




The battle of the neighborhoods:
where to place a new pharmacy in
the Covid era?



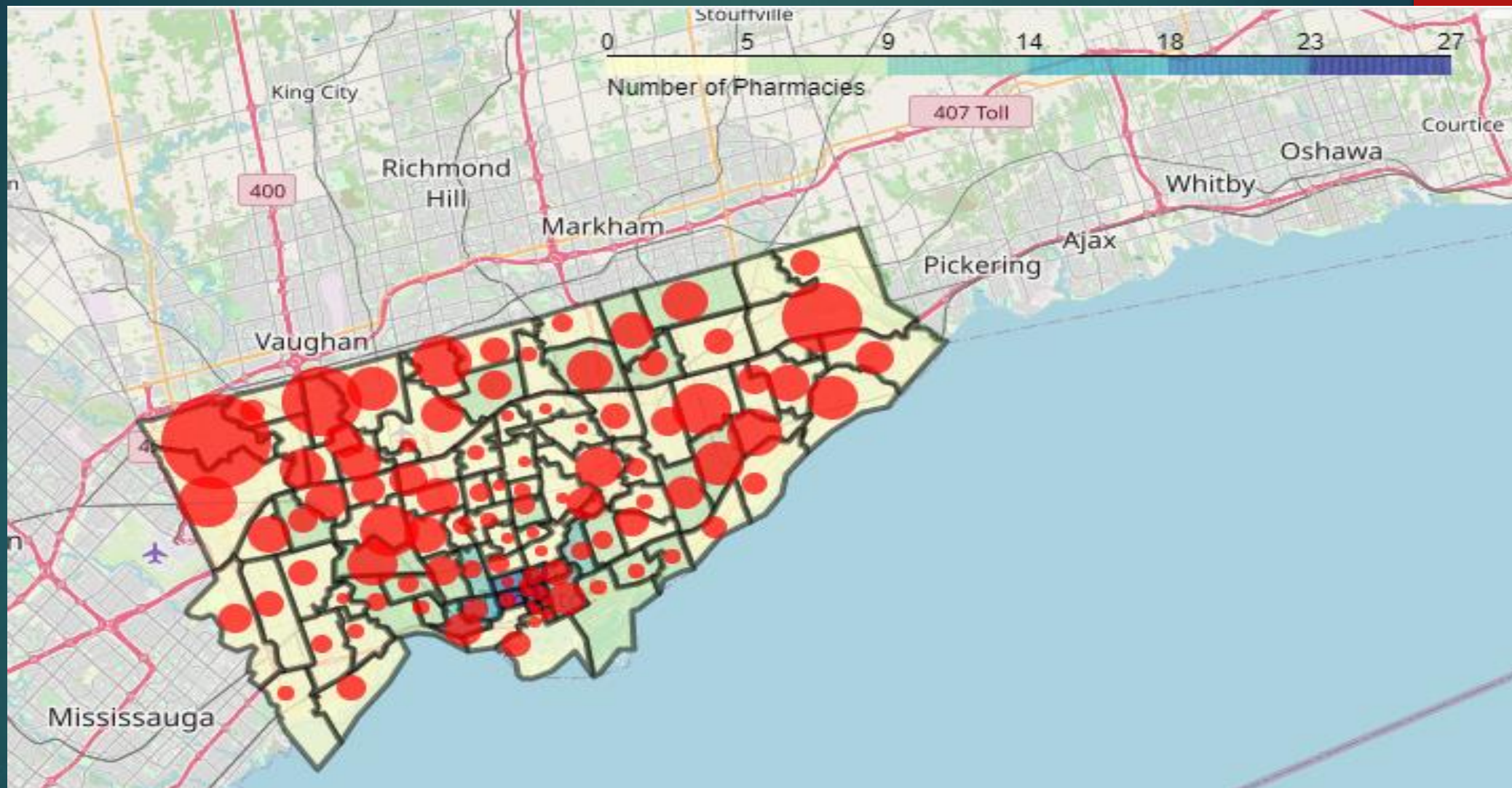
How can covid 19 data be used to
search the optimum neighborhood
for opening a pharmacy in
Toronto?

