

# How Long Prime Ministers of Canada Lived\*

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In this project, I examined how long the Prime Ministers of Canada lived. I use R Core Team (2023), Wickham, Hester, and Ooms (2021) and Wickham (2022) to get data from Wikipedia (2024), then used Wickham et al. (2019) and Firke (2023) to cleaned the data, and finally used Wickham (2016) to create a graph of the data.

**?@fig-fm** provides a visual overview of the lifespans of Canadian Prime Ministers. Red bars indicate those who have passed away, while blue bars represent the ones still living. The varying lengths of the bars span from each Prime Minister's year of birth, with blue bars reaching up to the present, showcasing the current ages of living leaders.

A quick glance at the chart reveals that most Prime Ministers were born in the 19th or 20th centuries, in line with Canada's history as a self-governing dominion since 1867. The chart does not explicitly show a trend in lifespans over time but does highlight that most recent leaders, born in the later part of the 20th century, are still alive, possibly reflecting modern advancements in health and well-being.

The data source is from Wikipedia (2024) which provided a list of prime ministers of Canada, including their names, birth, death and other information which is not related to this topic. Using Wickham (2022) package, which is designed for web scraping, the code first reads the HTML content of the webpage. It then uses selectors to pinpoint the specific table that contains the information on Prime Ministers.

Wickham et al. (2019) comes into play for cleaning and organizing the data. The `clean_names()` function from Firke (2023) standardizes the column names for easier reference. The `select()` function helps to isolate the column with the names and birth-death dates of the Prime Ministers, and `distinct()` ensures that only unique entries are retained, removing any potential duplicates.

The data is then further processed to separate the names from the birth and death dates. Regular expressions are used to extract the years, and any missing birth years are filled in with the corresponding birth year data from entries that only have a birth year available, which indicates that the person is still alive.

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\*Code and data are available at: [https://github.com/FrankMengZJ/PM\\_CA](https://github.com/FrankMengZJ/PM_CA)

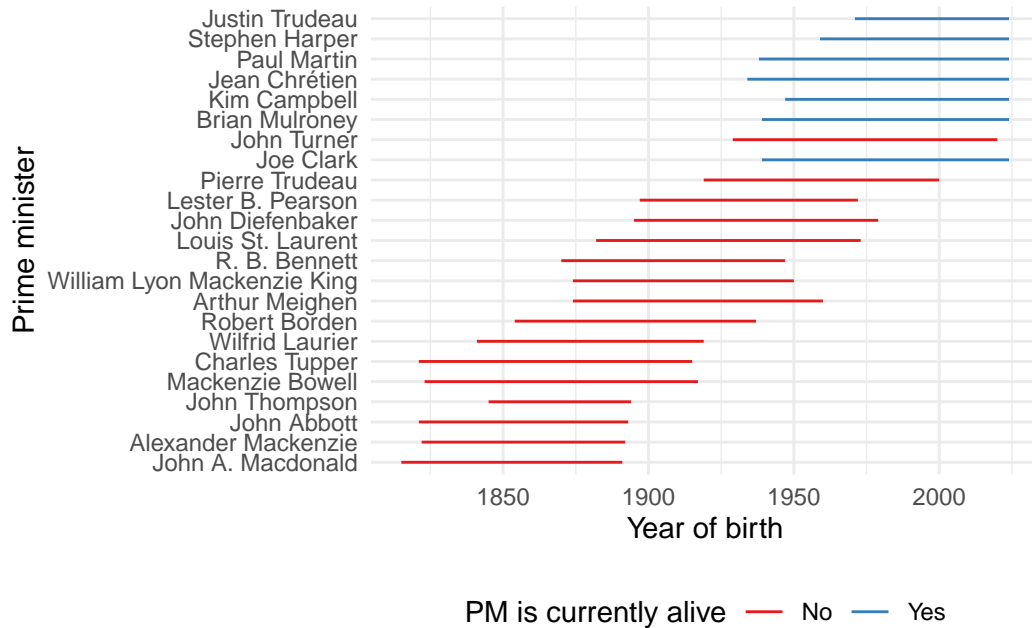


Figure 1: How long each prime minister of Canada lived

Finally, Wickham (2016) is used to create the horizontal bar chart visualizing the lifespans of the Prime Ministers.

I encountered several problems when working the data. There were several tables in Wikipedia (2024), at first I used `html_element()` function which only returns the first element it finds, so I searched online and found out I should use `html_elements()` instead.

Another problem I met was when I was creating the graph, the birth and death time wasn't integers, I realized that when cleaning the data, I just separated the strings without further adjustments. I transferred the strings into integers and the problem was solved. Next time, I will pay attention to types of data when doing data cleaning.

## # References

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