

Healthcare Utilization and Clinical Comorbidities among People Who Died of a Substance-Related Toxicity Death in Ontario

January 9, 2025

Who we are

- The Ontario Drug Policy Research Network (ODPRN) is a network of researchers dedicated to producing evidence relevant to drug policy across the province.
- We work closely with community organizations and people who use drugs to develop public reports to inform responses to substance toxicity crisis in Ontario.



Before we begin

Project Origins

Alcohol and drug toxicities continue to be a significant public health concern leading to enormous loss of life both in Canada and globally

Funding



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Lead Organizations

Public Health Ontario | Santé publique Ontario



ODPRN

Quality. Relevance. Timeliness.

Data Support

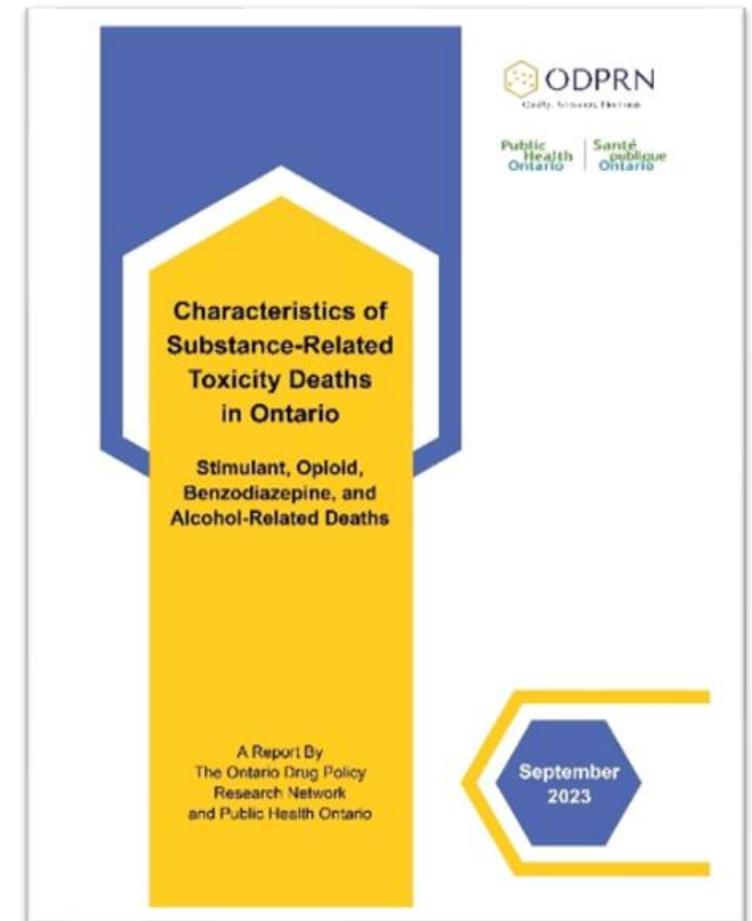


Opportunity: Leverage newly available data to better understand context of substance related harms and engagement in the healthcare system in Ontario, Canada through a **series of 3 reports**

First Report

September 2023

- Rising trends in toxicity deaths attributable to alcohol, benzodiazepines, opioids, and stimulants
- The increasing role of polysubstance use
- Characteristics surrounding death, and variability in these circumstances across different substance combinations

