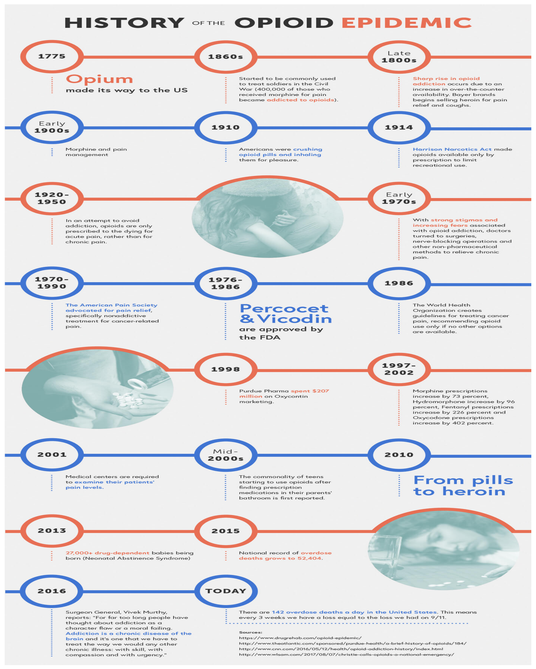
Opioid-Related Harms in Canada

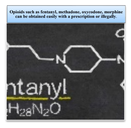
Radwa Anis, Savita Chaudhary, Manik Bajaj, Manjot Kaur

Mohawk College

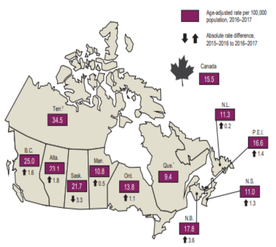
Higher Education Analytics Data Competition 2019

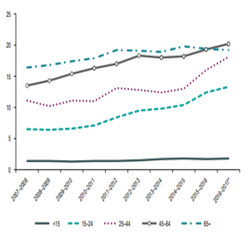
Background



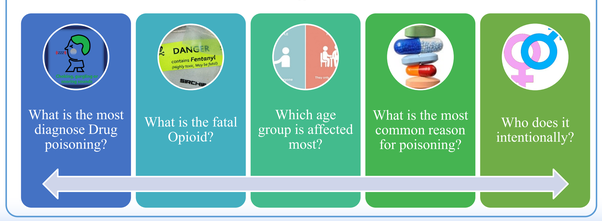


Research Problem

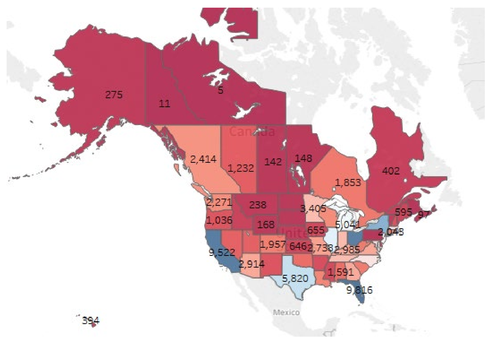




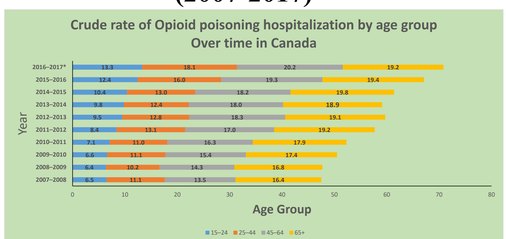
Research Questions

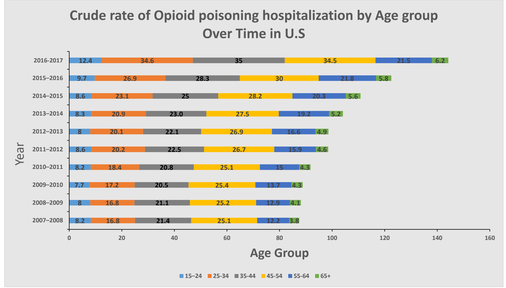


Death Rate by Opioid in North America

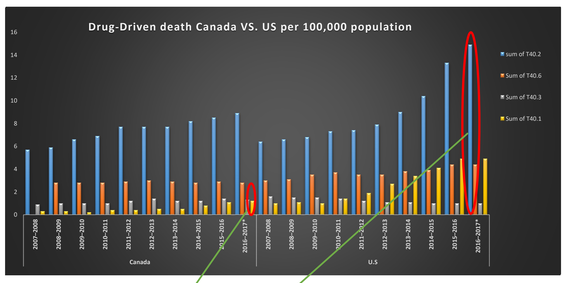


Crude Rate by Age Distribution in Canada VS. US (2007-2017)





Drug-driven Death in Canada Vs. US



T40.2- Other Opioids

- Other opioids 63.18% at home and 54.35% in U.S

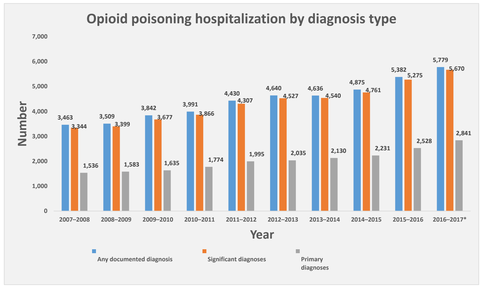
T40.1-Heroin

- Heroin is the high of U.S as it almost 11% more than Canada.

