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Opioid-Related Toxicity Deaths within Ontario Shelters

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Public Health Ontario | Santé publique Ontario

IC/ES Data Discovery Better Health

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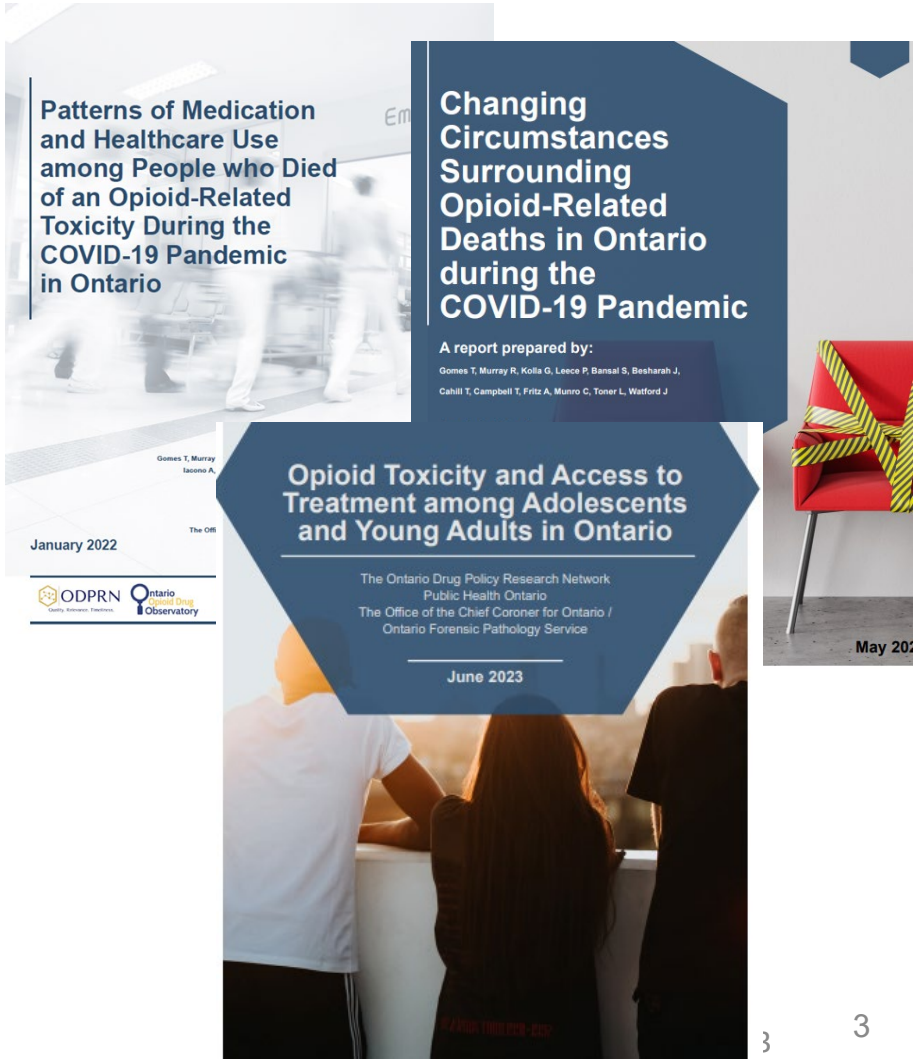
Who we are

- The Ontario Drug Policy Research Network (ODPRN) is a province-wide network of researchers who provide timely, high quality, drug policy relevant research to decision makers.
- We have been releasing reports regularly throughout the pandemic with different focuses to inform responses to substance toxicities In Ontario.



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Background

- Previous report indicated that the number of opioid toxicity deaths within shelter and supportive housing settings more than doubled **(from 20 to 46 deaths)** in the first 9 months of the COVID-19 pandemic.
- Impacts of COVID-19-related disruptions on shelters:
  - displacement of residents due to physical distancing measures
  - decreased staff support
  - potential changes in overdose response
  - reduced harm reduction services for shelter residents
- Identified need to better understand the circumstances surrounding deaths to improve evidence-based responses.