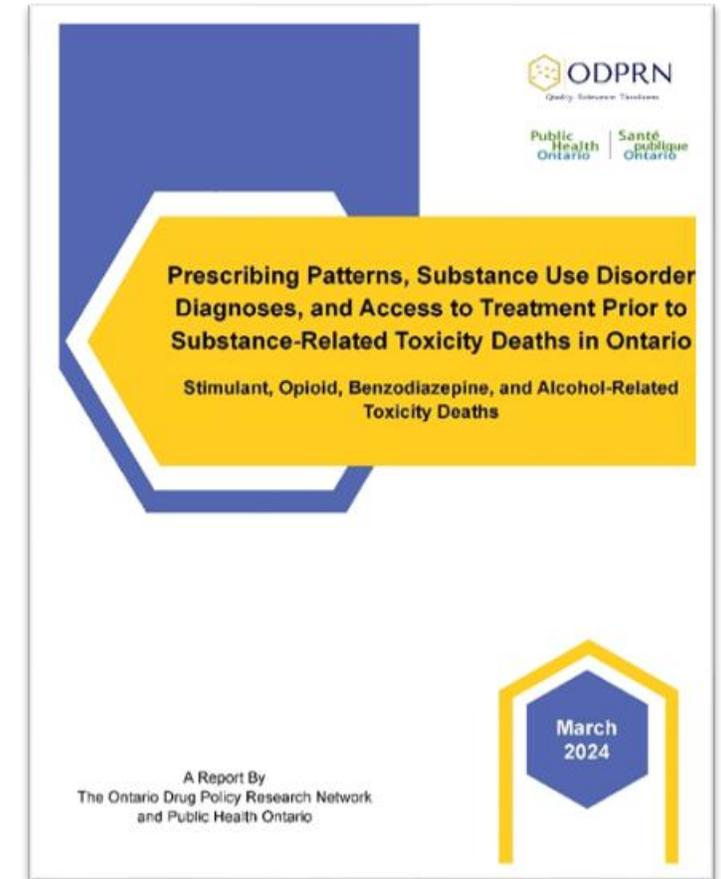


Gomes, T., Leece, P., Iacono, A., Yang, J., Kolla, G., Cheng, C., Ledlie, S., Bouck, Z., Boyd, R., Bozinoff, N., Campbell, T., Doucette, T., Franklyn, M., Newcombe, P., Pinkerton, S., Schneider, E., Shearer, D., Singh, S., Smoke, A., Wu, F. (2023). Deaths caused by alcohol, stimulant, opioid, and benzodiazepine toxicity in Ontario.

Second Report

March 2024

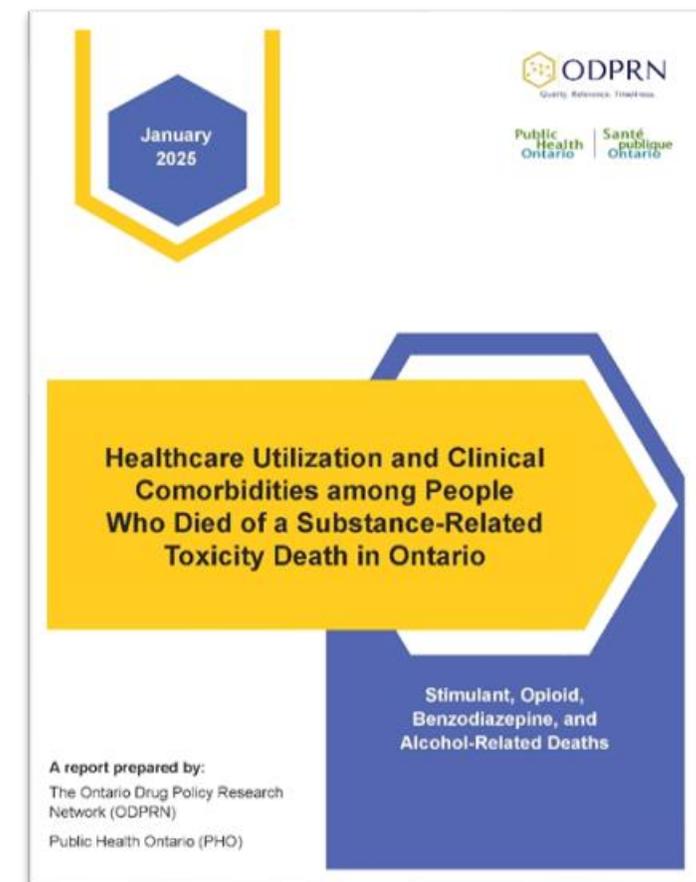
- 1 in 5 were treated for a non-fatal substance-related toxicities in the year prior to death
- Two-thirds of people had a previous substance use disorder diagnosis
- Access to treatment(s) prior to death among those with a substance use disorder (SUD) was low



