women have untreated tooth decay

4




7,372+
children aged 6-14 years received sealants by Medicaid Dental Providers.

5




89.2% of the population served by public water systems receive fluoridated water

6




49.5%
of adults aged 18+ years have had permanent teeth extracted

7




52.5%
of Medicaid eligible children & teens aged 1-20 years received preventive dental services

8




3.5% of middle school students and
20.2% of high school students who currently use e-cigarettes

9




16.3% of adults aged 65+ years had all of their permanent teeth extracted

10




55.9% of Medicaid eligible children aged 1-2 years received preventive oral health services

11



18.7% of adults currently smoke cigarettes

12



9.7%
of adults last visited a dentist 5 or more years ago

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • ^ Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region Six Oral Health Improvement Plan

Over the next several years, the Regional Oral Health Alliance (ROHA) for Region Six is committed to partnering to improve oral health of its most vulnerable residents by addressing three population groups: early childhood, school aged children and pregnant women. This Alliance will work to address social determinants of health, support collaborative practice models and improve oral health literacy.

Early Childhood Oral Health Improvement Plan

For this target population, Region Six's Oral Health Snapshot shows:

- 55.9% of children aged 1-2 years have received preventive oral health services through Medicaid.

GOALS:

- Increase % of children aged 1-2 years have received preventive oral health services through Medicaid.
- Increase the awareness of the importance of and care of primary teeth through Health Literacy.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Promote healthy dental habits by sharing messages childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the IMB medical/dental collaborative practice program by supporting provider training.
- Increase provider participation in the IMB program by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote the importance of appropriate daily use of fluoride toothpaste through messages to childcare facilities and parents or guardians of infants and toddlers.
- Provide “Baby Teeth are Important” educational banner in early childhood facilities such as pediatric offices, health departments and dental offices.

Childhood Oral Disease Prevention Plan

For this target population, Region Six’s Oral Health Snapshot shows:

- 52.5% of Medicaid eligible children and teens aged 1-20 years received preventative dental services.

GOAL:

- Increase the % of children and teens aged 1-20 receiving sealants and preventative dental services.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Host school-based dental sealant projects at high need elementary and high schools in collaboration with school nurses.
- Promote additional community-based sealant projects.

STRATEGY THREE: Improve the oral health of North Carolinians by promoting the use of evidence-based disease prevention.

ACTIVITIES:

- Expand dental sealant projects through parent/guardian and stakeholder messages about the importance of preventive sealants.
- Increase local health department and Federally Qualified Health Clinic (FQHC) driven sealant projects.

STRATEGY FOUR: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Select and promote an effective social media campaign on the benefit of dental sealants.

Perinatal Oral Health Improvement Plan

For this target population, Region Six's Oral Health Snapshot shows:

- 27% pregnant woman have untreated tooth decay.

GOAL:

- Decrease % of pregnant women with untreated tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Increase the proportion of pregnant women getting dental services by supporting enrollment into Medicaid for Pregnant Women.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by supporting provider training.
- Increase the number of co-located dental safety net offices that have a policy incorporating the *North Carolina Collaborative Practice Framework* recommendations for oral health professionals.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote messages found in *North Carolina Collaborative Practice Framework* for providers to use with their pregnant patients on the importance of oral health during pregnancy.

- Promote messages on the dangers of smoking during pregnancy and the value of smoking cessation programs found in the *North Carolina Collaborative Practice Framework*.
- Promote messages found in the *North Carolina Collaborative Practice Framework* on the importance of oral health during pregnancy.
- Post “Oral Healthcare during Pregnancy” educational banner in facilities such as medical offices, health departments, pregnancy centers and dental offices.
- Select and promote an effective social media campaign on maintaining oral health during pregnancy in collaboration with the local health department.

Potential Barriers

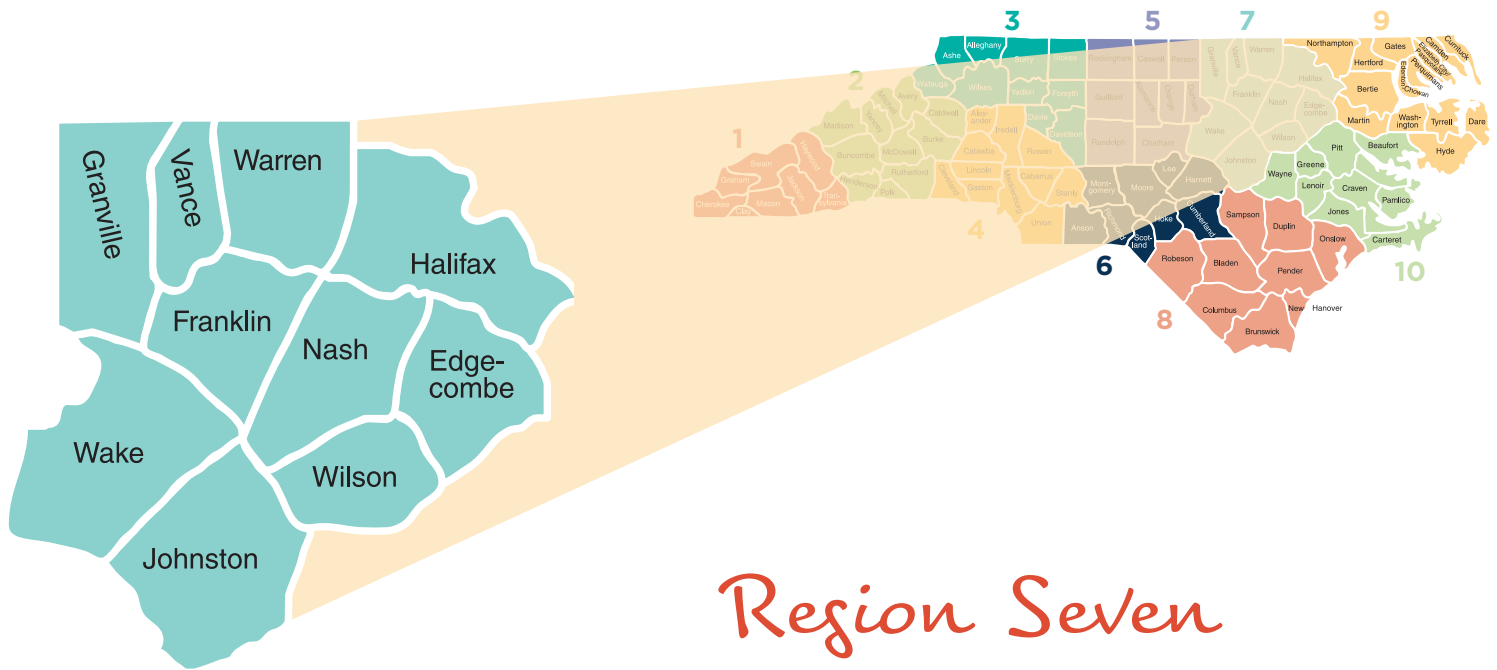
The ROHA identified potential implementation barriers to meeting goals in the Region Six Oral Health Improvement Plan. Possible barriers to meeting the early childhood oral health goals: targeted groups may not comply with plan, limited access to childcare facilities and hesitation of these facilities to brush the children’s teeth due to COVID-19, potential Medicaid providers may not decide to enroll and there may be a lack of follow through by the parent/caregiver due to cost, transportation, and distance to care.

