Problems with Homelessness and Shelters in Toronto

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Abstract

Homelessness datasets are extremely important for the city governments to fund and provide services. This report will discuss the homeless trends in Toronto, and how are different groups affecting homelessness. By reseach, single male adults have the highest rate of being homeless for several reasons.

Introduction

Homelessness has been one of the most serious problems in North America. In Toronto, out of 10000 people, 30 of them are homeless (Homefirst, 2018). As the global pandemic COVID 19 spreads around the world, many people have lost their jobs. Homelessness has became a more serious problem across Canada. As the homeless population is increased over years, it also increases the risk of crime victimization in high income countries (Nilsson, Nordentoft, Fazel, and Laursen, 2020).

Being a resident in downtown Toronro, is it very important to understand the problems of homelessness around me. In this report, I will use the open-acess dataset from Toronto's Shelter Support and Housing Administration to find out the relationship between different groups and homelessness. I will also discuss some of the biases and inaccuracy of how the data was collected. Moreover, I will discuss how the global pandemic COVID 19 is affecting the homelessness in Toronto. The dataset will be processed through R (R Core Team 2020) by using tidyverse (Wickham et al. 2019) and dplyr (Wickham et al. 2021) packages. Figures will be created by using ggplot2 (Wickham 2016) and kableExtra (Zhu 2020). # Data

Data Source

The data set used in this paper was obtained from the Shelter Support and Housing Administration division's Shelter Management Information System (SMIS) database. The SMIS is a system in Toronto that can help shelter staffs to quickly find any available rooms of beds in the city. The datas are collected monthly starting the year of 2021. The Toronto shelter system flow dataset used in the paper was gathered from Open Data Toronto using the R package (Gelfand 2020). The dataset was last updated on January 2022.

Methodology and Data Collection

The dataset includes information about people who are experiencing homeless in Toronto from January 2020 to December 2021. The data were collected through the SMIS in operating shelters when people are entering and existing the shelters, 24-hour respite sites, warming centers, or other services funded by the city of Toronto. While this dataset contains information of people entering and existing the shelters, there might still be biases when collecting data. Since the population of the dataset is all people experiencing different levels of homeless in Toronto and the frame is the SMIS, it is unsure how accurately the sample are collected by the SMIS. The SMIS does not actively search for refugees or homeless people; it only records people who goes to the services, therefore, homeless people who did not go to any shelters or services are not included in this dataset. Also, due to the COVID 19 pandemic, temporary shelters were built in Toronto which might also increase the occupancy rate(Aguilar, 2022). However, poeple might be fear to get infected by COVID 19 so they chose not to gather in a shelter with other people. Many people have lost their jobs during the pandemic, this might lead to an increase in the occupancy rate; whereas the extreme weathers in

Toronto destroying shelters might create staff shortage and decrease occupancy rate (Cohen, 2022). However, the dataset was not perfectly collected, it still provides considerable and important information about the shelters in Toronto during the pandemic.

Data Charteristics

The Toronto Shelter System dataset provides data of homeless people in Toronto from the beginning of 2020 to the end of 2021. There are 180 observations in total containing 18 variables. By cleaning the data using mutate and select in tidyverse (Wickham, 2019), 11 variables were selected, which includes: date, population group (either refugee, family, or others), newly identified homeless people, count of actively homeless people, age under 16, age 16-24, age 25-44, age 45-64, age 65 and over, gender male, gender female, and other gender. People are considered actively homeless if they have used either a shelter or other services provided by the city of Toronto in the past 3 months. The count of actively homeless were aggregated by dates, population groups, age groups, and different genders. Here is a sample of the dataset.

date_m	population_group	newly_identified	actively_homeless	ageunder16	age16-24	age25-44	age45-64
2020-01-01	All Population	901	9916	1440	1227	3893	2852
2020-01-01	Chronic	412	3471	429	432	1096	1205
2020-01-01	Refugees	407	2941	969	341	1177	427
2020-01-01	Families	345	2706	1438	238	790	231
2020-01-01	Youth	103	987	0	987	0	0
2020-01-01	Single Adult	453	6223	0	0	3103	2621

Newly Identified Homeless Count and Date

In the barplot of date and newly identified homeless people, we can see that shelters are most occupied in winters and least occupied during summers (Figure 1). It is very convincing since Toronto is in a semi-continental climate where we are having very long and cold winters and hot summers (Owuor 2019). Homeless people need to go to a shelter or warming center, otherwise they will be freezing in the winter storms. However, we can see that comparing to the 2020 winter and the 2022 winter, the winter in 2021 is having very low counts of newly identified homeless people. The reason for this might be the low cases of COVID 19 and the calm climates in winter 2021. But overall, we dont see a increasing trend of newly identified homelessness during the past 2 years in Toronto.


