

COVID-19 in Ottawa –The relation to racialized communities and deprivation

Aug 7, 2020

Key findings

- Areas with a high proportion of racialized communities and high material deprivation have higher rates of COVID-19 compared to areas with a lower proportion of racialized communities or lower material deprivation. This is consistent with two recent provincial reports in Ontario^{1,2}.

Introduction

- Systemic health and social inequities have been shown to put racialized communities at higher risk of COVID-19^{1,2,3}
- We used the methods of 2 recent provincial reports^{1,2} to see if these disparities in COVID-19 rates exist in Ottawa.

Methods

- Individuals with COVID-19 who live in the community⁴ were attributed to dissemination areas, a Census area with typically between 400 and 700 residents, using their residential postal code⁵.
- Dissemination areas were given a quintile⁶ score between 1 and 5 using factor scores for Ottawa from the Ontario Marginalization Index (ONMARG) dimensions of ethnic concentration and material deprivation.⁷ The first quintile shows the lowest ethnic concentration or deprivation, the fifth quintile the highest.
- The ethnic concentration dimension is based on the proportion of the population who immigrated to Canada in the past 5 years and the proportion of the population who self-identify as a visible minority, based on data from the 2016 Canadian Census. This dimension aligns with the construct of racialized

¹ Public Health Ontario. Enhanced Epidemiological Summary: COVID-19 in Ontario – A Focus on Diversity. 2020 Available from <https://www.publichealthontario.ca/-/media/documents/ncov/epi/2020/06/covid-19-epi-diversity.pdf?la=en>

² Public Health Ontario. Enhanced Epidemiological Summary: COVID-19 in Ontario – A Focus on Material Deprivation. 2020, <https://www.publichealthontario.ca/-/media/documents/ncov/epi/2020/06/covid-19-epi-material-deprivation.pdf?la=en>

³ Centers for Disease Control and Prevention website. COVID-19 in Racial and Ethnic Minority Groups. <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html>

⁴ COVID-19 positive residents or patients in institutions were not included in this analysis.

⁵ Postal codes were assigned to dissemination using a single link indicator in the Postal Code Conversion File (PCCF). <https://www.canadapost.ca/cpc/en/business/marketing/audience/license-data.page>

⁶ A quintile is a statistical measure that represents 20% of the population.

⁷ <https://www.publichealthontario.ca/en/data-and-analysis/health-equity/ontario-marginalization-index>

communities, a term we use in this report to be consistent with the City of Ottawa's Equity and Inclusion Lens⁸.

- The ONMARG dimension of material deprivation is closely connected to poverty and uses these indicators:
 - Proportion of the population aged 20 years and older without a high-school diploma;
 - Proportion of families who are lone parent families;
 - Proportion of total income from government transfer payments for the population aged 15 years and older;
 - Proportion of the population aged 15 years and older who are unemployed;
 - Proportion of the population considered low-income; and
 - Proportion of households living in dwellings that need major repair.
- Age-standardized COVID-19 rates⁹ were calculated for each quintile. These rates were calculated using the most recent Ottawa population data, the 2016 Census, then standardized using the 2011 Canadian population and 3 age groups: under 45, 45-59 and 60 and older. Three groups were used to allow an acceptable number of cases per age group by quintile.

Findings

At the time of analysis, 1,863 people were eligible to be included¹⁰. A total of 28 people had postal codes that did not match dissemination areas and couldn't be included (1.5%).

