



Left Behind:  
**The State of  
Oral Health  
in Toronto  
2022**

# Land acknowledgement

We would like to acknowledge that we are situated upon traditional territories of the Huron-Wendat, Anishinabek Nation, the Haudenosaunee Confederacy and the Mississaugas of the Credit First Nation. Today, the meeting place of "Tkaronto" (Toronto) is still the home to many Indigenous peoples from across Turtle Island, and we are grateful to have the opportunity to work in the community, on this territory.

# Acknowledgements

*Left Behind: The State of Oral Health in Toronto* would not have been possible without the funding, advice, and content provided by Green Shield Canada.



## Lead researcher and author

Steven Ayer

## Copy editor and proofreader

Jennifer D. Foster

## Executive editors and producer

Green Shield Canada and Toronto Foundation staff

## Design

Gravity Inc

## Acknowledgements

A number of advisors in the community, across the country, and from Green Shield Canada (GSC) and Toronto Foundation provided advice and direction on this report. It would not be possible without their incredible contributions.

All opinions and interpretations in this report are the opinions, interpretations, or perspectives of the author and editorial team and do not necessarily reflect the opinions of any organizations or people referenced in this report. All analysis is by the author and any mistakes are his alone.

## About Green Shield Canada

At GSC, our purpose is to make it easier for people to live their healthiest lives, which is why we invest in the health and wellbeing of Canadians through innovative community partnerships. As a not-for-profit social enterprise providing health benefits and digital health services from coast-to-coast, generating a positive social impact and making a difference is at the core of who we are.

[greenshield.ca](http://greenshield.ca)

## About Toronto Foundation

**Purpose:** We aim to create a more fair and just society where everyone can thrive by mobilizing those with resources and the will to partner with others. The new philanthropy focuses on co-creating a society that fights exclusion and marginalization, creates a sense of wellbeing and belonging and promotes trust.

**Mission:** To connect philanthropy to community needs and opportunities.

**Vision:** A city of informed, engaged philanthropists accelerating meaningful change for all.

**Values:** Brave, thoughtful action. Humility in our relationships. Public trust above all.

[torontofoundation.ca](http://torontofoundation.ca)

# Contents



Land acknowledgement.....2

1

Executive summary .....5

2

Method .....8

3

The state of oral health in Toronto .....9

Dental insurance coverage in Toronto is slightly below the provincial average..... 9

People without dental insurance are avoiding going to the dentist ..... 10

The lack of preventative oral healthcare leads to emergency room (ER) visits and other costs..... 10

Oral health, affordability and dental insurance in marginalized communities ..... 14

Racialized people and immigrants ..... 15

Differences across ages ..... 17

Food-insecure individuals ..... 18

Homeless and precariously housed residents..... 19

Low-income residents .....20

People with disabilities.....23

4

Oral health of children in Toronto ..... 25

Children in Toronto generally have better dental coverage than adults..... 25

Screenings in schools ..... 25

Lower dental visits among racialized students ..... 25

5

Oral health and COVID-19 ..... 26

People have been putting off going to the dentist during the pandemic..... 26

6

Improving oral health infrastructure in Toronto ..... 27

Access to dental care is unequally distributed across the city ..... 27

Recommendations and options ..... 31

Endnotes..... 32

# Executive summary

Across Canada, one in three people lacks coverage for dental care, while low-income Canadians are four times more likely to avoid seeing a dentist because of cost and two times more likely to have poor dental outcomes. Access to dental care is often overlooked and underfunded, and is deeply intertwined with complex social issues, including the rise of precarious employment and food insecurity. One thing is clear: for many of the most vulnerable people in our communities, the current system has left them behind and without support. How did we get here and what can be done?

## Oral health needs of Toronto residents in 2017/2018



**860,000**

did **not** have **dental insurance** in 2017/2018



**606,000**

people **avoided going to the dentist due to cost** in the last 12 months



More than **400,000**

residents go to the dentist only for **emergency care or never**



**257,000**

residents report **persistent pain in their mouths**



**170,000**

report **dissatisfaction with the appearance of their teeth or dentures**

**Source:** Canadian Community Health Survey, 2017/2018.

**Notes:** This survey likely undercounts the number of people with poor oral health due to the difficulty in surveying marginalized groups (such as the precariously housed) who disproportionately have poor oral health. Data capture is from residents 12 years of age and older.<sup>1</sup>

This report highlights the importance of oral health and analyzes the state of oral health in the City of Toronto, compared to other regions. It also takes a deeper look at who has dental insurance in Toronto and who doesn't and provides recommendations for how oral health outcomes can be improved in the region. It outlines community organizations, public health efforts and initiatives underway in Toronto that are providing critical oral health programs.

This study draws on data from the 2017/2018 Canadian Community Health Survey (CCHS), the most recent reliable data at the time of this report writing. The CCHS includes responses from 2,213 respondents from the Toronto Health Unit aged 12 years and older (labelled as "Toronto" throughout) and offers a glimpse into the state of oral health in the community, further summarized throughout this report. This study also draws on the existing oral health literature and interviews with local oral health experts.

Toronto is Canada's financial capital and home to many of the country's highest earners, yet a staggering 861,000 residents (35%) do not have dental insurance coverage.<sup>2</sup> Toronto has low rates of coverage compared to other larger health units. Toronto, York and Peel health units have notably lower coverage, with rates ranging from 64% to 66%. At 65%, the rate of dental coverage for Torontonians is notably lower than the 71% for residents getting dental coverage in larger health units outside the Toronto CMA.

### Key findings in the report include:

#### The oral health situation in Toronto is worse than in other large health units

- In 2017/2018, 861,000 residents did not have dental insurance, 606,000 avoided the dentist due to cost, and more than 257,000 reported persisted pain in their mouth.
- People without dental insurance were 3.3 times as likely to avoid the dentist due to cost compared to those with dental insurance.

- People without dental insurance had worse oral and physical health. Beyond direct oral health implications, oral inflammation is associated with heart disease, tooth pain is linked with depression, and educational and work performance is lower among those with worse oral health.

#### Low oral health investment in Canada and Ontario and rapidly rising costs

- Canada has much lower public spending on dental care than other OECD countries. Ontario has the lowest public oral health spending across provinces.
- Over the last 20 years, the cost of dental care services has increased at nearly twice the rate of inflation (81% versus 41%).

#### Profound challenges for groups that are marginalized

- Immigrant residents are much less likely not to have dental insurance than those born in Canada (41% versus 28%).
- Racialized residents are more likely not to have dental insurance than white residents (38% versus 33%).
  - These challenges extend to the children of racialized residents. For example, the 2016/2017 Toronto District School Board Student Census found that 13% of white students do not go to the dentist annually compared to 33% of Black students, 26% of Indigenous students, and 36% of South Asian students.
- Seniors were the most likely to not have dental insurance, with more than 60% of those over age 70 going without.
- More than 45% of those who were moderately or severely food insecure avoided the dentist due to cost, with more than half of those moderately food insecure lacking dental coverage (55%).
- Those with difficulties communicating and self-care are particularly likely to report not having dental insurance and report very low oral health.

### Low-income and precarious work tied to lower dental coverage

- More than half of the self-employed (57%) and nearly four in ten part-time employees (42%) lacked dental coverage, compared to only one in four (25%) full-time employees.
- More than half of the lowest-income employees lacked dental coverage, and almost all of the lower rates of dental coverage in Toronto versus the rest of the province comes from those employees making less than \$40,000 per year.
- Residents earning in the 10<sup>th</sup> to 20<sup>th</sup> household income bracket had the lowest rates of dental coverage. While 41% of those in the bottom 10% are not covered, 67% of those in the 10<sup>th</sup> to 20<sup>th</sup> percentile income bracket are not because they are ineligible for public dental programs.

With an aging population and an increase in precarious work and jobs without guaranteed salaries or benefits, this problem will likely be exacerbated over the next few years, unless there is timely action. During the pandemic, food insecurity has soared, with the Daily Bread Food Bank seeing

a tripling of new clients in the early months of the pandemic.<sup>3</sup> In addition, as Toronto has become one of the most expensive housing markets globally,<sup>4</sup> this has and will continue to leave individuals with fewer financial resources available for dental care and other critical healthcare needs. Already, renters report much worse oral health and fewer visits to the dentist than homeowners, primarily because of cost.

Together, all of this paints a clear picture: access to dental care is not only a health concern, but it also represents a significant social issue that is intricately connected to the broader wellbeing of community members. During the pandemic, it has become even more clear (although already well-established) that gaping inequalities exist in our society, and Canada's dental care system is no exception. Improved access to oral healthcare could be a plank of any build back better initiatives. "Essential workers," who are more likely to be racialized, have borne the brunt of the pandemic and are more likely to lack dental insurance. Even as these workers have kept society functioning, many of them do not have access to basic benefits, including dental care.

# Method

This study makes use of the Canadian Community Health Survey (CCHS) from 2017/2018.

The survey is a voluntary, cross-sectional survey that collects health status and health systems utilization and health determinants, including dental care, dental insurance and oral health information.

The CCHS surveys approximately 65,000 people aged 12 years and older from across Canada each year and provides reliable health information at the regional level every two years. This report uses the combined data from 2017 and 2018.

The Public Use Microdata File (PUMF) was used for this analysis. The City of Toronto Health Unit had 2,213 valid responses in the PUMF.

## Limitations

All data is self-reported and may not be recalled accurately. The survey is offered in English and French.

While the CCHS is the most widely used source for understanding regional health trends, like any survey, it tends to underrepresent low-income populations, people who do not speak official languages, newcomers, precariously housed individuals and other populations of interest, and the survey likely underestimates some challenges because of this.

In this report, sub-regional segmentation is used, which should be interpreted with caution. In addition, this data makes comparisons between the 2005 and 2017/2018 Canadian Community Health Surveys. In 2015, a new collection and sampling strategy were implemented, and any comparisons should be interpreted with caution.

# The state of oral health in Toronto



## Dental insurance coverage in Toronto is slightly below the provincial average

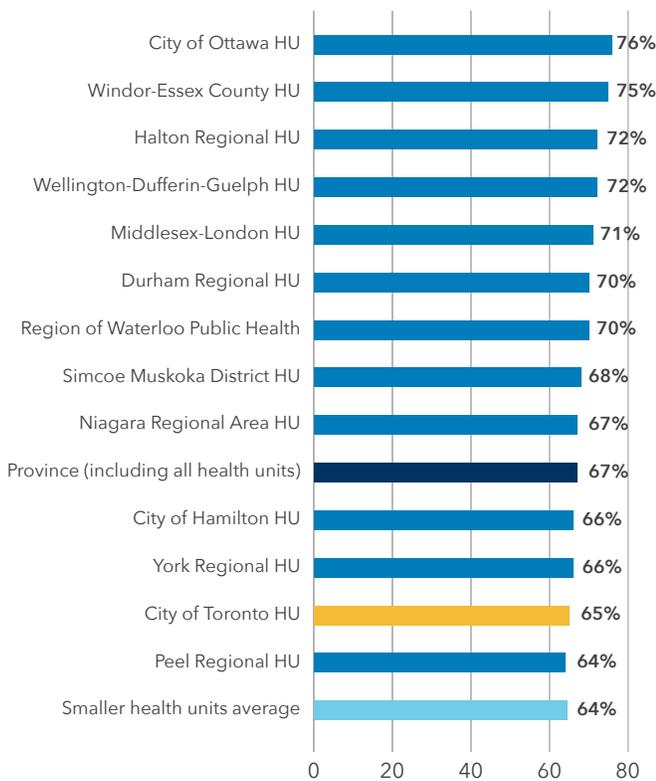
The high cost of dental care in Ontario means that most people need to rely on private insurance or pay out-of-pocket. About 50% of oral health spending comes from employer-provided benefits, 44% is paid out-of-pocket and only 6% comes from public sources.<sup>5</sup>

Only 65% of Toronto residents have dental insurance, below the provincial average of 67% and ranking 12<sup>th</sup> out of the 13 larger health units in Ontario for which

