

Appendix 1: In-depth Epidemiological Analysis

Further, in depth analysis is provided here, which aligns with the request for an emergency declaration (mental health promotion, substance use and addictions).

Mental Health

- A significantly higher proportion of individuals (12 years and older) perceive their mental health to be excellent or very good in Niagara (77.1%) compared to the provincial average (71.1%).
- Significantly more females (21.7%) than males (10.3%) talked to a health professional about their mental health status (Canadian Community Health Survey, 2015/16)
- There are significant levels of inequality in mental health related ED visits by those impacted by residential instability. This inequality is also significantly greater than the provincial average.
- In 2016, the age standardized rate of ED visits related to self-harm in Niagara (217.0 per 100,000) was significantly higher than the provincial average (141.3 per 100,000).
- The highest number of self-harm injury-related hospitalizations occur among individuals 15 to 19 years old.
- Since 2009, females had a significantly higher rates of emergency department visits and hospitalizations related to self-harm injuries.
- The rate of males dying from self-harm is significantly higher than the rate of females dying from self-harm.



Health conditions or diseases associated with mental health with current ranking in overall priority level from community health status assessment.

Health Condition or Disease	Number of Deaths	Potential years of life lost (PYLL)	Emergency Department (ED) visits	Hospitalizations	Total Length of Stay (LOS) during Hospitalization	Quantitative Total Score	Quantitative Rank	Qualitative Rank	Total Rank	Final Overall Priority Score
Intentional self-harm	129	3,304	2,341	634	2,263	79	19.5	1.5	21	10
Accidental poisoning	94	3.136	3.944	435	1,289	81	21	1.5	22.5	11

Substance Misuse and Addictions

Smoking

- A significantly higher proportion of individuals 25 to 44 are current smokers compared to other age groups.
- Individuals 19 to 24 years are significantly more likely to vape than other age groups.
- There are significant levels of inequity in Chronic Obstruction Pulmonary Disease (COPD) hospitalizations in those impacted greatest by the social determinants of health. These patterns of inequality are significantly greater in Niagara compared to Ontario.
- There are significant differences in smoking and vaping rates by municipality, residents of Port Colborne and Thorold are more likely to smoke, residents in Thorold are more likely to vape.
- There are a significantly higher proportion of Niagara students in grades 11 and 12 who have vaped any type of e-cigarette than compared to the provincial average.

Disease of Health Condition	Number of Deaths	Potential years of life lost (PYLL)	Emergency Department (ED) visits	Hospitalizations	Total Length of Stay (LOS) during Hospitalization	Quantitative Rank	Qualitative Rank	Total Rank	Final Overall Priority Score
Ischaemic heart disease	2,035	6,744	3,081	6,348	28,885	1	5	6	1
Lung/bronchus cancer	913	4,846	454	687	5,676	11	5	16	4.5
Cerebrovascular disease	825	1,701	3,433	2,455	21,999	6	10	16	4.5
Chronic lower respiratory diseases	535	1,522	10,717	3,871	23,590	3	14	17	6
Perinatal conditions	23	1,725	457	5,773	30,469	10	10	20	8.5
Colon, rectum and anus cancer	411	2,040	156	935	9,153	13.5	14	27.5	13

Disease of Health Condition	Number of Deaths	Potential years of life lost (PYLL)	Emergency Department (ED) visits	Hospitalizations	Total Length of Stay (LOS) during Hospitalization	Quantitative Rank	Qualitative Rank	Total Rank	Final Overall Priority Score
Congenital malformations	49	1,820	207	843	5,233	23	5	28	14
Heart failure, complications and ill-defined heart disease	210	477	4,354	3,704	31,461	9	20.5	29.5	15
Pregnancy, childbirth and the puerperium	-	-	7,469	11,825	24,358	12	20.5	32.5	18
Lymph, blood and related cancers	341	1,626	273	692	10,164	18	20.5	38.5	22
Pancreatic cancer	276	1,426	133	159	1,601	25	20.5	45.5	26

Alcohol

- 43% of adults in Niagara exceed the low-risk alcohol drinking guideline for chronic disease or injury.
- Over 65% of students used alcohol in some frequency in 2019.
- Rates of alcohol related ED visits are high across all age groups until the age of 65 and older.
- The rate of alcohol related hospital admittance increases with age
- Among adults, males are more likely to be regular drinkers and heavy drinkers
- Males are more likely to visit the ED and be hospitalized for alcohol related health conditions.
- A significantly lower proportion of individuals with less than a high school diploma are considered regular drinkers over those who graduated high school.
- There are significant levels of inequality in alcohol-attributable hospitalizations by those facing increased levels of maternal deprivation and residential instability.
- There is a significantly higher proportion of secondary school students in Niagara who have drank alcohol in the past 12 months when compared to the provincial average.
- Age standardized ED visits entirely attributable to alcohol was significantly higher in Niagara compared to the provincial average.

