

Team NHFR

The opioid crisis is increasing in Canada day by day both illegally and through increased non-medical usage. It has become so rampant that many believe that non-medical prescription opioids have become the fourth most prevalent substance abuse after alcohol, cannabis and tobacco.

From our research¹, we found out that within the types of opioids, Fentanyl is a highly potent drug that is commonly used among Canadians. Fentanyl is becoming much more prevalent in the illegal drug market and is increasingly combined with other drugs. It is 50 to 100 times more potent than morphine and is used for treating severe pain after surgeries. It is so bad that it can lead to brain damage, with overuse². Based on Stats Canada's research, from 2015 to 2019, the proportion of deaths involving fentanyl has increased from 29.9% to 76.3% just within Canada. However, according to Public Health Ontario, it was found out that Fentanyl accounts for 73.6% (1156) deaths in 2019 among all the various opioid drugs and has grown from 29.9% in 2015³. Our team wanted to find if the same trends can be seen across in the survey data that was provided to us. We were interested in exploring how drug misuse has any relation with income level and education attainment.

We utilized the Python pandas library to filter out the people within Ontario and then found total non-prescribed drug users within Ontario. We looped through the data frame to filter and categorize parts of the population by the amount of non-prescribed drugs and their education level. We also performed a separate categorization by income level and amount of non-prescribed drugs used. We picked the Ontario dataset particularly because there was a large sample of surveyors from Ontario. This would allow us to create a better observation trend.

Based on the findings from the Canadian dataset, we can see that the Ontario population who fall in the income bracket of making less than \$60,000, or have obtained less than a high school diploma, Trade certificate or University certificate, have the highest amount of non-prescribed drug use. It was also found that Fentanyl was observed as the most used non-prescribed drug for all of the Ontario participants.

With this knowledge, we can speculate if the populace who make less than \$60,000 or have less than a university certificate are more prone to using non-prescribed drugs, particularly Fentanyl. Fentanyl is typically used to alleviate severe and chronic pain, so exploring the data of the health status and the causes of health issues of the participants may help obtain a better understanding of why there is a noticeable divide in the use of drugs in income and education levels.

¹ Belzak, L., & Halverson, J. *The opioid crisis in Canada: A national perspective* (2018, June)

² National Institute on Drug Abuse, *Fentanyl drugfacts* (2021, April 26)

³ *Interactive opioid Tool* (2021, March 2)

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