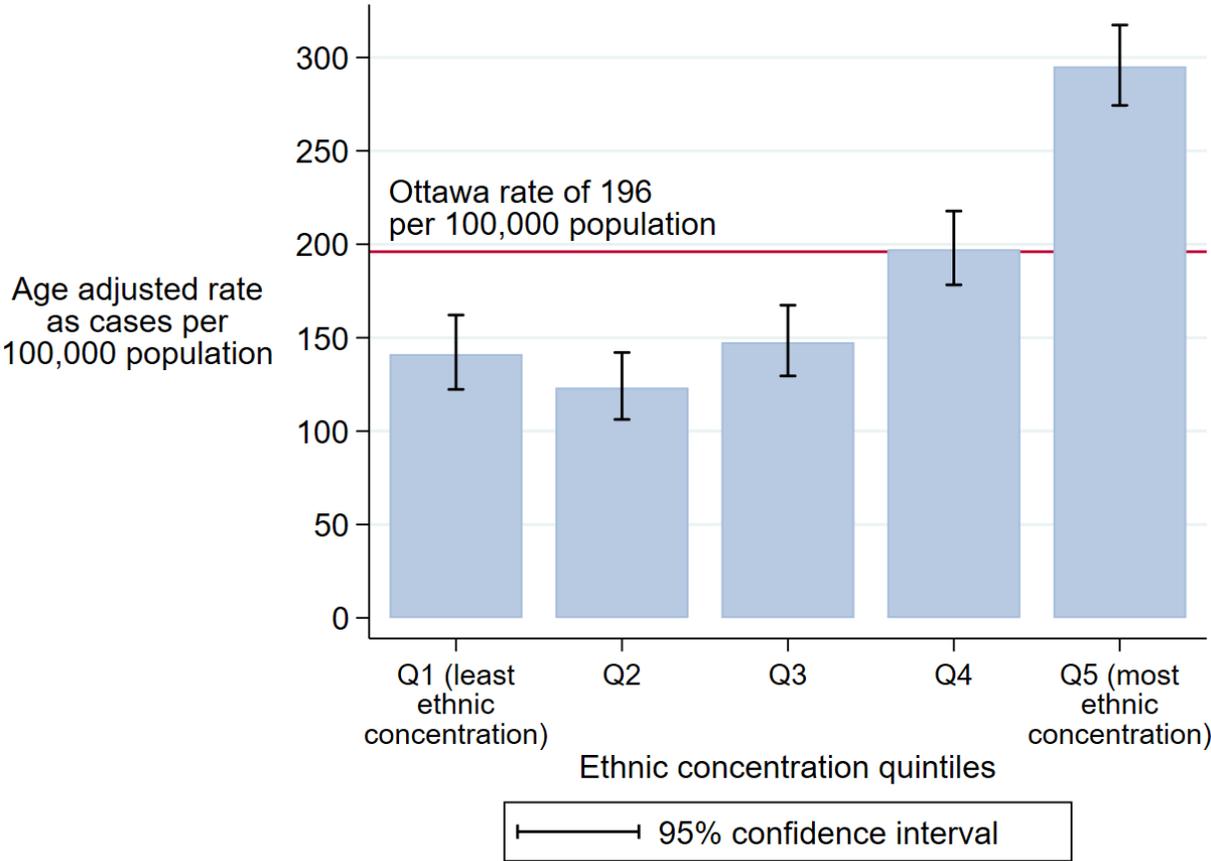
The age adjusted rates for Ethnic Concentration Quintile 5 (295 COVID-19 cases per 100,000 population) is over twice that of Ethnic Concentration Quintile 1 (141 COVID-19 cases per 100,000) (Figure 1). Similarly, the age adjusted rates for Material Deprivation Quintile 5 (330 COVID-19 cases per 100,000 population) is over twice that of Material Deprivation Quintile 1 (137 COVID-19 cases per 100,000 population)(Figure 2).

⁸ City of Ottawa website. Statistics and Economic Profile. <https://ottawa.ca/en/city-hall/get-know-your-city/statistics-and-economic-profile#equity-and-inclusion-lens>

⁹ Age standardization accounts for differences in the age structure between areas whose rates are being compared.

¹⁰ Eligible people included COVID-19 positive Ottawa residents with a valid postal code who were not residents or patients in institutional COVID-19 outbreaks. Data were obtained from the COVID Ottawa Database (COD) on Aug 1, 2020.

