

# COVID-19 Infection and Marginalization in Simcoe Muskoka

Simcoe Muskoka District Health Unit

August 25, 2020

See [Full Report](#)

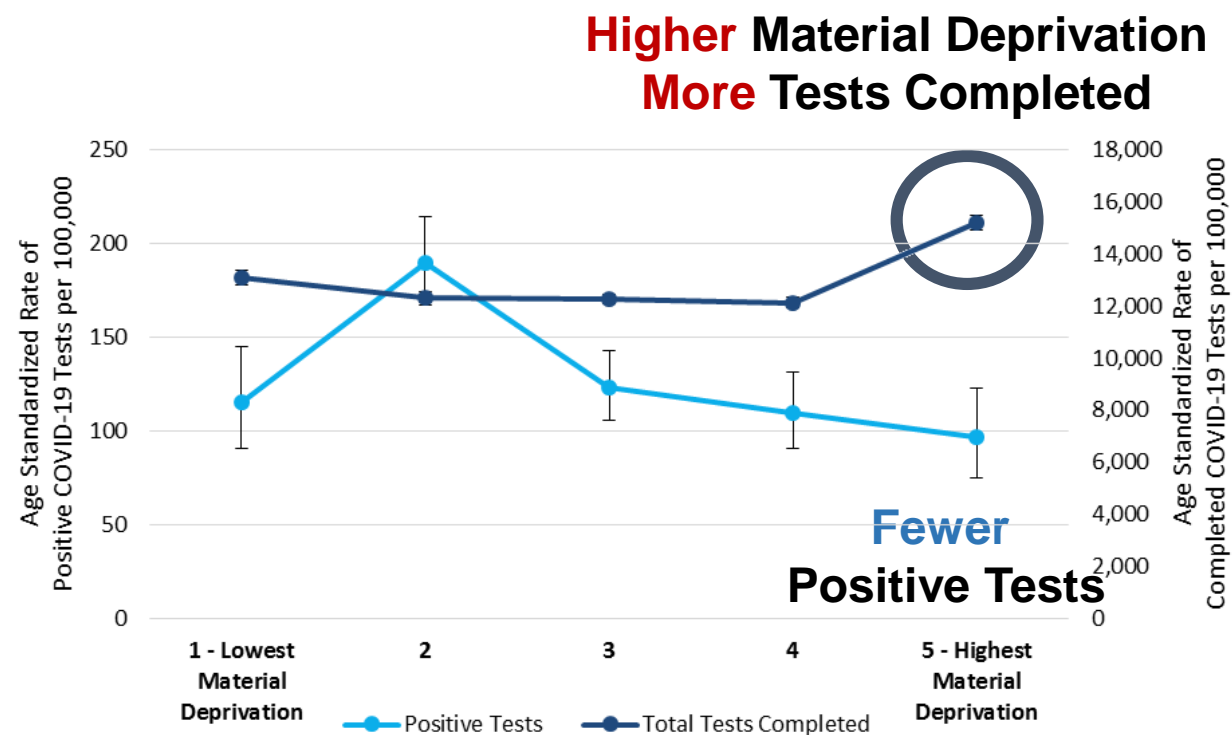
# What's Happening in Simcoe Muskoka?

- COVID-19 infection rates are higher in areas **that are moderately-resourced** and **well-resourced**.
- This means we're seeing more cases in areas where:
  - People have enough money to buy the things they need
  - People have strong connection to their community
- This pattern is **not reflected** in analysis of data from **other areas in Ontario**, or for the **province** as a whole.



