
canHealthWaitR:

Exploring Healthcare Wait Times in Canada Using Web-Based Open Data

Group 11: Yin-Wen Tsai, Sasivimol Sirijangkapattana, Bingzheng Jin





Our motivation and background

Healthcare wait times are a persistent and widely discussed issue in Canada, frequently raised in online communities and public discourse.

Common concerns include long emergency room waits, difficulty accessing primary care, and extended delays for specialist referrals.

Despite the prominence of this issue, healthcare wait time data is often fragmented across multiple public sources, making systematic analysis difficult for non-experts.



What API are we going to use?

Statistics Canada Web Data Service (WDS)

- focus on medical wait time / access-to-care indicators in Canada, with a vignette highlighting British Columbia.

It is an official public RESTful API provided by Statistics Canada



No login,
no API key



Stable and well-documented government source

Data is already structured into consistent statistical tables (cubes)



Supports reproducible workflows:
query → tidy data → plot

Home > About Statistics Canada > Developers

Web Data Service (WDS)

Statistics Canada has developed a Web Data Service that provides access to data and metadata that we release each business day. This is a good option for users who want to consume a discrete amount of data points updates to Statistics Canada data.

To obtain information on how to use and consume our Web Data Service, please read the [Web Data Service User Guide](#).

The Statistics Canada SDMX REST web services provide access to the time series made available on the Statistics Canada's website in a structured form. For more information, please see the [Statistical Data and Metadata Exchange \(SDMX\) User Guide](#).

cubeTitleEn
<chis>

Wait time for an initial consultation with a medical specialist in the past 12 months
Health indicators, Survey on Health Care Access and Experiences - Primary and Specialist Care
Selected characteristics of health care access and experiences by First Nations people living off reserve, Métis and Inuit, and gender
Accessibility barriers experienced when interacting with federal sector organizations among persons with disabilities, difficulties ...
Accessibility barriers experienced when interacting with federal sector organizations among persons with disabilities, difficulties ...
Accessibility barriers experienced when interacting with federal sector organizations among persons with disabilities, difficulties ...
Access to and use of health care services by Aboriginal identity, age group and sex
Difficulties accessing health information or advice
Difficulties accessing immediate care for a minor health problem

1-10 of 17 rows | 3-3 of 6 columns

Previous 1 2 Next



Expected Functions:

A) API discovery layer (find the right tables)

- mw_list_tables()
 - → list packaged “known” wait-time/access tables (curated shortlist)
- mw_search_tables(query = "wait")
 - → search WDS cube list by keyword (returns productId + title)
- mw_table_metadata(productId)
 - → get cube metadata (dimensions, members, vectors availability)

Expected Functions:

B) Data retrieval layer (turn tables into data)

- `mw_get_data(product_id, geography = NULL, indicator = NULL, start_year = NULL, end_year = NULL)`
 - → returns a tidy tibble (minimum wrangling included)
- `mw_get_series(vector_id, start_year = NULL, end_year = NULL)` (Optional)
 - → retrieve a specific series (vector) over time



Expected Functions:

C) Cleaning / standardization (make outputs consistent)

- `mw_standardize(df)`
 - → standardized column names (province, year, value, indicator, ...)
- `mw_filter(df, province = NULL, indicator = NULL, start_year = NULL, end_year = NULL)`
 - → convenience filter

Expected Functions:

D) Plotting (REQUIRED for vignette: zero → graph)

- mw_plot_trend(df, province, indicator)
 - → line plot of trends over time
- mw_plot_compare(df, year, indicator)
 - → bar chart comparing provinces (or categories)



Thank you.