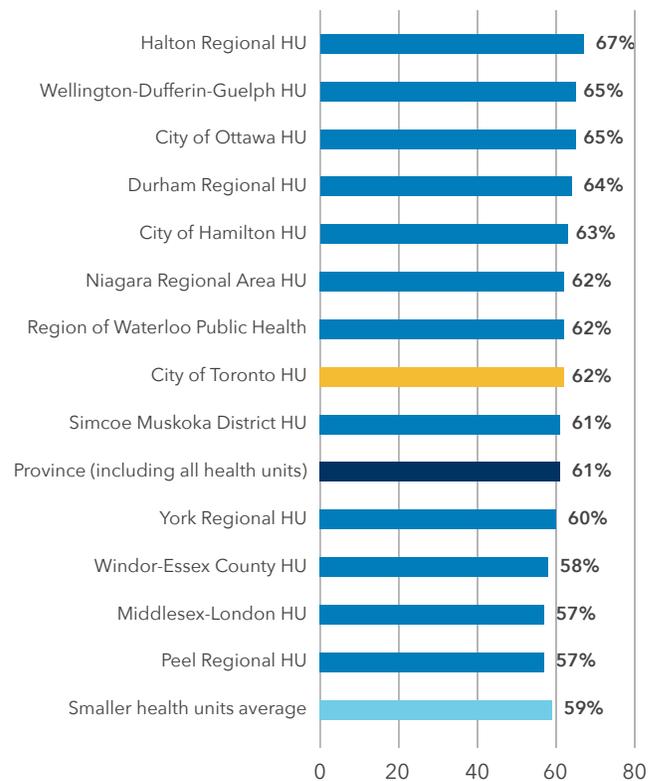
data is reported (behind only Peel). Nevertheless, private dental insurance programs have played an essential role in maintaining good levels of oral health among people who are fortunate enough to have insurance.

Toronto's rate of 65% of the population with dental coverage is notably lower than the 71% average among health units not in the Toronto CMA. Only York, Peel, and Toronto are fully within the boundaries of the Toronto CMA, and the rate within these health units ranges from 64% to 66%.

Rates of dental insurance, 2017/2018, Ontario



Rates of self-perceived "excellent" or "very good" oral health, 2017/2018, Ontario



Source: Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

Notes: Data reflects non-age standardized weighted numbers. Analysis by author. Smaller health units refers to all health units in the province of Ontario that are not depicted in the chart. All averages are simple averages of health units, not weighted averages.

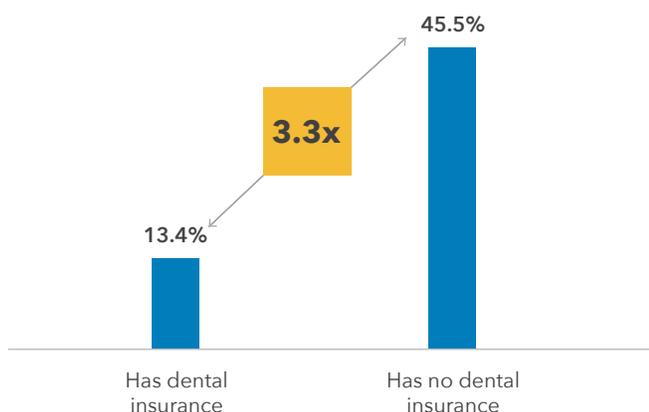
## People without dental insurance are avoiding going to the dentist

Regular visits to the dentist are important to maintain both oral and overall health. People who avoid going to the dentist are more likely to suffer severe health consequences in the future.

More than a third of residents (35%) don't have dental insurance in Toronto, and of those without insurance, almost half (46%) avoided going to the dentist in 2017/2018 due to the cost. This avoidance of dental services is unsurprising, considering the high costs of oral healthcare. In addition, the Consumer Price Index shows that over the last 20 years, dental care services have increased at nearly twice the rate of inflation (81% versus 41%). This rate of increase is higher than every other subcategory except tobacco.

In contrast, only 13% of people with dental insurance avoided going to the dentist due to cost. People with insurance still avoid the dentist due to cost because many employers, whether public or private, cover only a portion of dental care, meaning that seeking treatment can still entail high costs for people with insurance.

### Percentage who avoided going to the dentist due to cost, 2017/2018, Toronto



**Source:** Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

**Notes:** Data reflects non-age standardized weighted numbers. Analysis by author.

## The lack of preventative oral healthcare leads to emergency room (ER) visits and other costs

One of the primary impediments to expanding dental healthcare is cost. However, people without access to preventative oral healthcare often experience compounded health problems, which, in turn, provoke additional costs.

In 2015 in Ontario, there were 61,000 emergency room visits for dental problems, which cost the healthcare system around \$31 million, the most recent detailed information we found.<sup>6</sup> The 5,003 dental ER visits in the Toronto Central Local Health Integration Network (LHIN) area contributed about \$2.6 million of this amount (St. Michael's Hospital reported that the average cost for a visit to its emergency room to see a physician about a dental emergency was at least \$513). There were 17,400 visits to physicians for dental problems in the Toronto Central LHIN, costing at least \$586,380 (based on a minimum cost to the Ontario Health Insurance Plan (OHIP) of \$33.70 per 15-minute visit).

Beyond the immediate costs of treating dental problems in physicians' offices and in emergency rooms, inequitable access to preventative oral healthcare also leads to long-term costs associated with all the other diseases and conditions that may develop because of poor oral health.

A 2014 Canadian study found that more than one in five Canadians were avoiding the dentist due to cost, and the study discovered that these individuals "had more untreated decay, missing teeth, and reported having poorer oral health and oral pain more often [than those who did not avoid the dentist due to cost]."<sup>7</sup>

The study also demonstrated that reducing financial barriers to accessing oral healthcare could lead to a healthier and more productive society and could have significant economic benefits. They note that this would be achieved by reducing cardiovascular disease (which the researchers note is closely connected to gum disease and poor oral health and costs the Canadian economy \$20.9 billion every year) and by limiting working hours lost due to dental pain (an estimated 40 million working hours are lost annually in Canada due to dental pain), which results in more than \$1 billion in lost productivity per year.

## Why oral health is important

Oral diseases, including tooth decay and gum disease, are among the most common chronic diseases affecting millions of Canadians. Oral health is highly interconnected with overall health and wellness, and poor oral health makes it difficult for people to live healthy and fulfilling lives.

### General physical health

Poor oral health is associated with higher rates of heart disease and respiratory illness, causes complications with diabetes,<sup>8</sup> and has broad implications for quality of life. People who have no access to preventative oral health often develop serious conditions that need to be treated in hospital emergency rooms.

### Mental health

Longitudinal studies have shown that oral health issues such as persistent pain trigger depression<sup>9</sup> and that mental health issues can also contribute to poor oral health.<sup>10</sup> Poor oral health reduces self-confidence and can make it harder for people to socialize.<sup>11</sup> People with severe mental illnesses are 2.7 times as likely to lose all their teeth compared to the general population.<sup>12</sup>

### Education

Students with poor oral health have lower attendance, lower grades, and higher odds of dropping out.<sup>13</sup> Schools across Ontario screen students for oral health problems, and students from marginalized communities are more likely to have oral health problems. Approximately 26,000 students were screened by Ottawa Public Health hygienists in 2014/2015: 9% were identified as having dental needs, and 5% with urgent treatment needs.<sup>14</sup>

### Employment

Dental pain leads to lower productivity and higher absences from work,<sup>15</sup> while poor oral health can make it more difficult for people to get a job,<sup>16</sup> and employment programs with added oral health components have seen better employment outcomes.<sup>17</sup>

The rise of precarious jobs without dental insurance poses a major risk to the oral health of Canadians, especially those from marginalized communities.

### Food security

Low-income Canadians and the working poor struggle to buy healthy food, and therefore are at risk of poor oral health. More than a third of food insecure individuals in Ontario report frequent discomfort eating food.<sup>18</sup>

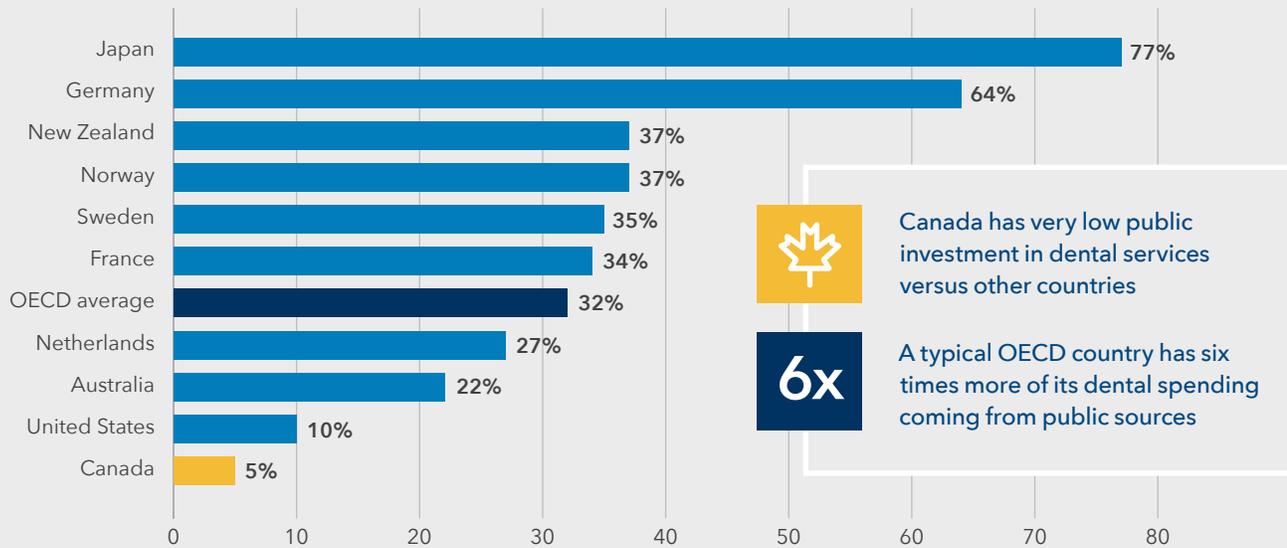
### Connection with affordable housing

For many Canadians, housing costs are taking up an increasing percentage of income,<sup>19</sup> meaning they have less money to spend on their oral health. As rent and mortgage costs continue to soar across Toronto, the inability of many people to attend to their oral health will most likely increase.



## Canada and Ontario have underinvested in oral health

Percentage of dental spending from public sources, select OECD countries, 2013



Source: Dentistry in Alberta: Time for a Checkup?<sup>20</sup>

The story of oral healthcare in Canada, and in Ontario specifically, is one of chronic underinvestment.

Canadians are generally proud of our universal healthcare, but dental care is one of the major omissions of the system.

Canadians like to compare our healthcare to the more private American system favourably, yet only 5% of dental spending in Canada comes from public sources, compared to 10% in the US.

When comparing Canada’s public investment in dental care with other high-income countries, the picture becomes even bleaker. In OECD countries, an average of 32% of dental spending comes from public sources, and this figure is significantly higher in both Germany (64%) and Japan (77%).