# It's Not Related to Testing

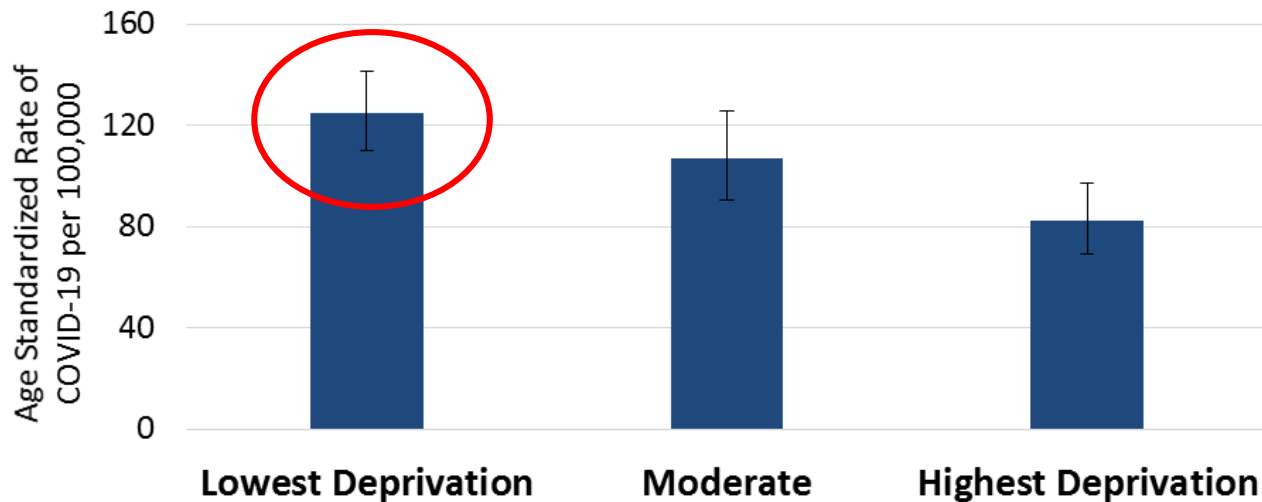
- COVID-19 testing rates are **highest** among Simcoe Muskoka residents in areas with:
  - **Higher** levels of material deprivation
  - **Higher** levels of residential instability
  - **More** households experiencing low income



Data Source: Ministry of Health. 2020. Ontario Lab Information System (OLIS) COVID-19 test data from iPHIS, extracted by SMDHU on July 21, 2020. 2016 Ontario Marginalization Index (ON-Marg). 2016 Population from Statistics Canada.

# Material Deprivation

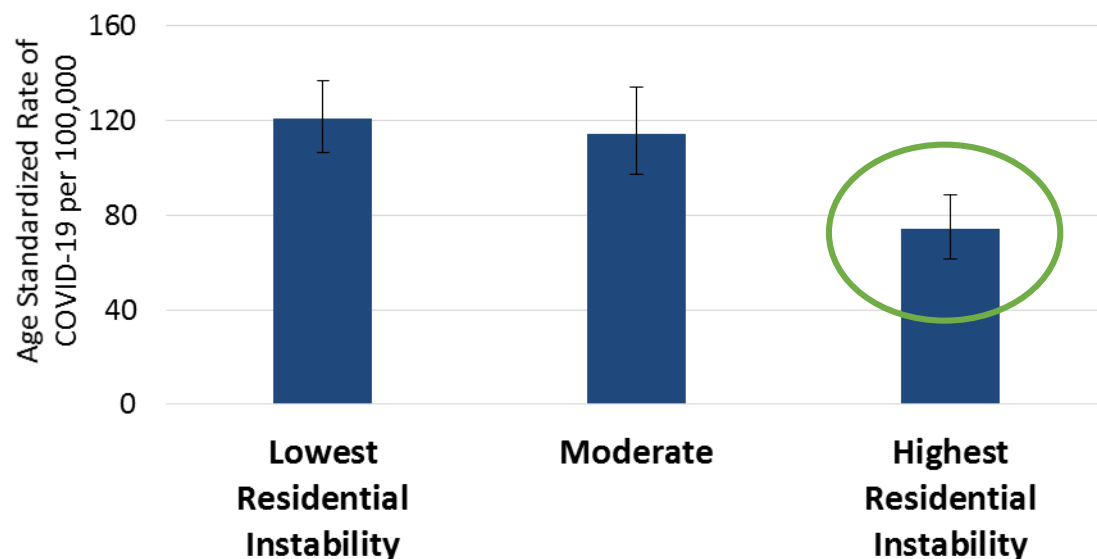
Higher rate of COVID-19 among people living in areas with lower levels of deprivation



- *Material deprivation is closely connected to poverty and describes an **inability of individuals and communities to attain basic needs.***
- The lower the level of deprivation, the easier it can be for people to buy the things they need.

