SPOTLIGHT ON

ORAL HEALTH

Key Authors:

Shauna Hachey, RDH, MHS

School of Dental Hygiene, Dalhousie University

Shannon Fitzpatrick, DDS, Cert Ped, FRCD (C), Dip ABPD

Pediatric Dentist, IWK Health Centre, Faculty of Dentistry, Dalhousie University

Oral health is a critical issue for young people in Nova Scotia. There is an immediate need for a greater understanding of the issue and for ongoing, effective intervention.

WHY WE NEED TO FOCUS OUR ATTENTION ON ORAL HEALTH

Good oral health is a key factor in the overall health and well-being of children and youth. Social determinants such as income, access to health services, and food security provide a critical foundation.[1]

Dental decay, also known as dental caries, can result in acute and chronic pain and infection that affect a child's ability to eat, sleep, talk, and play. Ultimately, it can limit their growth and development.

Remarkably, although dental decay is generally preventable, it remains the most common chronic disease among children in Canada, and it is the leading cause of day surgery for children in the country.[2,3]

THOSE MOST AFFECTED

Canadian children living in low-income families; those who are impacted by the consequences of racism, those who face migration inequities; and those living in rural and remote areas, are most affected by dental decay.[6,7] Surgical rates for dental decay are 3.9 times higher among Canadian children from less affluent neighbourhoods and 3.1 times higher among Canadian children from rural neighbourhoods.[2]

Similar trends are seen in Nova Scotia. For example, children who live in families with low incomes, or who are from small towns

or rural communities, are disproportionately over-represented in seeking hospital-based treatment for preventable oral diseases.[8]

ORAL HEALTH IN NOVA SCOTIA CHILDREN: THEN AND NOW

The last province-wide review of the oral health status of children in Nova Scotia took place in 1995-96. Two researchers, A.I. Ismail and W. Sohn, analyzed data from three sources: the *Nova Scotia Oral Health Survey of children and adolescents*, a parental questionnaire, and intraoral screening of first-grade children.[9]

Of the 1,614 first-grade children surveyed, 91.6 percent had not had their first dental visit until at least age two,[9] contrary to the recommendation that all children see an oral health provider within six months of their first tooth and not later than one year of age.[10] Ismail and Sohn also recognized that the burden of oral disease is experienced most by socioeconomically disadvantaged children while children from socioeconomically advantaged families are more likely to receive early preventive oral health care.[9]

Following the provincial review, numerous recommendations were made including putting in place:

1. A multifaceted approach to prevention and treatment of oral disease that addresses the social determinants of health,
2. Community-based preventive services, and
3. Health promotion programs such as school-based education and media promotion.[9]

In 2013/2014, a dental screening program was launched in Cape Breton. It is the largest recent screening of oral health for children in Nova Scotia. The program found that 55 percent of children in grade primary had tooth decay, which means only 45 percent had no dental decay. Because future risk of dental decay is predicted by any tooth decay in a child before six years of age, 55 percent of grade primary students in the screening program are at risk for future decay.[11] From the group of grade primary children screened, 34 percent had unmet dental needs such as unfilled cavities, broken or missing fillings, abscesses, pain, or broken teeth. [11]

DEFINITION

***Oral health*: the ability to eat, drink, communicate, and convey emotion with freedom from pain, discomfort, and disease.[4,5]**

When the program assessed older children in grade six, they found that 57 percent of children had tooth decay and 26 percent had unmet dental needs.

The proportion of children who were found to have unmet dental needs and dental decay in this screening program was higher than national standards for ensuring oral health.[11]

A recent study of hospital-based treatment for preventable oral diseases in Nova Scotia found results that are not surprising given the level of need seen in the 2013/2014 screening in Cape Breton.[8] The study found that 76.8 percent of children had not had their first dental visit by the recommended age of one year. The average age of the first visit was 2.69 years, and 44.1 percent of the children had developed caries by this time.[8] Furthermore, data from the Canadian Institute of Health Information National Ambulatory Care Reporting System show that a total of 2258 children under age five had day surgery to treat dental decay in Nova Scotia between 2015 and 2019.

