

Oral Health Data Gaps and Needs in North Carolina

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Effective oral health-related policymaking and program implementation rely on comprehensive, accurate, and timely data. This commentary will address the lack of data available and the need for a robust data dashboard, in addition to the importance of community water fluoridation.

Introduction

The North Carolina Department of Health and Human Services Division of Public Health's Oral Health Section is deeply committed to improving the oral health of our residents, especially those most at risk. Oral health is a critical component of overall health, yet it often receives less attention than it deserves. The goal of the Oral Health Section is to foster conditions in which all North Carolinians can attain oral health as an integral part of their overall health. Effective oral health-related policymaking and program implementation rely on comprehensive, accurate, and timely data. However, our state faces significant gaps in obtaining certain oral health data, which hinders our ability to make informed decisions and allocate resources effectively. This commentary will address the lack of data available and the need for a robust data dashboard and discuss the *Portrait of Oral Health*, which identifies North Carolina residents' current oral health status and the progress that has been made over 20 years, as well as obstacles for oral health and where improvements can be made [1]. We also highlight the importance of community water fluoridation and improvement of access to oral health programs, especially in schools.

Portrait of Oral Health in North Carolina

The "Portrait of Oral Health" is a critical document that provides a comprehensive overview of the state's oral health status [1]. It serves as a valuable reference for understanding current conditions and identifying areas for improvement. It not only draws attention to the impact of poor oral health on one's overall health but also on one's well-being, including self-esteem and quality of life.

Lack of Data Available

During the COVID-19 pandemic and since, it has become more difficult to obtain comprehensive oral health data, even though the Oral Health Section has one of the most

comprehensive oral health surveillance systems in the United States [2]. While data collection occurs according to a scheduled basis, it has been difficult to follow this schedule for all populations in recent years, resulting in significant gaps in our understanding of the oral health status of our population. Key areas where data is lacking include:

Children's Oral Health: The COVID-19 pandemic disrupted data collection efforts, especially with school closures affecting the annual Kindergarten Basic Screening Survey (BSS). Consequently, there are gaps in oral health outcome data for the years 2020 to 2022 within this population.

Adult and Senior Oral Health: Consistent data on adult and senior oral health are even more sparse. Older adult surveillance is a relatively new initiative that began in 2016 [3], with plans for it to be conducted every five years. Unfortunately, plans for the older adult BSS surveillance activity in 2020 were halted due to the pandemic, resulting in a lack of data for that year. Routine surveillance is critical to monitoring issues such as periodontal disease, tooth loss, and caries among these populations.

Access to Care: Social determinants of health are non-medical conditions of individuals' environments that affect their health and well-being. Transportation access, ability to take time off from work, insurance, and disposable income all are factors at play that affect people's health, including oral health. According to Healthy People 2030, social determinants of health have five domains, one of which is health care access and quality [4].

Access to dental providers themselves is an issue of particular concern to North Carolina. In North Carolina, 97 out of 100 counties are partially or fully designated as Dental Health Professional Shortage Areas by the North Carolina Office of Rural Health, presenting significant challenges to access [5].

Although North Carolina's recent Medicaid expansion aims to improve access to dental care, it underscores

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the critical need for workforce expansion, particularly since many dentists in the state do not accept Medicaid. Addressing social determinants of health is essential to significantly reducing the burden of dental disease in underserved communities. Our Oral Health Data Dashboard, discussed further below, will help identify people/areas with access to dental care issues like cost, availability of providers, and geographic distribution of services.

Veterans' Oral Health: Of all states, North Carolina has the ninth-largest population of Veterans [6], who frequently fall into a gap between VA-eligible dental care and Medicaid [7]. A robust surveillance system is needed if we are to meet Veterans' needs, especially as they age.

Oral Health Data Dashboard

To address these gaps, the Oral Health Section is currently working with the Cecil G. Sheps Center for Health Services Research to develop a comprehensive Oral Health Data Dashboard. This dashboard will serve as a centralized repository for oral health data, providing stakeholders and the general public with easy access to oral health-related information, which will be essential for making informed decisions. Key features of the proposed data dashboard include:

Comprehensive Data Collection: The dashboard will integrate data from various sources, including state and local health departments, dental providers, schools, and community organizations. This will provide a holistic view of oral health and oral health-related issues across the state. Oral health surveillance and related data for North Carolinians currently come from a variety of state and national sources, such as the Division of Public Health's (DPH) Oral Health Section and State Center for Health Statistics, the Division of Health Benefits' NC Medicaid, and the Centers for Disease Control and Prevention (CDC). Accessing this information without the dashboard can be cumbersome, as it requires navigating multiple sources.