# Residential Instability

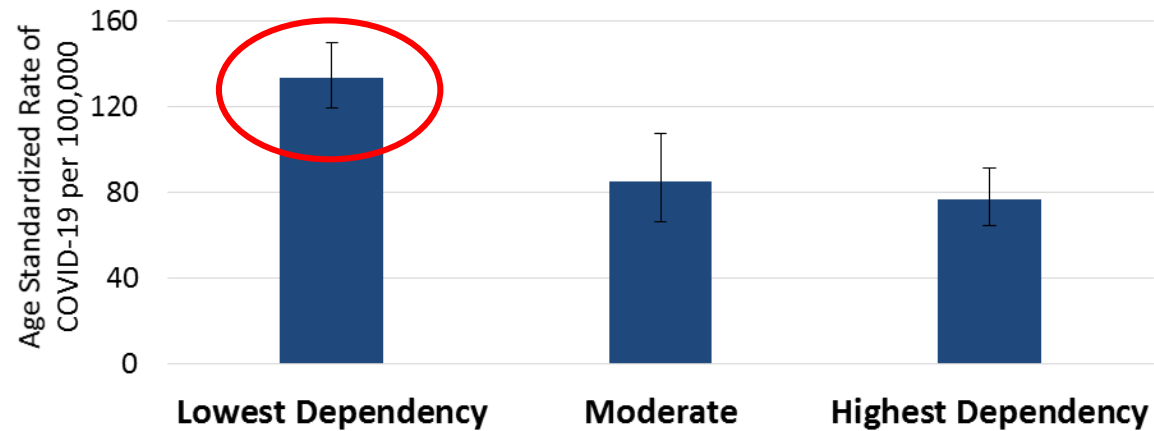
Lower rate of COVID-19 among people living in areas with high residential instability



- *Residential instability describes neighbourhood **quality, cohesiveness and support.***
- Higher residential instability describes areas with higher density housing, people who move often, and smaller households.

# Dependency

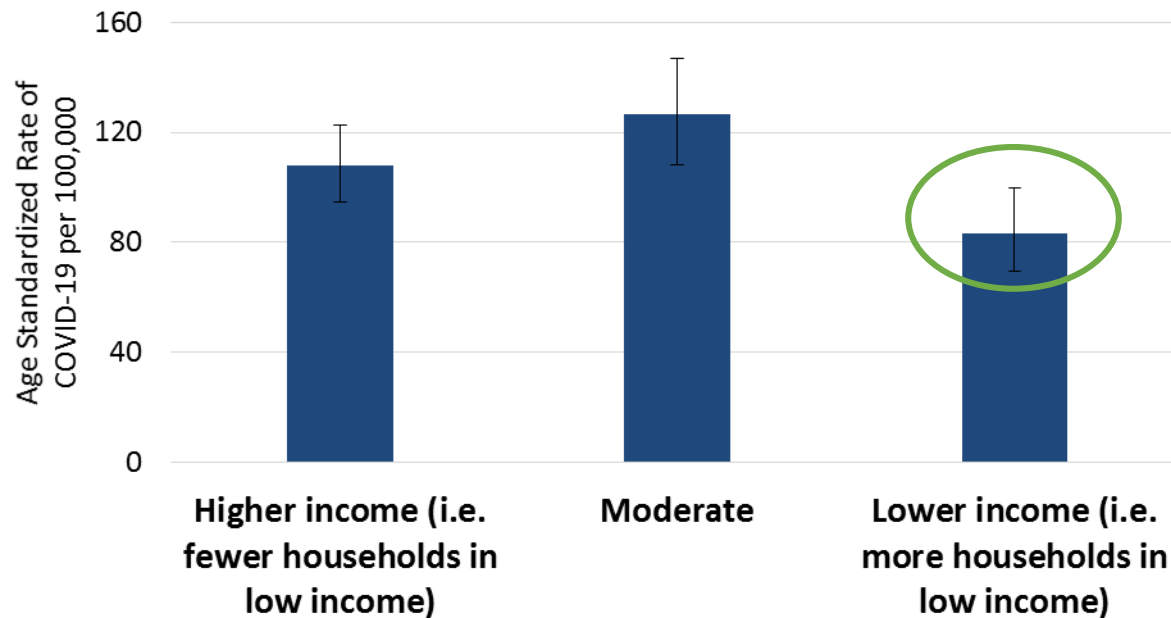
Higher rate of COVID-19 among people living in areas with less dependency



