

COVID-19 Infection and Links with Ethno-Culturally Diverse Areas in Simcoe Muskoka

Date: June 15, 2020

Key Messages

- All local COVID-19 cases, excluding institutional outbreak associated cases, reported as of June 10, 2020 were mapped to explore the potential disproportionate impacts of the COVID-19 pandemic in ethno-culturally diverse areas within the Simcoe Muskoka region.
- A higher rate of COVID-19 infection is observed in persons living in areas with higher levels of ethno-cultural diversity.
- This aligns with research published by Toronto Public Health, ICES and Public Health Ontario (PHO), and internationally that shows a disproportionate impact of COVID-19 infection on persons of colour. Much of this research specifically identifies a disproportionate burden on Black persons; however, this specificity is not available within the SMDHU analysis.
- Health inequity in racialized communities is a symptom of systemic racism and highlights the need for interventions to support these communities and to address the underlying factors¹.

Background

Emerging research shows inequity in the impacts of COVID-19 on disadvantaged populations, including Black People and other people of colour, persons living in low income and persons experiencing the intersection of several measures of marginalization² including in the [US](#) and the [UK](#). Recent reports from [Toronto Public Health](#) and [Public Health Ontario](#) (PHO), and [ICES](#), as well as provincial summary analysis of socioeconomic status from [#How's My Flattening](#) demonstrate a disproportionate burden of COVID-19 infection in Ontario on people living in marginalized neighbourhoods, including those living in areas with higher ethnic concentrations.

SMDHU has undertaken similar analyses to understand the relationship between ethno-cultural diversity, as measured by the Ontario Marginalization Index (ON-Marg) Ethnic Concentration dimension and COVID-19 infection in our local region.

Methods

COVID-19 confirmed case information was extracted from the Integrated Public Health Information System (iPHIS) on June 10, 2020. Individual cases were mapped based on client address at time of illness or primary address where sufficient street address information was available.

¹ National Collaborating Centre for Determinants of Health. 2018. Let's Talk Racism and Health Equity. Available Online: http://nccdh.ca/images/uploads/comments/Lets_Talk_Racism_and_health_equity_EN_web.pdf

² "Marginalization is the process by which individuals and groups are prevented from fully participating in society." ([Public Health Ontario, 2018](#))

Outbreak-associated cases were excluded from analysis, including all identified cases in residents of long term care facilities, retirement homes and group homes. This is in line with PHO's decision to exclude all long term care facility residents from their analysis. Institutionalized persons are not included in the indicators used to generate ON-Marg quintiles.

The analysis also explored excluding travel-associated cases, and infections in those identifying as health care workers, which produced similar results to excluding only institutional outbreak-associated cases. The results presented here are only excluding institutional outbreak-associated cases.

Cases were assigned to quintiles for [Ontario Marginalization Index \(ON-Marg\)](#) Ethnic Concentration dimension based on 2016 census [Dissemination Area \(DA\)](#) boundaries within which the case was located. Ethnic concentration is a composite measure of ethnic diversity based on the proportion of visible minorities and recent immigrants in an area. Quintiles for ON-Marg dimensions are determined by PHO based on creating five equal intervals across Ontario for the dimensions, by the geographic boundary in question. See [About ON-Marg](#), below for more information.

Age-specific populations from the 2016 Canadian Census and total case counts were summarized for each quintile of the ON-Marg Ethnic Concentration dimension. Quintiles were then combined into three categories, for Low Ethno-Cultural Diversity (quintiles 1 and 2: least ethnic concentration), Moderate (quintile 3), and Highest Ethno-Cultural Diversity (quintiles 4 and 5: highest ethnic concentration).

Age-standardized rates of COVID-19 infection in Simcoe Muskoka were calculated for each of the three categories of ethno-cultural diversity to compare the rate of infection in areas with high levels of ethno-cultural diversity compared to areas with lower levels of ethno-cultural diversity.

Age-standardized rates were used to account for the varying distribution of age across areas within SMDHU. The analysis was also completed using crude rates, which produced similar results.