Main hypothesis of this project

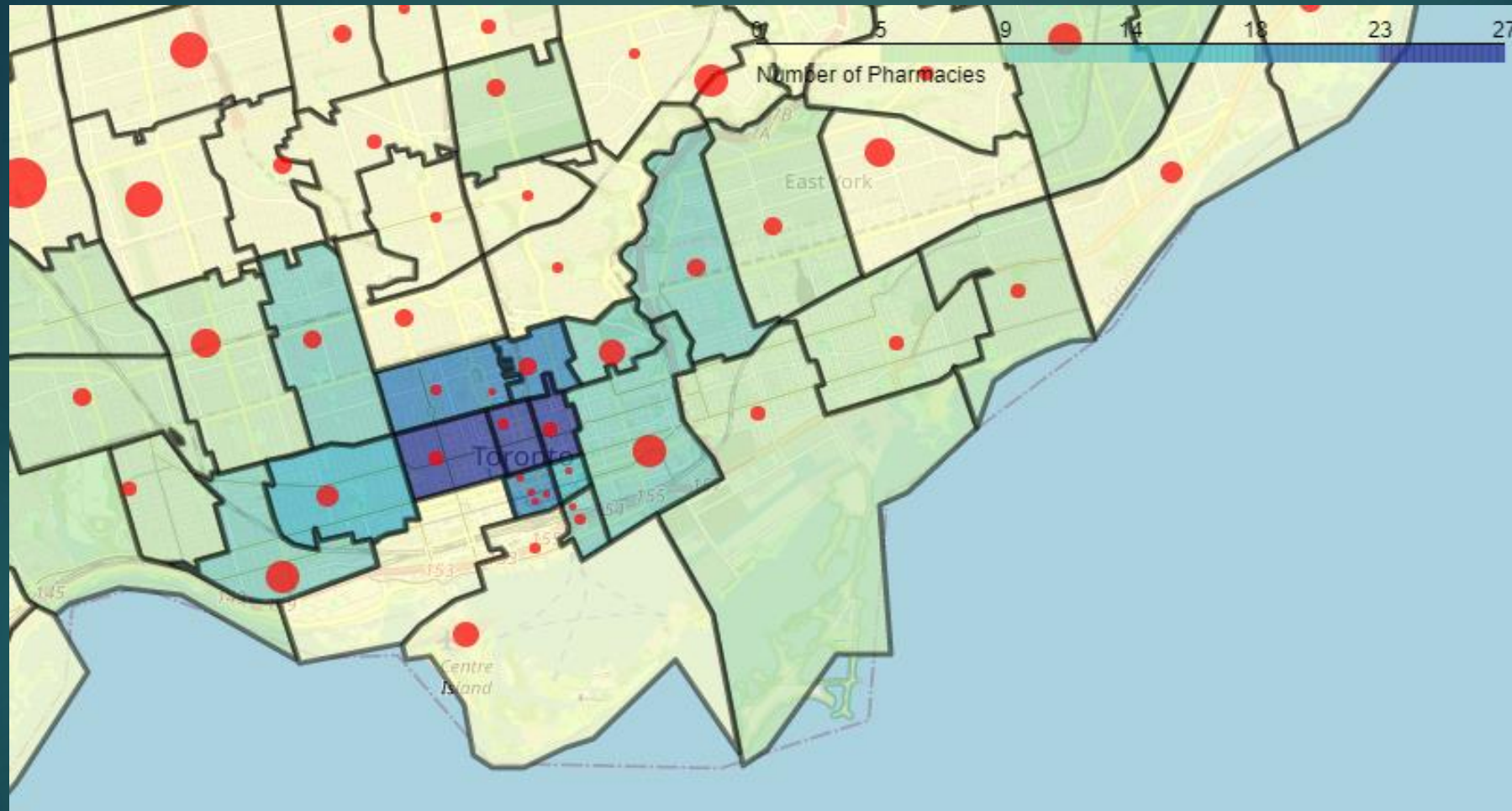
- ▶ Market supply quantified by the number of existing pharmacies in each neighborhood
- ▶ Market demand scales with number of Covid 19 cases in a given neighborhood
 - ▶ with higher cases, increased population fear and higher need for disease prevention and palliation items)

Data sources

- ▶ Existing pharmacies in each neighborhood - Foursquare
- ▶ Covid cases in each neighborhood - <https://open.toronto.ca/dataset/covid-19-cases-in-toronto/>.