The ROHA identified potential barriers to meeting the goal to prevent oral disease in childhood. The ROHA felt that targeted groups may not partner with plan, here might be a reluctance of schools to accommodate sealant projects due to COVID-19, that potential Medicaid providers may not decide to enroll into the funding program and finally, that parent/caregiver may not follow up with further treatment recommendations due to cost, transportation, and distance to care.

Potential obstacles in meeting the perinatal goal were identified as: inability to secure interest and/or time of those targeted for training (health professionals, caregiving facility directors or their caregiving staff), and the lack of dentists providing care to pregnant women, especially Medicaid recipients.

Measuring Success

The tracking system to measure the oral health plan’s progress and its activities’ successes will be future versions of the Regional Oral Health Snapshot. When the Public Health Epidemiologist for the Oral Health Section updates the Snapshot, progress should be reflected with improved data points. The Oral Health Snapshot does not track data points for all activities – having healthy habits is not tracked, nor is health literacy. However, through collaborative efforts that increase evidenced-based activities, we may see improved oral health reflected in other data on the Snapshots.



Region Seven

Region Seven is in the Piedmont area of the state and is home to the state’s capital city, Raleigh, and North Carolina State University. Behind Region Four, Region Seven has the second largest population in the state with 1,650,413 residents. Over half, 60.5%, of Region Seven’s residents live in Wake County, where Raleigh is located. Region Seven has the state’s highest median household income, \$62,100. The Region has 13.8% of individuals living below the federal poverty line, most residing in Halifax, Edgecombe, and Vance counties.

Region Seven data has favorable SDOH numbers. The unemployment percentage for this region is 6.8% whereas the state average is 8.3%. The percentage of individuals without health insurance is also lower than the statewide average at 11.8%. However, the disparities are greater when evaluating the percentage of adults without a high school diploma among counties, families without access to a vehicle, and the percentage of individuals spending more than 30% of their income on rent. Region Seven also has 78 Census Tracts that are classified as food deserts.²⁹

²⁹ From “North Carolina Social Determinants of Health - Local Health Departments Region 7,” *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44ea1e0d7af43f4702b>.

CHILDREN

SOCIAL DETERMINANTS


ADULTS

1




14.8%
of kindergarten children have untreated tooth decay

2




66.5% ^
of adults have access to dental insurance

3




36.0%*
of pregnant women have untreated tooth decay

4




10,312+
children aged 6-14 years received sealants by Medicaid Dental Providers.

5




88.8% of the population served by public water systems receive fluoridated water

6




37.6%
of adults aged 18+ years have had permanent teeth extracted

7




52.8%
of Medicaid eligible children & teens aged 1-20 years received preventive dental services

8




3.5% of middle school students and
20.2% of high school students who currently use e-cigarettes

9




14.0% of adults aged 65+ years had all of their permanent teeth extracted

10




54.5% of Medicaid eligible children aged 1-2 years received preventive oral health services

11



18.1% of adults currently smoke cigarettes

12



8.9%
of adults last visited a dentist 5 or more years ago

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • + Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region Seven Oral Health Improvement Plan

Over the next several years, the Regional Oral Health Alliance (ROHA) for Region Seven is committed to partnering to improve oral health of its most vulnerable residents by addressing three population groups: early childhood, pregnant women and those who smoke. This Alliance will work to address social determinants of health, support collaborative practice models, improve oral health literacy and promote evidence-based oral disease prevention.

Early Childhood Oral Health Improvement Plan

For this target population, Region Seven's Oral Health Snapshot shows:

- 14.8% of kindergarten students have untreated tooth decay.

GOAL:

- Decrease % of kindergarten children with untreated tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Promote healthy dental habits by sharing messages childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.

STRATEGY TWO: Improve the oral health of North Carolinians by promoting the use of evidenced-based disease prevention.

ACTIVITIES:

- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Increase the number of providers participating in the IMB medical/dental collaborative practice program by supporting provider training.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote the importance and care of primary (baby) teeth by identifying an appropriate social media campaign that can be promoted at regular intervals by ROHA membership.
- Promote healthy dental habits by sharing messages childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.

- Promote the Wisdom Tooth Project to early childhood partnership groups, and health education centers. Encourage stakeholders to include parents/ caregivers in their oral health education programs.
- Promote early childhood oral health best practices by connecting pregnant women to the ToothTalk website, pOHP (UNC) website.

Perinatal Oral Health Improvement Plan

For this target population, Region Seven's Oral Health Snapshot shows:

- 36 % of pregnant women surveyed had untreated tooth decay.

GOAL:

- Decrease percentage of pregnant women with untreated tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Increase the proportion of pregnant women getting dental services by supporting enrollment into Medicaid for Pregnant Women.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by strengthening and supporting care coordination through effective referral lists.
- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by supporting provider training.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote messages found in the in the *North Carolina Collaborative Practice Framework* for providers to use with their pregnant patients on the importance of oral health during pregnancy.
- Promote messages in a brochure/flyer on the importance and safety of dental care during pregnancy for patients available at perinatal and dental offices.
- Post "Oral Healthcare during Pregnancy" educational banner in facilities such as medical offices, health departments, pregnancy centers and dental offices.

Tobacco Control Plan

For this target population, Region Seven's Oral Health Snapshot shows:

- 7.8% of middle school students use e-cigarettes.
- 23.8% of high school students use e-cigarettes.
- 18.1% of adults use cigarettes.

GOALS:

- Decrease % of middle schoolers using e-cigarettes.
- Decrease % of high schoolers using e-cigarettes.
- Decrease % of adults using cigarettes.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Address youth vaping by supporting the evidence-based school health tobacco prevention program (ex. Catch My Breath, Tox Box, etc.).
- Increase NC Quit line signage in areas where high schoolers and adults will notice them.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Partner with regional tobacco prevention manager to increase perinatal referrals to counseling for smoking cessation through training physicians/dentists on the 5A's of smoking cessation: Ask, Advise, Assess, Assist, and Arrange.
- Decrease the proportion of youth vaping by providing training and tools to healthcare providers on screening and referring for tobacco cessation.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Partner with regional tobacco prevention manager to increase perinatal referrals to counseling for smoking cessation through training physicians/dentists on the 5A's of smoking cessation: Ask, Advise, Assess, Assist, and Arrange.
- Increase signage about the NC Quit line in areas where high schoolers and adults will notice them.

Potential Barriers

The ROHA identified potential implementation barriers to meeting goals in the Region Seven Oral Health Improvement Plan. Chief among barriers to the early childhood oral health goals to meeting the early childhood oral health goal: securing the interest and time of community partners, limited access to childcare facilities and hesitation of these facilities to brush the children's teeth due to COVID-19.

