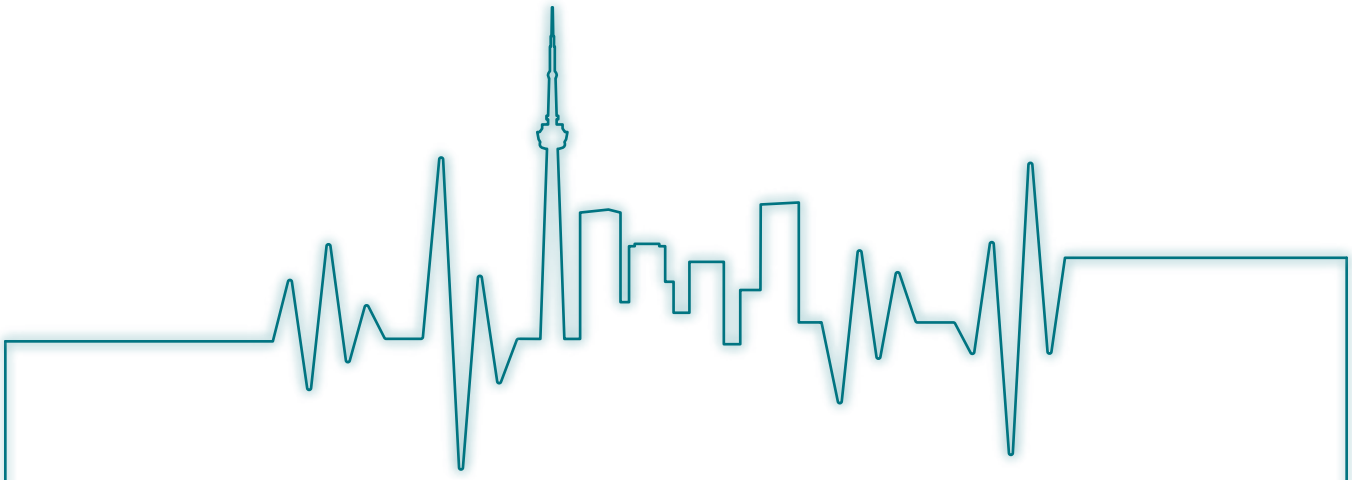
Introduction

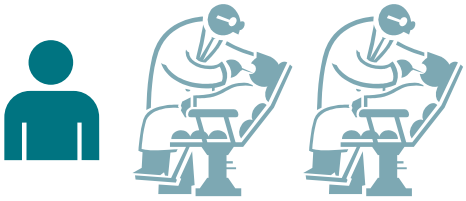
Good oral health allows one to eat, drink, speak, smile, and socialize, and protects against pain and microbial infections. Poor oral health is associated with a variety of negative health outcomes, including the delivery of pre-term low birthweight babies, diabetes, and cardiovascular disease [1]. Dental disease is a complex chronic disease that is heavily influenced by biomedical factors such as diet, bacteria and host. Social, economic, and behavioral determinants also play an important role [2].

Early childhood caries (ECC) is the most common childhood disease and is often accompanied by serious comorbidities affecting children, their families, the community and the health care system. Despite continued efforts to better understand the etiology of ECC and despite advances in prevention, the prevalence of ECC in Canadian preschool children is a growing concern. Dental surgery for ECC under general anesthesia is the most common day surgery procedure at most pediatric hospitals in Canada [2].

Children who have poor oral health often miss more school and receive lower grades than children who don't [3]. As with other areas of health, the early years are an important time to set the trajectory for a lifetime of good oral health and represents an opportunity for public health promotion and intervention to encourage good oral health behaviours and outcomes.



1 in **3**
have not seen
a dentist
in the last year



p. 71

38%
do not have
dental insurance

p. 71

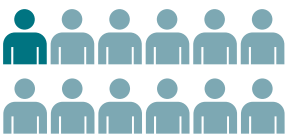
6 in **7** people
in the highest income group
have dental insurance

vs.

3.5 in **7** people
in the lowest income group
have dental insurance

p. 71

1 in **12** kids
in the highest income areas
have cavities



vs.

2.5 in **12** kids
in the lowest income areas
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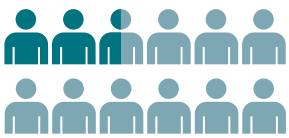

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Oral Health of Children and Youth

Dental disease can have significant negative effects on a child's health and well-being if left untreated. These include: chronic pain, trouble eating, sleeping and proper growth, tooth loss, and increased dental expenses throughout life. Early and regular access to routine dental care, parents that perform oral hygiene on their children, and access to community water fluoridation are crucial to reducing the risk of dental disease in children [2].

Research has shown that immigrant children tend to have poorer oral health outcomes compared to their Canadian-born peers [4] [5] [6] [7]. Furthermore, recent immigrant children tend to have worse oral health when compared to longer-term immigrant children (over five years since immigrating). While changing patterns of immigration may account for these differences, access to dental public health programs has improved the oral health condition of immigrant children [7].