Third Report

Released Today

- All-cause healthcare encounters (including emergency department [ED] visits, hospitalizations, and outpatient visits)
- Mental health diagnoses, and
- Health conditions preceding substance-related toxicity deaths



Holton A., Gomes T., Leece P., Yang J., Hamzat B., Ledlie S., Boyd R., Bozinoff N., Doucette T., Franklyn M., Kolla G., Newcombe P., Pinkerton S., Regehr T., Schneider E., Shearer D., Singh S., Smoke A., Wynne W. (2024). Prescribing patterns, substance use disorder diagnoses and access to treatment prior to substance-related toxicity deaths in Ontario.

Methods

Study Population

People who died from an alcohol, stimulant, benzodiazepine, or opioid toxicity in Ontario, Canada from January 1, 2018 to December 31, 2022.*



* We defined a substance-related death as an acute toxicity death that was accidental and resulted from the direct contribution of the consumed substance, regardless of how the substance was obtained.

Data Sources

Linked health data, including:

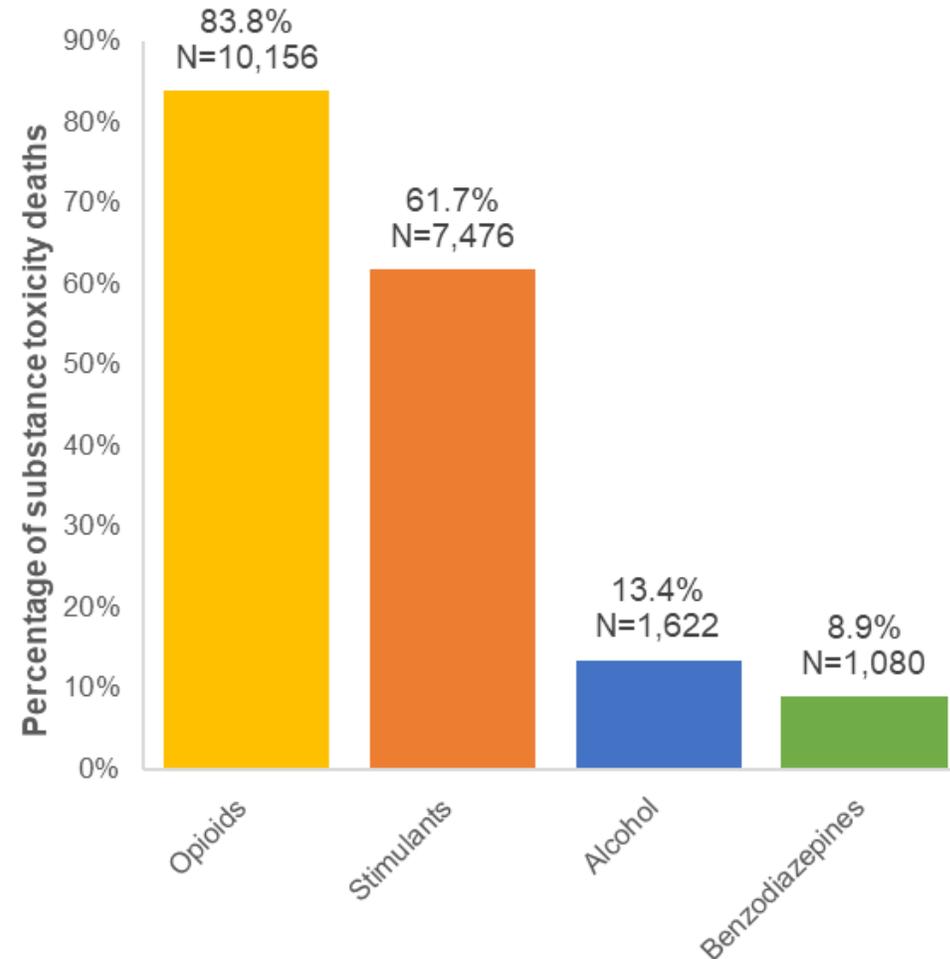
- Demographic information
- Healthcare encounters
- Coronial records for confirmed deaths from alcohol, stimulant, benzodiazepine, or opioid toxicity



