

Opioid toxicity deaths among persons who experienced incarceration in Ontario provincial correctional facilities, 2015-2020: Summary of findings

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Key findings & significance

- **Over 26%** of persons who died from opioid toxicity between 2015 and 2020 in Ontario experienced incarceration in a provincial correctional facility between 2015 and 2020.
- **1.7% of persons who experienced incarceration between 2015 and 2020 died from opioid toxicity between 2015 and 2020**, either while incarcerated or after release.
- Persons who experienced any incarceration between 2015 and 2020 were at much higher risk of opioid toxicity death than others in the general population: **women had 78 times higher risk and men had 28 times higher risk** after adjusting for age.
- The **risk of death increased substantially** between 2015 and 2020, both for those with any incarceration between 2015 and 2020 and for those incarcerated in the past year.
- We need to urgently develop **targeted interventions and policy solutions** to support health and reduce opioid toxicity death for people who experience incarceration.

Study overview

The research team conducted a data linkage study. We used name, date of birth, and sex to link data from the Ministry of the Solicitor General for all persons who were incarcerated in Ontario provincial correctional facilities between 2015 and 2020 with data from the Office of the Chief Coroner for all persons who died from opioid toxicity between 2015 and 2020.

Study findings

How many persons died from opioid toxicity and how many of them had a history of incarceration between 2015 and 2020?

A total of 8,460 people died from opioid toxicity in Ontario between 2015 and 2020. Of those, 2,207 were incarcerated for at least one day between 2015 and 2020. Therefore, 26% of the people who died from opioid toxicity had a history of incarceration during this six-year period.

There were a total of 129,152 people incarcerated for any period between 2015 and 2020, and 1.7% of them died from opioid toxicity during that period either while in custody or post-release.

Figure 1. Persons who died from opioid toxicity in Ontario, N=8,460, by incarceration status 2015-2020



What is the risk of death from opioid toxicity? Does risk differ by sex?

Of those who experienced incarceration between 2015 and 2020, 1,860 men and 347 women died from opioid toxicity. Women were at higher risk of death (51 per 10,000 person years¹) compared to men (43 per 10,000 person years).

Table 1

Opioid toxicity death rates per 10,000 person years 2015-2020, by sex and incarceration status 2015-2020

| Men | | Women | |
|-------------------|------------------|-------------------|------------------|
| Any incarceration | No incarceration | Any incarceration | No incarceration |
| 42.5 | 1.3 | 50.7 | 0.6 |

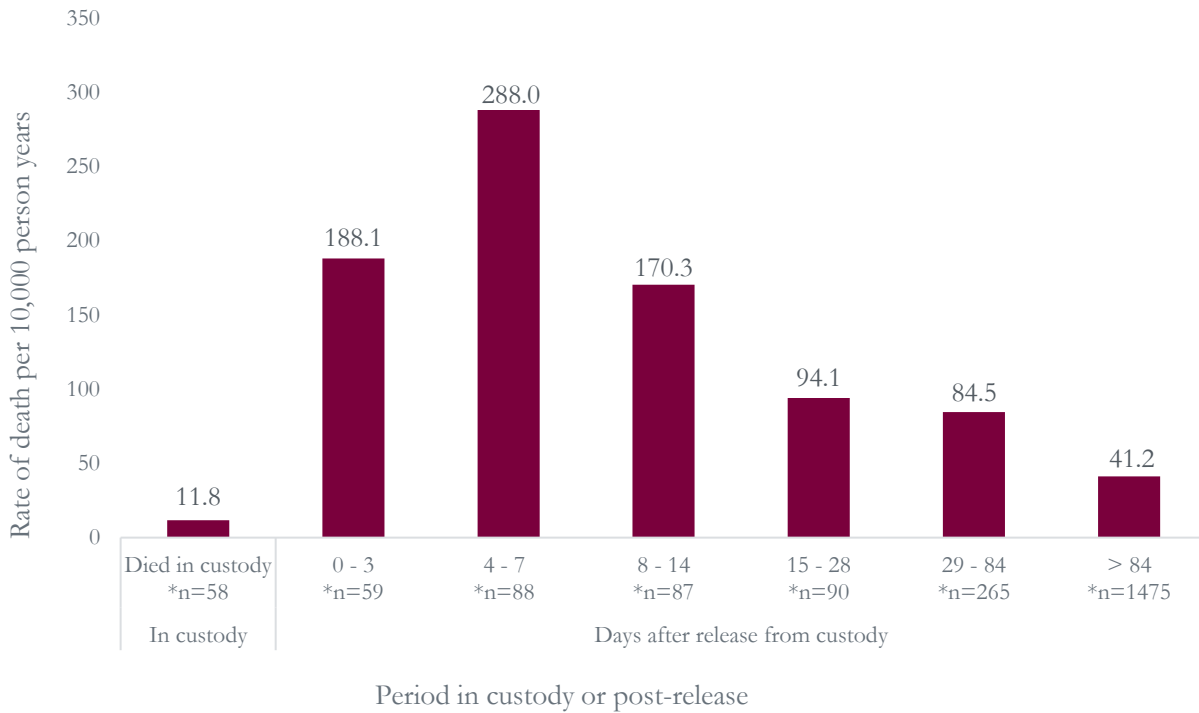
Compared to other women and men in the general population, respectively, and adjusted for age, women who experienced incarceration were 78 times more likely to die from opioid toxicity and men who experienced incarceration were 28 times more likely to die from opioid toxicity.