Figure 1: Newly Identified vs. Date
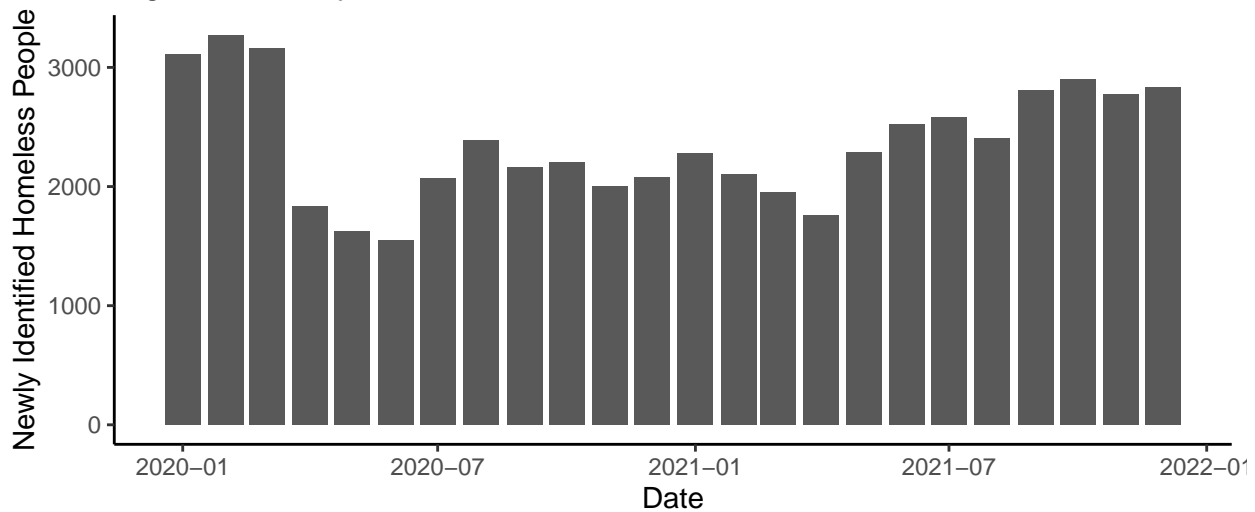
Actively Homeless Count and Population Groups

Having all population aside, the majority population that is actively homeless are non-refugees, and indigenous are taking the least proportion (Figure 2). It is also noticeable that most of the homeless

population are single adults. Single adults are more likely to be homeless than those who have families. Unlike adults with families, single adults are being less responsible to the people around them; they have no families to be considered. Chronic homelessness also makes a big portion of all homeless population. The city of Toronto is putting a large amount of efforts into ending chronic homelessness in the city. 90% of the homelessness in Toronto are Toronto residents; the city government invested $663.2 millions in 2021 (Toronto.ca, 2021). Notice that when adding up populations other than all population, it might seem to exceed the count of all population; this is reasonable because one population may contain part of another population. For example, part of non-refugees can also considered as single adults.

Figure 2: Actively Homelessness vs. Population Group
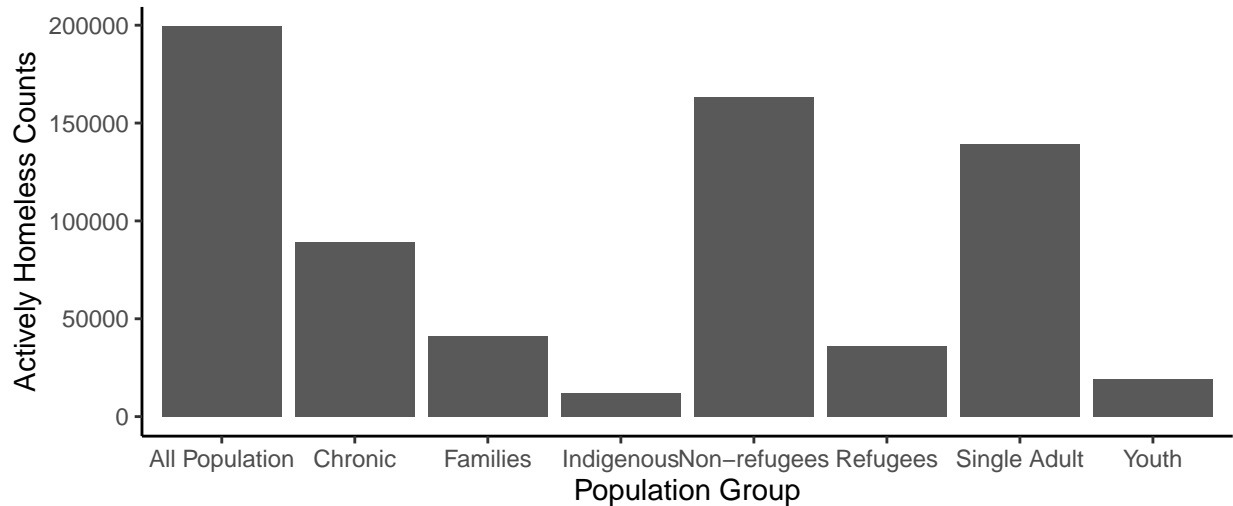
Gender