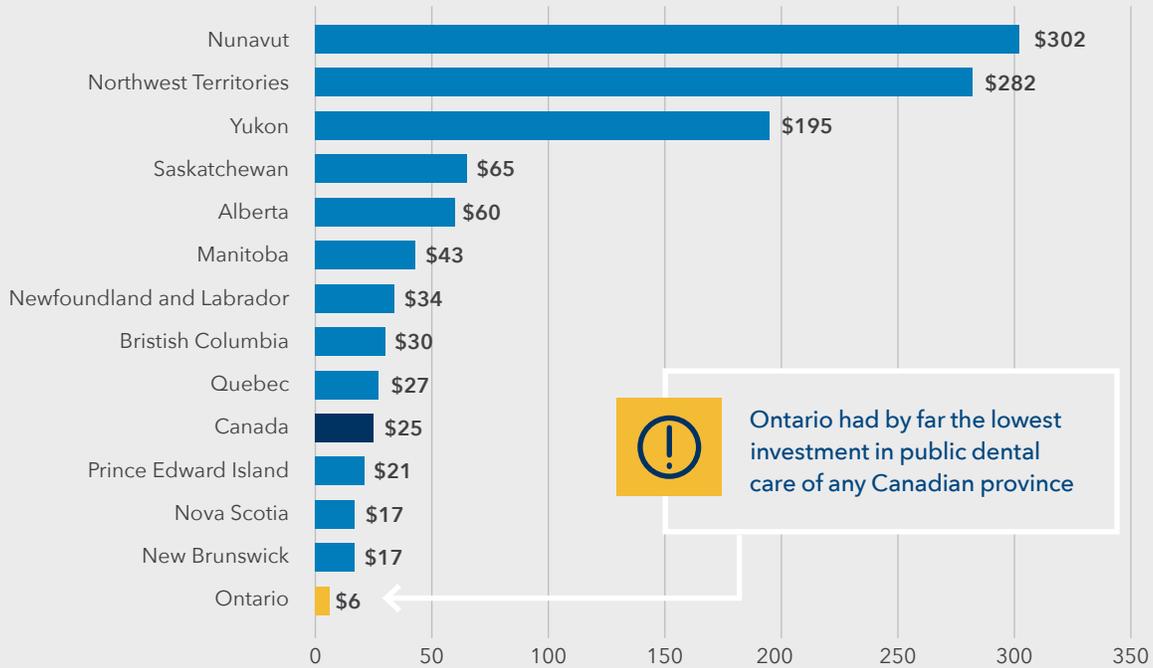
Per capita spending on dental care also differs widely across Canada. The three territories (Nunavut \$302, Northwest Territories \$282, and Yukon \$195) each spend significantly more than any of the provinces. The Canadian average is \$25, and the prairie provinces are all significantly above average.

In 2017, Ontario spent only \$6 per capita on oral healthcare, less than half of New Brunswick (\$17), which had the second lowest spending. While the implementation of new programs such as the Ontario Seniors Dental Care Program in 2019 have boosted this spend significantly in recent years, Ontario still lags behind other provinces in its public investments in oral health.

Ontario is by far the most populous Canadian province and accounts for more than a third of the country’s population. The fact that public spending in Ontario is so low means that millions of Canadians live without comprehensive coverage.

## Canada and Ontario have underinvested in oral health

Public dental care expenditure in Canada, by jurisdiction, 2017, current dollars



**Source:** Dentist in Alberta: Time for a Checkup?<sup>21</sup>

**Note:** This chart was developed before a new seniors dental program was introduced, but due to its very focused spending on low-income seniors, with about 50,000 of the 2.5 million seniors in the province enrolled (see section on senior later in the report), it would not substantially change the portrait of oral health spending in Ontario.

## Oral health, affordability and dental insurance in marginalized communities

### Overall oral health

Food-insecure households report the lowest oral health of any segment we analyzed in the CCHS when asked about oral health. For example, in Toronto, only 46% of severely food-insecure households and 38% of moderately food-insecure households rate their oral health as excellent or very good, compared to 65% of food-secure households. In general, low income was also a strong predictor of lower-than-typical

oral health, with those individuals with an annual household income of less than \$20,000 reporting the worst oral health. In contrast, those with household incomes above \$80,000 per year had better-than-average oral health. Recent immigrants and renters also tend to have particularly poor oral health.

Although 65% of Toronto residents have dental insurance, certain groups of people are far more likely to lack insurance, avoid going to the dentist due to cost and rate their oral health as poor.

Only six groups of people are doing better than average in the city:

- 1 Canadian-born residents
- 2 Those who are food secure
- 3 White residents
- 4 Homeowners
- 5 Households with incomes above \$80,000
- 6 Children aged 12-18



Conversely, other groups are more likely to lack insurance and have poor oral health. The following pages will look at the realities faced by these eight groups:

- 1 Racialized people
- 2 Immigrants (especially those who have lived in Canada for less than 10 years)
- 3 Indigenous peoples
- 4 Seniors
- 5 Food-insecure individuals
- 6 Homeless and precariously-housed residents
- 7 Low-income residents
- 8 People with disabilities



## Racialized people and immigrants

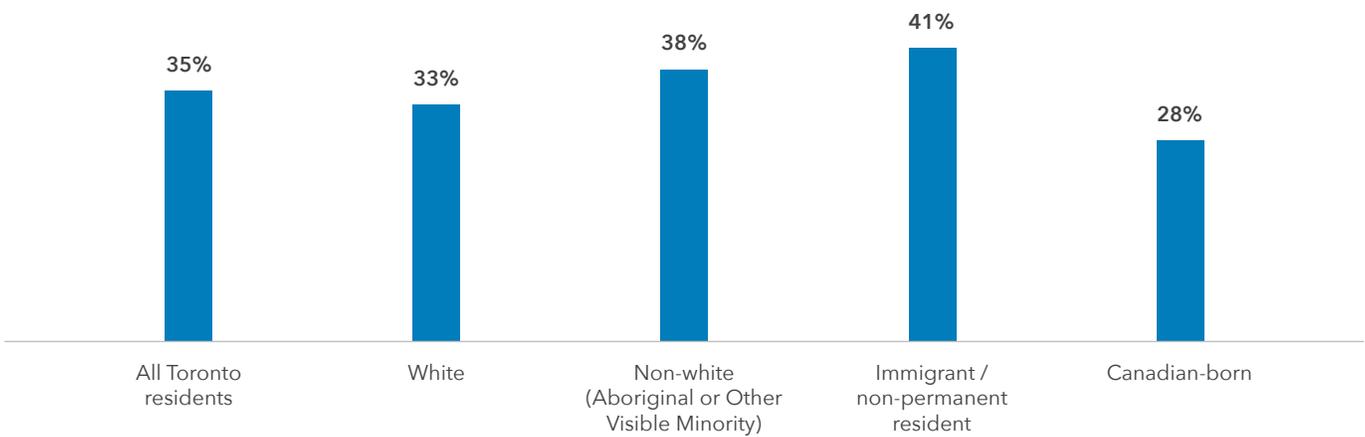
### Racialized people and recent immigrants are less likely to have dental insurance

More than one-third (35%) of Toronto Region residents do not have dental insurance. However, racialized residents (including Indigenous peoples) are less likely to have insurance (38% without insurance), compared to white residents (33% without insurance).<sup>22</sup> A total of 28% of racialized residents avoided the dentist due to cost in the

last year, compared to 19% of white residents. Immigrants to Toronto are also less likely to have dental insurance (41%) than Canadian-born residents (28%). This points to how expanding dental coverage could play an important role in advancing racial equity in the region.

Lack of dental insurance compounds other challenges faced by newcomers, including low wages, language barriers and limited knowledge of available services. Overall, 29% of immigrants in Toronto avoided the dentist due to cost.

Percentage without dental insurance, by race and immigration status, Toronto, 2017/2018



**Source:** Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

**Notes:** Data reflects non-age standardized weighted numbers. Analysis by author. All terminology is as described in the Canadian Community Health Survey in this chart. Terms like "Aboriginal" and "Visible Minority" are used in this chart to be consistent with the original data source, but elsewhere are described as "racialized" and "Indigenous."

## Oral health in Indigenous communities

More than 70% of Indigenous peoples in Ontario live in urban areas, but existing data sources often do not accurately represent the Indigenous population.<sup>23</sup> For example, a study of the Indigenous population in Toronto found that the 2011 Canadian census underestimated the size of the Indigenous population in Toronto by a factor of two to four.<sup>24</sup>

*Our Health Counts* is a research initiative, run by Well Living House and Seven Generation Midwives Toronto, that has been addressing these data gaps through an inclusive community-driven survey of Indigenous peoples in Toronto.

*Our Health Counts* found that Indigenous adults in Toronto have significantly poorer oral health than the general Canadian population.<sup>25</sup> For example, only 54% of Indigenous adults in Toronto rate their oral health as good, very good or excellent, compared to 85% of Canadian adults. In addition, about half of Indigenous adults have seen a dentist in the last year, compared to three-quarters of Canadian adults.

Indigenous children (aged six to 11 years) are more likely to have received dental care within the past year (83%) than adults, but this still lags behind the 91% of Canadian children.<sup>26</sup> Further, 13% of Indigenous children between two and 14 years of age in Toronto have been affected by baby bottle tooth decay.<sup>27</sup> A 2011 study found that the prevalence of early childhood caries (or tooth decay) in three- to five-year-old First Nations and Inuit children was 85%. The prevalence of severe early childhood caries was as high as 25%, a much higher rate than the general public.<sup>28</sup>

Poor oral health in Indigenous populations is concerning, considering the link between poor oral health and other health issues such as diabetes, heart disease and respiratory ailments that disproportionately impact Indigenous communities.<sup>29</sup>

### Poor oral health and the legacy of colonialism and residential schools

Before 1979, despite treaty promises of healthcare, the federal government made little effort to provide quality dental care to Indigenous peoples. The provided treatments were inadequate, and Indigenous peoples had much lower rates of dental provision and higher levels of tooth extractions than non-Indigenous peoples, which has had ongoing consequences for their oral health.<sup>30</sup> Survivors told the Truth and Reconciliation Commission of Canada that the little dental care they did receive in schools was both rushed and painful.<sup>31</sup> Those in residential schools sometimes experienced multiple teeth extractions without anesthetic, and dentures were not provided.<sup>32</sup>

### Non-insured health benefits

The federally-funded Non-Insured Health Benefits (NIHB) program was introduced in 1979 and provides eligible First Nations and Inuit peoples a range of health benefits not covered by provincial programs, including dental care.<sup>33</sup> About 300,000 people annually receive oral health services through the NIHB.<sup>34</sup>

A 2017 Auditor General report echoed other research and found that “First Nations and Inuit populations had nearly twice as much dental disease and more unmet oral health needs compared with other Canadians.”<sup>35</sup> The report also found that the government “did not know how much of a difference it was making to Inuit and First Nations people’s oral health. Despite

knowing for many years about the poor oral health of Inuit and First Nations people, the Department had never finalized a strategic approach to help improve it.”

The Auditor General’s report underscores how, in the words of academics Catherine Carstairs

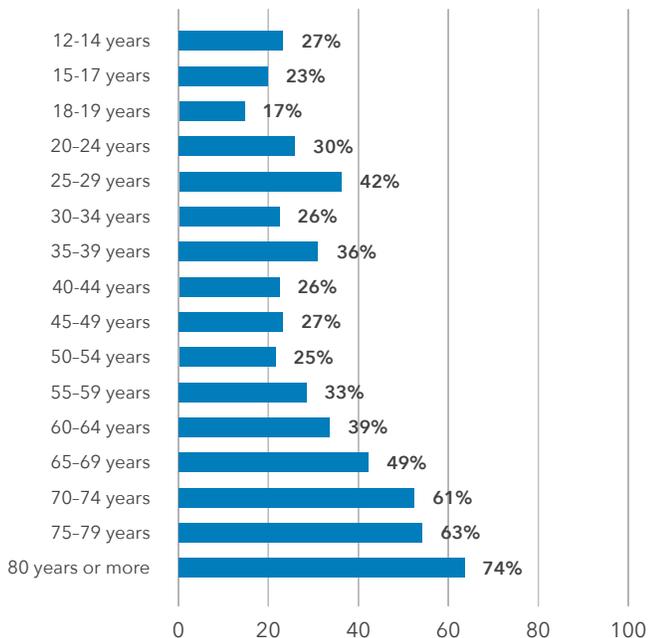
and Ian Mosby, “the Non-Insured Health Benefits (NIHB) Program constantly frustrates both patients and service providers, remains inefficient and inconsistent and fails to address the underlying causes of poor oral health among Indigenous people.”<sup>36</sup>

## Differences across ages

### Seniors in Toronto have low rates of dental coverage

Seniors in Toronto have very low dental insurance coverage rates, partly explained by a lack of employer-sponsored plans after retirement. This is a problem that threatens to get worse in the future, as the population ages.