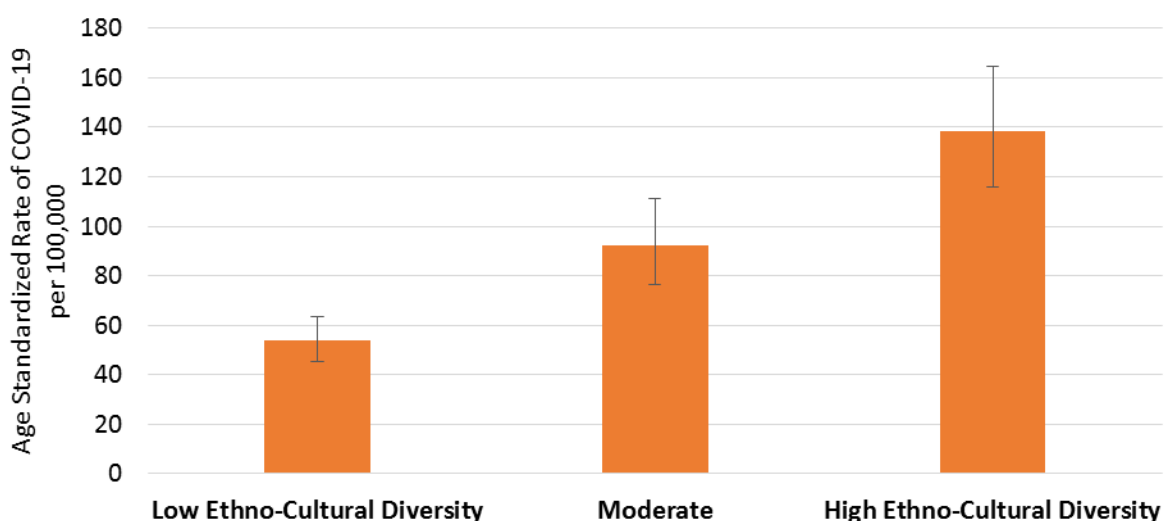
Results

Excluding cases associated with institutional outbreaks, 422 COVID-19 cases reported up to June 10, 2020 in SMDHU were included in this analysis. This analysis focuses specifically on the association between ethno-cultural diversity as measured by the ON-Marg Ethnic Concentration dimension and COVID-19 in Simcoe Muskoka. Future analyses will explore COVID-19 in association with other measures of marginalization.

The analysis showed a **higher rate of infection in persons who live in areas with higher ethno-cultural diversity** (Figure 1).

This reinforces the inequity seen in other regions, including Toronto, the US and the UK, showing that persons of colour, especially Black persons and people of South Asian descent, have disproportionately higher risk of COVID-19 infection and hospitalization, and a higher risk of death.

Figure 1 Age-standardized rate of confirmed COVID-19 cases by area-level ethno-cultural diversity in Simcoe Muskoka: March 1 to June 10, 2020.



Data Source: Integrated Public Health Information System (iPHIS), extracted by SMDHU on June 10, 2020. 2016 Ontario Marginalization Index (ON-Marg). 2016 Population from Statistics Canada

In regards to the findings on rates of COVID-19 among Simcoe Muskoka residents living in ethno-culturally diverse areas, we do not have data on which specific populations were impacted but Census data provides general insights. According to the 2016 Census, approximately 35,000 or 6.6% of Simcoe Muskoka residents identify as a visible minority³, and 4,300 or 0.8% of Simcoe Muskoka residents reported being recent immigrants⁴. The largest visible minority groups in Simcoe Muskoka are Black (21% of visible minorities in Simcoe Muskoka), South Asian (21%), Chinese (12%) and Latin American (12%). Half of recent immigrants in Simcoe Muskoka were born in Asia. More information is available from our HealthSTATS pages on [visible minorities](#) and [immigrants](#).

SMDHU’s [COVID-19 Case Explorer](#) shows that the highest numbers of COVID-19 cases have been reported in certain areas in Simcoe County, specifically in Barrie and Bradford West-Gwillimbury. Data from the 2016 Census shows us that these municipalities also have more ethno-culturally diverse communities than other areas in our region.

Limitations

It is important to acknowledge that these analysis are built using area-based measures, and individuals and their experiences are not necessarily defined by the characteristics of the areas in which they reside.