Methods

Study Design: Descriptive cross-sectional study

Study Period

- **Pre-pandemic:** Jan 1, 2018 - March 16, 2020
- **Pandemic:** March 17, 2020 - May 31, 2022

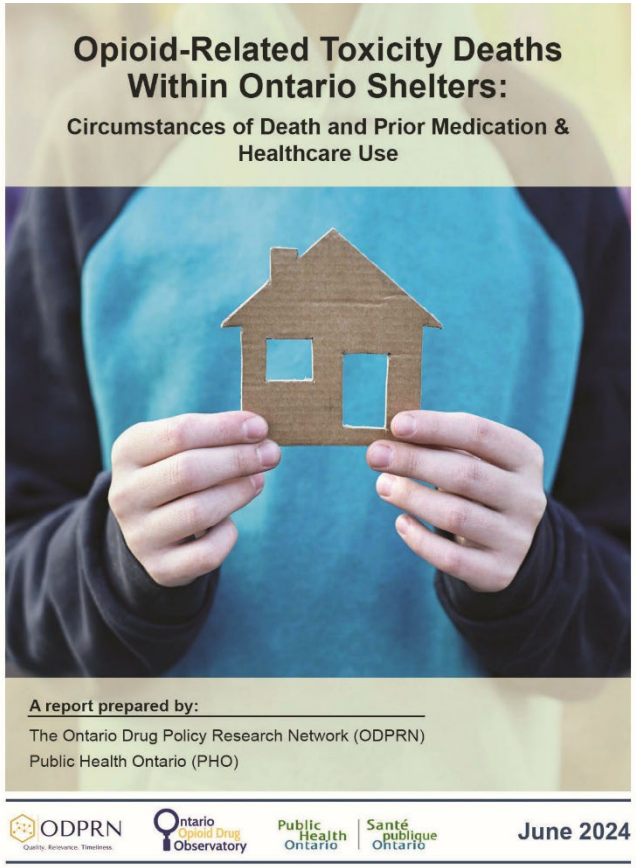
Study Population

- People who died of an accidental opioid-related toxicity **where the overdose event occurred at an Ontario shelter** (excluding hotels used as shelters during the pandemic). **Note: death could occur elsewhere (i.e. in hospital)*

Data Sources:

- Health administrative databases at **ICES** (pharmacy data, hospital and physician data)
- Coroner's records

Measures



- **Quarterly trends in deaths**
- **Demographic characteristics**
- **Circumstances surrounding deaths**
  - e.g., likely mode of drug use, individual present to intervene, naloxone administration, resuscitation attempts
- **Role of pharmaceutical and non-pharmaceutical opioids**
- **Interactions with the healthcare system**

Trends in opioid-related toxicity deaths **within shelters and hotels**

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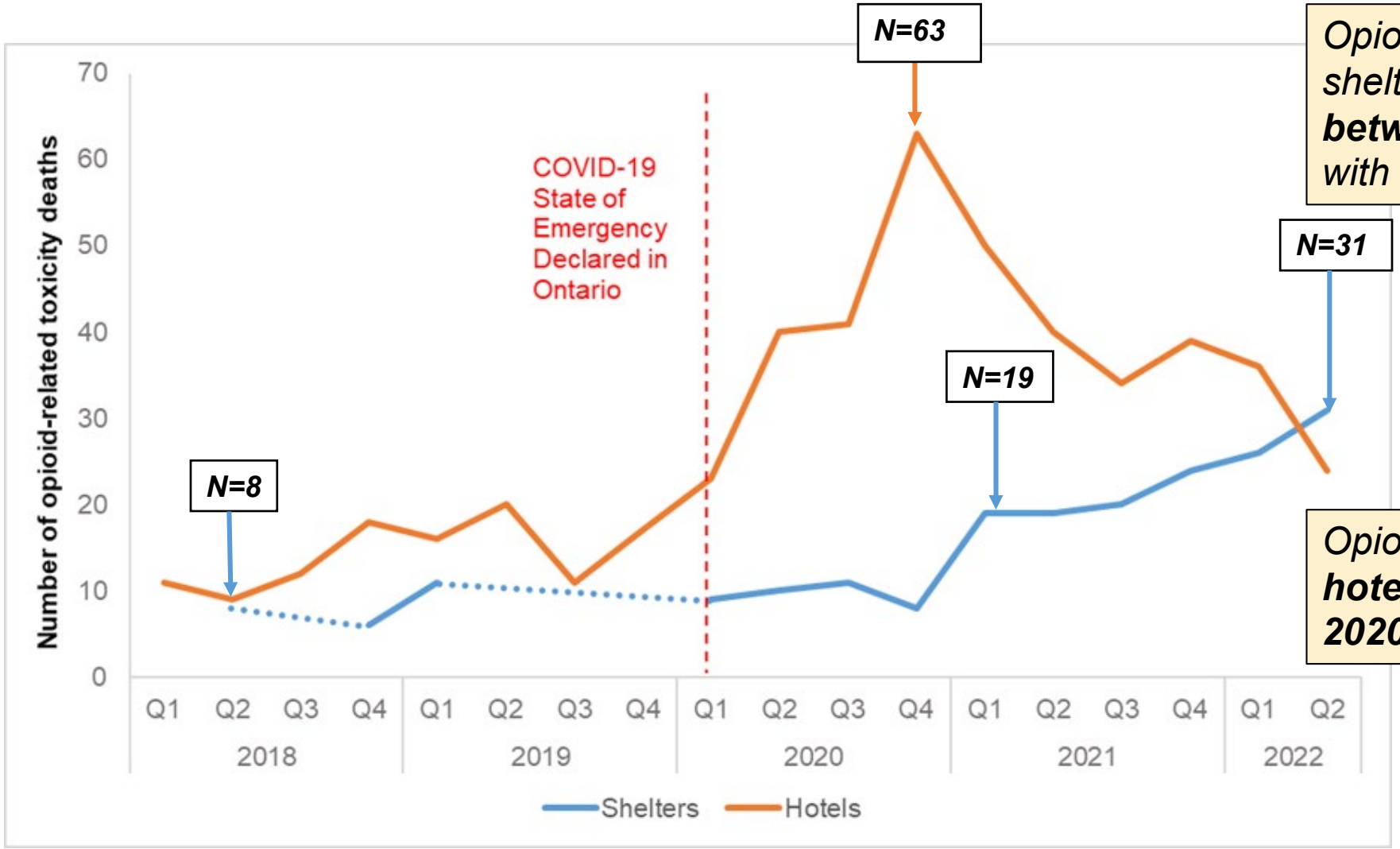