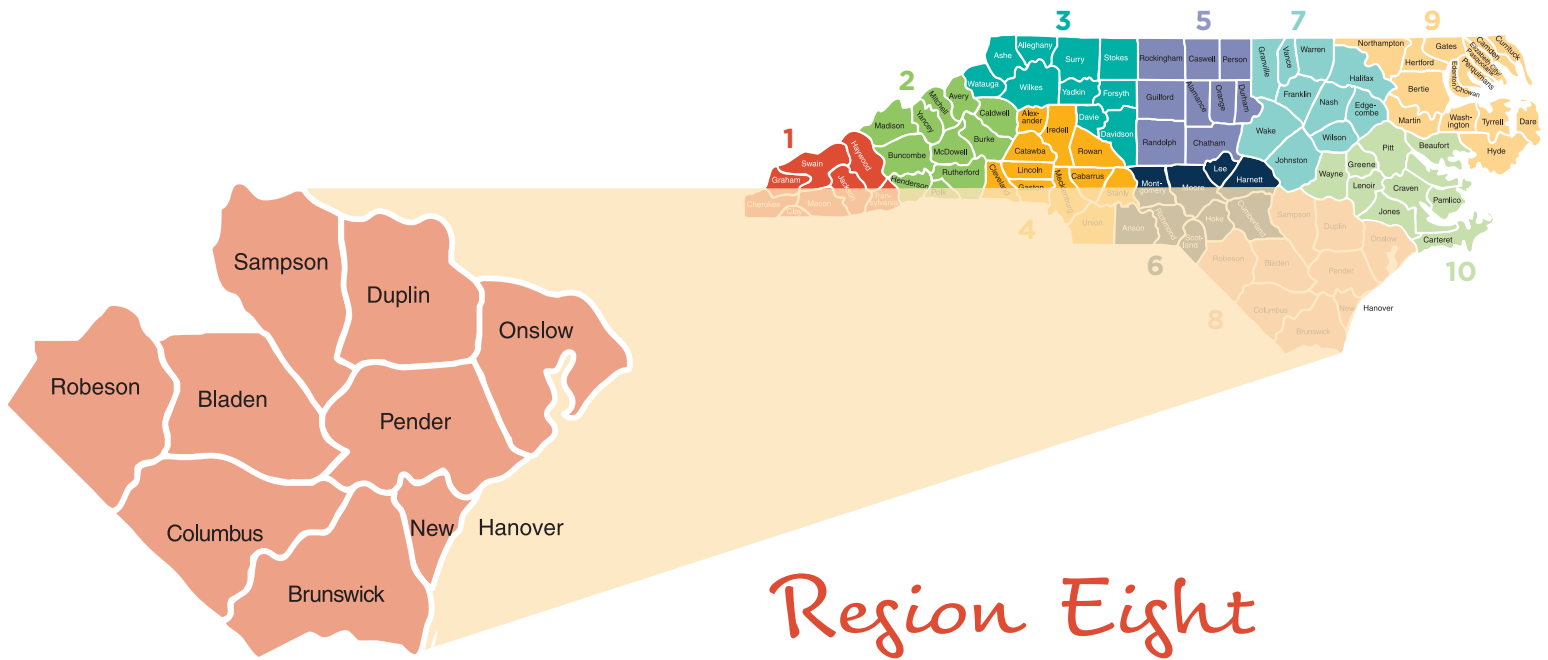
The ROHA identified possible obstacles to meeting the perinatal oral health goal. These include material printing costs for brochures/flyers, securing time and interest of patients and providers for screenings and education, and meeting dental treatment needs of women during the short time they receive Pregnancy Medicaid. Medicaid for Pregnant Women's dental coverage ends at birth of child.

Potential barriers to meeting the tobacco control goals are similar to those previously listed. They include printing costs and facility participation. There may be difficulty in getting targeted facilities to agree to post signage on oral health topics, for instance. Or other facilities, upon contact by ROHA member and showing interest in oral health activities, may not follow-up with regional tobacco control coordinator for follow-up training.

Measuring Success

The tracking system to measure our progress and success will be our future versions of the Regional Oral Health Snapshot. The Public Health Epidemiologist for the Oral Health Section will update this data visualization tool, and upon doing so, progress should be reflected with improved oral health data points. All activities cannot be tracked in the Snapshot. It is not designed to track the number of those who have healthy habits such as daily tooth brushing or low-sugar diets, for example. Nor does it track health literacy. However, by increasing our work in the Region Seven Oral Health Improvement Plan, we may see improved oral health reflected in multiple data points on the Regional Oral Health Snapshot.





Region Eight

Located in the southeastern part of North Carolina, Region Eight is well known for its cotton, tobacco, wine vineyards and beautiful beaches. It is also home to the Marine Corps Base Camp Lejeune. The estimated population for the region is 926,589. Region Eight is home to New Hanover County where Wilmington, North Carolina’s largest coastal city is located and 23% of the region’s population lives. While the median household income is \$40,401, a fifth of the region’s residents are living below the federal poverty line. The highest concentration of residents living in poverty are in Bladen, Duplin, and Robeson counties.

Although 13.2% of North Carolinians do not have health insurance, the prevalence is higher for Region Eight at 15%. The highest concentration of residents without health insurance are in Duplin, Robeson, and Sampson counties. Differences pertaining to levels of education between counties, the percentage of families struggling to pay rent and utilities, residents without access to a vehicle, and 46 Census Tracts classified as food deserts also influence health.³⁰


³⁰ From “North Carolina Social Determinants of Health - Local Health Departments Region 8,” *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44ea1e0d7af43f4702b>.

CHILDREN

SOCIAL DETERMINANTS


ADULTS

1




14.1%
of kindergarten children have untreated tooth decay

2




51.5% ^
of adults have access to dental insurance

3




17.0%*
of pregnant women have untreated tooth decay

4




7,731+
children aged 6-14 years received sealants by Medicaid Dental Providers.

5




96.7% of the population served by public water systems receive fluoridated water

6




45.6%
of adults aged 18+ years have had permanent teeth extracted

7




49.8%
of Medicaid eligible children & teens aged 1-20 years received preventive dental services

8




7.8% of middle school students and
23.8% of high school students who currently use e-cigarettes

9




21.0% of adults aged 65+ years had all of their permanent teeth extracted

10




54.8% of Medicaid eligible children aged 1-2 years received preventive oral health services

11



20.0% of adults currently smoke cigarettes

12



16.1%
of adults last visited a dentist 5 or more years ago

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • ^ Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region Eight Oral Health Improvement Plan

Over the next several years, the Regional Oral Health Alliance (ROHA) for Region Eight is committed to partnering to improve oral health of its most vulnerable residents by addressing three population groups: early childhood, school aged children and those who smoke. This Alliance will work to address social determinants of health, support collaborative practice models and improve oral health literacy.

Early Childhood Oral Health Improvement Plan

For this target population, Region Eight's Oral Health Snapshot shows:

- 51.6% of children aged 1-2 years have received preventive oral health services through Medicaid.
- 14.1% of kindergarten children have untreated tooth decay.

GOALS:

- Decrease % of kindergarten children with untreated decay.
- Increase % of children aged 1-2 years that have received preventive oral health services through Medicaid.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Promote healthy dental habits by sharing messages childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.
- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the IMB program by supporting provider training.
- Increase provider participation in the IMB program by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Connect the public, dental teams, and policy makers to the ToothTalk website.
- Select and promote an effective social media campaign on the importance of appropriate daily use of fluoride in collaboration with the Regional Alliance.
- Promote the importance of appropriate daily use of fluoride toothpaste through messages to childcare facilities and parents or guardians of infants and toddlers.
- Provide “Baby Teeth are Important” educational banner in early childhood facilities such as pediatric offices, health departments and dental offices.

Childhood Oral Disease Prevention Plan

For this target population, Region Eight’s Oral Health Snapshot shows:

- 7,731 children received sealants from a Medicaid dental provider.
- 49.8% of Medicaid eligible children and teens ages 1-20 years received preventive dental services.

GOAL:

- Increase the number of children and teens aged 1-20 years receiving preventive dental services through Medicaid.

