Toronto Healthcare Outbreak Tracker

Project 3 Group 7
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Outline

- Project Goal
- ETL Process
- Webpage Creation
- Visualizations
- Dashboard Walkthrough

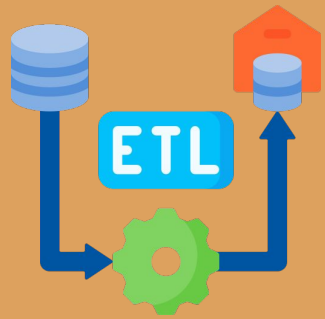
Project Goal

Audience: This dashboard is geared towards the general public to provide them with high-level insights into outbreaks in Toronto's healthcare institutions over the last 7 years.

Questions:

1. Which type of institution had the most outbreaks over the time period?
2. Can we identify any trends in outbreaks by season?
3. Can we identify trends in outbreaks over the entire time period?

ETL Process

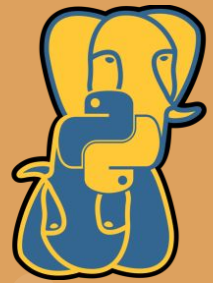


Retrieve the data

- Download CSV files for 2016-2023 (all available years) from Toronto Open Data
- Use GeoApify Address Autocomplete API to get the coordinates for each address

Clean the data

- Loaded CSV files into a Pandas DataFrame
- Dropped columns that were not needed, converted data types, and added the coordinates pulled from GeoApify



Create the database

- Use psycopg2 and PostgreSQL to create the database, create the tables and load the CSV files into the tables

Webpage Creation

- Flask API routes created:
  - To return the jsonified data from the database tables (for dashboard creation)
  - To navigate between the Home, About and Dashboard pages (for user navigation)
- HTML templates created for Home, About and Dashboard pages
- CSS styling for web pages

Flask

Visualizations

To answer our questions, we produced the following visualizations:

1. Map
2. Outbreaks by setting
3. Outbreaks by season
4. Type of outbreaks over time

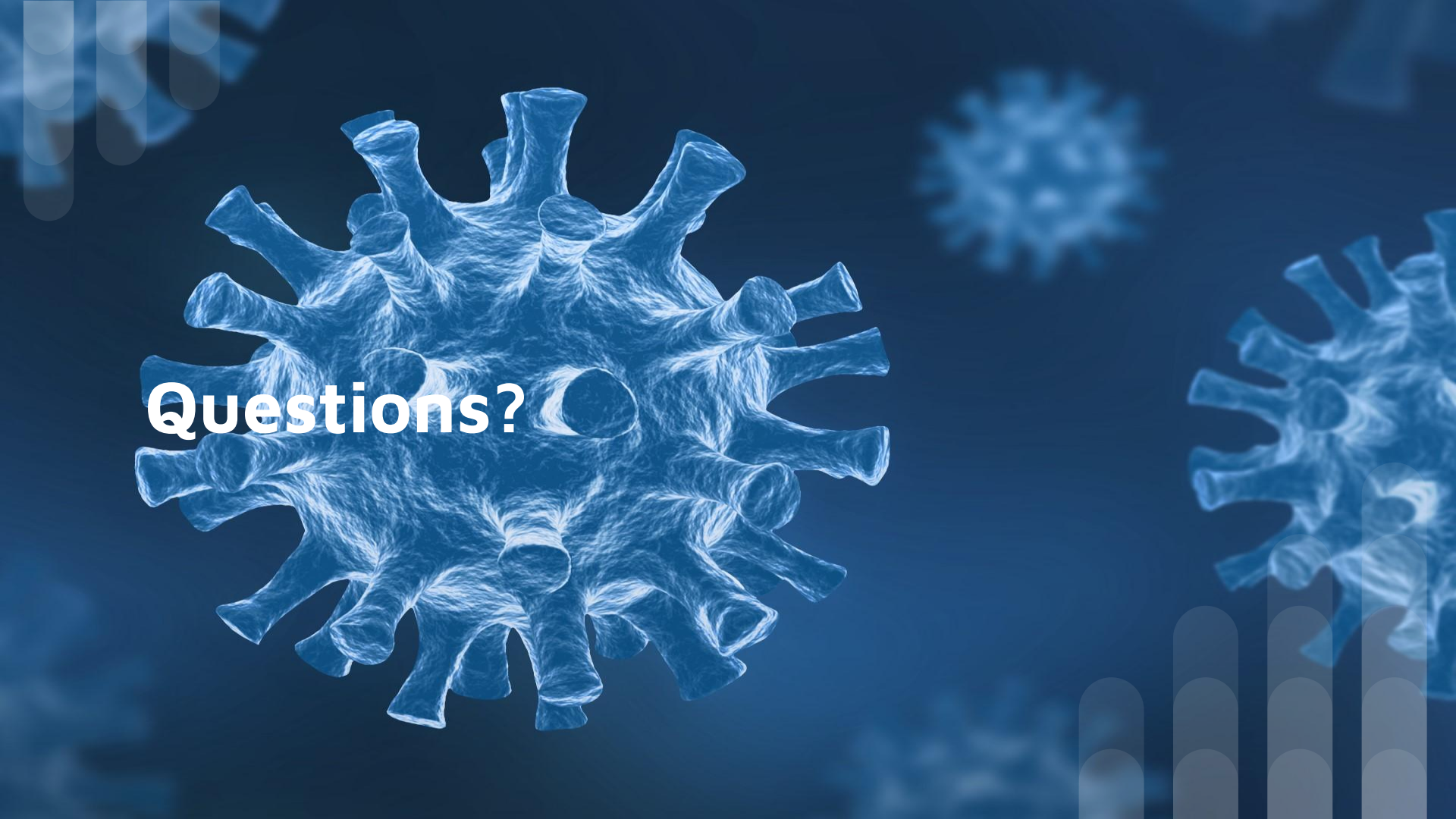
Chart.js

plotly

Dashboard Walkthrough

Conclusion

- Long-term care homes had the most outbreaks over the time period, almost four times as much as the next highest setting (hospital - acute care).
- Generally, outbreaks tend to occur most often in the winter and spring. However, 2022 and 2023 saw the most outbreaks in the fall.
- Respiratory outbreaks are the most common type for all years, more than tripling after the 2020 pandemic.


Questions?