*Opioid-related deaths within shelters nearly **quadrupled between Q2 2018 and Q2 2022,** with **increase starting in 2021.***

*Opioid-related deaths in **hotels/motels peaked in late 2020**, falling thereafter.*

Number of opioid toxicity deaths in the pre-pandemic and pandemic periods

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We restricted the remainder of our analyses to deaths occurring **within traditional shelters (i.e. not in hotel/motels)** and stratified our cohort into two time periods of equal length; **a pre-pandemic period and a pandemic period.**

Pre-Pandemic Period
Jan 1, 2018 - March 16, 2020
(N=48)

Pandemic Period
March 17, 2020 - May 31, 2022
(N=162)

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Increasingly **potent supply**

- **1 in 20** deaths involved **pharmaceutical opioids only** during the pandemic—a significant decrease from the pre-pandemic period (14.6% vs 5.6%).
- **Fentanyl** (and its analogues) **directly contributed** to **majority of deaths** which increased during the pandemic (consistent with province-wide findings).

	Pre-Pandemic Period (N=48)	Pandemic Period (N=162)	Stat. Sig.
Non-pharmaceutical opioids			
Fentanyl and fentanyl analogues	41 (85.4%)	153 (94.4%)	*
Heroin	≤5 (≤10.4%)	≤5 (≤3.1%)	*
Opioids indicated for pain			
Any	6 (12.5%)	18 (11.1%)	
Hydromorphone	≤5 (≤10.4%)	10 (6.2%)	
Morphine	≤5 (≤10.4%)	11 (6.8%)	
Other	≤5 (≤10.4%)	≤5 (≤3.1%)	*
Opioid agonist treatment (OAT)			
Methadone	≤5 (≤10.4%)	15 (9.3%)	
Buprenorphine	0 (0.0%)	0 (0.0%)	

- Categories are not mutually exclusive. Some deaths were attributed to multi-drug toxicity where more than one substance can contribute to an individual death.
- Red asterisk (*) indicates statistically significant (stat. sig) difference between pre-pandemic and pandemic periods ($p<0.05$).