STRATEGY ONE: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITY:

- Support collaborative practice between school health administrators and community dental providers.

STRATEGY TWO: Improve the Oral Health of North Carolinians by supporting evidenced-based preventive practices.

ACTIVITIES:

- Promote dental sealant application in the patients’ dental home.
- Support community dental sealant projects in Give Kids a Smile day campaigns.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Include a dental preventive health message in the school nurse newsletter.
- Select and promote an effective social media campaign for “Give Kids A Smile Day” activities.

Tobacco Control Plan

For this target population, Region Eight's Oral Health Snapshot shows:

- 7.8% of middle school students use e-cigarettes.
- 23.8% of high school students use e-cigarettes.
- 20% of adults currently smoke cigarettes.

GOALS:

- Decrease % of middle schoolers using e-cigarettes.
- Decrease % of high schoolers using e-cigarettes.
- Decrease % of adults using cigarettes.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Address youth vaping by promoting tobacco cessation counseling and other cessation aids.
- Address youth vaping by supporting the evidence-based school health tobacco prevention program (ex. Catch My Breath, Tox Box, etc.).
- Promote the NC Quit Line.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Partner with regional tobacco prevention manager to increase healthcare provider referrals to counseling for smoking cessation through training providers on the 5A's of smoking cessation: Ask, Advise, Assess, Assist, and Arrange.
- Decrease the proportion of youth vaping by providing training and tools to school administrators on tobacco cessation.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Select and promote an effective social media campaign on the dangers of tobacco, such as TRU, on Facebook, Twitter, Instagram.
- Promote messages on the dangers of smoking/vaping and oral health information in newsletters distributed by regional tobacco prevention manager and school newsletters.
- Participate in Health Fairs and Career Days at targeted schools to increase awareness and dangers of e-cigarette use.

Potential Barriers

The Region Eight ROHA identified potential implementation barriers to its action plan. There are a number of possible obstacles to meeting the early childhood oral health goals. They can stem from medical and dental providers, childcare facilities or from the parents themselves. Specifically, Alliance members felt that lack of buy-in or non-compliance of participating healthcare practices could be a problem, limited access to childcare facilities and hesitation of these facilities to brush the children's teeth (due to COVID-19) and even a lack of follow through by the parent/caregiver due to cost, transportation, and/or distance to care.

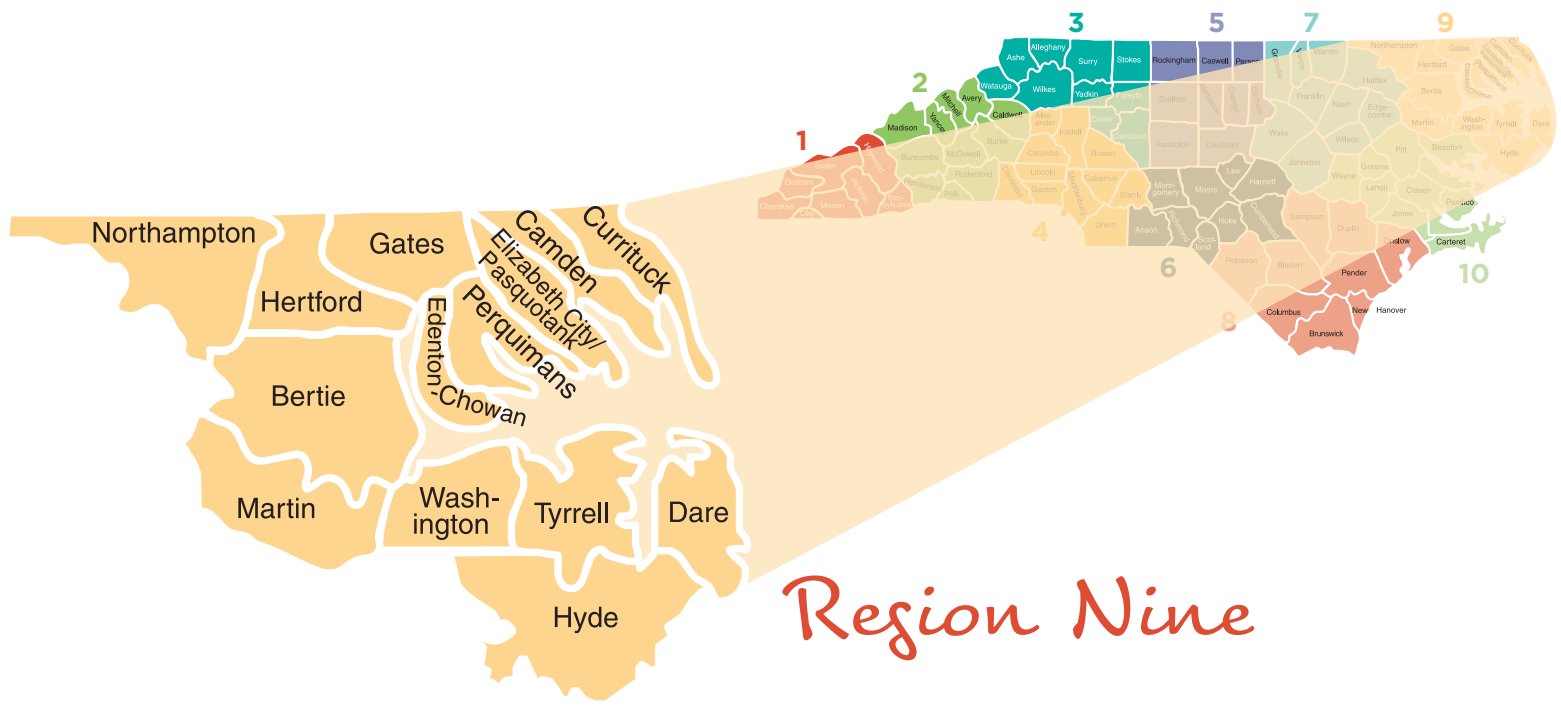
The ROHA determined that the childhood oral health prevention goal might face barriers, too. Those include possible difficulty securing time and interest (of dentists and parents) for planned activities, lack of funds to promote campaigns/projects, and difficulty accessing facilities for campaign and projects during the coronavirus pandemic. Finally, the region Seven ROHA felt that healthcare providers may not incorporate the skills outlined in the "5A's" training for smoking cessation as the chief barrier in meeting the tobacco control goals.

Measuring Success

The tracking system to measure progress toward goals and plan success will be the Regional Oral Health Snapshot. The Oral Health Section will update Oral Health Snapshots. As the alliance addresses oral health goals in the Region Eight Oral Health Improvement Plan, the health of its residents improves.

Even activities that are not reflected on the Snapshot, (training for a healthy habit does not represent that a healthy habit has been established, nor is there a measurement for oral health literacy) by including activities in these areas, we may see compounded effects of improved oral health reflected in the data that is represented on the Snapshots.





Region Nine

The counties comprising Region Nine are in northeastern North Carolina, home to the beautiful Outer Banks. Approximately 15% of the region’s population of 260,836 live in Pasquotank County. The region’s median household income is \$42,544, almost \$10,000 less than the state median, with 17.1% living below the federal poverty line, with most living in Chowan, Hertford, Tyrrell, and Northampton counties.