Real-Time Updates: To be effective and relevant, the dashboard will be updated regularly with the latest data. This will require ongoing collaboration with data providers and the implementation of automated data-collection processes, where possible.

User-Friendly Interface: The dashboard should be designed with end-users in mind, offering intuitive navigation and customizable reports. This will ensure that policymakers, health care providers, researchers, and the public can easily access, navigate, and utilize the data.

Data Visualization: Effective data visualization tools, such as charts, graphs, and maps, should be incorporated to help users interpret the data quickly and accurately. This will aid in identifying trends, patterns, and areas of concern.

While still in the early stages of collaboration, the plan is for our data to tie into and be overlaid on the new NC Data Portal, a comprehensive and holistic geographic information system (GIS)-based snapshot of many facets of health

in the state. The NC Data Portal has over 120 indicators providing information such as maps, tools, and data that contribute to public health activities, such as community health assessments [8].

Community Water Fluoridation

Community water fluoridation is one of the most effective public health measures for preventing tooth decay. Despite its proven benefits and safety confirmed over nearly 75 years by both the CDC and the American Dental Association (ADA), there is uncertainty surrounding continued water fluoridation coverage in some of our communities. In early 2024, Union County voted to eliminate fluoride from its water treatment facility's water supply [9]. While some consumers have had concerns about the toxicity of fluoride, research has shown fluoride, at the correct concentration, to be effective in preventing cavities without adversely affecting the consumer [10, 11].

Oral Health Screenings in Children

The North Carolina General Assembly passed the Parents' Bill of Rights in 2023 [12]. In response, schools are re-evaluating their processes for obtaining parental consents for services provided by DHHS's Oral Health Section, including surveillance and sealant projects. Surveillance has been the most affected Oral Health Section service with many schools not participating, resulting in an inability to collect oral health status data for children. The primary challenges include:

Increased Administration: Schools were deliberate in evaluating their procedures and deciding whether to use opt-in or opt-out consent for all oral health services, including surveillance. The decision for opt-out versus opt-in consent is made at the local level for screenings, and many schools re-evaluated their procedures and decided to use opt-in consent. In Arkansas' Basic Screening Survey (BSS) for oral health, one school out of 51 required active (opt-in) consent for student participation in the 2023 BSS. As a result, 84% fewer students were screened in that school [13].

Reduced Participation: The Oral Health Section is observing lower participation rates in school-based dental programs. Specifically, there remains confusion about what kind of consent is required for surveillance and screening programs, as compared to sealant programs.

Access Restrictions: Schools are putting in place different policies that may create challenges for external health providers entering schools. This has restricted the ability of dental hygienists to conduct regular screenings and apply sealants, particularly affecting underserved areas, where school-based programs may be the only source of preventive dental care for children.

Electronic consent, along with moving back toward an opt-out model and away from an opt-in model, would likely improve the participation rate and overcome some of the loss of consent for preventive oral health care in schools.

Studies have shown that active consent (opt-in) lowers participation when compared with passive consent (opt-out) [14]. However, there is inconsistent implementation of technology across the state, as most of our county programs still involve paper consent forms. As a result, it would be important to maintain a paper consent option for areas with barriers to technology access to maximize parental consent.

Conclusion

Addressing the gaps in North Carolina's oral health data is essential for improving the oral health of our residents. Despite the setback from the COVID-19 pandemic, it is crucial to continue routine oral health surveillance to monitor outcome indicators in children and adult populations. This effort is essential as we aim to fulfill the goals and objectives of Healthy People 2030 and Healthy North Carolina 2030, such as increased access to high-quality dental care and increasing the utilization of the existing oral health care system [3, 15]. The development of a comprehensive data dashboard, combined with efforts to enhance data collection and integration, will provide the information needed to make informed decisions and implement effective, evidence-based oral health interventions. By discussing the *Portrait of Oral Health* and focusing on critical areas, we can ensure that our efforts are guided by evidence-based information.

Oral health is an essential part of overall public health, influencing everything from nutrition to quality of life. Good oral hygiene prevents more than just cavities—it reduces the risk of chronic diseases like heart disease and diabetes. By promoting oral health, we protect the well-being of individuals and communities, ensuring a healthier future for all residents of North Carolina.

Call to Action

To achieve these goals, we need the support and collaboration of all stakeholders, including health care providers, policymakers, researchers, and the public. By working together, we can bridge the data gaps, enhance our understanding of oral health needs, and implement strategies that will lead to significant improvements in oral health outcomes across our state. Additionally, we must address barriers that contribute to children's access to school-based preventive dental care and screenings/assessments across the state. We must also ensure that policymakers at the county and community levels have the data and information they need to make informed decisions about oral health-related issues. NCMJ

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