- *Dependency describes people who do not have income from employment, including **children**, **seniors** and adults who do not have paid work, such as **caregivers**.*
- Low levels of dependency describes areas with a higher proportion of residents who are adults in the workforce.

# Low Income

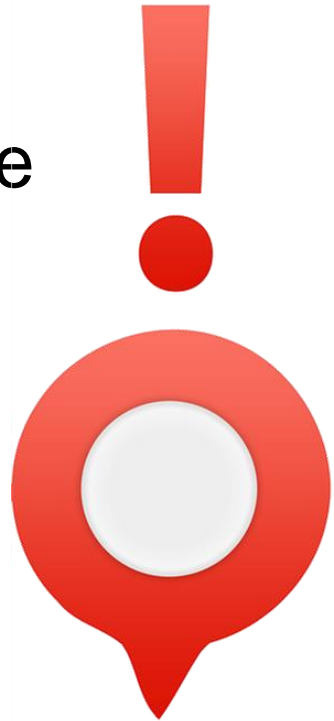
## Lower rate of COVID-19 infection in areas with more households in low income



- *Low Income is determined using the [Low Income Measure-After Tax](#). This is based on a fixed measure of low income defined as less than half the median after-tax income in Canada, adjusted by household size.*
- Areas with lower income, are defined as having more persons or households living below the low-income threshold.

# How does Simcoe Muskoka compare to the rest of the province?

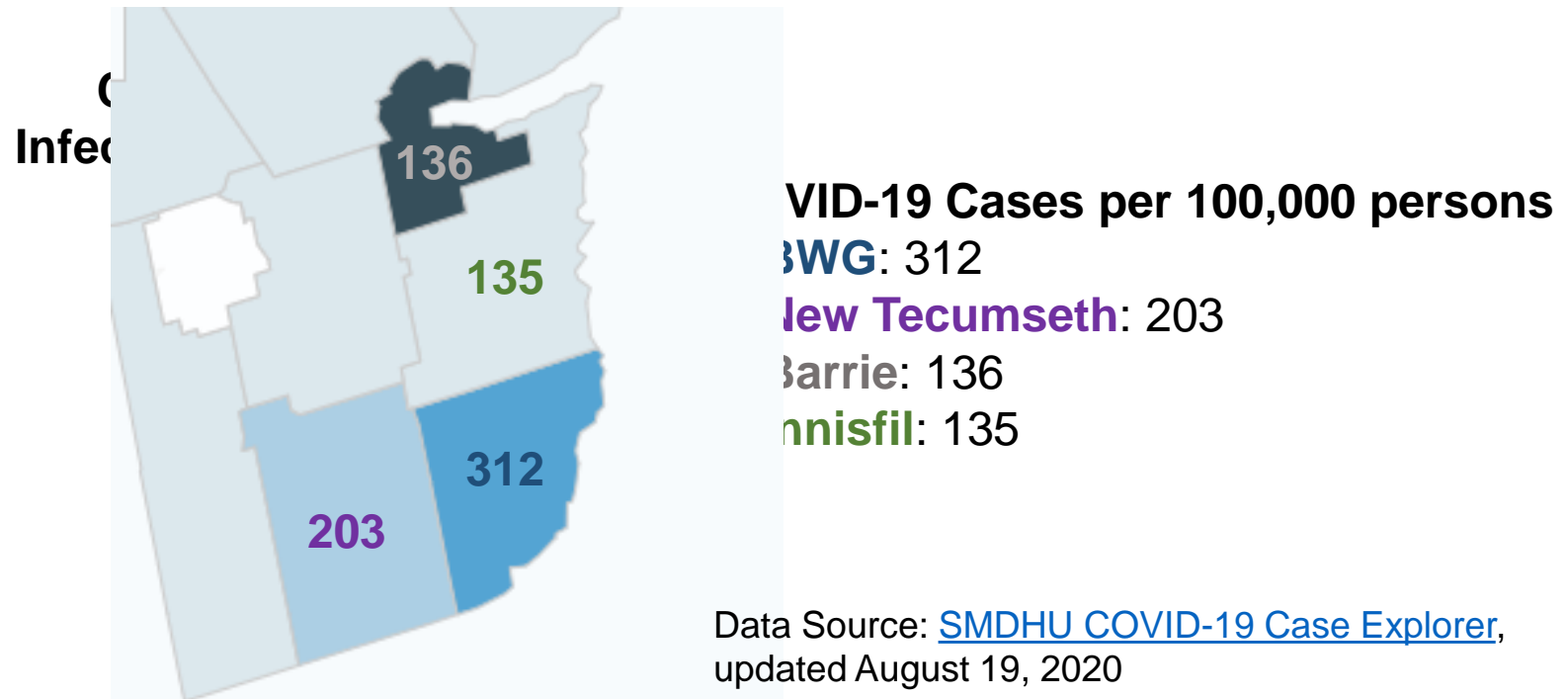
- Similar studies conducted in other regions of Ontario, and for the province as a whole show **higher rates** of COVID-19 in areas with **low income** and **higher** levels of **deprivation**.
- There is **no clear explanation** why this is different in Simcoe Muskoka, but a number of potential explanations have been explored.
  - Further research is needed to validate and understand what's happening.