SMDHU has also explored changes in the association between living in ethno-culturally diverse areas and COVID-19 infection over time, however, our case numbers remain too low to show meaningful differences. We will return to this as case numbers grow.

³ Visible Minority: “persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour” ([Statistics Canada, 2017](#)).

⁴ Recent immigrants: new immigrants who permanently settled in in previous 5 years (from 2011 to May 2016).

This analysis has not explicitly explored the impacts of COVID-19 on specific visible minority populations such as Black persons or on recent immigrants. The use of Dissemination Area (DA) as the level of geography in this analysis precludes this type of analysis due to the low numbers of specific minority groups in DAs. Further, the ON-Marg measure for ethnic concentration does not include Indigenous populations as part of the composite index. This analysis has not explored the impacts of COVID-19 on Indigenous persons, although Indigenous people living within the Simcoe Muskoka region may be counted among the cases used in this analysis.

Similarly, due to low numbers of cases, this analysis has not been undertaken for levels of geography smaller than SMDHU, meaning this analysis has not explored whether the association with ethno-cultural diversity varies across the SMDHU region.

As case numbers grow, the health unit will continue to explore patterns of inequity related to other marginalization dimensions but this report focuses solely on ethnic concentration, which is a composite index representing the proportion of a population comprised of visible minorities and recent immigrants.

Next Steps

In response to these findings, SMDHU intends to:

- Seek to engage ethno-culturally diverse populations regarding future data collection, reporting, and next steps;
- Explore the potential to collect voluntary individual-level sociodemographic data on COVID-19 cases, for a more specific understanding;
- Consider other short-term responses to this data in informing SMDHU's COVID-19 work from a health equity perspective, and long-term responses to this data as part of the agency's ongoing priority on addressing the social and structural determinants of health.

Conclusions

Analysis of local SMDHU COVID-19 cases demonstrates a disproportionate burden among people who live in ethno-culturally diverse areas within our region. This aligns with reports from elsewhere in Ontario and internationally that highlight racial inequity in the impacts of the COVID-19 pandemic.

Using similar methods, [Public Health Ontario](#) reports that across Ontario, ethno-culturally diverse neighbourhoods, especially those in large urban areas had disproportionately higher rates of COVID-19 infection and deaths. Analysis of COVID-19 testing data by [ICES](#) showed that, among those tested, people who lived in areas with higher ethnic concentration were more likely to test positive. This pattern was evident both provincially and in the Central East region (includes Durham Region, Haliburton, Kawartha, Pine Ridge District, Peel Region, Peterborough, Simcoe Muskoka and York Region).

[Toronto Public Health](#) also reported higher rates of COVID-19 cases and hospitalizations in neighbourhoods with higher percent of racialized people and newcomers. They highlighted that neighbourhoods with higher case rates had a higher proportions of Black, South Asian, Southeast Asian and Latin American persons compared to neighbourhoods with lower case rates.

About ON-Marg

[Ontario Marginalization Index \(ON-Marg\)](#)

ON-Marg data are published by Public Health Ontario and were developed in collaboration between the Centre for Urban Health Solutions and PHO.

The four ON-Marg dimensions are composite area-level measures of socio-economic composition of neighbourhoods:

- Dependency refers to area-level concentrations of people who do not have income from employment, including seniors, children and adults whose work is not compensated.
- Ethnic Concentrations refers to area-level concentrations of people who are recent immigrants and/or people belonging to a visible minority group as defined by Statistics Canada. Note that this does not include Aboriginal Status as defined by the Census.
- Material Deprivation is closely connected to poverty and refers to inability for individuals and communities to access and attain basic material needs.
- Residential Instability refers to area-level concentrations of people who experience high rates of family or housing instability.

The specific indicators included in each ON-Marg dimension were developed using factor analysis to determine which combination of factors created meaningful composite indices to describe populations. Alongside several other indicators from the 2016 Census, Aboriginal status was explored for inclusion in the Ethnic Concentration dimension, but it was not retained in the final dimension. Additional information is provided in [PHO's ON-Marg FAQ](#).

Quintiles for each ON-Marg dimension are generated to divide DAs across Ontario into equal intervals based on values of each composite measure.