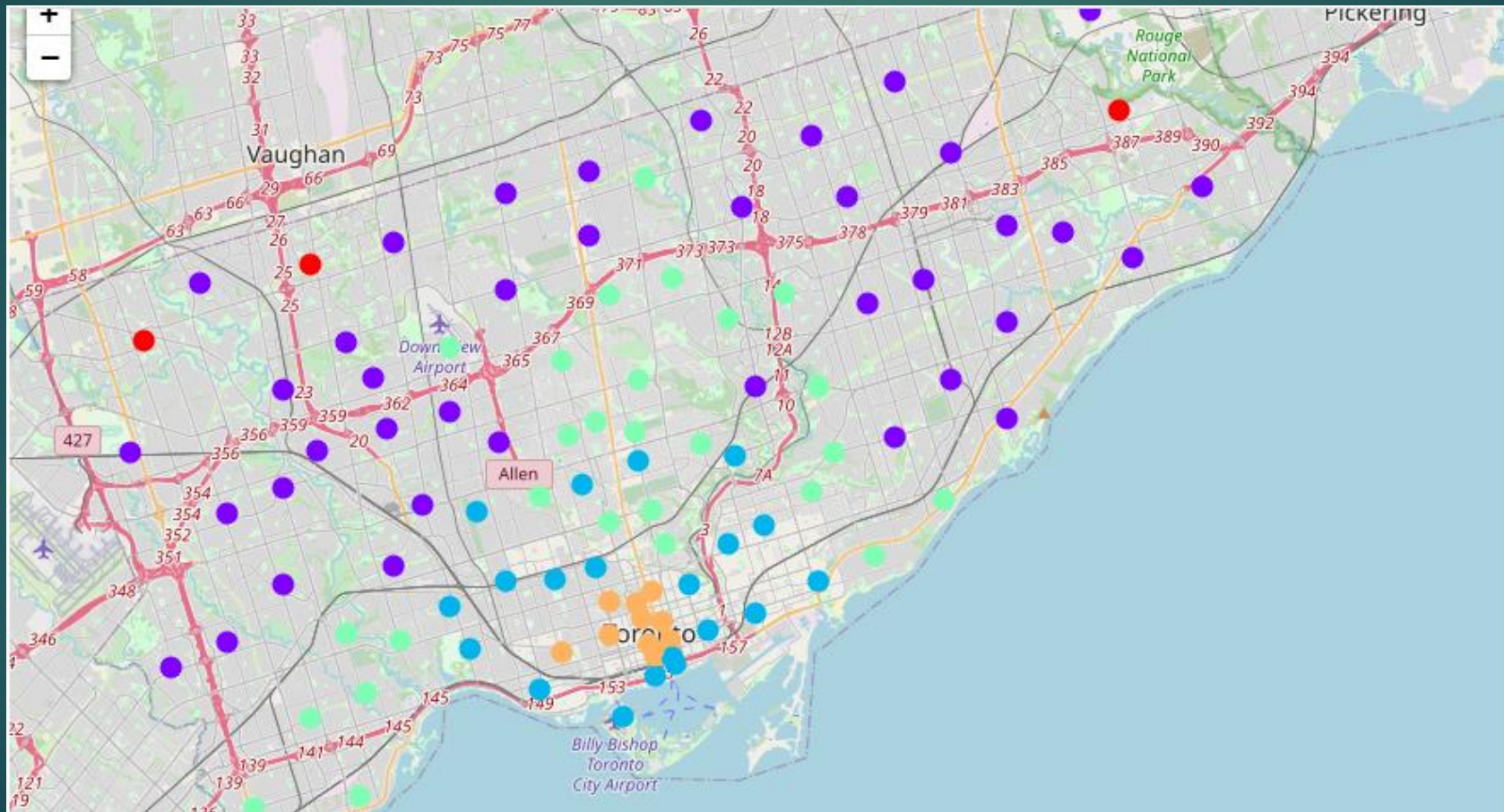


Color of the neighborhood indicates number of existing pharmacies,
red circle number of covid cases.