Although the data are limited, findings clearly indicate that lack of attention to the issue of oral health is adversely impacting children and young people in this province. They are facing substantive and ongoing oral health challenges.

IMPROVING THE ORAL HEALTH OF CHILDREN AND YOUTH

Data and surveillance

Available data point to a high burden of oral decay as well as disparities in access to care and oral health outcomes for certain groups of children and youth in Nova Scotia. Systematic monitoring of oral health status and evaluation of oral health programming are necessary to create a comprehensive oral health strategy in Nova Scotia that is grounded in addressing the social determinants of oral health.[12]

Unfortunately, the current oral health status of Nova Scotia's child and youth population as a whole is largely unknown due to a lack of data collection and surveillance measures.[13,14] A Provincial Chief Dental Officer with a mandate to develop and implement a provincial strategy would be instrumental for improving access to oral health care and oral health outcomes for children and youth.

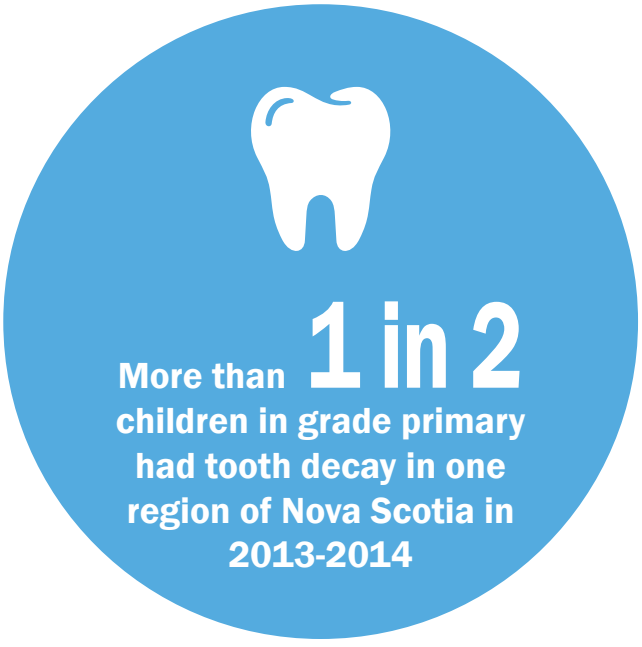
Access to care

Since 1974, the Nova Scotia Government has provided universal dental insurance for children through the Children's Oral Health Program (COHP). The COHP is currently delivered through the Nova Scotia Medical Services Insurance (MSI). The amount of dental coverage offered and the age limitations of recipients have varied

over the life of the program.[15] Currently, the COHP focuses on publicly financed oral health care, diagnostic, preventive, and treatment services, which are delivered primarily in private dental offices for all children until age 15.[13,16] Nova Scotia MSI is considered the payer of last resort for dental services through the COHP. This means that if a family has private dental insurance, it will be used to cover the cost of dental care first and MSI will cover the difference up to a regulated amount. Children under 15 years without private dental insurance are fully covered for a limited range of services.

Medical Services Insurance (MSI) data show that only 36 percent of eligible children used the COHP in 2019/2020, and the rate of program use has steadily declined since 2015/16 despite the fact that the maximum age of eligibility increased from 10 to 14 years in 2014.[17] Given that MSI is the payer of last resort, there may be children who do not need to access this program for the cost of their dental care because their families have private health and dental insurance. Children who are fully covered by private insurance, however, are unlikely to be those most vulnerable to dental disease. National data indicate that children belonging to priority populations most at risk for dental decay are less likely to have private dental insurance.[6] It is likely that many children at highest-risk of poor oral health are among the 64 percent of eligible children not accessing the COHP, although a lack of surveillance data means this conclusion cannot be confirmed.