Mirroring the percentage of those living below the federal poverty line, 17.1% of residents do not have health insurance. Dare, Hyde, and Tyrrell counties have the highest prevalence of uninsured residents. Although Region Nine has only 13 Census Tracts that have been classified as food deserts, education levels vary significantly among the counties. While only 7.5% of Dare County’s residents do not have a high school diploma, 27% of Tyrrell County residents do not have a high school diploma.³¹

³¹ From “North Carolina Social Determinants of Health - Local Health Departments Region 9,” *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44eaa1e0d7af43f4702b>.

NC ORAL HEALTH REGIONAL SNAPSHOT

REGION 9

CHILDREN	SOCIAL DETERMINANTS	ADULTS
<p>1</p> <p>16.8% </p> <p>of kindergarten children have untreated tooth decay</p>	<p>2</p> <p>54.3% [^] </p> <p>of adults have access to dental insurance</p>	<p>3</p> <p>20.0%* </p> <p>of pregnant women have untreated tooth decay</p>
<p>4</p> <p>1,847+ </p> <p>children aged 6-14 years received sealants by Medicaid Dental Providers.</p>	<p>5</p> <p>74.8% of the population served by public water systems receive fluoridated water </p>	<p>6</p> <p>50.8% </p> <p>of adults aged 18+ years have had permanent teeth extracted</p>
<p>7</p> <p>46.0% </p> <p>of Medicaid eligible children & teens aged 1-20 years received preventive dental services</p>	<p>8</p> <p>7.8% of middle school students and 23.8% of high school students who currently use e-cigarettes </p>	<p>9</p> <p>18.5% </p> <p>of adults aged 65+ years had all of their permanent teeth extracted</p>
<p>10</p> <p>51.6% of Medicaid eligible children aged 1-2 years received preventive oral health services </p>	<p>11</p> <p>18.5% </p> <p>of adults currently smoke cigarettes</p>	<p>12</p> <p>12.7% </p> <p>of adults last visited a dentist 5 or more years ago</p>

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • + Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region Nine Oral Health Improvement Plan

Over the next several years, the Regional Oral Health Alliance (ROHA) for Region Nine is committed to partnering to improve oral health of its most vulnerable residents by addressing two population groups: children ages 1-20 and those who smoke. This Alliance will work to address social determinants of health, support collaborative practice models and improve oral health literacy.

Childhood Oral Disease Prevention Plan

For this target population, Region Nine's Oral Health Snapshot shows:

- 1,874 children aged 6-14 received sealants from a Medicaid dental provider
- 17% of the population served by public water systems receive fluoridated water.

GOALS:

- Increase the number of children receiving sealants from a Medicaid dental provider.
- Maintain existing level of community water fluoridation.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Support collaborative practice between school health administrators and community dental providers.
- Increase the number of providers participating in the IMB program by supporting provider training.
- Increase provider participation in the IMB program by strengthening and supporting care coordination through effective referral lists.



STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote “Ask Me About Dental Sealants” brochures in areas where parents will see them.
- Participate in community health fairs to offer information on the importance of fluoride.
- Connect the public, dental teams, and policy makers to the ToothTalk website.

Tobacco Control Plan

For this target population, Region Nine’s Oral Health Snapshot shows:

- 7.8% of middle school students use e-cigarettes.
- 23.8% of high school students use e-cigarettes.
- 18.5% of adults currently smoke cigarettes.

GOALS:

- Decrease the percentage of middle school students using e-cigarettes.
- Decrease the percentage of high school students using e-cigarettes.
- Decrease the percentage of adults who smoke.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Decrease the proportion of youth vaping through tobacco cessation counseling and other cessation aids.
- Support the evidence-based school-wide health tobacco prevention program (ex. Catch My Breath, Tox Box, etc.) to school administrators.
- Promote the QuitlineNC.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Provide training to caregivers of pregnant women on the dangers of tobacco use during pregnancy and tobacco cessation.
- Increase perinatal referrals to counseling for smoking cessation through training physicians/dentists on the 5A's of smoking cessation: Ask, Advise, Assess, Assist, and Arrange.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Share message in the publication “Healthy Beginnings” about the dangers of smoking/vaping during pregnancy and oral health information.
- Incorporate messages from the regional tobacco prevention manager in perinatal trainings to providers of pregnant women and maternity support services.
- Increase signage about the NC Quit line where high schoolers and adults, including pregnant women will see them.
- Participate in community health fairs to distribute information on the dangers of vaping and e-cigarettes.





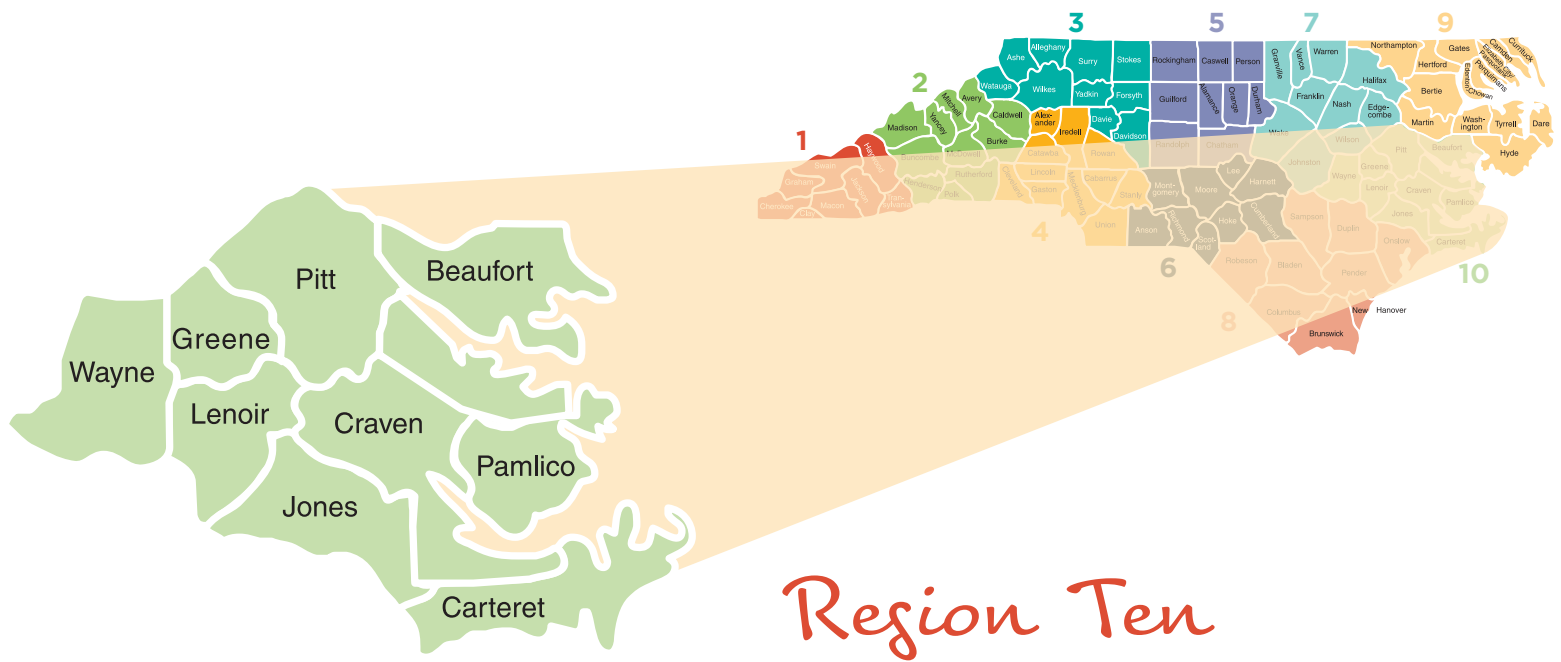
Potential Barriers

The ROHA membership identified potential implementation barriers to meeting the goals in the Region Nine Oral Health Improvement Plan. Possible obstacles to the school health preventive services goals are the difficulty in acquiring approval to hold school-based dental sealant projects by school boards, principals and parents, and inability to counter misinformation on the safety of fluoride. Due to COVID-19, these difficulties are compounded by the limited access to schools to share oral health information and to offer dental preventive services. Possible barriers to meeting the tobacco control goals are similar and include funding issues. Specifically, the ROHA felt that securing interest and finding the time for training, countering misleading information about tobacco, e-cigarettes and vaping and lack of funds to carry out activities in the tobacco control plan are the main problems.