Percentage without dental insurance, by age, Toronto, 2017/2018



**Source:** Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

**Notes:** Data reflects non-age standardized weighted numbers. Analysis by author. In 2019, Ontario launched the Seniors Dental Care Program, which has enrolled approximately 50,000 seniors by May 2021 (approximately 2% to 3% of seniors in the province) and which would slightly change the numbers in the chart.

In 2019, Ontario launched the Ontario Seniors Dental Care Program, which provides free dental care for low-income seniors. Since the program’s launch, more than 50,000 seniors from across the province have enrolled in the program<sup>37</sup> out of a total of 2.5 million seniors, which is approximately 2% to 3% of seniors.<sup>38</sup>

Income thresholds will be updated in August 2021, and single Ontarians aged 65 and older with annual incomes under \$22,200 will be eligible. As well, couples with combined annual incomes under \$37,100 will also be eligible. As a result of these changes, 7,000 more seniors will be able to access the program.

Although the Ontario Seniors Dental Care Program is an important step in expanding coverage for a group often lacking insurance, the income thresholds mean that most seniors across the province still lack insurance. More than 9,300 seniors were provided with dental treatment at Toronto Public Health dental clinics in 2018, nearly all of whom would not be receiving any support without this service.<sup>39</sup> Many low-income seniors have significant oral health needs that have gone unaddressed for years.

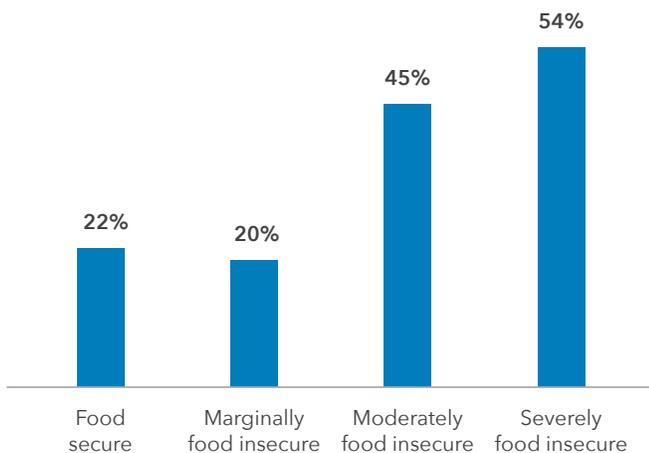
To a lesser extent, young adults also had lower rates of dental coverage, including 42% of those 25 to 29 who reported they had no coverage.

## Food-insecure individuals

### Many food-insecure Toronto residents struggle to access dental care and find it uncomfortable to eat

Food-insecure individuals have much lower rates of insurance and worse oral health outcomes compared to people who are food secure. Out of all the segments for which we had data, food-insecure individuals reported the worst oral health. The severely food insecure and the moderately food insecure both had low rates of dental coverage, often avoided the dentist due to cost and had very low rates of dental insurance. And even when they did have insurance coverage, it was more likely to be paid out-of-pocket or through a government assistance program that provided oral health benefits, instead of provided through their employer. Many were not eligible for government programs, and thus could not afford dental services, even though their incomes were deemed too high to receive support from the government.

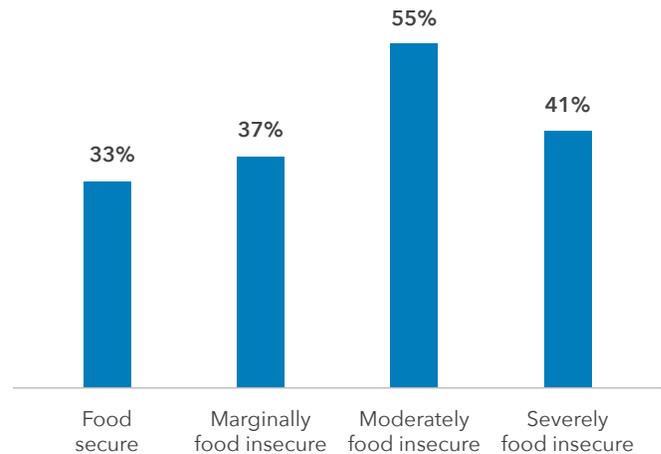
### Percentage of respondents who avoided going to the dentist due to cost in the previous 12 months, by food security status, Toronto, 2017/2018



**Source:** Source: Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

**Notes:** Data reflects non-age standardized weighted numbers. Analysis by author.

### Percentage without dental insurance, by food security status, Toronto, 2017/2018



**Source:** Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

**Notes:** Data reflects non-age standardized weighted numbers. Analysis by author.

During the pandemic, food insecurity has soared, with the Daily Bread Food Bank’s volume of new clients tripling in the early months of the pandemic.<sup>40</sup> Yet, food bank usage fails to capture the reality of food insecurity, as only 21% of food-insecure Canadians use food banks.<sup>41</sup>

More than a third of food-insecure individuals in Ontario report frequent discomfort eating, according to data from the 2017/2018 CCHS. Almost one in five (18%) of severely food-insecure Ontarians reports finding it often uncomfortable to eat due to problems with their mouth, a rate five times higher than food-secure individuals.

A Canadian study also found that “food insecure working poor persons reported relinquishing goods or services to pay for necessary dental care.”<sup>42</sup>

Research in the United States has shown a link between food insecurity and untreated tooth decay and cavities among children, and the researchers identified four potential explanations:<sup>43</sup>

**1**

Food insecurity may force caregivers and children to make food-purchasing decisions that optimize for quantity, rather than quality (for example, sugar-sweetened beverages).

**2**

Food-insecure households may live in food deserts or neighbourhoods where purchasing options are limited to convenience stores, corner markets and fast-food restaurants.

**3**

Children living in food-insecure households may take responsibility for managing food resources, for example, by eating smaller amounts more frequently to make food last longer.

**4**

Food insecurity may be a proxy for other social inequality and deprivation markers, including low social capital and biological stress, both of which are associated with tooth decay in children.

## Homeless and precariously housed residents

### Homeless Torontonians have the worst oral health outcomes of any population group

A 2013 study found that 97% of people in Toronto shelters required dental treatment (compared to 34% of the general population) and that 35% of them had not visited a dentist in the last four years.<sup>44</sup>

The study also found that 42% sometimes or often find it uncomfortable to eat because of mouth problems, and 35% sometimes or often do not eat because of these problems.

The researchers also conducted clinical exams, and they found tooth decay or the need to replace existing defective fillings in 88% of the participants, compared with only 16% of the general population.

A total of 20% of participants had reported no dental treatment needs. Yet, the clinical exam found this was true for only 3% of respondents, demonstrating that needs that should be uncovered by routine care were going untreated. However, only 27% of participants had dental insurance, making it difficult for most of them to access care.

Overall, 84% of participants said the appearance of their teeth was important to them, yet only 30% were satisfied with the appearance of their teeth.

In 2018, 981 street-involved individuals received treatment from the city's mobile dental clinic, and the target was to treat 1,300 street-involved people in 2019.<sup>45</sup>

## Low-income residents

### The working poor are even less likely to have insurance than the poorest Toronto residents

With most dental coverage coming from employment, it should come as no surprise that employment status is strongly linked to dental coverage. In Toronto in 2017/2018, 25% of full-time employees, 42% of part-time employees, 58% of the self-employed and 71% of the unemployed did not have access to any form of dental insurance coverage.

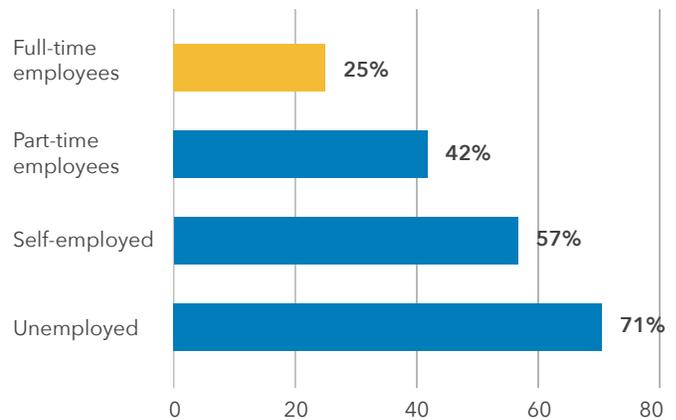


Perhaps counterintuitive is that **households in the lower 10% of incomes are much more likely to have dental insurance than households in the 10%-20% range in Toronto**

according to data from the 2017/2018 CCHS. This is because people without incomes or extremely low incomes often qualify for the limited public dental programs. However, the working poor often earn "too much" income to qualify for these government benefits, yet they usually work precarious jobs that offer no dental insurance or other benefits.

Similarly, it is unsurprising that higher-income households are more likely to have coverage through their work. Conversely, households in the bottom 40% of the income distribution are much less likely to have insurance.

### Percentage withoutout dental insurance, by employment status, Toronto, 2017/2018



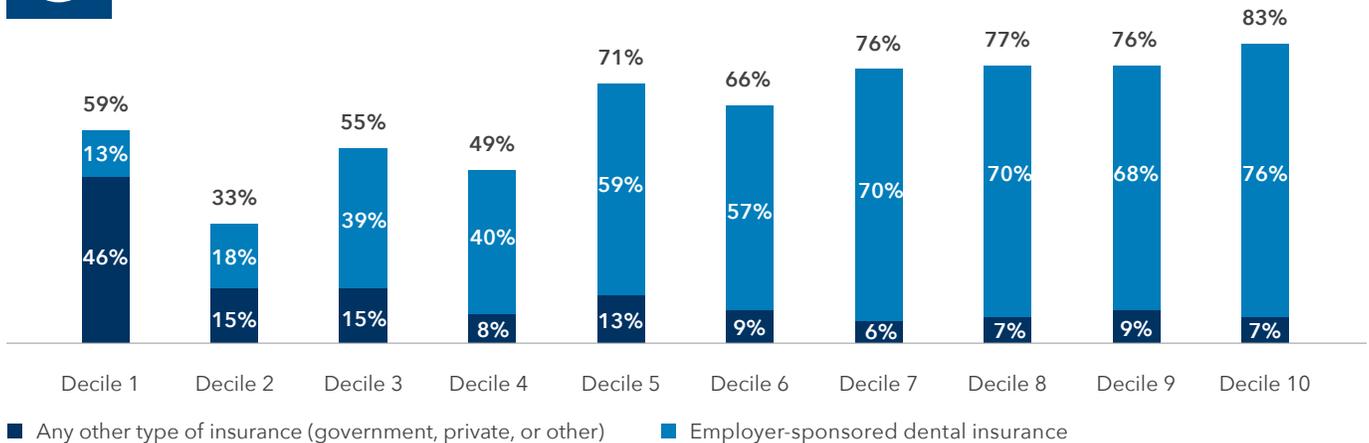
**Source:** Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

**Notes:** Data reflects non-age standardized weighted numbers. Analysis by author.

### Percentage with dental insurance by type and overall, by household income decile, Toronto, 2017/2018



Falling through the crevice: Those in the second decile of income (10<sup>th</sup> to 20<sup>th</sup> percentile) had the lowest dental coverage



