Analysis of Mental Health Act Apprehensions in Toronto Area*

Simple Categorical Analysis

Mingjia Chen

January 15, 2024

The report will analyzes one of the dataset publically avaliable from Toronto Open Data. To have a general idea in terms of statistics of Mental Health Act Apprehensions in Toronto, the dataset is speculated by using histograms.In general, the number of apprenhsions increases by year and a decrease in the number starts in 2022.In addition, males in age cohort 25-34 are more likely to have mental health related apprehensions.

1 Introduction

The mental health apprehensions and reports hints the overall well-being of the residents in the area. This particular report studies, by examining the Mental Health Act Apprehensions data set provided by Toronto Public Data, possible sub-population of the Toronto residents. The data was thus analyzed by the use of R language to provide a overview of the statistics both demographic and year-related in regards of the mental health apprehensions. To elaborate, the relationships between number of reports and year, gender, and age are studied in this report.

2 Data

The data selected for the purpose of analysis is a package data set called Mental Health Act Apprehensions from Open data Toronto by Gelfand (2022). The data consists 21 variables, including the gender, age cohort, and year of the reports. Those three variables in particular and with the counting of the number of the cases will be used for analysis.

*Code and data are available at: https://www.toronto.ca/city-government/data-research-maps/open-data/.

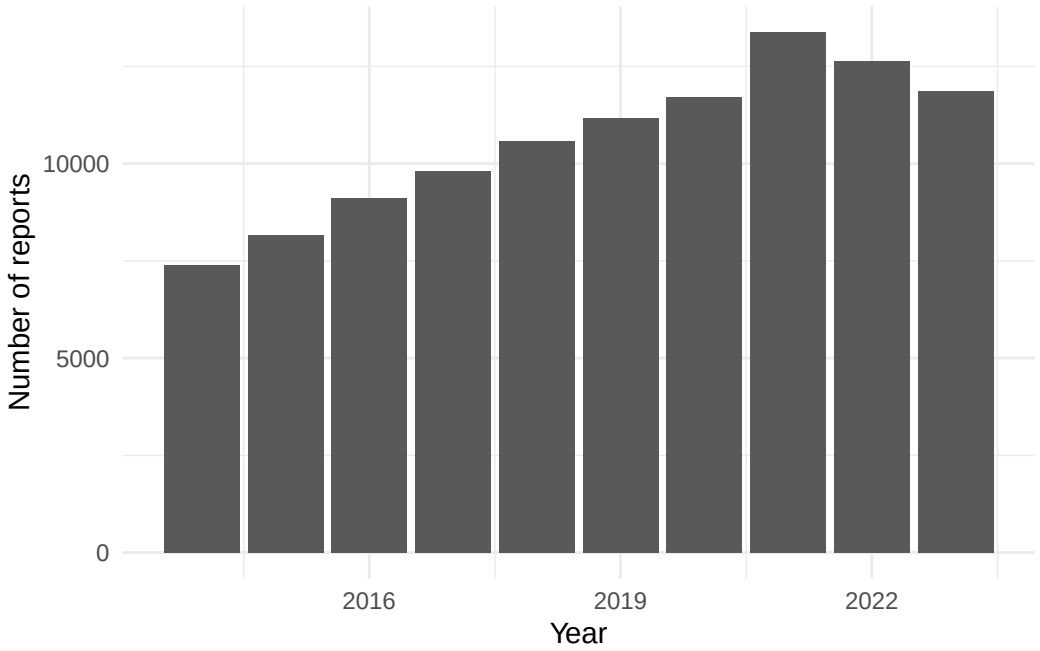
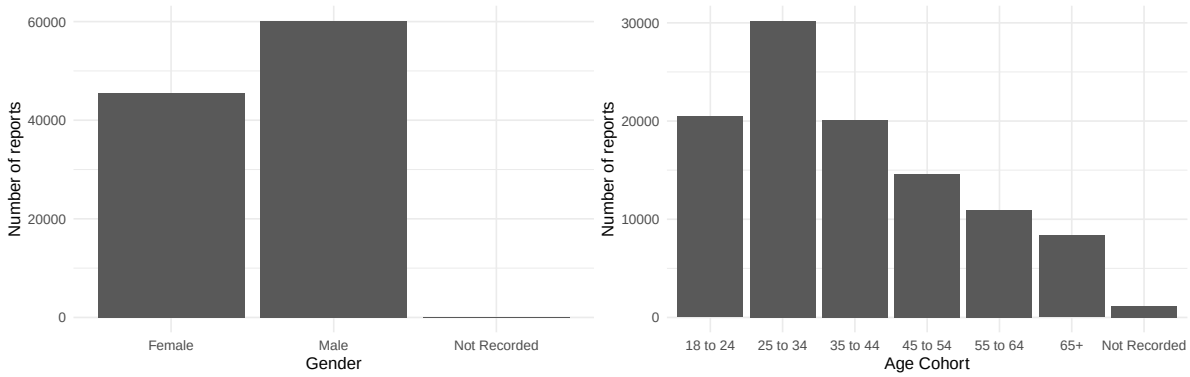


Figure 1: Counts of Apprehend Reports in Each Year

The year of the reports and numbers of reports recorded in a year is being visualized by a histogram. As we can see, the number increases as the year increases until 2022. After 2022, the number of apprehensions decreases (**year-report?**). This might be an indicator where residents' mental healthy generally becomes better after 2022.



(a) Gender

(b) Age

Figure 2: Gender and Age of People Apprehended

With sketching histograms, the number of reports in different groups of population are compared to each other based on gender and age. In addition, the two histograms are cross-referenced (Figure 2). As the result, males with age from 25 to 34 are more likely to report mental health apprehensions.

3 Discussion and Conclusion

Toronto is one of the major cities in Canada, which is also the capital of Province Ontario. Toronto fields includes old 140 City of Toronto Neighbourhoods structure as well as the new 158 City of Toronto Neighbourhoods structure.The mental health of residents draw our attention of whether people are having healthy mental status at this big city.

We downloaded the Mental Health Act Apprehensions from the Toroto Open Data website (Gelfand 2022). We cleaned and tidied the data set using the statistical programming language R (R Core Team 2023) including the tidyverse (Wickham et al. 2019) and janitor (Firke 2023). We then created three graphs in order to spaculate the relationships between counts of reports and year, gender, and age cohort (Figure 2).

We found that the number of reports increases each year until 2022. This could be due to Covid-19 Pandemic. Moreover, males in age cohort from 25 to 34 are more likely to report apprehensions. The difference between gender and age groups are not necessarily significant. Closer analysis such as model and power should be conducted for better statistical understanding of the data set.

References

Firke, Sam. 2023. *Janitor: Simple Tools for Examining and Cleaning Dirty Data*. https://github.com/sfirke/janitor.

Gelfand, Sharla. 2022. *Opendatatoronto: Access the City of Toronto Open Data Portal*. https://sharlagelfand.github.io/opendatatoronto/.

R Core Team. 2023. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D'Agostino McGowan, Romain François, Garrett Grolemund, et al. 2019. "Welcome to the tidyverse." *Journal of Open Source Software* 4 (43): 1686. https://doi.org/10.21105/joss.01686.