Increasingly **unpredictable supply and polysubstance use**

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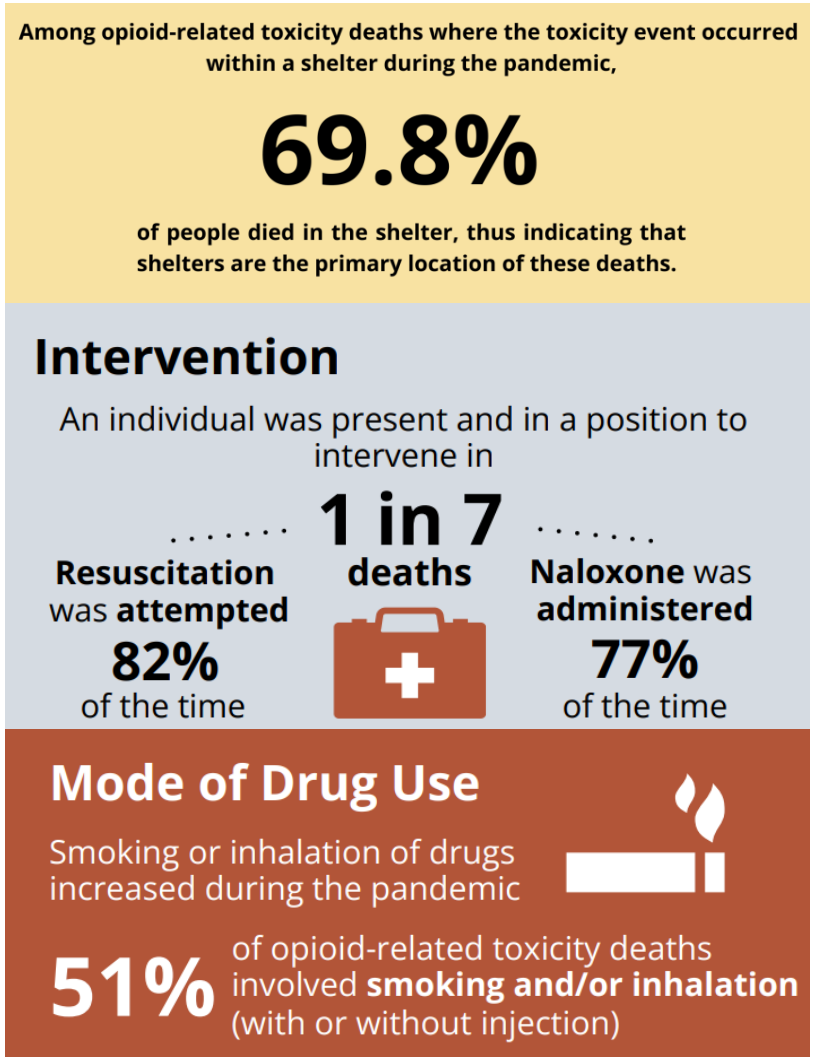
- **Rising stimulant involvement** as a direct contributor and **increasing benzodiazepine detection** in deaths during the pandemic (consistent with province wide findings).
- **Increased methamphetamine involvement** as a direct contributor during the pandemic (47.8%)—**much higher than in the broader Ontario population (26.7%).**

	Pre-Pandemic Period (N=48)	Pandemic Period (N=162)	Stat. Sig.
Other substances that directly contributed to opioid-related toxicity death			
Alcohol	10 (20.8%)	25 (15.4%)	
Stimulants	21 (43.8%)	115 (71.0%)	*
Cocaine	12 (25.0%)	64 (39.5%)	
Methamphetamines	14 (29.2%)	77 (47.5%)	*
Benzodiazepines	≤5 (≤10.4%)	11 (6.8%)	
Other substances detected in opioid-related toxicity death			
Benzodiazepines	13 (27.1%)	92 (56.8%)	*

- Categories are not mutually exclusive. Some deaths were attributed to multi-drug toxicity where more than one substance can contribute to an individual death.
- Red asterisk (*) indicates statistically significant (stat. sig) difference between pre-pandemic and pandemic periods ($p<0.05$).

Changing **patterns of substance use and opportunities for intervention** within shelters