# Which areas have the most COVID-19 cases in Simcoe Muskoka?

- **Bradford-West Gwillimbury (BWG), New Tecumseth, Barrie, and Innisfil** have the highest rates of COVID-19 infection.
- These areas are **well-resourced**, with **fewer people** living in **low income** and with **higher employment rates**.



# Potential Explanations for High Infection Rates in Moderate and High Resourced Areas

- Highest rates among adults, and in areas with less dependency, suggests higher infection rate among **adults in the workforce**.
  - 32% of cases\* identified themselves as **healthcare workers** or working in a **health care setting**.
- Many people in these South Simcoe communities commute for work.
  - Potential for exposure **in other areas** with **higher infection rates**, especially **outside** of Simcoe Muskoka.

# Potential Explanations for Lower Infection Rates in Low Resourced Areas

- The experience of material deprivation **does not appear to increase risk** in Simcoe Muskoka.
  - Government payments may be better able to support cost of living in Simcoe Muskoka compared to other areas in the province.
- Persons living in low income may not have been working, especially earlier in the pandemic.
  - **Reduced risk** of exposure compared to persons still in the workforce, e.g. healthcare workers.

# Potential Explanations for Lower Infection Rates in Low Resourced Areas

- Weaker connections with community (high residential instability) may mean **reduced contact** with **neighbours** and **community**, **reducing risk of exposure**.



# Potential Explanations for Lower Infection Rates in Low Resourced Areas

- **Public transit use is not as common** in Simcoe Muskoka as elsewhere.
- **High density housing is less common**
  - e.g. high-rise apartment buildings.
- Both result in less crowding and fewer shared-contact surfaces – lower potential exposure risk.



# What is SMDHU doing with this information?

- **Targeting messaging** for at-risk groups.
- **Sharing** this analysis with **key partners** and **municipalities** to support local decision making and action.
- **Continuing to monitor trends** in COVID-19 infection in our area to identify at-risk groups.
  - Planning for future analysis of individual-level sociodemographic information.
  - Ongoing analysis of COVID-19 trends by the SMDHU Population Health Assessment, Surveillance and Evaluation team.