**Source:** Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

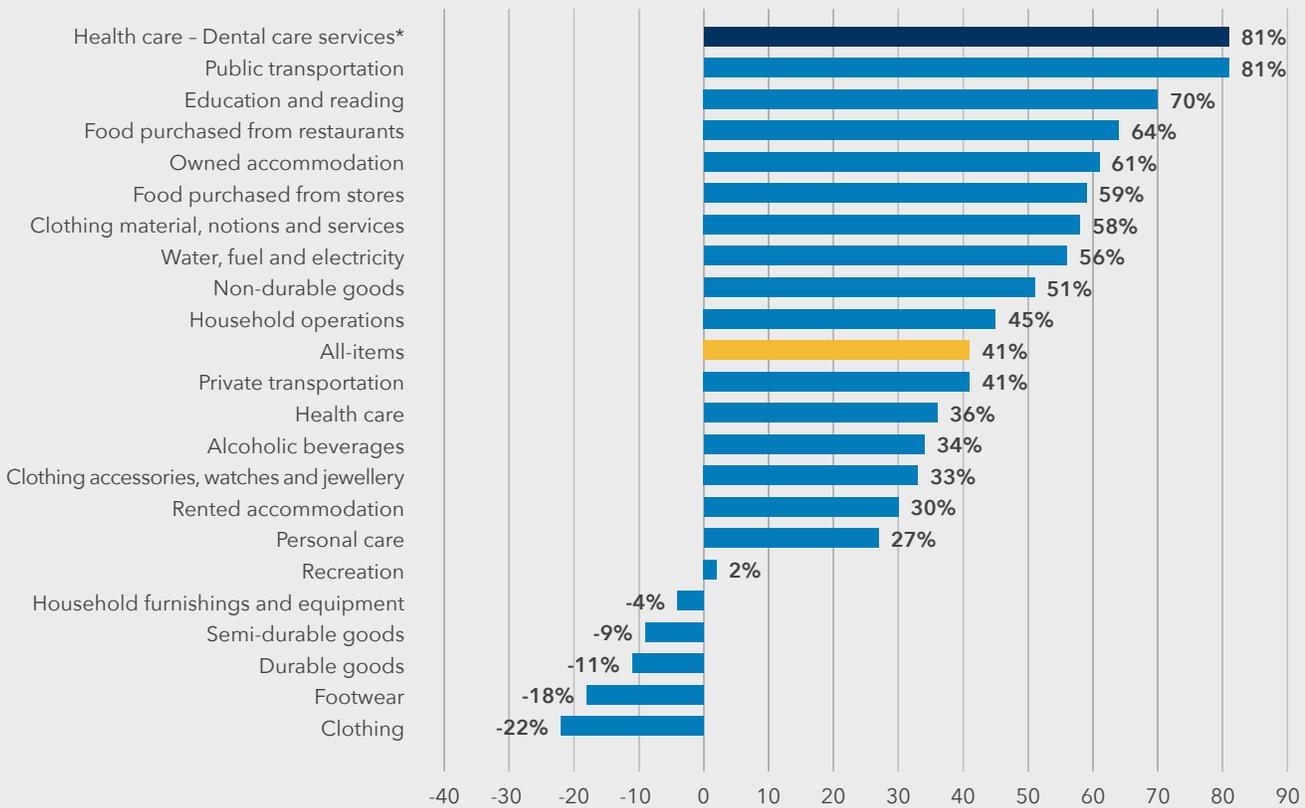
**Notes:** Data reflects non-age standardized weighted numbers. Analysis by author.

From 2001 to 2020, dental care services have grown by 81%, twice as fast as inflation overall at 41%. This inflation rate is extremely high, exceeding nearly every other category of good and services.

Since the pandemic, these inflation trends are not getting any better. From March 2020 to September 2021, the Canadian Consumer Price Index showed inflation of 3.4% for all items excluding gasoline, while dental care services grew by 7.1%, more than twice the overall rate of inflation, and well beyond the historical rate of about 4% average growth per year.

**Dental care is increasing in cost faster than nearly every other type of cost**

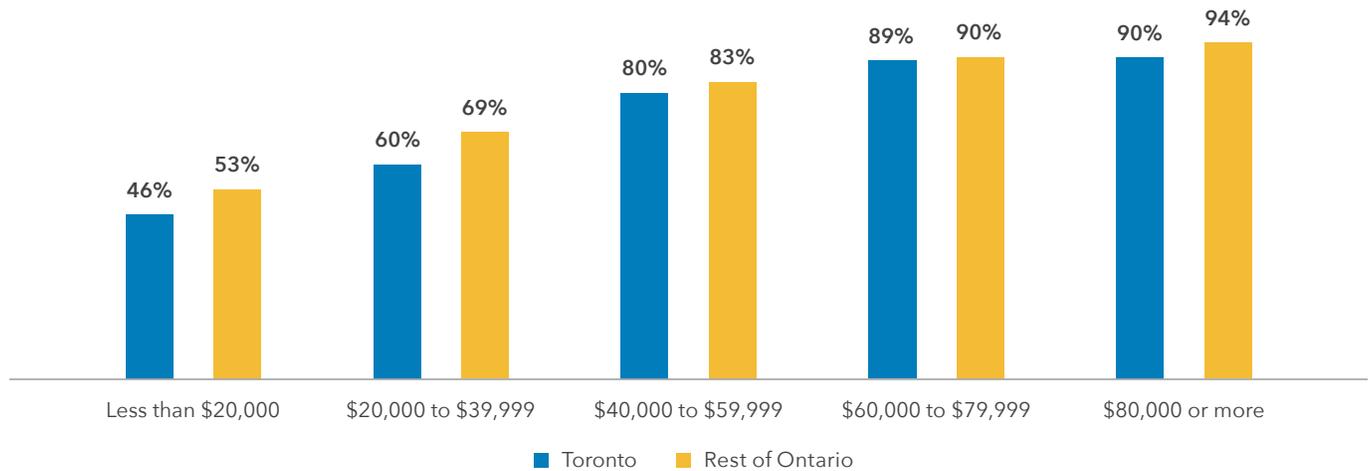
Consumer Price Index, 2001-2020, all sub-categories of inflation\*, Ontario



**Source:** Statistics Canada. Table 18-10-0004-01 Consumer Price Index, monthly, not seasonally adjusted<sup>46</sup>

**Note:** Data in the chart reflects every subcategory of the consumer price index, excluding tobacco, which increased by more than 250%. Dental care services are one of the subcategories of the consumer price index under healthcare - which has increased at slightly less than the cost of inflation overall - and reflects a different level of the hierarchy than the rest of the items in the chart above. The data for dental care services is at the national level since it is not available at the provincial level or below.

Percentage of employees with employer-sponsored dental plans, by personal income of employee, Toronto versus the rest of Ontario, 2017-18



**Source:** Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

**Notes:** Data reflects non-age standardized weighted numbers. Analysis by author.

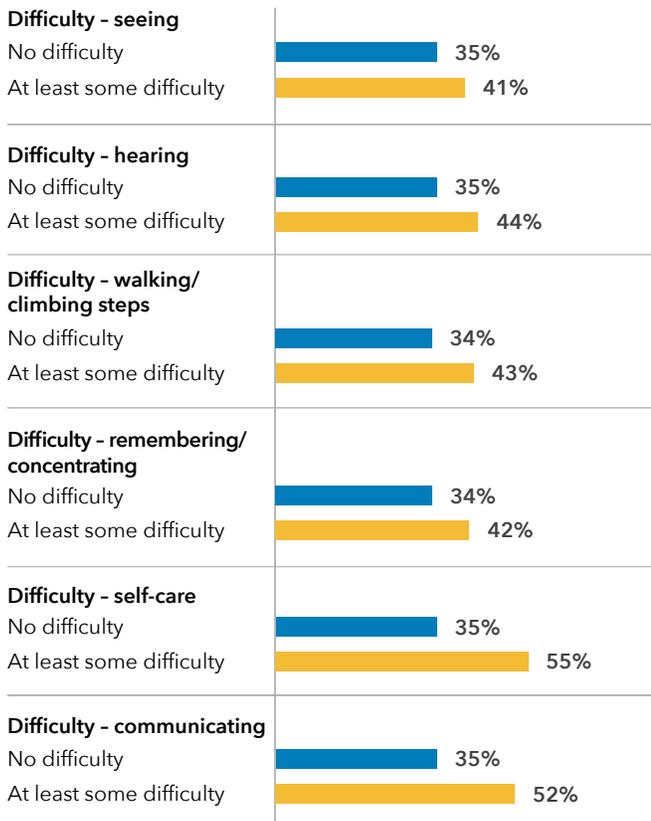
### Lack of dental insurance is a long-standing problem in Toronto and has gotten worse for low-income workers

Low-income workers across Ontario have low employer dental insurance rates, but the problem is more pronounced in Toronto. For example, 53% of employees earning under \$20,000 annually have employer dental insurance in the rest of Ontario; the same is true for only 46% of Toronto residents. Similarly, only 60% of Toronto residents earning between \$20,000 and \$40,000 annually have employer-supported dental insurance, compared to 69% in the rest of the province. Higher-income earners in the rest of the province are insured at greater rates than higher-income earners in Toronto, but the differences are less pronounced than for low-income workers.

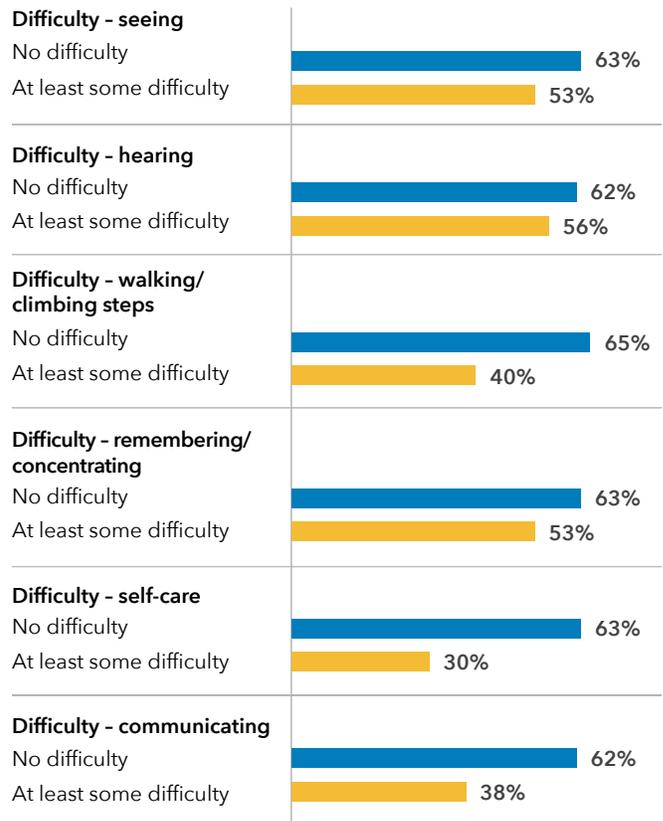
Less than half (43%) of self-employed people in Toronto have dental insurance, compared to 76% of employees. As a result, self-employed workers are less likely to report excellent or very good oral health, more likely to avoid the dentist due to cost and more likely to report experiencing pain in their mouth.

The rise in self-employment and the increase in low-paying precarious jobs without insurance are concerning trends for the oral health of Torontonians. These problems will likely be exacerbated over the coming years, as employers continue to minimize their costs by reducing benefits and adopting a more casual workforce.

Percentage of people without dental insurance, by functional difficulty category, Toronto, 2017/2018



Percentage of people who perceive their oral health as excellent or very good, by functional difficulty category, Toronto, 2017/2018



Source: Canadian Community Health Survey, Public Use Microdata File, 2017/2018.

Notes: Data reflects non-age standardized weighted numbers. Analysis by author.

## People with disabilities

### People with any sort of functional health limitations have lower rates of dental insurance than the rest of the population

The 2017/2018 Canadian Community Health Survey asked respondents a series of questions to determine whether they had any difficulty with six functional health components: vision, hearing, mobility (walking or climbing steps), cognition, self-care and communication. The Washington Group on Disability Statistics developed these questions. Although not comprehensive, the Washington Group questions cover the most common difficulties and allow for some understanding of the prevalence of functional

difficulties in society. However, these questions do not cover the full range of disabilities, notably omitting mental health-related disabilities and learning disabilities. Because of these limitations, some of the Washington Group questions have been abandoned by Statistics Canada, and others have been altered as part of the updated Disability Screening Questions.<sup>47</sup>

In Canada, 38% of adult men and 40% of adult women have at least one functional difficulty, including 59% of male seniors and 60% of female seniors.<sup>48</sup> In addition, 29% of people with functional difficulties in Toronto avoided going to the dentist in the past 12 months, compared to 22% of people without difficulties.