Substance Toxicity Deaths in Ontario

 **12,115** 
Accidental substance toxicity
deaths from 2018 to 2022

68% INCREASE in the
number of deaths from
2018 to 2022
4.5 ← **8**
deaths/day deaths/day



Rising Number of Substances Involved

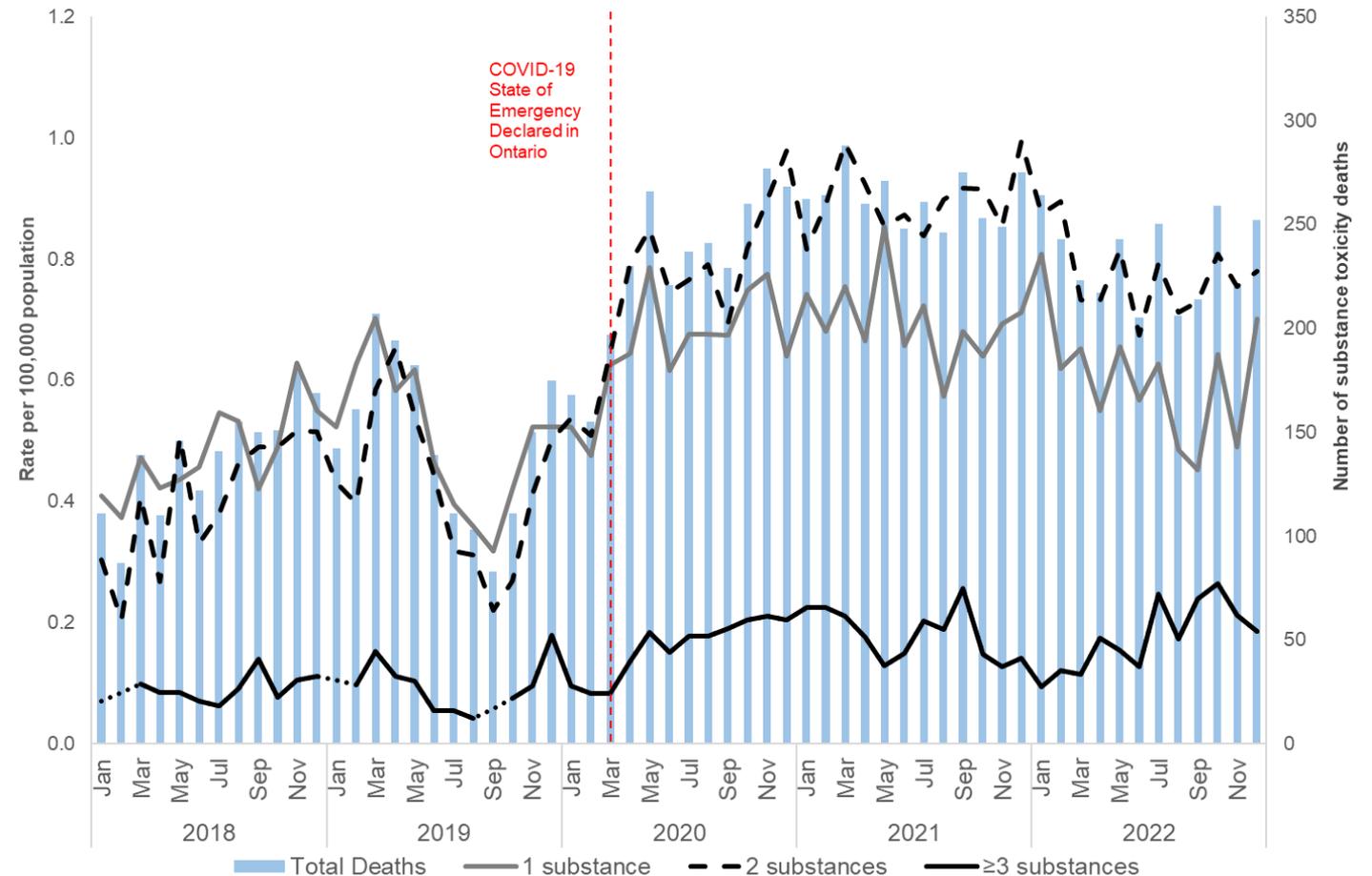
Deaths involving
1 substance
increased
↑ **75%**