T40.6- Narcotics

T40.3- Methadone

Diagnosis Category

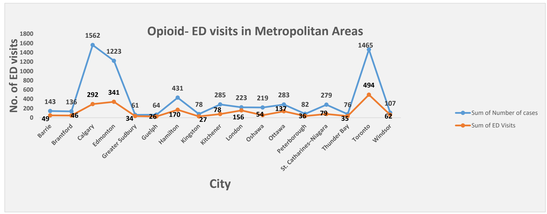


Diagnosis in Ontario VS. Alberta

	Ontario						Alberta					
Reason	2012–2013 in Ontario	2013–2014 in Ontario	2014–2015 in Ontario	2015–2016 in Ontario	2016–2017 in Ontario	Trend line	2012–2013 in Alberta	2013–2014 in Alberta	2014–2015 in Alberta	2015–2016 in Alberta	2016–2017 in Alberta	Trend line
Accidental	1,291	1,257	1,418	1,746	2,425		808	878	1,212	1,833	2,858	
Intentional	977	1,013	1,015	1,098	1,249		440	463	524	637	625	
Unknown	884	893	976	1,002	1,164		218	216	247	348	428	
	3,152	3,163	3,409	3,846	4,838		1,466	1,557	1,983	2,818	3,911	

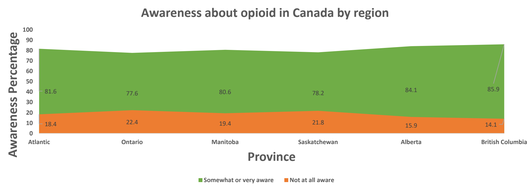
		Ontario					Alberta				
Reason	Sex	2012–2013 in Ontario	2013–2014 in Ontario	2014–2015 in Ontario	2015–2016 in Ontario	2016–2017 in Ontario	2012–2013 in Alberta	2013–2014 in Alberta	2014–2015 in Alberta	2015–2016 in Alberta	2016–2017 in Alberta
Accidental	Female	603	549	607	764	946	397	427	510	728	1,005
	Male	688	708	811	982	1,478	411	451	702	1,105	1,853
Intentional	Female	523	554	545	627	636	264	281	313	347	368
	Male	454	459	470	471	613	176	182	211	290	257
Unknown	Female	417	445	431	472	492	125	107	103	144	149
	Male	467	448	545	530	672	93	109	144	204	279

Opioid-Emergency Department Visits in Metropolitan Cities

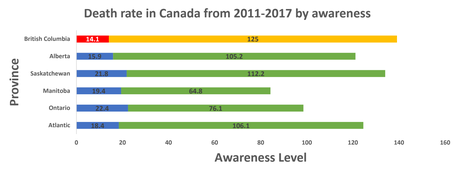


- 23% of opioid poisoning cases are ED visits
- Calgary & Edmonton are the two highest peaks

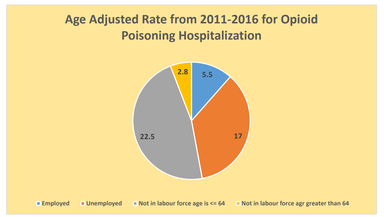
Findings & Justification

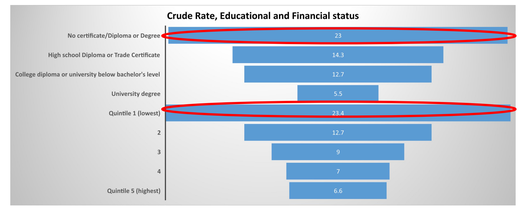


Relationship between Death Rate and Awareness Level



Job Status of Hospitalized Cases





Conclusions

1- The major drug-driven death in Canada and US is Opioid. The rate is almost steadily increasing over years.
2- Alberta records higher diagnosis rate than Ontario, in specific, Edmonton and Calgary.
3- One potential reason is the awareness level on the harms of Opioid consumption. Prior research shows that the death rate increases when the opioid awareness level decreases.
4- A second potential reason is the job status. Research shows that majority of opioid patients are not working, either because labor law-age restriction or they are unemployed.
5- Third potential reason could be linked to the educational status. People with university degree is the smallest group contributing to the Opioid poisoning.
6- Correlation analysis shows that there is a significant positive correlation (95%) between age group and hospitalization time. The higher the age group, the longer the hospitalization required is. The age between 45-64 is the most affected age group.

References

Centers for Disease Control and Prevention
Canadian Institute for Health Information
Government of Canada
http://atsthebridge.org/history-of-the-opioid-epidemic/
https://www.canada.ca/en/health-canada/news/2018/03/budget-2018-funding-for-the-opioids-crisis.html
https://www150.statcan.gc.ca/n1/pub/82-003-x/2018010/article/00002/tbl/tbl02-eng.htm
https://www150.statcan.gc.ca/n1/en/metadata?keywords_terms=drug_addiction
https://www.cdc.gov/nchs/data/databriefs/db329_tables-508.pdf#page=3
https://www.cdc.gov/drugoverdose/data/statedeaths.html
https://www.cihi.ca/en/hospital-stays-in-canada
https://infobase.phac-aspc.gc.ca/datalab/national-surveillance-opioid-mortality.html#AORD%20excel%20data

RESEARCH POSTER PRESENTATION DESIGN © 2015
www.PosterPresentations.com