

COVID-19 AND THE SOCIAL DETERMINANTS OF HEALTH: WHAT DO WE KNOW?

Are some populations disproportionately affected by COVID-19 in Toronto?

[Evidence](#) from other areas is showing that some groups of people are more likely than others to become infected with, hospitalized for, and die from COVID-19. In particular, people belonging to certain racial groups are over-represented among COVID-19 cases and deaths in the US and UK. Given the racial diversity of Toronto, large number of newcomers to Canada, and high proportion of people living in lower-income communities, Toronto Public Health (TPH) wanted to learn if groups of Toronto residents were also inequitably affected by COVID-19.

How can we investigate if these inequities are happening here?

Individual-level information on most socio-demographic characteristics for those testing positive for COVID-19 is not currently available in Ontario. Therefore, using data from the 2016 Canadian Census, TPH looked at the characteristics of the areas where people who have a probable or confirmed diagnosis of COVID-19 live to gain some insight about possible trends. The method used to explore this is illustrated here, using income as an example.

Small geographic areas called census tracts (CT) were ranked from lowest income to highest income based on percent of people living below the low-income measure (LIM). Using the ranked CTs as building blocks, the city was divided into five equally sized groups called quintiles. This resulted in quintile one as the group with the highest percent of people living below the LIM, or the lowest income quintile. Quintile five has the lowest percent of people living below the LIM, making it the highest

income quintile. Each quintile contains CTs from all over the city. Once the quintiles were defined, the number of people with a probable or confirmed diagnosis of COVID-19 living in all the CTs belonging to a specific quintile were added up to create a rate for each of the five groups. This then allows us to see if income level is associated with the COVID-19 case rate.

In addition to **people living below the low-income measure**, we also repeated this process for other socio-demographic characteristics using data from the 2016 Census, including:

- **People from racialized communities** (referred to in the Census as 'visible minorities')
- **Newcomers** (immigrants arriving in Canada in the past 5 years, as of 2016)
- **People with lower education levels** (no certificate, degree, or diploma)
- **People who were unemployed** (as of 2016, and does not account for job losses due to COVID-19)

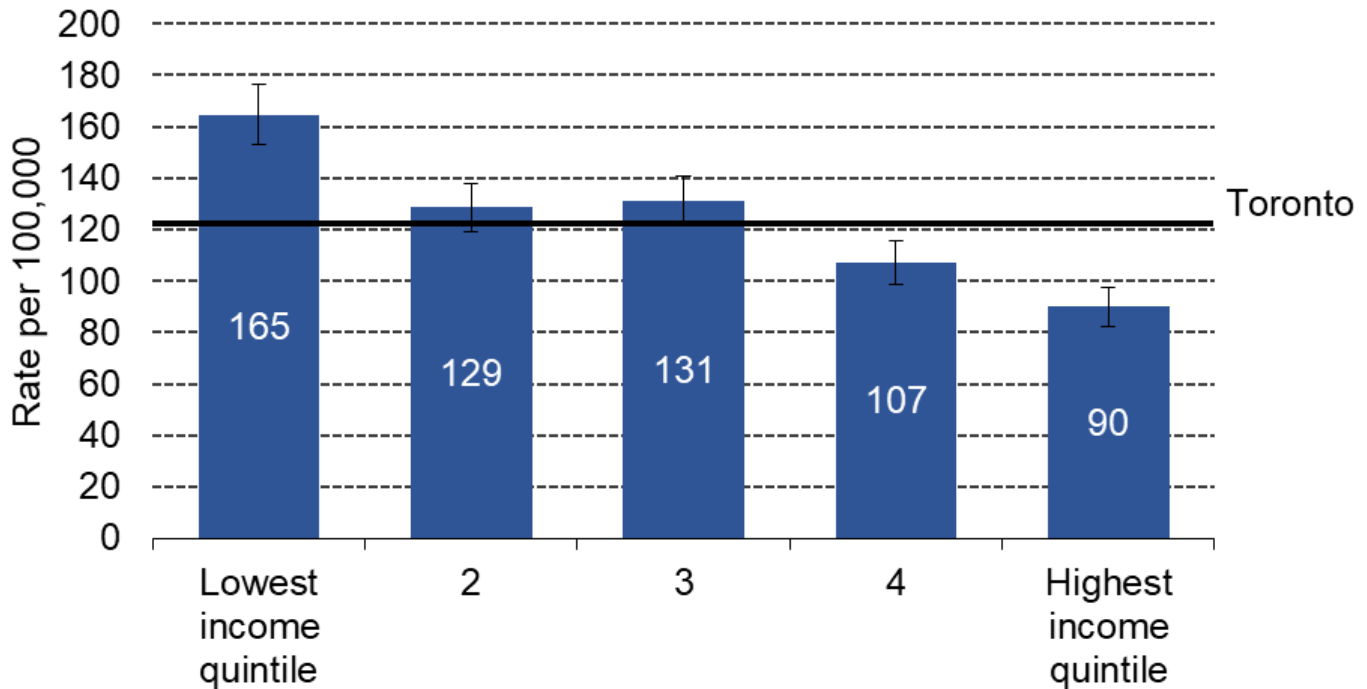
While this method can show potential trends, it has many limitations. Firstly, a person is not necessarily defined by the characteristics of the area where they live. For example, just because someone lives in an area with lots of newcomers, it does not mean that they are a newcomer themselves. Second, testing for COVID-19 is currently targeted at specific high-risk groups. Not everyone who has COVID-19 symptoms is receiving a test, and so our case rates reflect who is being tested only. Finally, we don't know what is driving these associations. Other factors, known as confounders, may be causing these suspected relationships between social determinants and COVID-19. For example, the trend may reflect specific occupations and essential worker status.