Deaths involving
2 substances
increased
↑ **167%**

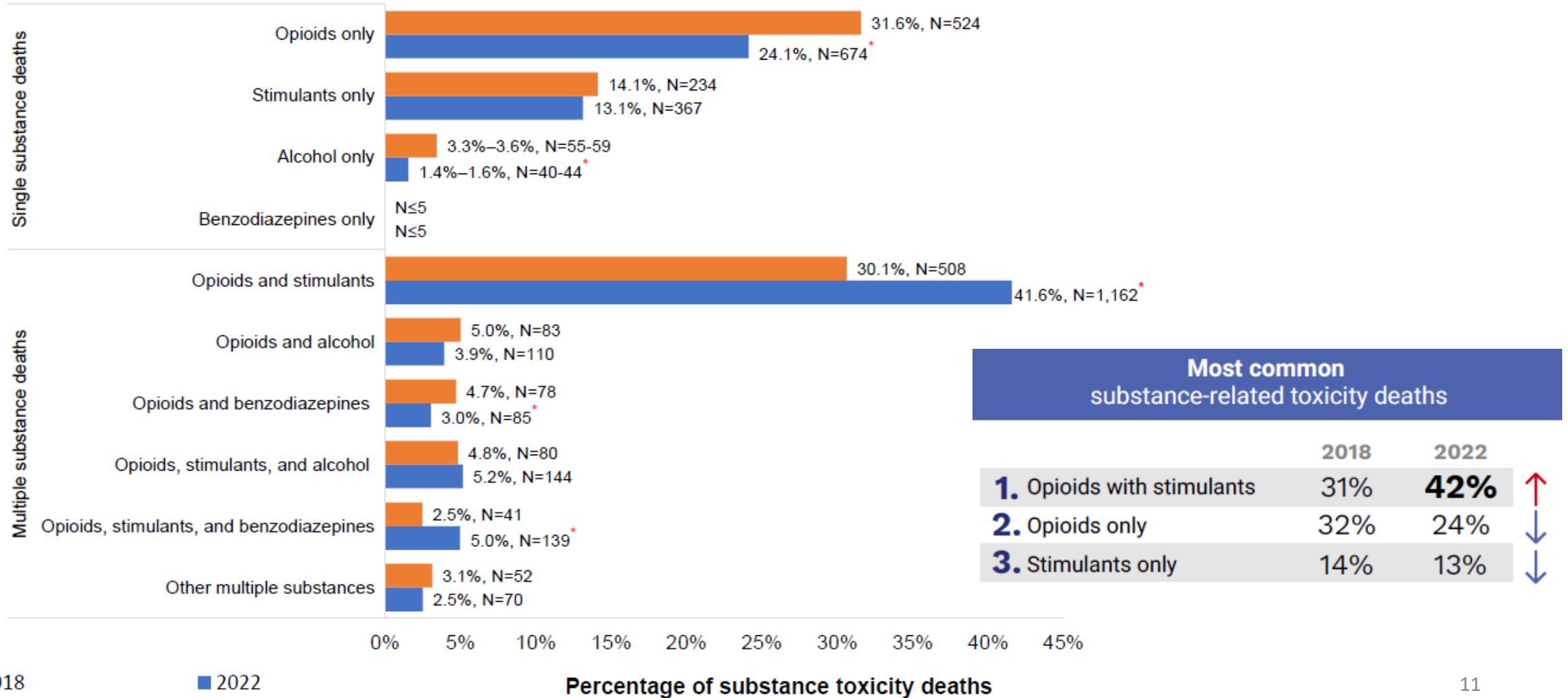
Deaths involving
3+ substances
increased
↑ **186%**