People with functional difficulties are less likely to have dental insurance than people without functional difficulties. This is true for all categories of functional difficulty. Still, the difference is especially pronounced for people with difficulty communicating (52% lack insurance) and people who have difficulty with self-care (55% don't have insurance).

Similarly, people with functional difficulties have much lower self-perceived rates of oral health. Between 62% and 65% of people in Toronto without functional difficulties rate their oral health as excellent or very good, compared to 30% to 56% of people with functional difficulties (depending on the difficulty). People who have difficulties with self-care and difficulties with communicating are the groups least likely to have dental insurance, and they also have the lowest levels of perceived oral health.

We also know from other research that people with disabilities have greater poverty rates and often have trouble accessing oral healthcare.<sup>49</sup> Individuals with developmental disabilities have poor oral health, compared to non-disabled populations, due in part to the inability to maintain adequate oral hygiene and difficulty accessing affordable and timely care. Oral health professionals also have limited training in treating the specific needs of people with developmental disabilities.

In Ontario, people receiving Ontario Disability Support Program: Income Support (ODSP) can receive basic dental services, though many report challenges in accessing these services because many dentists avoid taking patients covered under this benefit program. Spouses and dependent children are also eligible for coverage.

# Oral health of children in Toronto



## Children in Toronto generally have better dental coverage than adults

Despite advances in prevention, early childhood caries (ECC), where “caries” is a technical term for tooth decay, is among the most common childhood diseases and can be accompanied by serious comorbidities. ECC can require dental surgery under anesthesia, the most common day surgery procedure at many pediatric hospitals in Canada.<sup>50</sup> Children with poor oral health also receive lower grades than other children and are more likely to miss school days.<sup>51</sup> Children who immigrated to Canada are also likely to have worse oral health than their Canadian-born peers.

Children aged 17 years and younger living in low-income households across Ontario are eligible for free dental care through the Healthy Smiles Ontario program. A similar program does not exist for adults, meaning that children often have better dental care than adults and are at risk of developing untreated oral health problems after they age out of the program. In 2018, 17,200 children and youth received dental treatment in Toronto Public Health clinics.<sup>52</sup>

Children (or their families) who receive any of: 1) temporary care assistance, 2) assistance for children with severe disabilities, 3) Ontario Works or 4) Ontario Disability Support are automatically enrolled in Healthy Smiles, and other children can be enrolled by contacting Toronto Public Health or by applying online.

## Screenings in schools

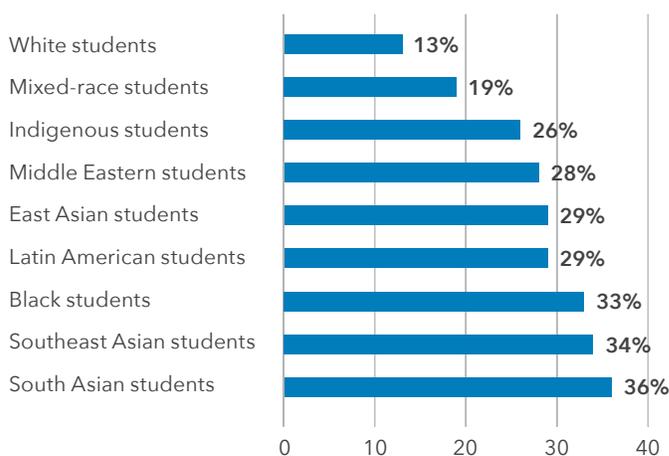
The province mandates dental hygienists and dental assistants from Toronto Public Health to conduct free dental screenings for elementary schools across the city. Children in kindergarten may not have seen a dentist before these screenings, and students in Grade 2 usually have their first permanent molars.

In both cases, dental screenings are important to ensure that children with oral health needs receive adequate care. The dental teams assess needs for topical fluoride, scaling and other treatments and inform the parents or guardians on whether and how the children can access care. In 2017, 221,563 students were screened in elementary schools by Toronto Public Health staff.<sup>53</sup>

## Lower dental visits among racialized students

The 2016/2017 Toronto District School Board’s Student Census also shows that racialized students are more likely to not go to the dentist annually. The data showed that 13% of white students do not go to the dentist annually compared to 33% of Black students, 26% of Indigenous students, and 36% of South Asian students (see chart for full details). Despite programs to support students to get dental care in Toronto, more work is clearly still needed.

Percentage of TDSB Students (grades 4 to 8) who do not visit the dentist annually, by race, 2017



Source: Toronto District School Board Student Census 2016/2017<sup>54</sup>

# Oral health and COVID-19

The pandemic has led to significant economic challenges which have negatively affected oral health in the region. In addition, many public dental programs that serve the most vulnerable populations were operating at drastically reduced capacity due to the physical distancing required by the pandemic.

In another jurisdiction, a public health official who spoke with us anonymously as background for this report estimates that it will take four or five years to get through the oral health backlog from COVID-19.

A study in Qatar led by researchers at McGill University found that people with gum disease (periodontitis) experienced more severe COVID-19 symptoms.<sup>55</sup> According to the study, “the patients were 3.5 times more likely to be admitted to the intensive care unit, 4.5 times more likely to require a ventilator and 8.8 times more likely to die from COVID-19 compared to those without gum disease.”

## People have been putting off going to the dentist during the pandemic

According to a January 2021 poll conducted by Abacus Data for the Canadian Dental Hygienists Association, only 46% of Ontarians had seen their dental hygienist since March 2020, which was slightly higher than the national average of 43%.<sup>56</sup> The reasons cited for not receiving dental care included “putting off appointments that can wait” (37%), concerns about safety (32%), household finances taking a hit (14%) and loss of dental benefits (12%).

People aged 18 years to 29 years were most likely to have lost benefits (19%), and people making less than \$50,000 (18%) annually were also more likely to have put off appointments due to income loss.

The fact that “putting off appointments that can wait” was the top reason suggests that many Canadians may underestimate the importance of routine oral healthcare.

According to the study, patients with gum disease “were 3.5 times more likely to be admitted to the intensive care unit, 4.5 times more likely to require a ventilator and 8.8 times more likely to die from COVID-19 compared to those without gum disease.”

# Improving oral health infrastructure in Toronto

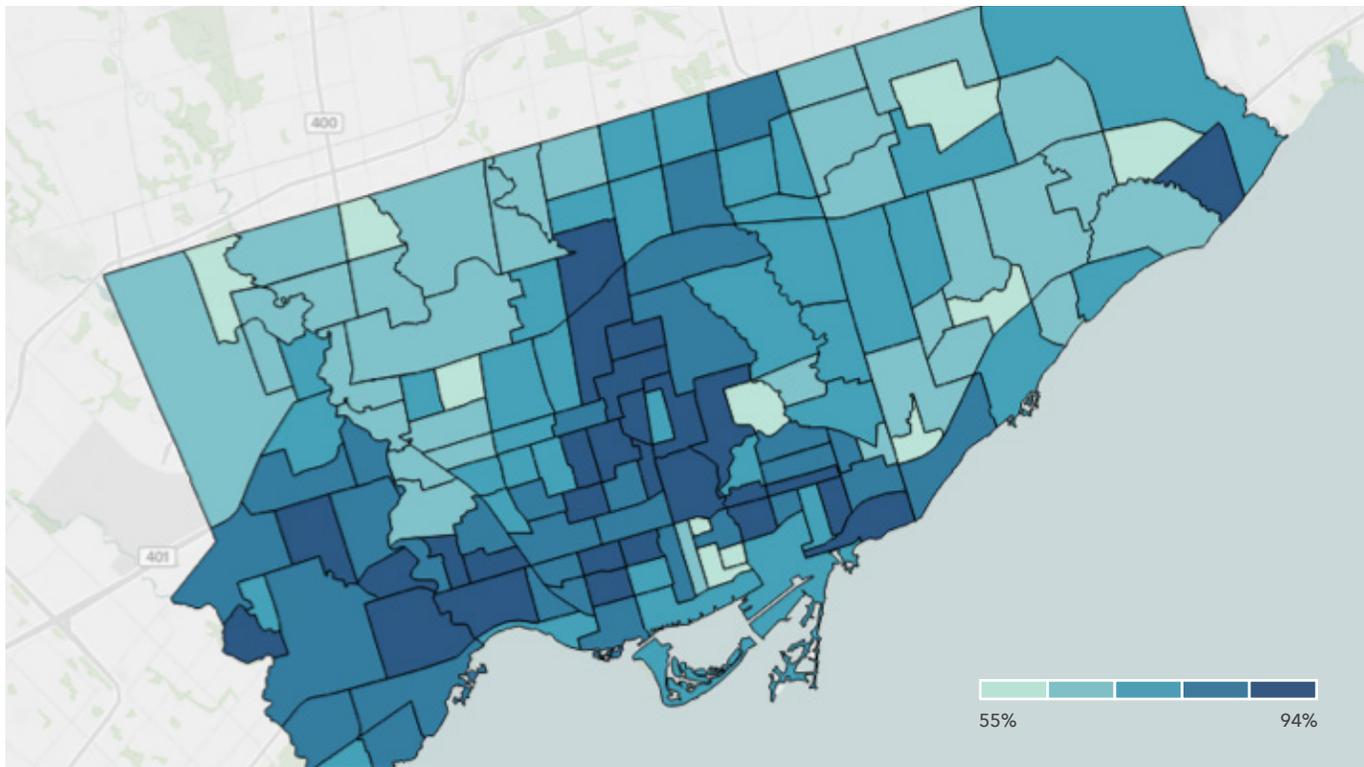
Despite the gaps in Ontario’s oral healthcare system, cities and regions have some tools to make dental care more accessible, and Toronto has some successes and opportunities on this front.

In 2016, Toronto Public Health increased access to dental treatment for vulnerable and marginalized

adults on Ontario Works (OW), since many people eligible for government-funded dental programs have difficulties obtaining treatment from private clinics.<sup>57</sup> In 2018, 5,884 adults (18–64 years of age) eligible for social assistance were provided with emergency dental services to improve their overall health and increase their job readiness.

## Access to dental care is unequally distributed across the city

Percentage of Grade 4 to Grade 8 students going to the dentist annually, by neighbourhood, Toronto District School Board Student Census, 2016/2017

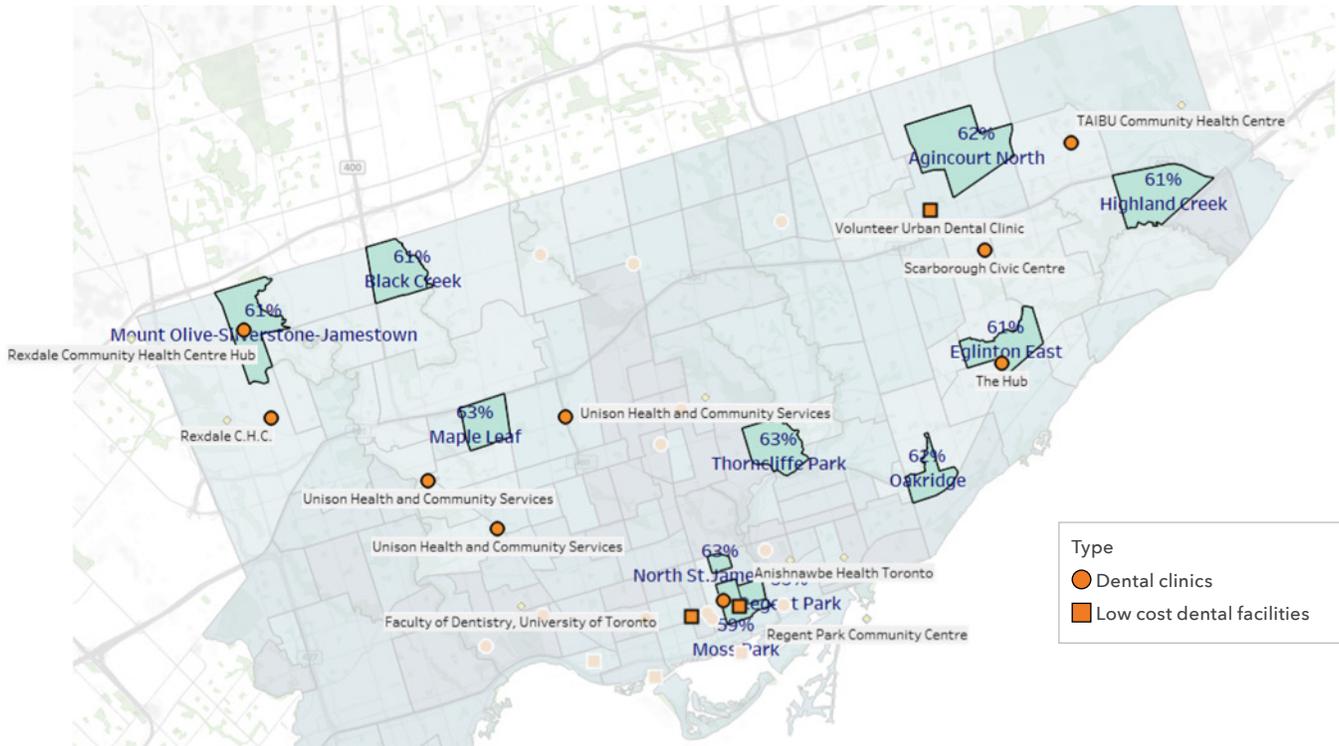


Source: Toronto District School Board Student Census 2016/2017.<sup>58</sup>

The map shows that the number of elementary school students going to the dentist annually varies widely across Toronto’s neighbourhoods, ranging from only 55% in Regent Park to 94% in Lawrence Park North.