Health conditions or diseases associated with alcohol use with current ranking in overall priority level from community.

Health Condition or Disease	Number of Deaths	Potential years of life lost (PYLL)	Emergency Department (ED) visits	Hospitalizations	Total Length of Stay (LOS) during Hospitalization	Quantitative Total Score	Quantitative Rank	Qualitative Rank	Total Rank	Final Overall Priority Score
Cerebrovascular disease	825	1,701	3,433	2,455	21,999	49	6	10	16	4.5
Cirrhosis and other liver diseases	227	2,748	724	732	7,306	71	15	5	20	8.5
Intentional self-harm	129	3,304	2,341	634	2,263	79	19.5	1.5	21	10
Accidental poisoning	94	3,136	3,944	435	1,289	81	21	1.5	22.5	11
Colon, rectum and anus cancer	411	2,040	156	935	9,153	68	13.5	14	27.5	13

Health Condition or Disease	Number of Deaths	Potential years of life lost (PYLL)	Emergency Department (ED) visits	Hospitalizations	Total Length of Stay (LOS) during Hospitalization	Quantitative Total Score	Quantitative Rank	Qualitative Rank	Total Rank	Final Overall Priority Score
Congenital malformations	49	1,820	207	843	5,233	88	23	5	28	14
Transport accidents	53	1,502	10,947	747	5,784	76	17	16	33	19
Breast cancer	310	2,524	96	320	993	91	24	14	38	21
Pancreatic cancer	276	1,426	133	159	1,601	100	25	20.5	45.5	26

Cannabis

- Individual in 19 to 24 years and 25 to 29 years were significantly more likely to report using cannabis in the past 30 days compared to all other age groups.
- The proportion of school students using cannabis increases with grade level.
- The highest rate of cannabis-related ED visits is among 15 to 19 year olds and declines by age group thereafter.
- Males are more likely to visit the ED for cannabis related health conditions.
- Use of cannabis is highest among individuals without a high school diploma and significantly decreases as educational attainment increased.
- Residents of St. Catharines are more likely to use cannabis than other municipalities.
- A significantly higher proportion of students in grades 9 and 10 in Niagara used cannabis than the provincial average.
- Age Standardized ED visits for all cannabis-related harms was significantly higher than the provincial average, but age standardized hospitalizations were significantly lower.

Health conditions or diseases associated with cannabis use with current ranking in overall priority level from community health status assessment.

Health Condition or Disease	Number of Deaths	Potential years of life lost (PYLL)	Emergency Department (ED) visits	Hospitalizations	Total Length of Stay (LOS) during Hospitalization	Quantitative Total Score	Quantitative Rank	Qualitative Rank	Total Rank	Final Overall Priority Score
Cerebrovascular disease	825	1,701	3,433	2,455	21,999	49	6	10	16	4.5
Chronic lower respiratory diseases	535	1,522	10,717	3,871	23,590	41	3	14	17	6
Intentional self-harm	129	3,304	2,341	634	2,263	79	19.5	1.5	21	10
Accidental poisoning	94	3,136	3,944	435	1,289	81	21	1.5	22.5	11
Transport accidents	53	1,502	10,947	747	5,784	76	17	16	33	19

Opioids

- Males are more likely to visit the ED for a health condition related to opioids.
- Rates of opioid related ED visits are significantly higher in Niagara (151.3 per 100,000) than the provincial average (63.4 per 100,000).
- Opioid related ED visits and hospitalizations are increasing in Niagara.
- The rate of individuals prescribed opioids was higher in Niagara than the provincial average in 2016, 2017 and 2018.



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Health conditions or diseases associated with opioid use with current ranking in overall priority level from community health status assessment.

Health Condition or Disease	Number of Deaths	Potential years of life lost (PYLL)	Emergency Department (ED) visits	Hospitalizations	Total Length of Stay (LOS) during Hospitalization	Quantitative Total Score	Quantitative Rank	Qualitative Rank	Total Rank	Final Overall Priority Score
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