Oral Health Practices

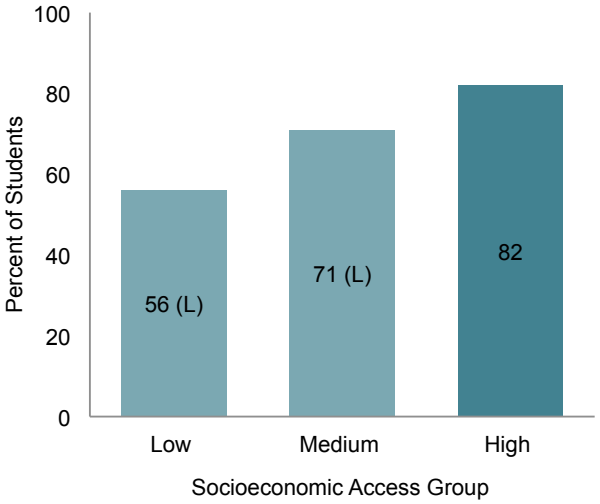
Good oral health behaviours such as brushing teeth at least twice a day, and flossing daily to remove plaque, are essential for maintaining good oral health and reducing the risk of periodontal disease and other conditions. Plaque that is not removed can contribute to infections in the gums. Seeing a dentist on a regular basis is also important for removing tartar build-up as well as detection and treatment of oral health issues [8].

Among Toronto students in grades 7 to 12, in 2014:

- 77% reported usually visiting a dentist once a year or more for check-ups.
- 68% brushed their teeth more than once a day.
- 26% flossed their teeth once a day or more.

In 2014, 81% of Toronto students in grades 7 to 12 who identified as having high socio-economic access[1] usually visited a dentist at least once a year. This compares to 71% with medium socio-economic access and 56% with low socio-economic access (Figure 5.1).

Figure 5.1: Percent of Students in Grades 7 to 12 Who Usually Visited a Dentist at Least Yearly by Socio-Economic Access, Toronto, 2014



L: Significantly lower than the High Socioeconomic Access group.
Data Source: TPH Student Survey 2014.

Data on the health of children and youth in Toronto and Ontario, including oral health practices are at best, limited to infrequent local surveys that are not comparable between health regions or over time.

[1] "Socio-economic access" was assessed by asking students to rank their family's access to goods and services. "Low socio-economic access" represents students who ranked their families' access as five or less; "medium access" as six or seven; and "high access' as eight, nine, or ten.

In addition to brushing, flossing and regular visits to the dentist, good nutrition is also important for oral health. The most important measure for preventing caries is reducing the quantity and frequency of sugary food and beverage consumption. Avoiding sugar and eating healthy snacks are key prevention strategies [9] [10] [11]. In addition, smoking cessation is a crucial prevention approach for reducing oral cancer, periodontal disease, and tooth loss [12].

More information on eating behaviours, smoking cessation, and oral cancer is included in Chapter 11.

Screening Outcomes

Toronto Public Health (TPH) provides annual dental screening in public schools for children from junior kindergarten to grade 8. A quick visual assessment of the oral cavity is performed to determine if there is a need for preventive interventions and/or areas of concern that need a clinical examination and diagnosis by a dentist. If the child is referred to a dentist for an examination, the dentist can detect early signs of dental disease such as dental caries which are defined as a decayed (non-cavitated or cavitated) lesion [2], and urgent dental needs that require immediate treatment such as saving a tooth or treating a severe dental infection.

Among children in Toronto public schools from kindergarten to grade 8, in the 2016/17 school year:

- 13% were identified with suspected caries.
- 4% had urgent dental needs[2].

Children from schools in the lowest income areas of Toronto had a rate of suspected dental caries (19%) that was more than twice that of their peers from schools in the highest income areas (8%) in the 2016/17 school year.

Emergency Department Visits

As a result of poor access to dental care, parents and/or caregivers sometimes use the emergency department (ED) when their children have oral health symptoms. ED visits for dental conditions such as dental caries, are usually treated by non-dental professionals (i.e., emergency department doctors) who often provide antibiotics and/or pain management medications, or no treatment at all. Similarly, individuals also visit physicians' offices for oral health problems. This approach does not provide definitive treatment to resolve the underlying oral health issue and is an expensive and inefficient method of addressing oral health concerns [13] [14]. If the underlying condition is left untreated, it may cause further local and systemic related illnesses.

- In 2016, there were 4.4 ED visits per 1,000 Toronto children 11 years of age or younger. This was more than three times the rate for youth aged 12 to 17 (1.3 ED visits per 1,000).

[2] Child Urgent Care: The child is 17 years of age or younger and has been identified through school screening as having an emergency or essential dental condition that requires immediate clinical treatment or that, without treatment, will require immediate clinical treatment.

Oral Health of Adults

The overwhelming majority of dental care is provided by the private sector through employee-based benefits which are less likely to be available to middle and low income families [15]. As a result, many adults face barriers accessing care due to cost, and have to make difficult decisions about how to allocate their limited resources [14]. While some government support programs exist (e.g., Ontario Works), these barriers tend to impact those most in need, leading to an "inverse care law" [16], whereby care is least available for people who require it most. This leads to unnecessary suffering from pain, infection, low self-esteem, disability and loss of social and employment opportunities [17].

