

# Rural-Urban Differences in Suicide Mortality: An Observational Study in NL

## Objective

To examine the demography, circumstances of death, and social and clinical characteristics of people who died by suicide in rural compared to urban areas.

## Practice Points

1. The suicide rate in Canada declined by 24% between 1981 and 2017.
2. In Canada and other high income countries, suicide mortality varies geographically, with higher rates in rural areas compared to cities, especially among males.
3. Historically, NL has had one of the lowest suicide rates in the country.
4. The suicide rate in NL has increased steadily over the past four decades, and is two times higher in rural communities compared to urban areas.
5. Risk factors for suicide among rural populations include social isolation, limited access to mental health services, and increased access to highly lethal means such as firearms.

## Methods (PIs: Nathaniel J. Pollock\*)

1. An observational study of all suicide deaths (N=972) among residents of NL between 1997 and 2016 was conducted.
2. The Suicide Database, developed by NLCHI, was the primary data source for the study.
3. Data were derived from a comprehensive review of provincial medical examiner records and included variables on demography, circumstances of death, and social and clinical characteristics.
4. Rural/urban status was determined by postal code. This was available in 919 (95%) decedents. Urban included St. John's Metro area, Gander, Grand Falls-Windsor, and Corner Brook; all other communities were defined as rural.

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## Results

- 81% of people who died by suicide were male (n= 746) and 51% (n=504) were from rural areas.

- The mean age was 41.3 in rural vs 44.2 in urban.
- Mean blood alcohol content at the time of death was significantly higher among people from rural areas compared to urban (28 vs. 23 mmol/L).

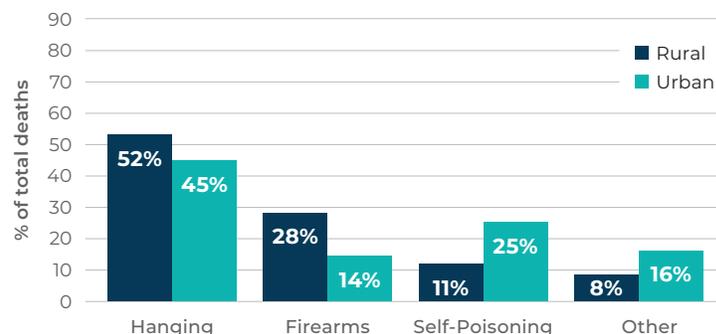


Figure 1. Suicide Deaths by Rural/Urban Status and Method, 1997–2016

- The method of suicide was by hanging in nearly half of cases, proportionately more used firearms in rural areas, and more used self-poisoning in urban areas.

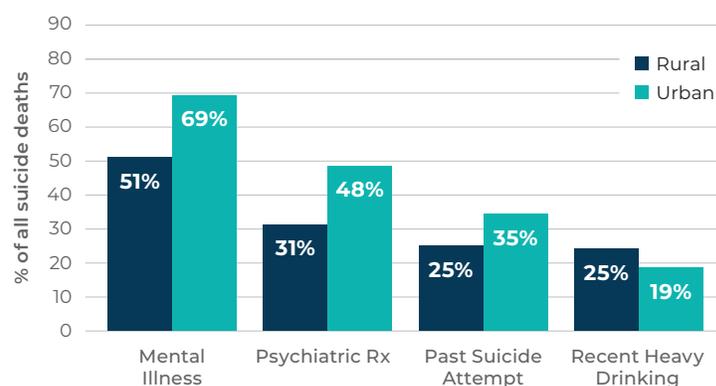


Figure 2. Suicide Deaths by Rural/Urban Status and Select Clinical Characteristics, 1997–2016

- Suicide was associated less with mental illness in rural areas than in urban areas.

## Conclusions

1. Compared to urban decedents, rural people who died by suicide in NL were younger, more likely to have used firearms, and less likely to have a prior suicide attempt or diagnosed mental illness.
2. The differences between rural and urban people who died by suicide underscores the need for approaches to suicide prevention that are tailored for each context.