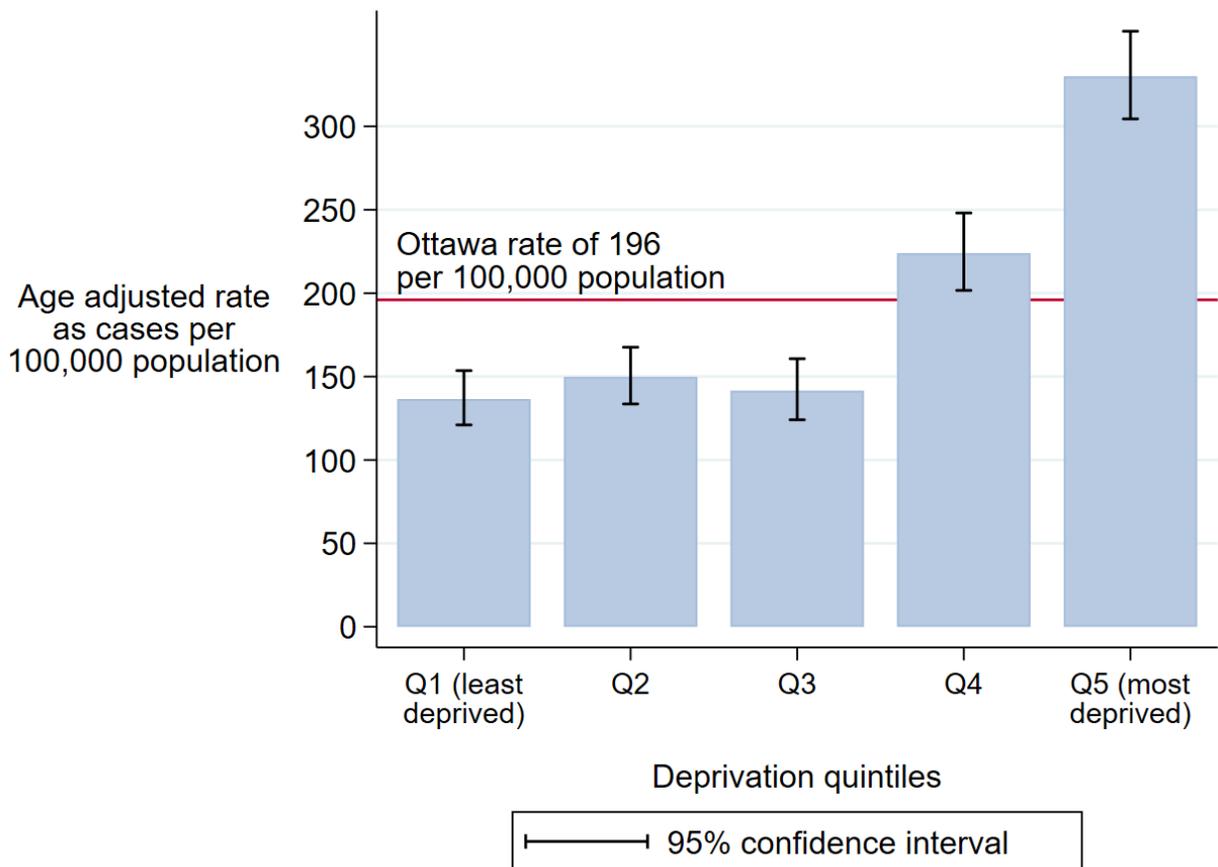
Figure 1: Age adjusted rates* by quintile of the ONMARG dimension of ethnic concentration and the Ottawa rate of COVID based on the 2016 Census population



* the 2011 Canadian population was used as the standard population.

[Data tables for Figure 1](#)

Figure 2: Age adjusted rates* by quintile of the ONMARG dimension of material deprivation and the Ottawa rate of COVID based on the 2016 Census population



* the 2011 Canadian population was used as the standard population.

[Data tables for Figure 2](#)

Limitations

- By grouping dissemination areas to the quintiles, groups don't directly relate to familiar areas like wards or neighbourhoods. Dissemination areas that are similar by ethnic concentration or material deprivation may not be physically close to one another.
- This analysis assigns uses the counts of people with COVID-19 by area to assign an ONMARG dimension. However, a person is not defined by the characteristics of the area where they live. If someone lives in an area with lots of newcomers, it does not mean that they are a newcomer.
- Our analysis can only include those with a positive test for COVID-19, so our analysis includes only those who were tested and have a positive result.
- The rates of COVID-19-related hospitalizations or deaths in Ottawa are not high enough to study the association with ethnic concentration or material deprivation as has been done at the Ontario level^{1,2}.

Data Tables

Table 1: Data table for Figure 1: Age standardized rates of ethnic concentration.

Ethnic concentration	Adjusted rate*	95% Confidence upper border	95% Confidence Lower border
Quintile 1 (least ethnic concentration)	141.2	122.3	162.1
Quintile 2	123.2	106.3	142.1
Quintile 3	147.5	129.5	167.4
Quintile 4	197.3	178.2	217.8
Quintile 5 (most ethnic concentration)	295.2	274.3	317.3

* the age adjusted rate uses the 2011 Canadian population as the standard population

Table 2: Data table for Figure 2: Age standardized rates for Ottawa Material Deprivation quintiles

Material deprivation	Adjusted rate*	95% Confidence upper border	95% Confidence Lower border
Quintile 1 (least deprived)	136.5	121.0	153.5
Quintile 2	149.8	133.6	167.6
Quintile 3	141.5	124.1	160.7
Quintile 4	224.0	201.7	248.1
Quintile 5 (most deprived)	330.0	304.5	357.0

* the age adjusted rate uses the 2011 Canadian population as the standard population