The geographic inequality in Toronto has been well-documented in other publications, and it should be of no surprise that access to oral healthcare follows the same pattern.

## Ten neighbourhoods with the lowest dentist access among students and percentage of students going to the dentist annually



Source: Toronto District School Board Student Census 2016/2017.<sup>59</sup>

This map shows the 10 parts of the city with the lowest proportion of Toronto District School Board students visiting the dentist annually. It also shows the locations of the City of Toronto’s dental clinics and low-cost dental facilities.<sup>60, 61</sup>

As can be seen, some of the neighbourhoods with the lowest number of students going to the dentist do have clinics either within their boundaries or nearby. However, three neighbourhoods stand out for their lack of facilities: Black Creek, Oakridge and Thorncliffe Park.

### Black Creek, Oakridge and Thorncliffe Park lack dental services

These neighbourhoods have the most obvious coverage gaps, including low dental insurance rates, no providers, or free or low-cost dental services and long transit times to the closest clinics. For example, for many residents in Black Creek, the nearest clinic is a 45-minute trip on public transit.

These neighbourhoods are home to many racialized residents and recent immigrants. The lack of dental clinics is only part of an overall lack of public investment in the neighbourhoods with the highest needs in the city.

## Community organizations and clinics serving low-income residents

The following organizations provide free or low-cost dental treatments in or near the top 10 least-served Toronto neighbourhoods. Because these organizations have experience running oral health programs, they could potentially quickly scale up their operations and serve more people if they receive additional investment.

### Anishnawbe Health Toronto

Anishnawbe Health Toronto offers a wide variety of health services. It is the only facility in Toronto using both traditional and Western healthcare approaches to serve the estimated 70,000 Indigenous residents in the city. Anishnawbe was founded in 1984, and in 1989 it became recognized and funded as a community health centre. It serves as one of the City of Toronto's dental clinics.

### Evangel Hall Mission

The Evangel Hall Mission has an on-site dental clinic, which it runs in partnership with the Toronto College of Dental Hygiene. People living under the poverty line (\$20,676 in annual income for individuals and \$41,351 for a family of four) and who do not have insurance are eligible for treatment at EHM's clinic on Adelaide Street West.

### Evergreen Health Centre

Evergreen is a drop-in affiliated with the Yonge Street Mission for homeless and marginalized youth aged 16 to 24 years. It runs a health clinic that provides a variety of free treatments, including dental care.

### Faculty of Dentistry, University of Toronto

The faculty's clinic serves more than 15,000 patients through 200 doctor of dental surgery students and 90 post-graduate specialist students. As a teaching hospital, the services are typically about 30% of the costs charged by private dental practices.<sup>62</sup> It also serves as one of the City of Toronto's dental clinics.

In November 2020, Green Shield Canada announced a \$6.15-million donation that will allow up to 2,000 Greater Toronto Area families to receive free dental care as part of a dental public health service and research project designed to fill the gaps in the healthcare system and help Canadians access the care they need.<sup>63</sup>

### The Hub, mid-Scarborough

The Hub, mid-Scarborough is a project of the Scarborough Centre for Healthy Communities. It serves as one of the City of Toronto's dental clinics in the neighbourhoods of Eglinton East/Kennedy Park and Ionview.

### Regent Park Community Health Centre

The clinic offers basic dental services to people living in Regent Park, including examinations, cleaning, X-rays, fillings, extractions and dentures. Services are offered on a reduced fee schedule, and patients are accepted with or without private or public insurance (e.g., ODSP and OW). The dental team saw more than 900 patients in the 2018/2019 fiscal year (up from 852 the previous year).<sup>64</sup> In its 2017 Client Satisfaction Survey, there were several requests to increase access to dental services and increase clinic days and operating hours.<sup>65</sup>

### **Rexdale Community Health Centre**

City of Toronto Public Health (TPH) offers free dental care at two Rexdale community health centre (CHC) locations for children, youth and seniors. Services are available in Hindi, Gujarati and Punjabi. Between March 2018 and February 2019, in partnership with TPH, Rexdale CHC implemented a pilot dental program for low-income adults aged 18 to 64 years with urgent dental needs. Through this program, 148 clients made 242 dental visits. Overall, 90% of them were satisfied with the care they received, and 87% felt that their dental treatment would improve their overall health.

### **Scarborough Civic Centre Dental Clinic**

This location serves as one of the City of Toronto's dental clinics, offering free dental care for eligible children, high-school students and seniors. In addition, some low-income adults without any other coverage may also be eligible for some treatments. The clinic runs from Monday to Friday, 8 a.m. to 4 p.m. As of 2016, the clinic was one of the busiest in the city, providing dental care to approximately 3,500 clients annually and with a two-year wait-list and was undergoing expansion, though more recent data was not readily available.<sup>66</sup>

### **TAIBU Community Health Centre**

TAIBU is the only community health centre whose priority population is Black populations across the Greater Toronto Area (and residents of the local community of Malvern).<sup>67</sup> It also serves as one of the City of Toronto's dental clinics.

### **Toronto Public Health Mobile Dental Clinic**

The fully equipped clinic travels to select community agencies across the city and provides free dental care for eligible clients who have difficulty accessing dental services through other means. The mobile dental clinic is fully accessible and has two dental stations, a sterilization centre and a reception area. The clinic is staffed by a dentist, a registered dental hygienist and a certified dental assistant.

### **Unison Health and Community Services**

Unison Health and Community Services has five locations, including three serving as City of Toronto dental clinics.

### **Volunteer Urban Dental Clinic**

The Volunteer Urban Dental Clinic was established in 2005 and is located in the same Scarborough building as its founding organization, the Canadian Centre for Refugee & Immigrant HealthCare. The clinic has three dental operatories and provides dental services to uninsured low-income adults aged 18 to 64 years. In 2019, the clinic had 1,548 visits.

## Recommendations and options

The problem of access to affordable, equitable oral healthcare is complex, and many of the public health policies needed to effect real change rest with the provincial or federal governments. And though ongoing provincial and federal advocacy for improvements to oral healthcare remain critical, there are still significant and meaningful actions that can be taken at the local and regional level to move the needle on oral health outcomes here in Toronto.

The largest challenge that needs to be addressed is ensuring access to oral healthcare for low-income adults who do not have insurance or who do not qualify for government support. While there is still a lot of room for improvement with respect to children's oral health, both youth and seniors across the province are now more likely to have access to dental care due to public program expansions across Ontario in recent years.

The people who are left behind are those low-income individuals without insurance, who may also experience compounding factors such as food insecurity, precarious employment and skyrocketing housing costs and for whom the cost of dental care remains far out of reach.

A few opportunities for overall oral healthcare improvement include:

- Establishing a network of individuals working in dental health across Toronto who would be willing to partner with Toronto Public Health and local organizations to provide low-cost or free dental care to low-income and marginalized people.
- Providing support to existing organizations working on oral health, such as those profiled in the previous sections.
- Providing funding for oral health research to better understand the prevalence and causes of poor oral health and its impact on overall physical and mental wellbeing.
- Prioritizing regular data collection to better understand the state of oral health within the region and inform decision-making.
- Creating new Toronto Public Health dental clinics and expanding eligibility.
- Advocating for the expansion of public programs, providing oral healthcare to vulnerable populations.

# Endnotes

- 1 Source: Canadian Community Health Survey, Public Use Microdata File, 2017/2018. Toronto Health Unit. Data reflects non-age standardized weighted numbers. Analysis by author.
- 2 Source: Canadian Community Health Survey, Public Use Microdata File, 2017/2018. Toronto Health Unit. Data reflects non-age standardized weighted numbers. Analysis by author. All numbers in this and the following paragraph are from the Canadian Community Health Survey.
- 3 Daily Bread Food Bank and North York Harvest Food Bank Institution, 'Hunger Lives Here: Risks and Challenges Faced by Food Bank Clients During COVID-19,' 2020.
- 4 <https://storeys.com/toronto-severely-unaffordable-city-world-2021/>
- 5 Katherine Horst, 'Access to Affordable Oral Health Care in Waterloo Region' (Kitchener, 2017).
- 6 Jacquie Maund, 'No Access to Dental Care: Facts and Figures on Visits to Emergency Rooms and Physicians for Dental Problems in Ontario,' January 2017, [https://www.allianceon.org/sites/default/files/documents/Information-ER-DR-visits-dental-problems\\_Jan-2017.pdf](https://www.allianceon.org/sites/default/files/documents/Information-ER-DR-visits-dental-problems_Jan-2017.pdf).
- 7 Brandy Thompson et al., "The Potential Oral Health Impact of Cost Barriers to Dental Care: Findings from a Canadian Population-Based Study," *BMC Oral Health* 14, no. 1 (June 25, 2014), <https://doi.org/10.1186/1472-6831-14-78>.
- 8 Judy Lux, 'Review of the Oral Disease-Systemic Part I: Heart Disease, Diabetes', vol. 40, November 2006, [https://www.dentalhygienecanada.ca/pdfs/Profession/Resources/Disease\\_Link\\_Article.pdf](https://www.dentalhygienecanada.ca/pdfs/Profession/Resources/Disease_Link_Article.pdf).
- 9 Shiyamali Sundararajan, Santhanakrishnan Muthukumar, and Suresh Ranga Rao, "Relationship between Depression and Chronic Periodontitis," *Journal of Indian Society of Periodontology* 19, no. 3 (May 1, 2015): 294-96, <https://doi.org/10.4103/0972-124X.153479>.
- 10 'Mental Illness and Oral Health | Oral Health Foundation', accessed 20 June 2021, <https://www.dentalhealth.org/mental-illness-and-oral-health>.
- 11 Puneet Kaur et al., 'Impact of Dental Disorders and Its Influence on Self Esteem Levels among Adolescents', *Journal of Clinical and Diagnostic Research* 11, no. 4 (1 April 2017): ZC05-8, <https://doi.org/10.7860/JCDR/2017/23362.9515>.
- 12 Steve Kisely, 'No Mental Health without Oral Health', *Canadian Journal of Psychiatry* (SAGE Publications Inc., 1 May 2016), <https://doi.org/10.1177/0706743716632523>.
- 13 Hazem Seirawan, Sharon Faust, and Roseann Mulligan, 'The Impact of Oral Health on the Academic Performance of Disadvantaged Children', *American Journal of Public Health* (American Public Health Association, September 2012), <https://doi.org/10.2105/AJPH.2011.300478>.
- 14 Dr. Vera Etches, 'UPDATE ON DENTAL HEALTH SERVICES IN OTTAWA' (Ottawa, 11 December 2017), <http://ottwatch.ca/meetings/file/492461>.
- 15 Maria Helena Monteiro de Barros Miotto, Jean Carlos Bazoni Silotti, and Ludmilla Awad Barcellos, 'Dental Pain as the Motive for Absenteeism in a Sample of Workers', *Ciencia e Saude Coletiva* 17, no. 5 (17 May 2012): 1357-63, <https://doi.org/10.1590/s1413-81232012000500029>.
- 16 Jamie Moeller et al., 'Assessing the Relationship between Dental Appearance and the Potential for Discrimination in Ontario, Canada', *SSM - Population Health* 1 (1 December 2015): 26-31, <https://doi.org/10.1016/j.ssmph.2015.11.001>.
- 17 Sonica Singhal, 'The Role of Dental Treatment in Welfare-to-Work' (Toronto, 2015), [https://tspace.library.utoronto.ca/bitstream/1807/71334/1/Singhal\\_Sonica\\_201511\\_PhD\\_thesis.pdf](https://tspace.library.utoronto.ca/bitstream/1807/71334/1/Singhal_Sonica_201511_PhD_thesis.pdf).
- 18 Canadian Community Health Survey, Public Use Microdata File, 2017/2018. Data reflects non-age standardized weighted numbers. Analysis by author.
- 19 Erica Alini, 'Here's How Home Prices Compare to Incomes across Canada | Globalnews.ca', Globalnews.ca, 10 April 2021, <https://globalnews.ca/news/7740756/home-prices-compared-to-income-across-canada/>.
- 20 Dr. Carlos Quinonez, *Dentistry in Alberta: Time for a Checkup?* (Edmonton: Parkland Institute, University of Alberta, 2020).
- 21 Quinonez.
- 22 Data is not available for the breakdown of insurance coverage of specific ethnic groups. Data uniquely about Indigenous people is also lacking.
- 23 'Our Health Counts Toronto,' 2019, <https://doi.org/10.1007/s11524-006-9108-8>.