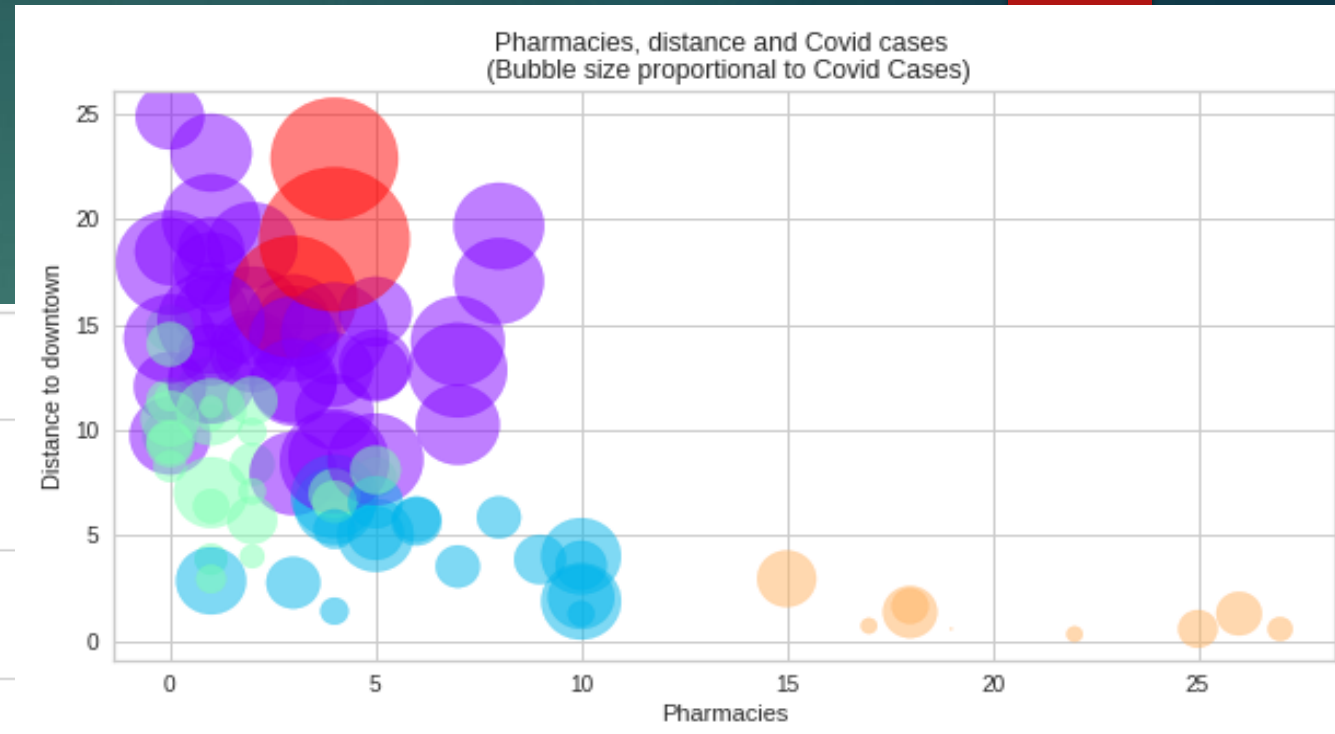
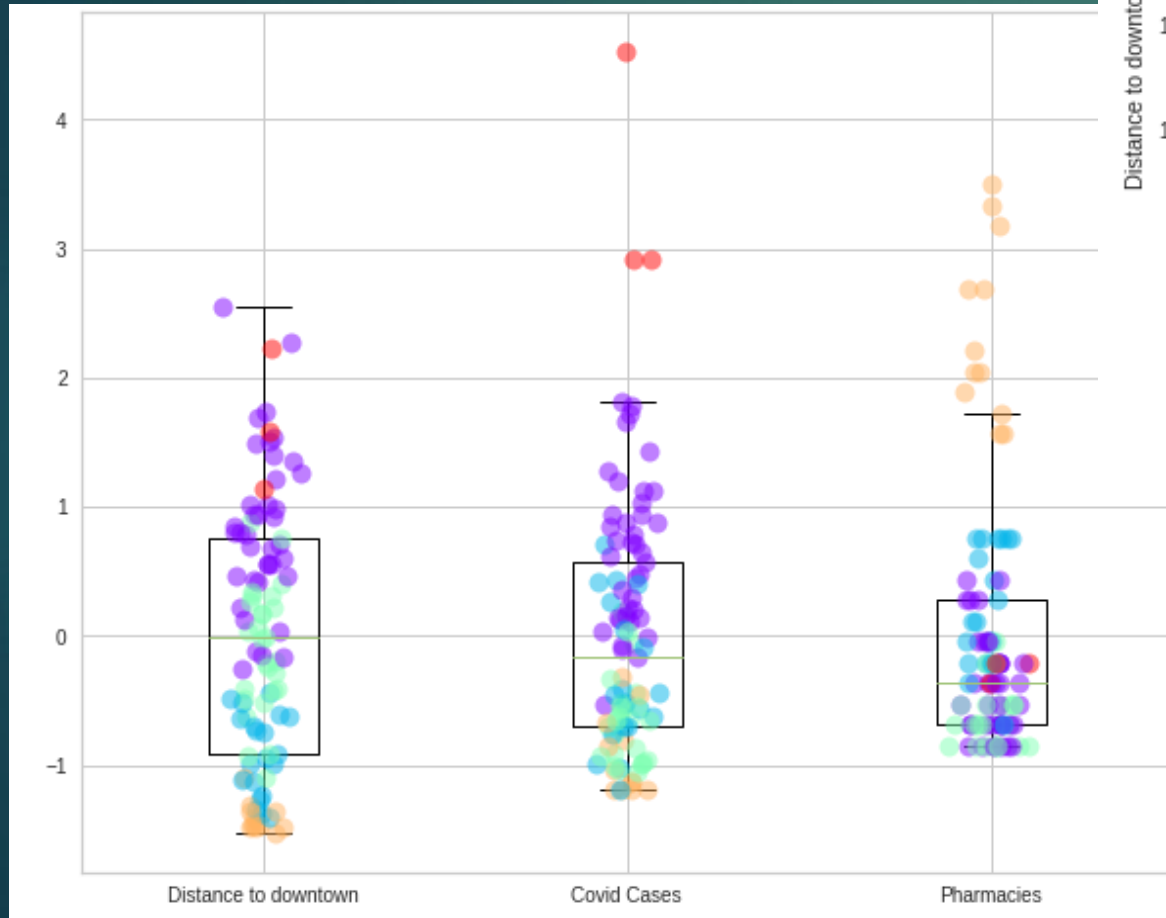


Zoom in to downtown

Color of the neighborhood indicates number of existing pharmacies,
red circle number of covid cases.



Pharmacies needed in **red** and **purple** clusters !



Market saturated in
yellow clusters !

Conclusions

- ▶ Toronto neighborhoods were analyzed according to the number of Covid Cases, existing pharmacies and distance to downtown Toronto.
- ▶ Kmeans clustering was used to sort the neighborhoods into 5 groups, and each group was analyzed to determine which group contains the best options for opening a new pharmacy.
- ▶ Neighborhoods with postal code M1B, M3N and M9V (cluster 4, red) had the largest number of covid cases, and the number of pharmacies was well below average, so they are the best option if the investor is willing to open it more than 16 km from downtown.
- ▶ The closest to downtown neighborhoods (cluster 3, yellow), had the highest amount of pharmacies, but curiously the number of Covid cases were lower than average in those neighborhoods. The market is likely saturated in those neighborhoods, so they would not be a good option.
- ▶ The rest of the clusters (0,1 and 2) have neighborhoods with good options to open a pharmacy, the choice will depend on whether the investors prioritizes distance to downtown, or market demand.



Thanks for your attention