In 2022:
50% of deaths involved 2 substances
11% involved 3+ substances

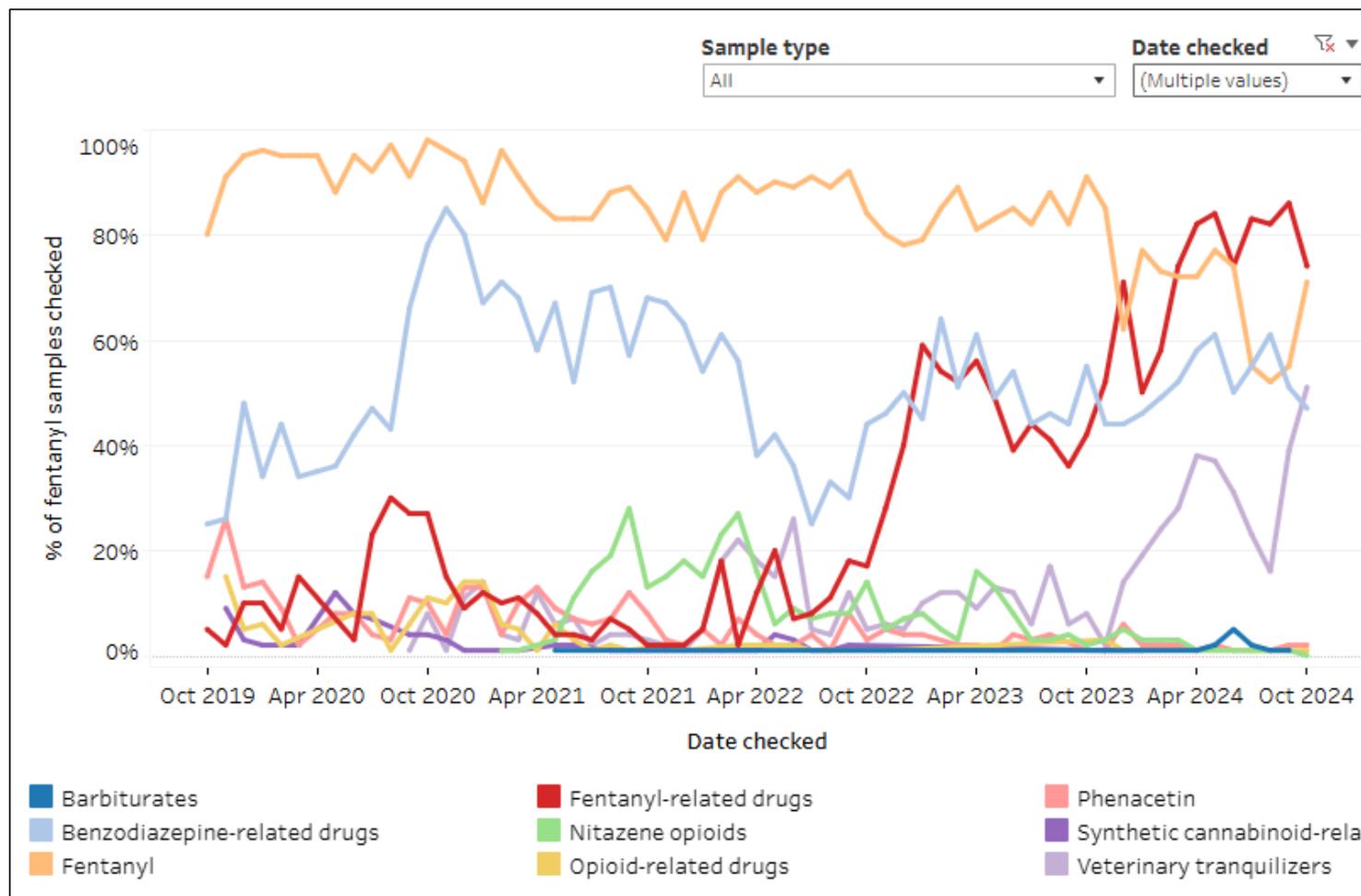
Toxicity death rates (per 100,000 population) stratified by number of substances directly involved