Male	Female	Transgender, non-binary, or two spirit	Single Adult Male	Single Adult Female	Single Adult Transgender, non-binary, or two spirit
440582	247127	11049	96603	40360	2134

Summing up all genders recorded by the SMIS we find that majority of the homeless population are male and female, whereas homeless males are approximately doubling the number of homeless females. Single homeless males are taking about 1/3 of the over all male proportion. The data shows that single men are more likely to be homeless. There are many reasons for this. By research, many of the homeless males are veterans, some of them faces post-traumatic stress disorders; and they are less likely to seek for mental treatments than other genders (KVII 2020). It creates problem for them to find new jobs. Also, men are having higher crime rates than other genders. Because of criminal justice, a man coming fresh out of prison is more likely to be homeless (KVII 2020).

Age

Figure 3: Proportion of Honmeless Age Groups
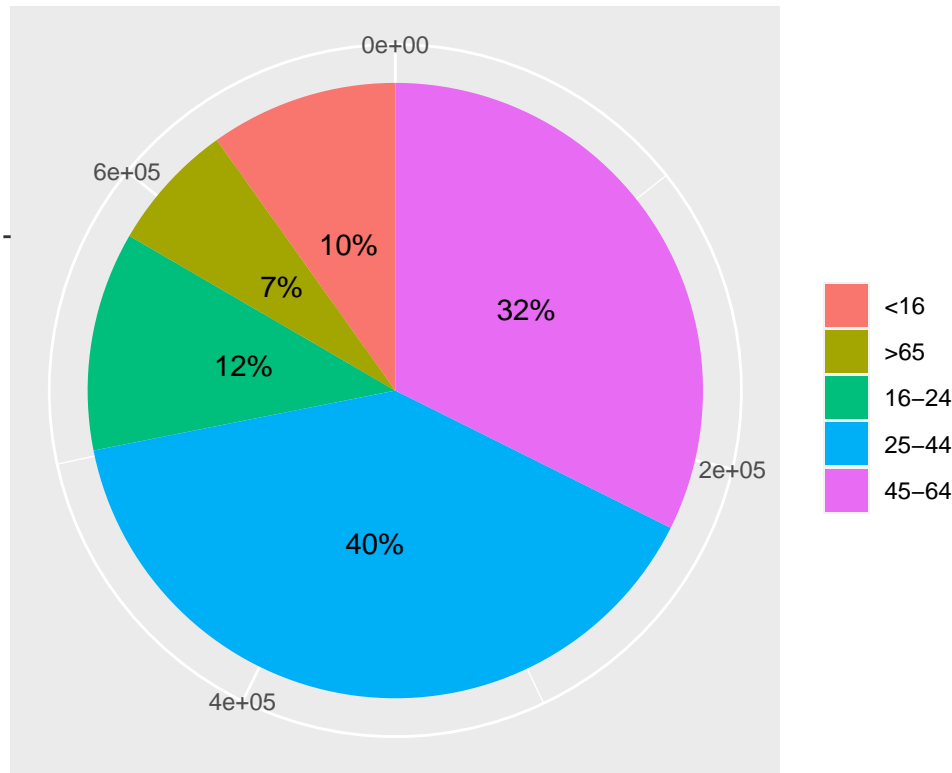
Under 16	16-24	25-44	45-64	Over 65
68850	80376	275991	226022	47200

Summing up all the age groups of homeless people in Toronto, we can see that the majority of homelessness happens in the age between 25 and 64; in other words, the adult group. They contains 71.8% of the overall homeless in Toronto. People in the age between 25 and 64 are more likely to get addicted to drugs and alcohols which is one of the main reason for homelessness (Fredvictor, 2021). Other reasons for homelessness may include family broke up and lost of jobs. By research, 35% of all homelessness are caused by loss of jobs, and they are more likely to happen on working aged adults than teenagers and seniors (Woolley, 2015). Accidents in life such as divorcing and car accidents are also reasons for adults to be lazy to find a job. These types of accidents may contribute for sudden loss of income or generating extra payments (Woolley, 2015).

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