Exploring shelter occupancy trends in Toronto

Anusha Champaneria, Dina Abu Ghosh, Ahmed Lugya

26/01/2020

Abstract

Immigrants, refugees and refugee claimants make 40 percent of people using shelters in the city of Toronto that also identify as homeless. (Teresa, 2019). With the public's growing concerns on why the government of Canada is delaying to declare homelessness as a state of emergency (PressProgress, 2019), one of the homeless shelter's greatest threats is capacity. Using the daily shelter occupancy dataset from the city of Toronto's Open Data portal, a study of the dataset will be provided to explore the Question of Which shelter sector (male/female/Co-ed/families/youth) has the highest occupancy?

Introduction

The Daily Shelter Occupancy dataset shows all the active shelters located in Toronto providing a total of 12 attributes. These attributes include the name of facility, organization, shelter (subgroup of organization), and program name within the facility. This dataset also provides an address of the shelter which is split into four attributes; shelter province, shelter postal code, shelter city, and street name. Sector is an attribute providing the clientele of the shelter. Variables in this attribute include women, men, families, youth, and co-od. Capacity is an attribute that displays the maximum number of available spots inside each shelter. These "spots" are determined by the number of available beds or mats. This attribute, however, can exceed the maximum number, in consideration of the family variable in which some families may be accommodated to share beds. The mean of available spots amongst all shelters is 67.4. Furthermore, Occupancy and Occupancy Date gives us the date of the data and the number of people in the program. The occupancy number is a count taken on the following day at 4AM having a mean of 63.36.

We decided to graph two attributes; Occupancy and Sector. Plotting this in a bar graph showed us a correlation between these attributes displaying how much space is typically occupied by each variable. Out of the **2,209,332** homeless clients recorded in the past year, **266,386** are Women, **570,297** are Men, **222,477** are co-ed, **980,418** are Families and **169,754** are Youth.

```r
#Load the dataset
Shelter_Data <- read.csv("Daily shelter occupancy current (2020).csv")
#rename columns to be used
Sector <- Shelter_Data$SECTOR
Occupancy <- Shelter_Data$OCCUPANCY
#Calculate total number of occupancies
sum(Shelter_Data$OCCUPANCY)
```

```
## [1] 2209332
```

```
# Source Code for the Barplot
Shelter_Data %>%
ggplot(aes(x= Sector,y =Occupancy, color=Sector)) +
  geom_bar(stat = "identity", fill="white") +
  ggtitle("Total Occupancy plotted against Shelter Sector")
```
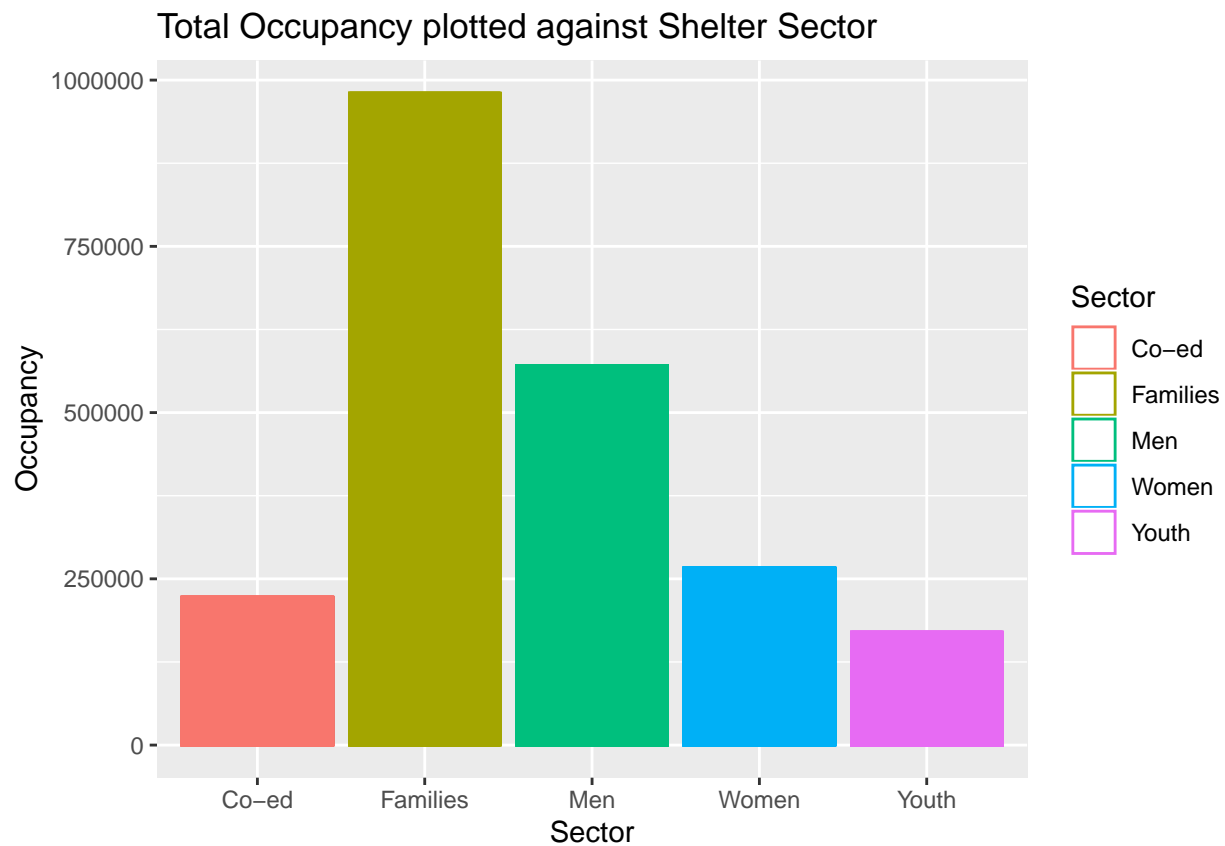