Most Common Combinations of Substances



Most Common Combinations of Substances: Toronto Drug Checking



Clinical Complexity

Diagnoses in the last 5 years



87% had a **mental health** diagnosis

64% had a **mood or anxiety** disorder

59% had a **substance use** disorder



Over

HALF

Had diagnoses in
Emergency
Departments or
during
Hospitalizations



More than **1 in 50** were recently hospitalized for a serious infection

And over **1 in 10** were diagnosed with HIV and/or Hepatitis C

Hospital Encounters in Week before Toxicity Death

Healthcare Encounters (week before death)	Substance-related toxicity deaths	
	2018 (N=1,581)	2022 (N=2,672)
Any healthcare encounter	514 (32.5%)	778 (29.1%)
Outpatient visits	369 (23.3%)	520 (19.5%)
<i>Primary care outpatient visit</i>	164 (10.4%)	228 (8.5%)
Hospital encounters	238 (15.1%)	384 (14.4%)
<i>ED visit</i>	230 (14.5%)	369 (13.8%)
<i>ED self-directed discharge</i>	15 (6.5%)	53 (14.4%)
<i>Inpatient hospitalization (acute)</i>	26 (1.6%)	46 (1.7%)
<i>Inpatient self-directed discharge</i>	7 (26.9%)	13 (28.3%)
<i>Mental health hospitalization</i>	13 (0.8%)	23 (0.9%)
Hospital visits for non-fatal substance toxicity	64 (4.0%)	105 (3.9%)

Healthcare Encounters Declined

- Mainly driven by fewer primary care visits
- Still, **1 in 3** people had a healthcare encounter in the week before death

Inpatient Admissions and ED Visits Remained Unchanged

Leaving Hospitals Before Medically Advised in the week before death



1 in 10
people visiting the **emergency department (ED)**
left before medically advised



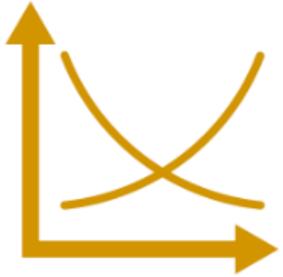

1 in 4
people **admitted to the hospital**
left before medically advised



1 in 7
had contact in a **hospital setting**

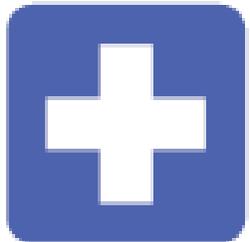
2X INCREASE in people leaving ED before medically advised from 2018 to 2022

What does this mean?



Deaths driven by unregulated supply, and increasingly multiple substances (primarily opioids + stimulants +/- benzodiazepines)

Implications for overdose response broadly



Frequent healthcare interactions are an opportunity for engagement and support that is often missed

Improvements needed in:

- Access to primary care
- Services and specialized care in hospitals (AMCS, RAAM, Harm Reduction Services)

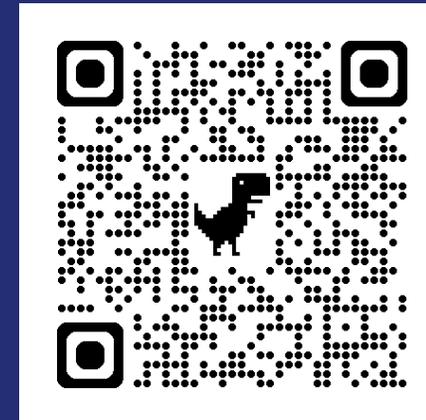
Acknowledgements

Authors

Bisola Hamzat (Ontario Drug Policy Research Network, ODPRN)
Tara Gomes (ODPRN)
Pamela Leece (Public Health Ontario, PHO)
Joanna Yang (ODPRN)
Tianru Wang (ODPRN)
Shaleesa Ledlie (ODPRN)
Ria Garg (ODPRN)
Rob Boyd
Nikki Bozinoff
Michael Franklyn
Gillian Kolla
Tasha-Dawn Doucette
Ashley Smoke
Paul Newcombe
Tom Regehr
Emily Schneider (ODPRN)
Dana Shearer (ODPRN)
Samantha Singh (ODPRN)

Access the Report Series Here:

<https://odprn.ca/substance-toxicity-deaths-reports/>



Community Response and Lived Experience