What do the findings show about COVID-19 and the social determinants of health?

Our most recent analysis includes COVID-19 cases that are believed to have spread in the community (excluding cases in institutions such as long-term care homes and shelters) recorded up until May 3, 2020.

We found that the **lowest income group** (the quintile with the highest percent of people living below the low-income measure) **had the highest rate of COVID-19 cases**. It had 165 cases per 100,000 people, compared to the rate in the highest income group, with 90 cases per 100,000 people.

Covid-19 cases by area-based income quintile



This trend was also seen for hospitalizations, with the lowest income group having the highest rate of COVID-19 hospitalizations. It had 26 hospitalizations per 100,000 people, compared to the highest income group, with 12 hospitalizations per 100,000 people.

Similar trends were seen for the other indicators that we considered. We found a higher COVID-19 case and hospitalization rate for the group with the highest percent of **people from racialized communities, newcomers to Canada, people with lower education levels, and unemployed people** compared to the group with the lowest percent of each.

What IS the association between specific racial groups and COVID-19?

We compared the racial breakdown of people in CTs with a high rate of cases compared to CTs with a low rate of cases. In areas with high rates of COVID-19 we also see higher numbers of people from certain racial groups. Racial groups with a large difference are shown here.

Racial group	% People in Areas with a High Case Rate	% People in Areas with a Low Case Rate	Toronto Overall
Black	14%	9%	9%
South Asian	15%	5%	13%
Southeast Asian	11%	5%	7%
Latin American	5%	2%	3%

What do these findings tell us and why does it matter? What are we doing next?

These findings do not tell the whole story. However, the data suggest possible inequities related to who is becoming infected with and hospitalized for COVID-19 in Toronto. This information can inform how TPH and the city at large responds to COVID-19 and where resources need to be focused. In the long term, understanding these inequities can help people advocate for social services and healthcare that lead to a more equitable future in our city.

To help understand these disparities further, TPH is beginning to collect information on select socio-demographic characteristics directly from people who test positive for COVID-19. We will be asking about Indigenous identity, ethno-racial identity, household income, and household size. At an individual level, this information will remain confidential, and data will only be reported at an aggregate level.

This document provides a brief snapshot of our process and findings to date. For more details please contact seu@toronto.ca.