Figure 1

Shortcomings

We had two main shortcomings, the first one was the Daily Shelter Occupancy Dataset we were interested in could not be accessed remotely from the "opendatatoronto" portal hence to work with this dataset we downloaded it and read it locally.

In addition to that, R programming was not allowing us to get a sum of only the visible column. Therefore, we filtered the data to get the total number of occupied spots in a shelter within the past year. This was done for each variable in the Sector column. Hence, we resorted to opening the CSV, using both the filter and sum method in excel which gave us the total sum for each variable within the attribute.

In conclusion, we explored trends in shelter occupancy and sector for 63 different active homeless shelters in Toronto. From our analysis (Figure 1), we concluded that not only has occupancy been steadily increasing in the past year, but the increase is seen more in families and men. Hence, as much as Canada has for long been looked at as an inspiration, a leader, and a policy lender on immigration issues to Scandinavia and other countries around the world (Trygve,2018), ensuring that refugees don't end up into shelter homes will not only keep Canada in position of the top resettlement country but also top country that does resettlement best.

References.

City of Toronto Open Data Portal. (2020). Dataset. Retrieved from https://open.toronto.ca/dataset/daily-shelter-occupancy/

Teresa Wright. Growing number of newcomers, refugees ending up homeless in Canada: studies. (August 9, 2019) Retrieved from https://www.cbc.ca/news/politics/homeless-newcomers-refugees-canada-studies-1.5242426

PressProgress. Toronto's shelters are consistently overflowing, advocates and public health experts warn. (January 29,2019) Retrieved from https://www.cbc.ca/news/canada/toronto/declare-toronto-homelessness-a-state-of-emergency-advocate-group-says-1.4987854

Trygve Ugland, Bishop's University. How Canada is inspiring Scandinavian countries on immigration. (February 1, 2018) Retrieved from https://www.macleans.ca/opinion/how-canada-is-inspiring-scandinavian-countries-on-immigration/

STHDA. ggplot2 bar plots: Quick start guide - R software and data visualization. (n.d) Retrieved from http://www.sthda.com/english/wiki/ggplot2-barplots-quick-start-guide-r-software-and-data-visualization