A report by the Nova Scotia Oral Health Advisory Group showed that in 2013-14 use of services through the COHP among children 0-3 years was very low. However, there is no research as to why utilization is so low. The Advisory group surmised that parents avoid seeking care for their young children because they did not know the recommended age for first dental visits, were unaware of the COHP, or worried about out-of-pocket expenses for uninsured services. It is believed that a lack of knowledge of the program and fear of additional out-of-pocket expenses likely impact the overall use of the COHP for all ages.[13]



Screening: sooner and more frequently

Reducing Dental Disease: A Canadian Oral Health Framework, the second national oral health framework produced by the Federal, Provincial and Territorial Dental Working Group, recommends oral health screening for preschool-age children.[18] Screening for oral diseases upon entry into the public school system would provide an important opportunity to identify children who have yet to establish a "dental home", defined as an ongoing relationship of accessible dental care delivered by consistent providers, or who have unmet dental needs that may negatively impact their ability to learn. This initiative would be similar to the existing vision-screening program in Nova Scotia for children entering grade primary.[19] The province's newly implemented Pre-Primary Program also offers a key opportunity to implement surveillance measures and to provide oral health screenings for children.[20]

Ensuring a first dental visit by age one, establishing a "dental home", and developing an ongoing relationship with an oral health care provider can reduce future restorative care in later life. This is especially important for children at high risk for oral diseases.[3,21,22] Implementing early examinations for children in Nova Scotia would broaden public awareness of the COHP and could address the lack of utilization among children up to three years of age. Initiatives in early oral health screening, as previously mentioned, and referrals, education, and school- and community-based interventions could also be developed in Nova Scotia to achieve early dental care and caries prevention.[8] Non-dental health professionals are also well-positioned to help improve access to care as they often have early contact with priority populations. The Canadian Paediatric Society (CPS) supports a multidisciplinary approach to managing pediatric oral health care.[3]

Caries prevention

Since 1998, the Fluoride Mouth Rinse Program has been one of Nova Scotia's key preventive oral health initiatives. In 2019 the Fluoride Mouth Rinse Program was paused as the fluoride product used was no longer available through the province's distributor and public health officials at Nova Scotia Health (NSH) were conducting a review of the program.

The program was coordinated by dental hygienists who trained volunteers to administer a rinse weekly to children in grades primary through six at designated schools. Schools were initially selected based on the rate of dental caries identified in the 1995-96 NSOHS, socioeconomic risk factors, interest of school personnel, and the availability of dental

hygienists to implement the program. Due to lack of program consistency and standardization, the program underwent a review in 2001 that identified education, income, and employment as the best socioeconomic factors to determine caries risk and the need for fluoride mouth rinse.

A new model, the Fluoride Mouth Rinse School Eligibility Index (FMSEI), was then developed for identifying schools with the highest-risk children. It was to be validated through a baseline intraoral screening of children in eligible schools, which would then be compared to a follow-up screening four to five years later.[23] There is no public record that the recommended follow-up screening and validation of the FMSEI was completed.

Prior to the COVID-19 pandemic, it was the intent of the province to introduce a school-based fluoride-varnish program for elementary school children in the fall of 2020, which is a newer fluoride modality supported by current literature.[3,24,25] The new program would be administered by public health hygienists. Its initiation is currently on hold.

Community water fluoridation (CWF) has also been shown to be a major, cost-effective public health initiative and the most effective measure to prevent dental caries.[3,24,25] Unfortunately, not all municipalities in Nova Scotia fluoridate their water supply. As of 2017, 53 percent of the province's population does not have access to fluoridated water.[26] Furthermore, detailed information regarding Nova Scotia's public water fluoridation is not readily available.

In addition to CWF, reaching children who are most at risk for dental decay may be carried out by offering school- and community-based preventive and treatment services[18]. The province's fluoride varnish program represents one such opportunity but must be introduced in a way that adequately targets Nova Scotia children with the highest risk and need. Also, schools with children at higher risk could offer a full range of preventive services, including pit and fissure sealants, which are an effective way to prevent caries in permanent teeth.[27,28]

Children who have early preventive dental visits are more likely to continue to seek preventive care and less likely to need costly restorative or emergency treatments.[29] Promoting targeted preventive efforts and access to oral health care is necessary but cannot alone lead to the elimination of disparities in dental disease. Determinants of oral health inequities are also the determinants of overall health and well-being. Efforts to reduce fundamental challenges such as child poverty and food insecurity are also critical to improving the oral health status of children and youth in Nova Scotia.

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