

# **COVID-19 Messaging in Canada in Relationship to Case Counts, Deaths & Vaccination Rates**

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## **Problem Identification**

### Problem Statement

How can public health optimize messaging during a pandemic to decrease case rates and improve vaccine acceptance?

### Context

The novel coronavirus emerged in late 2019, triggering a pandemic that is ongoing to this day. In attempts to address public health and safety, governments across the world have implemented various physical distancing, masking, vaccination and other policies and mandates. Populations have responded with both support and protest, and there has been widespread division over how the pandemic should be handled, as well as dissent over the seriousness of the situation. With many lives and livelihoods at stake, the communication approach taken by each government has potential to educate and inspire people to work together to slow the spread of COVID-19 or to further provoke people to rebel. As cases rise and hospitals run short of space and staff, how can public health messaging make each word count? Are there particular words or phrases that are associated with better or worse outcomes? Does the length of the statement matter? Does the frequency of official news matter?

### Criteria for Success

This work will be considered successful if it can identify an association or lack of association between the official communications related to the novel coronavirus pandemic and the changes in case counts over time.

### Scope of Solution Space

The main focus will be on the relationship between official provincial government communications (news releases and statements) regarding the COVID-19 pandemic and the rise, fall or stability of COVID-19 cases after the release of the communications, particularly in the two to fourteen days past the release (incubation period for COVID-19). Does messaging predict short-term outcome? Another variable of interest here is whether the messaging differs between the provinces/territories and if any differences appear to impact case rates in the province/territory positively or negatively. Of secondary interest are the death counts, which are more difficult to associate with communications as there is not a standard time-to-death upon infection. Also of secondary interest is the impact on vaccination rates, although the data available for this is of a shorter time period.

### Constraints

With only 13 provinces/territories there will be limited data for examining potential influence of different provincial styles of communications on outcomes. The dates with available data will vary and data may need to be grouped into weeks for analysis rather than assessed by days. Vaccination information is most complete starting in June 2021, when the data begins to account for proportion of the population

eligible for vaccinations. As such, there is a short window of time of complete vaccination data to work with.

#### Stakeholders

Provincial/territorial government and provincial/territorial health communications departments.

#### **Data Sources: Numbers**

##### COVID-19 vaccine coverage data:

Public Health Agency of Canada. Canadian COVID-19 vaccination coverage report. Ottawa: Public Health Agency of Canada; September 10, 2021.

<https://health-infobase.canada.ca/covid-19/vaccination-coverage/>

##### COVID-19 cases and deaths:

Public Health Agency of Canada. COVID-19 daily epidemiology update. Ottawa: Public Health Agency of Canada; September 10, 2021.

<https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html?redir=1>

#### **Data Sources: News Releases and Statements**

General article inclusion criteria: Articles written in English and posted on an official government website. If the provincial government website had a news page specifically for COVID-19 related news/announcements, articles such as news releases and statements were taken from the COVID-19 specific news feed, starting as early as 01/01/2020. If the provincial government website did not have a page specific to COVID-19, the COVID-19 specific page did not include a news feed, or the COVID-19 specific page linked to a newsfeed that was not specific to COVID-19 news/announcements, then the regular news page for that provincial website was used. If possible to search articles, the search term “COVID” was used. If not possible to search articles, articles were included if it was clear from the title or excerpt listed in the feed that the article was related to the COVID-19 pandemic (e.g. mentioned the words “COVID”, “COVID-19”, “coronavirus”, or “pandemic” or was an update from a health-related authority). If there is a corrected or updated version of an article, only the updated/corrected version was included.

General article exclusion criteria: Articles written in French or prior to 01/01/2020.

General article text inclusion: Titles were included. Subtitles were included as part of the body of the article. Text describing tables was included unless it was a table note (notes and other captions were excluded). If an article was missing, the title and date of the missing article were included, with the article body feature left blank.

General article text exclusion: Any text related to contact information for media inquiries, related articles/related links/learn more information at the ends of articles and additional resources information at the ends of articles was not included. Location (sometimes listed at the beginning of an article), date

and author were not included as text (the article date was included as a separate date feature but not as part of the article text). Tables, table notes and photo captions were not included.

Alberta (AB) news releases and statements:

Source: Government of Alberta. News. <https://www.alberta.ca/news.aspx>

British Columbia (BC) news releases and statements:

Source: BC Gov News. Ministry of Health. <https://news.gov.bc.ca/ministries/health>

Canada (CAN, CAN-N) news releases and statements:

Source: Government of Canada. COVID-19 Announcements.

<https://www.canada.ca/en/news/COVID-19-announcements.html>

Filtered by news type: statements, news releases

Note: News releases only included as far back as 06/07/2021, which is how far back COVID feed populates. Statements initially pulled from COVID-19 Announcements page but to access older articles had to pull from regular news feed. Pulled statements and news releases clearly related to COVID or pandemic based on title/excerpt in listing.

Manitoba (MB) news releases and statements:

Source: Government of Manitoba. COVID-19. <https://www.gov.mb.ca/covid19/index.html>

New Brunswick (NB) news releases and statements:

Source: Government of New Brunswick. News.

<https://www2.gnb.ca/content/gnb/en/corporate/promo/covid-19/news.html>

Newfoundland and Labrador (NL) news releases and statements:

Source: Government of Newfoundland and Labrador. COVID-19 News.

<https://www.gov.nl.ca/releases/covid-19-news/>

Northwest Territories (NT) news releases and statements:

Source: Government of Northwest Territories. Newsroom. <https://www.gov.nt.ca/en/newsroom>

Nova Scotia (NS) news releases and statements:

Source: Government of Nova Scotia. Coronavirus (COVID-19): alerts, news and data.

<https://novascotia.ca/coronavirus/alerts-notice/>

Nunavut (NU) news releases and statements:

Source: The Government of Nunavut. <https://gov.nu.ca/>

Ontario (ON) news releases and statements:

Source: Government of Ontario. Newsroom. <https://news.ontario.ca/search/en?keywords=covid19>

Filtered by news types: news releases, statements, speeches

Excluded: death inquests

Prince Edward Island (PEI) news releases and statements:

Source: Government of Prince Edward Island. News. <https://www.princeedwardisland.ca/en/news>

Filtered by news type: news release

Quebec (QC) news releases and statements:

Source: Gouvernement du Québec. Search for government news.

<https://www.quebec.ca/en/news/search>

Filtered by news type: news, press releases

Saskatchewan (SK) news releases and statements:

Source: Government of Saskatchewan. News and Media.

<https://www.saskatchewan.ca/government/news-and-media>

Yukon (YT) news releases and statements:

Source: Government of Yukon. 2020 news releases: COVID-19 pandemic.

<https://yukon.ca/en/health-and-wellness/covid-19-information/latest-updates-covid-19/2020-news-releases-covid-19>

**Abbreviations**

AB	Alberta
BC	British Columbia
CAN	Canada, federal statements
CAN-N	Canada, federal news releases
CBSA	Canada Border Services Agency
HC	Health Canada
MB	Manitoba
NB	New Brunswick
NL	Newfoundland & Labrador
NS	Nova Scotia
NT	Northwest Territories

NU	Nunavut
ON	Ontario
PEI	Prince Edward Island
PHAC	Public Health Agency of Canada
QC	Quebec
SK	Saskatchewan
YT	Yukon