Measuring Success

The tracking system to measure our progress and success will be our Regional Oral Health Snapshot. As the Public Health Epidemiologist for the Oral Health Section updates this data visualization tool, progress should be reflected with an improved data point. As our region addresses its oral health goals, we expect the data points to improve.

Although not all activities have a corresponding data point on the Snapshot, it is generally thought that by partnering and increasing our work to address oral health influencers, improved oral health may be reflected in the data on the Regional Oral Health Snapshot for Region Nine.



Region Ten

Region Ten is the eastern part of North Carolina, known for its beautiful beaches and outdoor sporting activities. It is home to East Carolina University and two military installations: Seymour-Johnson Air Force Base and Cherry Point Marine Corps Air Station. The region’s population is estimated to be 622,387, with 28% residing in Pitt County. The median household income for Region Ten is \$41,585 and a fifth of the population lives below the federal poverty line. The highest concentrations of poverty are located in Pitt, Greene, and Jones counties.

Like other regions, the indices used to measure SDOH vary by county. Fourteen percent of Region Ten’s residents are uninsured, with the highest concentration of the uninsured living in Pitt, Greene, and Jones counties. Education varies greatly by county: only 10% of Carteret County residents do not have a high school diploma while Greene County has 24.9% without a diploma. While lower than a few other regions, Region Ten has 45 Census Tracts that have been classified as food deserts.³²

³² From “North Carolina Social Determinants of Health - Local Health Departments Region 10,” *North Carolina Social Determinants of Health by Regions*, NC State Center for Health Statistics, 2020, <https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=def612b7025b44ea1e0d7af43f4702b>

CHILDREN	SOCIAL DETERMINANTS	ADULTS
<p>1</p>  <p>18.8% of kindergarten children have untreated tooth decay</p>	<p>2</p>  <p>54.3% ^ of adults have access to dental insurance</p>	<p>3</p>  <p>33.0%* of pregnant women have untreated tooth decay</p>
<p>4</p>  <p>5,073+ children aged 6-14 years received sealants by Medicaid Dental Providers.</p>	<p>5</p>  <p>74.5% of the population served by public water systems receive fluoridated water</p>	<p>6</p>  <p>50.8% of adults aged 18+ years have had permanent teeth extracted</p>
<p>7</p>  <p>48.7% of Medicaid eligible children & teens aged 1-20 years received preventive dental services</p>	<p>8</p>  <p>7.8% of middle school students and 23.8% of high school students who currently use e-cigarettes</p>	<p>9</p>  <p>18.5% of adults aged 65+ years had all of their permanent teeth extracted</p>
<p>10</p>  <p>65.4% of Medicaid eligible children aged 1-2 years received preventive oral health services</p>	<p>11</p>  <p>18.5% of adults currently smoke cigarettes</p>	<p>12</p>  <p>12.7% of adults last visited a dentist 5 or more years ago</p>

DATA SOURCE: 1 NC Calibrated Dental Assessment 2019-2020 • 2, 6, 9, 12 NC BRFSS 2018 • 3 NC Perinatal BSS 2016 • 4, 7, 10 CMS-416 NC Annual EPSDT Report 2019 • 5 CDC WFRS 2019 • 8 NC Youth Tobacco Survey 2019 • 11 NC BRFSS 2019 • * Convenience sample of pregnant women • + Regional differences may be reflective of privacy rules • ^ Results are weighted to population totals

Region Ten Oral Health Improvement Plan

Over the next several years, the Regional Oral Health Alliance (ROHA) for Region Ten is committed to partnering to improve oral health of their most vulnerable residents by addressing three population groups: early childhood, pregnant women and those who smoke, use e-cigarettes and vape. This alliance will work to address social determinants of health, support collaborative practice models, improve oral health literacy and promote evidence-based oral disease prevention.

Early Childhood Oral Health Improvement Plan

For this target population, Region Ten's Oral Health Snapshot shows:

- 83% of population served by public water systems receive fluoridated water.
- 18.8% of kindergarten children have untreated tooth decay.

GOALS:

- Maintain percent of population served by public water systems receiving fluoridated water.
- Decrease % of kindergarten children with tooth decay.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Promote community water fluoridation with evidence-based fluoride literature.
- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Promote healthy dental habits by sharing messages childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.

STRATEGY TWO: Improve the oral health of North Carolinians by promoting the use of evidenced-based disease prevention.

ACTIVITIES:

- Support fluoride in all forms: community water fluoridation, silver diamine fluoride application, fluoride mouth rinse and daily tooth brushing with fluoride toothpaste.
- Increase the number of providers participating in the IMB program by supporting provider training.
- Increase provider participation in the IMB program by strengthening and supporting care coordination through effective referral lists.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote Centers for Disease Control and Prevention (CDC) information on safety of fluoride.
- Promote community water fluoridation.
- Connect the public, dental teams, and policy makers to the ToothTalk website.

Perinatal Oral Health Improvement Plan

For this target population, Region Ten's Oral Health Snapshot shows:

- 33% of pregnant women have untreated tooth decay.

GOAL:

- Decreasing the % of pregnant women with untreated dental caries.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020.
- Encourage additional dentists to enroll in Medicaid by assisting provider in strengthening and supporting his/her referral system.
- Increase the proportion of pregnant women getting dental services by supporting enrollment into Medicaid for Pregnant Women.

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by supporting provider training.
- Increase the number of providers participating in the *North Carolina Collaborative Practice Framework* perinatal program by strengthening and supporting care coordination through effective referral lists.
- Geographically expand a successful existing protocol of care coordination between maternity programs/providers and dentists.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote messages found in the *North Carolina Collaborative Practice Framework* for providers to use with their pregnant patients on the importance of oral health during pregnancy.
- Post “Oral Healthcare during Pregnancy” educational banner in facilities such as medical offices, health departments, pregnancy centers and dental offices.
- Select and promote an effective social media campaign on the importance of oral health during pregnancy.
- Distribute the *North Carolina Collaborative Practice Framework* to regional stakeholders.

Tobacco Control Plan

For this target population, Region Ten’s Oral Health Snapshot shows:

- 7.8% of middle school students currently use e-cigarettes.
- 23.8% of high school students currently use e-cigarettes.

GOALS:

- Decrease % of middle schoolers who use e-cigarettes.
- Decrease % of high schoolers who use e-cigarettes.

