

# Characteristics of the sexual networks of gay, bisexual, and other men who have sex with men in Montréal, Toronto, and Vancouver: implications for the transmission and control of mpox

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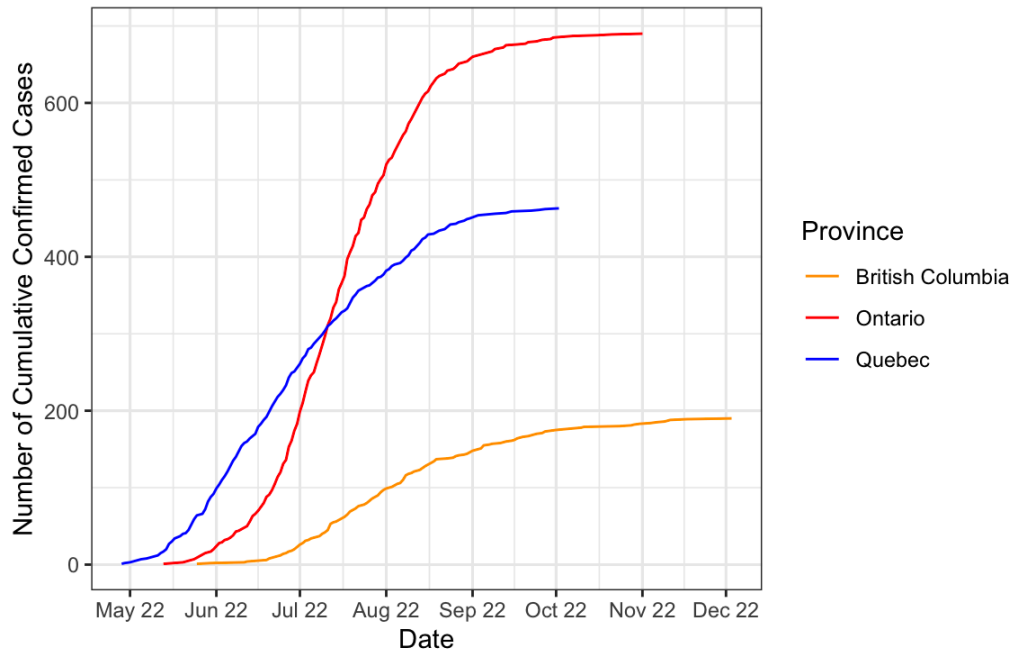
**Background:** Mpox (MPX) has been declared a “*public health emergency of international concern*” by the World Health Organization<sup>1</sup>.

Number of cases as of February 3<sup>rd</sup>, 2023<sup>2</sup>

Number of cases in Canada **1,460**

Number of cases worldwide **85,527**

The epidemiological curves of Quebec, Ontario, and British Columbia exhibit different patterns in terms of timing and size of mpox outbreaks.

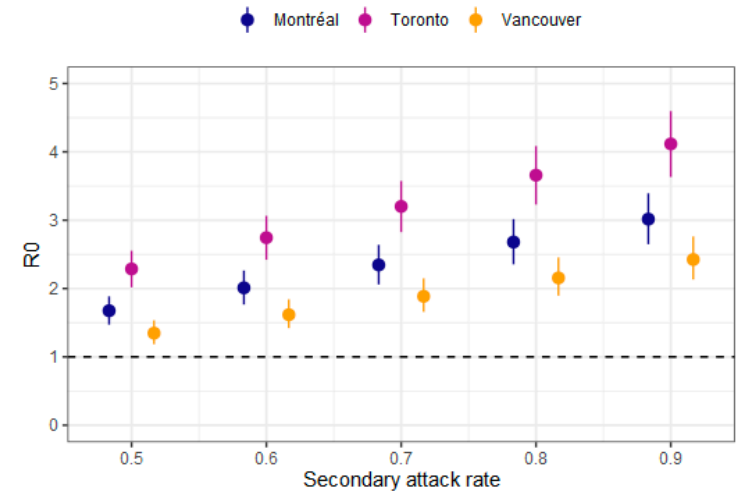


Cumulative confirmed mpox cases in Quebec, Ontario, and British Columbia, as of February 3, 2023<sup>2</sup>.

**Objective 1:** explain differences in MPX transmission in Montréal, Toronto, and Vancouver:

Mpox  $R_0$  based on sexual network data, by city

Variable used: all partners



Assuming infectious period of 21 days

Basic reproductive number ( $R_0$ ) based on partner distribution as reported in *Engage Cohort*.

**Objective 2:** evaluate the impact of control measures MPX endemic scenarios:

Establish a branching process model to examine the importance of different risk factors.

Examine key parameters for distinct levels of vaccine coverage and effectiveness.

Analyze the city-specific risk of outbreaks.

**Collaborations**



**References:** 1. WHO. WHO Director-General's statement at the press conference following IHR Emergency Committee regarding the multi-country outbreak of monkeypox. WHO Newsroom. July 23, 2022. 2. Government of Canada. Mpox epidemiology update - Public Health Infobase. Last modified February 3, 2023, <https://health-infobase.canada.ca/monkeypox/>.