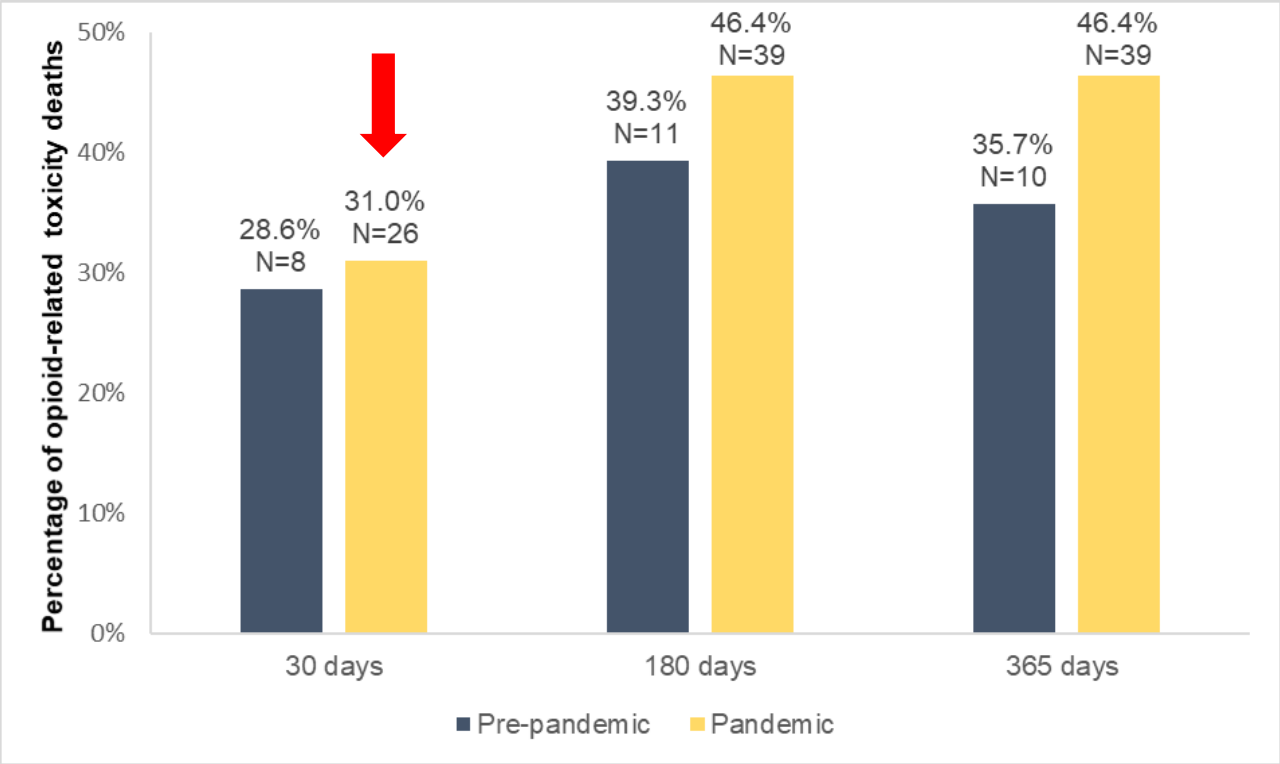
- Among opioid-related deaths where overdose occurred in shelter, **69.8% of people died in the shelter.**
- There was an **individual present and in position to intervene** in 13.6% of deaths → much lower than provincially (27%)
- **Naloxone administration rose significantly** during the pandemic (≤62.5% vs 77.3%)
- **Change in the distribution of the likely mode of drug** during the pandemic with a shift away from injection only, towards inhalation (consistent with province-wide trends).

Role of the broader **healthcare system**

Diagnosis or treatment of OUD and **recent receipt of OAT**

- **More than half** of deaths occurred among people who **had a diagnosis of OUD** in the five years prior to death—consistent both before and during the pandemic **(59.6% vs 53.5%; p=0.46)**.
- **1 in 3 people with an OUD** were **dispensed OAT** in the month before death

Prior receipt of OAT† among those with an OUD



- †OAT includes methadone, buprenorphine containing products and/or slow-release oral morphine (SROM).

Recent healthcare encounters prior to opioid-related death

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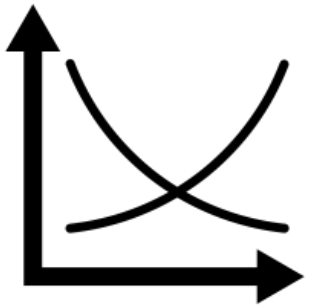
- **Close to half of people had a healthcare interaction (outpatient physician and/or hospital settings)** in the week before death → higher than in the general Ontario population (24.2%)
- **1 in 5 people** had an **ED visit in the week before death** during the pandemic.

	Pre-Pandemic Period (N=47)	Pandemic Period (N=157)
Any health care encounters† (prior 7 days)	22 (46.8%)	69 (43.9%)
Any outpatient physician visit	11 (23.4%)	46 (29.3%)
ED visits	16 (34.0%)	39 (24.8%)
Inpatient hospitalization (acute)	0 (0.0%)	≤5 (≤3.2%)
ED visits or hospitalizations for opioid-toxicity (prior 7 days)	7 (14.9%)	13 (8.3%)

- None of the comparisons between the pre-pandemic and pandemic periods were statistically significant.
- Any healthcare encounter includes outpatient visits (including primary care), emergency department visits, or hospital admissions.
- †Excluding any inpatient hospitalization or ED visit that resulted in an opioid-related toxicity death.

Discussion

Disproportionate impact of the pandemic on opioid toxicity deaths within shelters and hotels



Deaths driven by unregulated supply, and increasingly methamphetamines and benzodiazepines. Implications for overdose response within shelters

Policies (current and historical) can influence harm.

Discussion

Opportunities to integrate harm reduction services and support for access to treatment within shelters.

Frequent healthcare interactions as an opportunity for engagement and support

Discussion

The important role of staff:

1) Positive signals (i.e. high rate of resuscitation attempts)
2) Challenges when relying on temporary agency staff
3) Support for staff regularly responding to overdoses

The need for upstream policies