STRATEGY ONE: Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Promote “raise the age” legislation through messaging to high schools using tobacco consultant resources.
- Decrease the proportion of youth vaping by providing training and tools to school administrators on tobacco cessation.
- Provide training to school administrators on the evidence-based school health tobacco prevention program (ex. Catch My Breath, Tox Box, etc.).

STRATEGY TWO: Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase dental referrals to counseling for smoking cessation through training dentists on the 5A’s of smoking cessation: Ask, Advise, Assess, Assist, and Arrange.
- Provide evidence-based prevention programs such as CATCH and Tox Box to middle and high school students.
- Increase the awareness of non-dental healthcare providers about the dangers of youth vaping by providing training and tools on tobacco cessation.
- Use referral system to connect students with addiction/cessation programs.

STRATEGY THREE: Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Select and promote an effective social media campaign, such as TRU.
- Share messages about the dangers of vaping and oral health information in newsletters distributed by regional tobacco prevention manager and school nurses.
- Promote “raise the age” legislation through messaging campaigns in high schools using tobacco consultant resources.

Potential Barriers

The ROHA identified potential implementation barriers to meeting the Region Ten Oral Health Improvement Plan goals. Possible obstacles in the early childhood oral health goal surround facing the anti-fluoridation activities in the area, which could play into the health literacy of the community. Working in this arena in the time of COVID-19 brings complications, specifically, the limits to access childcare facilities and hesitation of these facilities to brush the children’s teeth due to concerns of spreading the virus. Additionally, this population group, those in early childhood, make up a somewhat transient population group.

Potential barriers to meeting the perinatal oral health goal include securing the time and interest of health professionals for training and finding dental care for non-insured pregnant women. Finally, the ROHA identified several obstacles to meeting the tobacco control goals including difficulty securing the time targeted audiences for trainings, and lack of attendance to tobacco cessation programs if referred.

Measuring Success

Region Ten’s ROHA is committed to evaluating the effectiveness of the Region Ten Oral Health Improvement Plan. Foundational to measuring ROHA success will be our Regional Oral Health Snapshot. The Oral Health Section will update Regional Oral Health Snapshots and, as our ROHA membership implements our planned activities over the next several years, the data points should show improvement. Of course, not all activities are directly reflected in the Oral Health Snapshot. Outcomes to training that result in an altered habit or incorporate a program as a result of participating in a training is not tracked, nor does it track health literacy. However, by increasing our work in these areas (healthy habits and health literacy), we may see improved oral health reflected in the data on the Snapshots.

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North Carolina Early Childhood Oral Health Improvement Plan

Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage dentists to enroll in Medicaid by highlighting the 10% increase in dental reimbursement rates of 2020 and by supporting his/her referral system.
- Promote a region-wide campaign of the Brush, Book, Bed program.
- Promote community water fluoridation with evidence-based fluoride literature.

Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase provider participation in the IMB program by offering provider training and strengthening and supporting care coordination through effective referral lists or interdepartmental referrals.
- Support collaborative practice between school health nurses and community dental providers.
- Disseminate a list of dentists accepting Medicaid to medical providers, CCHC's (Child Care Health Consultants) childcare centers and health/community fairs.

Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Use social media to promote the importance and care of primary (baby) teeth and the importance and appropriate daily use of fluoride.
- Promote the **Brush, Book, Bed** program.
- Provide "Baby Teeth are Important" educational banner in early childhood facilities.
- Connect the public, childcare providers, healthcare providers, and policy makers to the ToothTalk and pOHP (UNC) websites, which have English and Spanish pages.
- Develop a policy for interdepartmental referrals (WIC to the dental clinic and vice versa).
- Offer messages childcare facilities can send to parents/guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste and varnish.
- Distribute education materials and referral lists to parents through Early Head Start, Care Coordination for Children, Parents as Teachers and health fairs.
- Share messages about a dental home by age one on school and health department websites.
- Promote CDC's messages on the importance and safety of fluoride (toothpaste and community water fluoridation) at community fairs and in schools.

Improve the oral health of North Carolinians by promoting the use of evidenced-based disease prevention.

ACTIVITIES:

- Increase the number of childcare facilities implementing programs that highlight the importance of appropriate daily use of fluoride toothpaste.
- Promote CDC’s messages on the importance and safety of fluoride
- Support fluoride in all forms: community water fluoridation, silver diamine fluoride application, fluoride mouth rinse and daily tooth brushing with fluoride toothpaste.

North Carolina Perinatal Oral Health Plan

Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 2020 increase in dental reimbursement rates by 10% and by assisting provider in supporting his/her referral system.
- Increase access to dental insurance by supporting enrollment into Medicaid for Pregnant Women.
- Decrease the number of women that smoke during pregnancy by promoting smoking cessation activities.

Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase provider participation in the Oral Health Care During Pregnancy: *North Carolina Collaborative Practice Framework* through provider training, engagement, and by supporting referrals and care coordination.
- Increase perinatal referrals to counseling for smoking cessation through medical-dental provider training on the 5A’s of smoking cessation: **Ask, Advise, Assess, Assist, and Arrange**.
- Provide training to caregivers of pregnant women on the dangers of tobacco use during pregnancy and tobacco cessation.
- Share referral lists and support referrals from non-healthcare providers from WIC to the dental clinic and vice versa.

Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Promote messages found in the Oral Health Care During Pregnancy: *North Carolina Collaborative Practice Framework* for providers to use with their pregnant patients on the importance of oral health during pregnancy.
- Post “Oral Healthcare During Pregnancy” educational banner and offer the brochure in facilities such as medical offices, health departments, pregnancy centers and dental offices.



- Incorporate messages from the Regional Tobacco Prevention Manager in perinatal provider trainings, maternity support services and in newsletters or in the publication, *Healthy Beginnings*.
- Place **QuitlineNC** signage where pregnant student and adults can see them.
- Use a social media campaign to promote the importance of oral health during pregnancy.
- Offer perinatal oral health education for staff and clients of Pregnancy Care Centers.
- Promote oral health best practices by connecting pregnant women, healthcare providers and policy makers to the ToothTalk, perinatal oral health program (pOHP) and baby oral health program (bOHP) websites.
- Increase the number of co-located dental safety net offices that have a policy incorporating the Oral Health Care During Pregnancy: *North Carolina Collaborative Practice Framework* recommendations for oral health professionals.

North Carolina Tobacco Control Oral Health Plan

Improve the oral health of North Carolinians by addressing social determinants of health and promoting healthy habits.

ACTIVITIES:

- Provide training to school nurses, counselors, teachers to encourage use of evidence-based tobacco cessation programs, such as 5A's Brief Cessation Counseling, NOT Program and **QuitlineNC**.
- Support evidence-based school-wide health tobacco prevention programs to school administrators (ex. Catch my Breath, ASPIRE and INDEPTH).
- Promote “raise the age” legislation through messaging to high schools using tobacco consultant resources.
- Promote tobacco cessation counseling and other cessation aids.

Improve the oral health of North Carolinians by supporting collaborative practice models to expand access and increase utilization of dental services.

ACTIVITIES:

- Increase dental referrals to counseling for smoking cessation through training dentists on the 5A's of smoking cessation: **Ask, Advise, Assess, Assist, and Arrange**.
- Provide training and tools to healthcare providers on screening and referring for tobacco cessation.
- Provide training and tools to school administrators on tobacco cessation.
- Provide training to caregivers of pregnant women on the dangers of tobacco use during pregnancy and tobacco cessation.

Improve the oral health of North Carolinians by promoting the use of evidenced-based disease prevention.

