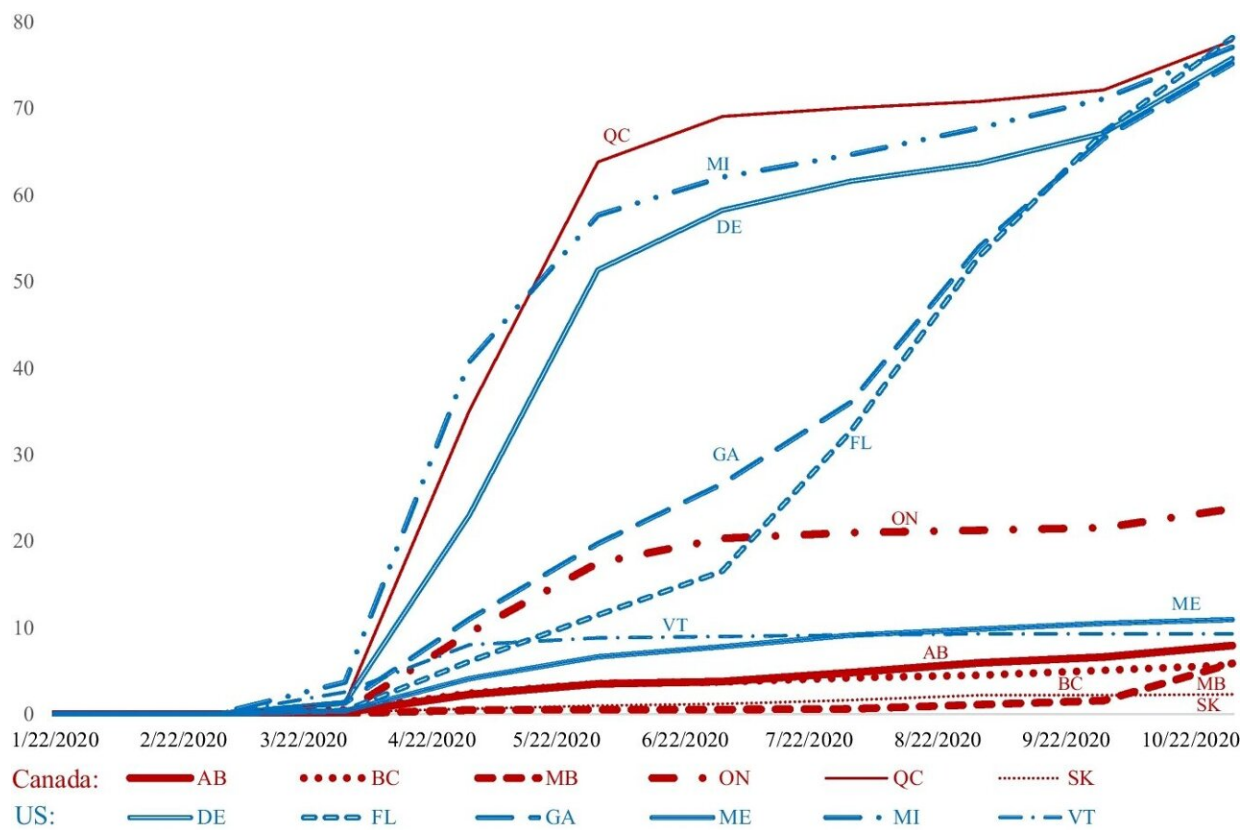


Study finds similarities in COVID-19 mortality rates between Canadian provinces and American states before vaccines

June 1 2023, by Brian Consiglio



Cumulative COVID-19 deaths per 100,000: January 1 to November 30, 2020.
 Credit: *Canadian Studies in Population* (2023). DOI:
 10.1007/s42650-023-00073-x

While the overall mortality rates—the number of deaths per 100,000 people—during the early stages of the COVID-19 pandemic were higher in the United States compared to Canada, a new study at the University of Missouri finds some surprising similarities in mortality rates between certain U.S. states and Canadian provinces.

The findings offer a more nuanced look at the effectiveness of public health strategies like masking and social distancing before vaccines were widely available, and the findings can help inform public health response strategies at the state and local level to combat future pandemics or [infectious diseases](#).

Tyler Myroniuk, an assistant professor in the MU College of Health Sciences, and his team compared trends in COVID-19 [mortality rates](#) between U.S. states and Canadian provinces from January 2020 to November 2020.

"Before the vaccines became available, the only mitigation strategies we had were things like masking and [social distancing](#), and deaths are the ultimate marker of a health care system," Myroniuk said. "The [federal governments](#) of both the U.S. and Canada gave autonomy to individual states and provinces to make their own health care decisions regarding mitigation strategies, and we found some surprisingly similar trends between certain U.S. states and Canadian provinces that many would not expect."

For example, the Canadian province of Quebec had [high mortality rates](#) during this time period and showed very similar [mortality](#) trends compared to the U.S. states of Michigan and Delaware. In contrast, the Canadian provinces of Alberta and British Columbia had low mortality rates during this time period and showed very similar mortality trends compared to the U.S. states of Maine and Vermont.

Myroniuk said the findings were surprising due to several differences when comparing the locations, including population density, age, weather and climate, racial and ethnic diversity, socioeconomic conditions, cultural preferences, infectious disease mitigation strategies, and health care systems.

"Now that we have identified these similarities, the next step could be to look further into what specific factors contributed to these similarities in trends that may seem at first unnatural or random," Myroniuk said.

"While it may be easier to say Canada handled the pandemic better in general, what we found by looking at the data is that there is a lot of nuance involved, and that nuance is important for tailoring localized response strategies whenever the next pandemic might come around."

Myroniuk added that while overall comparisons between how different countries responded to the pandemic have been researched extensively, this is the first study to identify specific similarities at the state or provincial level, which could lead to more effective, localized solutions in the future.

"Adapting to the specific needs of a population is going to be key moving forward rather than painting with a broad brush or having a one-size-fits-all approach, especially given the demographic diversity in massive countries like the U.S. and Canada," Myroniuk said.

"Similarities in COVID-19 mortality between Canadian provinces and American states before vaccines were available," was published in *Canadian Studies in Population*. Co-authors on the study include Michelle Teti, Enid Schatz and Ifeolu David.

More information: Tyler W. Myroniuk et al, Similarities in COVID-19 Mortality Between Canadian Provinces and American States Before Vaccines Were Available, *Canadian Studies in Population* (2023).

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