- 24 Michael A. Rotondi et al., 'Our Health Counts Toronto: Using Respondent-Driven Sampling to Unmask Census Undercounts of an Urban Indigenous Population in Toronto, Canada,' *BMJ Open*, 3 November 2017, <https://doi.org/10.1136/bmjopen-2017-018936>.
- 25 K. O'Brien et al., 'Oral Health,' Our Health Counts (Toronto, ON, 2018), <http://www.welllivinghouse.com/wp-content/uploads/2018/02/Oral-Health-OHC-Toronto.pdf>.
- 26 K. O'Brien et al., "Oral Health," Our Health Counts (Toronto, ON, 2018), <http://www.welllivinghouse.com/wp-content/uploads/2018/02/Oral-Health-OHC-Toronto.pdf>.
- 27 O'Brien et al.
- 28 David M. Krol et al., "Maintaining and Improving the Oral Health of Young Children," *Pediatrics* 134, no. 6 (December 1, 2014): 1224-29, <https://doi.org/10.1542/peds.2014-2984>.
- 29 Catherine Carstairs and Ian Mosby, 'Indigenous Oral Health, COVID-19, and the Treaty Obligation to Health Care | UTP Journals Blog,' 20 July 2020, <https://blog.utpjournals.com/2020/07/20/indigenous-oral-health-covid-19-and-the-treaty-obligation-to-health-care/>.
- 30 Catherine Carstairs and Ian Mosby, 'Colonial Extractions: Oral Health Care and Indigenous Peoples in Canada, 1945-79,' *Canadian Historical Review* 101, no. 2 (1 June 2020): 192-216, <https://doi.org/10.3138/chr.2018-0097>.
- 31 Carstairs and Mosby, 'Indigenous Oral Health, COVID-19, and the Treaty Obligation to Health Care | UTP Journals Blog.'
- 32 'Impacts of Federal Dental Policies on Indigenous Peoples - Research and Innovation - Ryerson University,' Innovation Newsletter, 2021, <https://www.ryerson.ca/research/publications/newsletter/2021-02/federal-dental-policies/>.
- 33 'About the Non-Insured Health Benefits Program,' 2021, <https://www.sac-isc.gc.ca/eng/1576790320164/1576790364553>.
- 34 Office of the Auditor General of Canada, 'Report 4—Oral Health Programs for First Nations and Inuit—Health Canada,' accessed 20 June 2021, [https://www.oag-bvg.gc.ca/internet/English/parl\\_oag\\_201711\\_04\\_e\\_42669.html](https://www.oag-bvg.gc.ca/internet/English/parl_oag_201711_04_e_42669.html).
- 35 Office of the Auditor General of Canada.
- 36 Ian Mosby and Catherine Carstairs, 'Federal Policies Undermine Indigenous Dental Health,' 5 October 2018, <https://policyoptions.irpp.org/magazines/october-2018/federal-policies-undermine-indigenous-dental-health/>.
- 37 'Ontario Expanding Access to Dental Care and Affordable Prescription Drugs for Vulnerable Seniors | Ontario Newsroom,' accessed 20 June 2021, <https://news.ontario.ca/en/release/1000095/ontario-expanding-access-to-dental-care-and-affordable-prescription-drugs-for-vulnerable-seniors>.
- 38 'Population Estimates, July 1, by Census Metropolitan Area and Census Agglomeration, 2016 Boundaries,' 14 January 2021, <https://doi.org/doi.org/10.25318/1710013501-eng>.
- 39 Toronto Public Health, 'BudgetTO2019 - Toronto Public Health,' 2019, <https://www.toronto.ca/legdocs/mmis/2019/bu/bgrd/backgroundfile-123844.pdf>.
- 40 Daily Bread Food Bank and North York Harvest Food Bank Institution, 'Hunger Lives Here: Risks and Challenges Faced by Food Bank Clients During COVID-19.'
- 41 Valerie Tarasuk, Andrée Anne Fafard St-Germain, and Rachel Loopstra, 'The Relationship Between Food Banks and Food Insecurity: Insights from Canada,' *Voluntas* 31, no. 5 (1 October 2020): 841-52, <https://doi.org/10.1007/s11266-019-00092-w>.
- 42 Vanessa Muirhead et al., 'Oral Health Disparities and Food Insecurity in Working Poor Canadians,' *Community Dentistry and Oral Epidemiology* 37, no. 4 (August 2009): 294-304, <https://doi.org/10.1111/j.1600-0528.2009.00479.x>.
- 43 Donald L. Chi et al., 'Socioeconomic Status, Food Security, and Dental Caries in Us Children: Mediation Analyses of Data from the National Health and Nutrition Examination Survey, 2007-2008,' *American Journal of Public Health (American Public Health Association Inc., 2014)*, <https://doi.org/10.2105/AJPH.2013.301699>.
- 44 Rafael L.F. Figueiredo, Stephen W. Hwang, and Carlos Quiñonez, 'Dental Health of Homeless Adults in Toronto, Canada,' *Journal of Public Health Dentistry* 73, no. 1 (1 December 2013): 74-78, <https://pubmed.ncbi.nlm.nih.gov/22881462/>.
- 45 Toronto Public Health, 'BudgetTO2019 - Toronto Public Health.'
- 46 'Consumer Price Index, Monthly, Not Seasonally Adjusted,' 20 June 2021, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000401>.
- 47 '2. Measuring Disability at Statistics Canada,' 2016, [https://www150.statcan.gc.ca/n1/pub/89-654-x/2016003/2\\_mes-eng.htm](https://www150.statcan.gc.ca/n1/pub/89-654-x/2016003/2_mes-eng.htm).
- 48 'Functional Difficulties: Washington Group, 2017,' 2017, <https://www150.statcan.gc.ca/n1/pub/82-625-x/2018001/article/54978-eng.htm>.
- 49 Keith Da Silva, Julie W Farmer, and Carlos Quiñonez, 'Access to Oral Health Care for Individuals with Developmental Disabilities: An Umbrella Review,' 2017, [https://www.hpda.ca/resources/Documents/access\\_for\\_people\\_with\\_developmental\\_disabilities\\_2017.pdf](https://www.hpda.ca/resources/Documents/access_for_people_with_developmental_disabilities_2017.pdf).
- 50 Toronto Public Health, "T.O. Health Check: An Overview of Toronto's Population Health Status," 2019, <https://www.toronto.ca/legdocs/mmis/2019/hl/bgrd/backgroundfile-137413.pdf>.

- 51 Toronto Public Health.
- 52 Toronto Public Health, 'BudgetTO2019 - Toronto Public Health.'
- 53 Toronto Public Health.
- 54 'Indicators | Raising The Village,' accessed 20 June 2021, <https://raisingthevillage.ca/indicators/#dental-check-up>.
- 55 Ben Cousins, 'Coronavirus: Those with Poor Oral Hygiene Tend to Experience More Severe COVID-19 Symptoms, Study Finds | CTV News,' 7 April 2021, <https://www.ctvnews.ca/health/coronavirus/those-with-poor-oral-hygiene-tend-to-experience-more-severe-covid-19-symptoms-study-finds-1.5378481>.
- 56 'Dental Hygiene During the Pandemic Survey Conducted for CDHA Research and Analysis from Canada's Leading Public Affairs and Market Research Experts Almost all Satisfied with the Experience Most Felt Safe During Recent Treatment Many Delayed Care,' 2021, [https://files.cdha.ca/Newsevents/Safetyalerts/Cdha\\_covid-19\\_omnibus\\_survey\\_results.pdf](https://files.cdha.ca/Newsevents/Safetyalerts/Cdha_covid-19_omnibus_survey_results.pdf).
- 57 Toronto Public Health, 'BudgetTO2019 - Toronto Public Health.'
- 58 'Indicators | Raising The Village,' accessed 20 June 2021, <https://raisingthevillage.ca/indicators/#dental-check-up>.
- 59 'Indicators | Raising The Village,' accessed 20 June 2021, <https://raisingthevillage.ca/indicators/#dental-check-up>.
- 60 'Low Cost Dental Facilities - City of Toronto,' accessed 20 June 2021, <https://www.toronto.ca/community-people/health-wellness-care/health-programs-advice/dental-and-oral-health-services/low-cost-dental-facilities/>.
- 61 'Dental Clinics - City of Toronto,' accessed 20 June 2021, <https://www.toronto.ca/community-people/health-wellness-care/health-programs-advice/dental-and-oral-health-services/dental-clinics/>.
- 62 'Faculty of Dentistry Clinics New Patient Information' (Toronto), accessed 20 June 2021, [https://www.dentistry.utoronto.ca/sites/default/files/2019-01/patient\\_brochurePDF.pdf](https://www.dentistry.utoronto.ca/sites/default/files/2019-01/patient_brochurePDF.pdf).
- 63 Trevor Dunn, 'How Can All Canadians Get Good Dental Care? New U of T Free Clinic Aims to Figure It out | CBC News,' CBC News, 24 November 2020, <https://www.cbc.ca/news/canada/toronto/how-can-all-canadians-get-good-dental-care-new-u-of-t-free-clinic-aims-to-figure-it-out-1.5813283>.
- 64 Regent Park Community Health Centre, <https://regentparkchc.org/wp-content/uploads/2020/07/rpchc-annual-report-2018-19.pdf>.
- 65 Regent Park Community Health Centre, <https://regentparkchc.org/wp-content/uploads/2020/10/ClientSatisfactionSurvey2017.pdf>.
- 66 Acting Medical Officer of Health, "Relocation of Toronto Public Health Dental Clinic at Scarborough Civic Centre STAFF REPORT ACTION REQUIRED Toronto Public Health 2016-2025 Capital Budget and Plan In Year Adjustment for the Relocation and Expansion of Dental Clinic at Scarborough Civic Centre," 2016, <https://www.toronto.ca/legdocs/mmis/2016/ex/bgrd/backgroundfile-97008.pdf>.
- 67 'TAIBU Community Health Centre,' accessed 20 June 2021, <https://taibuchc.ca/en/>.