Visits to the Dentist

Ongoing dental care includes early identification, assessment, prevention and treatment of dental disease.

Among Toronto adults (18 years of age and over), in 2013/14:

- 32% had not seen a dentist in the past year.
- Of those who had not visited a dentist in the past three years, 43% stated that they did not perceive it as necessary, 38% cited cost as the reason, while having dentures was cited 8% of the time.

HEALTH INEQUITIES

In 2013/2014, 77% of Canadian-born individuals reported visiting a dentist in the past year. This compares to 67% of long-term immigrants[3] and 41% of recent immigrants[4]. In 2016, about one-half of Indigenous people 15 years of age or older had seen a dentist in the past year.

Dental Insurance

Individuals without dental insurance (public or private) tend to not visit the dentist regularly and avoid oral health care due to the costs [17].

- In 2013/2014, Toronto seniors (65 years of age and over) were twice as likely to not have dental insurance, (66%) compared to people 18 to 64 years (33%).

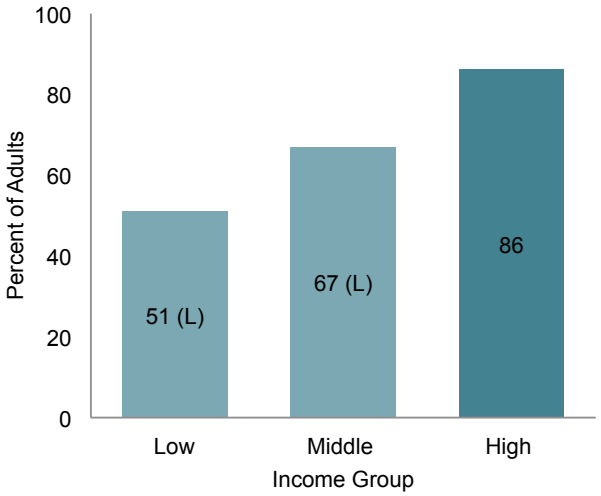
COMPARING TO

38% of Toronto adults reported having no dental insurance in 2013/2014. This compares to 28% in the rest of Ontario.

HEALTH INEQUITIES

Having dental insurance varies significantly by income. In 2013/2014, 86% of individuals in the highest income group had dental insurance compared to 67% in the middle income group and 51% in the lowest income group (Figure 5.2).

Figure 5.2: Percent of Adults Having Dental Insurance by Income Group, 2013/2014



L: Significantly lower than the high income group.
Data Source: Canadian Community Health Survey 2013/2014.

[3] Those who immigrated to Canada over five years ago.
[4] Those who immigrated to Canada within the past five years.

Ability to Chew

Some individuals struggle with chewing firm fruits, vegetables, meat, and other foods. Poor chewing ability can lead to a poor diet, is associated with poorer self-perceived general health [18], and negatively impacts quality of life [19].

Among Toronto adults (18 years and over), in 2013/2014:

- 8% reported being unable to chew foods.
- Of those who did not see a dentist in the past year, 13% were unable to chew foods compared to 6% among those who did see a dentist.

In 2013/2014, immigrants in Toronto were more likely to be unable to chew foods than Canadian-born individuals (10% vs. 4%). In the same year, 3% of adults in the highest income group in Toronto were unable to chew foods compared to 8%[5] in the middle income group and 14%[6] in the lowest income group. The findings suggesting that lower income individuals may be less likely to have insurance and more likely to have adverse oral health outcomes are consistent with the inverse care law. Data quality as described in the footnotes, should be considered when interpreting these results.

Emergency Department Visits

Poor access to dental care affects all ages. As with children, adults sometimes visit the emergency department (ED) for oral health concerns and receive symptomatic treatment that does not address the root cause of the issue [13].

- Among Toronto adults (age 18 and over) in 2016, there were 2.2 ED visits for dental health concerns per 1,000.

The average yearly ED rate for dental health concerns in adults (age 18 and over) for 2014 to 2016 combined, varied significantly by income. The rate was 1.6 per 1,000 adults in the highest income areas to 2.8 per 1,000 in the lowest income areas.

Fluoride

In addition to good oral hygiene practices and regular visits to the dentist, water fluoridation is recognized as the most cost-effective strategy for preventing dental caries. More importantly, it represents an equitable prevention strategy as low income residents and recent immigrants are often the least likely to visit a dental care provider's office for topical application of fluoride. These groups, along with seniors (who often do not have third party dental insurance and are vulnerable to tooth decay), benefit the most from water fluoridation.

Cavities in Children Pre/Post-Fluoridation

- Before the introduction of community water fluoridation in Toronto in 1963, children had an average of five to seven cavities. In 2011, the estimate was an average of one to two. While not solely attributable to water fluoridation, it has been an important contributing factor [20].

[5] High degree of variability. Interpret with caution.
[6] High degree of variability. Interpret with caution.

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