¹ Person years is a research measurement that accounts for the number of people in a study and the amount of time each person spends in the study. A study that follows 10,000 people for one year would contain 10,000 person years.

When were people most likely to die from opioid toxicity?

The highest risk period for opioid toxicity death was in the first week after release from custody. Specifically, the highest rate of death occurred during days 4-7 after release (288 deaths per 10,000 person years). Of all those who died from opioid toxicity, most people (N=1,475, 67%) died more than three months after release. Fifty-eight people died from opioid toxicity while in custody.

Figure 2. Death rates (deaths per 10,000 person years) and number of deaths from opioid toxicity by time period in custody and post-release



How have the number of deaths and rates of death from opioid toxicity changed over time?

The number of people who experienced incarceration and died from opioid toxicity increased by year from 2015 to 2020, both for all people who experienced incarceration between 2015 and 2020 and for those released in the past year. The mortality rate within 30 days of release similarly increased over the study period.

Figure 3. Number of deaths per year from 2015-2020, total and within one year of release from custody

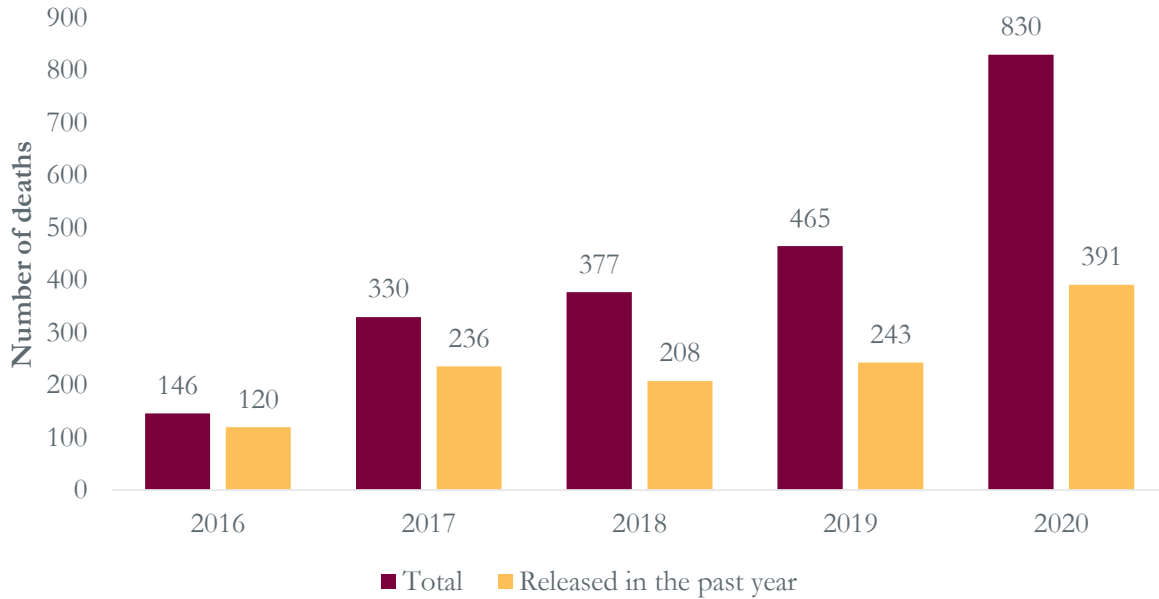


Figure 4. Death rates within 30 days of release from custody (per 10,000 person years) by calendar quarter