# How does this fit with other SMDHU COVID-19 analyses?

- Previous SMDHU research shows a **higher rate** of COVID-19 infection in persons living in areas with [higher ethno-cultural diversity](#).
- This analysis uses the same methods to explore **different sociodemographic measures**.
- This analysis of marginalization, alongside the ethno-cultural diversity analysis gives us a broader understanding of how local socio-demographic factors may influence COVID-19.

# How did we analyze this?

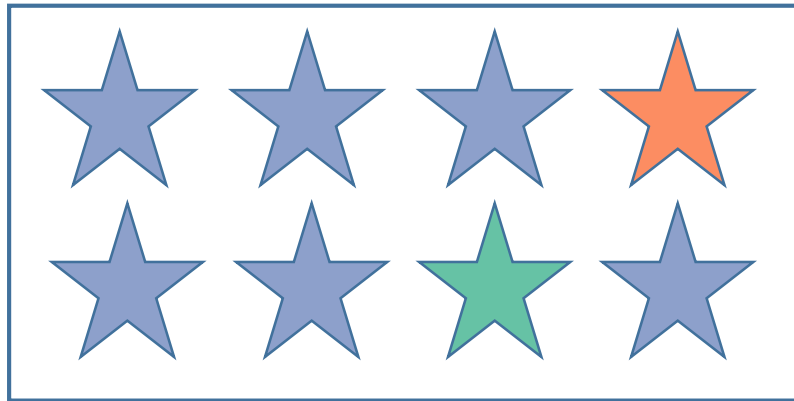
- Map each local COVID-19 case based on address at time of illness or primary residence.
  - Exclude cases associated with institutional outbreaks (residents of long-term care and retirement homes).
- Assign cases to quintiles for the [Ontario Marginalization Index](#) (ON-Marg) based on [Dissemination Areas](#) (DA) from 2016 census.
- Combine quintiles into 3 categories: Low, Moderate and High.
- Calculate age standardized rate for each category.





# Understanding the Results: Area-Based, not Individual-Based

- This analysis uses **area-based** measures of marginalization.
- This describes the **areas in which people live**, but **may not reflect the experience of all individuals** living in those areas.



Stars in the area (box) are **mostly blue**, but **orange** and **green** are still part of the group.

Note: This analysis was completed **before** SMDHU began collecting socio-demographic information from COVID-19 cases.

# Data Sources

- **COVID-19 Cases:** Integrated Public Health Information System (iPHIS), extracted by SMDHU on July 22, 2020.
- **COVID-19 Testing Data:** Ontario Lab Information System (OLIS) COVID-19 test data from iPHIS, extracted by SMDHU on July 21, 2020.
- **Marginalization:** Public Health Ontario (2018). 2016 [Ontario Marginalization Index](#) (ON-Marg).
- **Low Income:** Statistics Canada (2016). Proportion of Population living in Low Income After Tax (LIM-AT). 2016 Census of Canada.
- **Population:** 2016 Census Population from Statistics Canada.

# SMDHU Resources

- [COVID-19 Infection and Marginalization in Simcoe Muskoka](#)
- [COVID-19 Infection and Links with Ethno-Culturally Diverse Areas in Simcoe Muskoka](#)
- [Simcoe Muskoka HealthSTATS COVID-19 Page](#)
- [Simcoe Muskoka COVID-19 Case Explorer](#)
- [Simcoe Muskoka HealthMAPS:](#)
  - [Population and Demographics Dashboard](#)



# To Learn More

- Public Health Ontario
  - [What We Know So Far About... Social Determinants of Health](#)
  - [COVID-19 in Ontario – A Focus on Diversity](#)
  - [COVID-19 in Ontario – A Focus on Material Deprivation](#)
  - [Ontario Marginalization Index \(ON-Marg\)](#)
- Toronto Public Health:
  - [COVID-19 and the Social Determinants of Health: What Do We Know?](#)
- ICES:
  - [COVID-19 Dashboard](#)
  - [Patterns of Testing and Characteristics of Individuals Tested Report](#)
- #How'sMyFlattening: [Ontario-specific COVID-19 Analysis](#)