ACTIVITIES:

- Support the evidence-based, school-wide health tobacco prevention program (ex. Catch My Breath).
- Encourage schools to utilize either Aspire or INDEPTH Alternative to Suspension Programs for students caught vaping on campus.

Improve the oral health literacy of North Carolinians through culturally competent messages that educate the public, dental teams, and policy makers.

ACTIVITIES:

- Select and promote an effective social media campaign on the dangers of tobacco, such as TRU.
- Promote messages on the dangers of smoking/vaping and oral health information in newsletters distributed by regional tobacco prevention manager and school newsletters.
- Participate in Health Fairs and Career Days to increase awareness of dangers of e-cigarette use.
- Provide training through MAHEC on e-cigarettes and other emerging products and tobacco cessation with healthcare providers, policy makers and school personnel.

- Promote messages on the dangers of smoking during pregnancy and the value of smoking cessation programs found in the *North Carolina Collaborative Practice Framework*.
 - Increase QuitlineNC signage in areas where high schoolers and adults will notice them.
 - Share message in the publication “Healthy Beginnings” about the dangers of smoking/vaping during pregnancy, and oral health information.
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North Carolina Social Determinants of Oral Health Plan

EARLY CHILDHOOD

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 2020 increase in dental reimbursement rates and by supporting their practice’s referral system.
- Promote a region-wide campaign of the **Brush, Book, Bed** program.
- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs.
- Sharing messages childcare facilities can send to parents/guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste.
- Promote community water fluoridation with evidence-based fluoride literature.

PERINATAL

ACTIVITIES:

- Encourage additional dentists to enroll in Medicaid by highlighting the 2020 increase in dental reimbursement rates and by supporting their practice’s referral system.
- Increase access to dental insurance by supporting enrollment into Medicaid for Pregnant Women.
- Decrease the number of pregnant women that smoke by promoting smoking cessation through provider training, smoking cessation program enrollment and promoting smoking cessation messages.

TOBACCO CONTROL

ACTIVITIES:

- Provide training and tools to school administrators on tobacco cessation.
- Provide training to school nurses, counselors, and school teachers through MAHEC and other venues to encourage use of evidence-based tobacco cessation programs.
- Support evidence-based, school-wide health tobacco prevention programs to school administrators and school nurses.
- Promote “raise the age” legislation through messaging to high schools using tobacco consultant resources.
- Increase **QuitlineNC** signage in areas where high schoolers and adults will notice them.

North Carolina Evidence Based Oral Disease Prevention Plan

EARLY CHILDHOOD

ACTIVITIES:

- Increase the number of childcare facilities implementing the Toothbrushing Is Fun and/or Smile Crusaders programs, which highlight the importance of appropriate daily use of fluoride toothpaste.
- Increase the number of providers participating in the IMB program by supporting provider training.
- Support fluoride in all forms: community water fluoridation, silver diamine fluoride application, fluoride mouth rinse and daily tooth brushing with fluoride toothpaste.

CHILDHOOD

ACTIVITIES:

- Provide preventive sealants to children and teens through sealant projects at schools and community sites.
- Increase local health department and Federally Qualified Health Clinic (FQHC) driven sealant projects.
- Promote dental sealant application in the patients' dental home.
- Increase the number of providers participating in the IMB program by supporting provider training.
- Support community dental sealant projects in Give Kids a Smile day campaigns.

TOBACCO CONTROL

ACTIVITIES:

- Support the evidence-based, school-wide health tobacco prevention programs.
- Encourage schools to utilize either Aspire or INDEPTH Alternative to Suspension Programs for students caught vaping on campus.



North Carolina Collaborative Practice Oral Health Plan

EARLY CHILDHOOD

ACTIVITIES:

- Increase provider participation in the Into the Mouths of Babies (IMB) program by supporting provider training and supporting care coordination through effective referral lists or interdepartmental referrals.
- Support collaborative practice between school nurses and community dental providers.
- Ensure Child Care Health Consultants (CCHC) have resource list of local providers.
- Disseminate a list of dentists accepting Medicaid to medical providers, CCHC, childcare centers and at health/community fairs.

CHILDHOOD

ACTIVITIES:

- Increase the number of dentists/physicians participating in oral health services by strengthening and supporting their referral system.
- Support collaborative practice between school nurses and community dental providers and their implementation of mobile clinics and referrals to dental homes.
- Promote school-based and community-based sealant projects in high-need areas and schools.

PERINATAL

ACTIVITIES:

- Increase the number of providers participating in the Oral Health Care During Pregnancy: *North Carolina Collaborative Practice Framework* through provider training, engagement, and by supporting referrals and care coordination.
- Increase perinatal referrals to counseling for smoking cessation by training physicians/dentists on the 5A's of smoking cessation: Ask, Advise, Assess, Assist, and Arrange.
- Share dental provider referral lists and support referrals from non-healthcare providers such as Pregnancy Care Centers and Women, Infants, Children (WIC).

TOBACCO CONTROL

ACTIVITIES:

- Increase perinatal referrals to counseling for smoking cessation by training physicians/dentists on the 5A's of smoking cessation: **Ask, Advise, Assess, Assist, and Arrange**.
- Provide training and tools to school administrators on tobacco prevention programs.
- Provide training and tools to healthcare providers on screening and referring for tobacco cessation.

North Carolina Oral Health Literacy Plan

EARLY CHILDHOOD

- Use social media to promote the importance of primary (baby) teeth and the importance of appropriate daily use of fluoride.
- Promote a region-wide campaign of the **Brush, Book, Bed** program.
- Provide “Baby Teeth are Important” educational banner in early childhood facilities.
- Connect the public, childcare providers, healthcare providers and policy makers to the ToothTalk and pOHP (UNC) websites, which have English and Spanish pages.
- Offer messages that childcare facilities can send to parents/ guardians of their enrolled infants and toddlers on the importance of appropriate daily use of fluoride toothpaste and varnish.
- Distribute oral health education material and a Medicaid dental provider list to parents through Early Head Start, Care Coordination for Children, Parents as Teachers, and health fairs.
- Share oral health preventive messages on school and health department websites.
- Promote Centers for Disease Control and Prevention (CDC) information on safety of fluoride toothpaste and community water fluoridation at community fairs and in schools.

PERINATAL

- Select and promote an effective social media campaign on maintaining oral health during pregnancy.
- Promote messages found in the Oral Health Care During Pregnancy: *North Carolina Collaborative Practice Framework* for providers to use with their pregnant patients on the importance of oral health during pregnancy.
- Post “Oral Healthcare During Pregnancy” educational banner in facilities such as medical offices, health departments, pregnancy centers and dental offices.

TOBACCO CONTROL

- Select and promote an effective social media campaign on the dangers of tobacco and the dangers of vaping on Facebook, Twitter, Instagram.
- Promote messages on the dangers of smoking during pregnancy and the value of smoking cessation programs found in the *North Carolina Collaborative Practice Framework*.
- Share message in the publication, Healthy Beginnings, and newsletters distributed by the regional tobacco prevention managers about the dangers of smoking/vaping during pregnancy and oral health information.
- Promote messages on the dangers of smoking/vaping and oral health information in school newsletters, career days and health fairs.
- Promote “raise the age” legislation through messaging campaigns in high schools.
- Increase signage about **QuitlineNC** where high schoolers and adults, including pregnant women will see them.



