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Patterns of Medication and Healthcare Use Among People who Died of an Opioid-Related Toxicity During the COVID-19 Pandemic in Ontario

PHO Rounds
January 18, 2022

We wish to acknowledge all families, friends and loved ones of those who were lost to an opioid-related death in Ontario.

We would like to recognize that embedded within the data of this report are stories of loss for countless Ontarians who are grieving these losses during the isolation that accompanies the ongoing pandemic.

This report cannot adequately reflect the burden borne by loved ones across the province.

Disclosures

- None of the presenters at this session have received financial support or in-kind support from a commercial sponsor.
- The presenters have potential conflicts of interest to declare.

Presenter Disclosures

Nature of relationship(s)	Name of for-profit or not-for-profit organization(s)	Description of relationship(s)
Tara Gomes		
Any direct financial payments including receipt of honoraria	Indigenous Services Canada	Stipend for membership on DTAC Committee
Funded grants or clinical trials	Ontario Ministry of Health	Funding for research program support.
Gillian Kolla		
Any direct financial payments including receipt of honoraria	London Intercommunity Health Centre; Parkdale Queen West Community Health Centre; The Neighbourhood Group; The Working Centre	External consultant - Program evaluation
	Dr. Peter Centre & CATIE	Stipend for developing staff training activities
Funded grants or clinical trials	Canadian Institutes of Health Research & Canadian Network on Hepatitis C	Postdoctoral fellowship funding
Jes Besharah		
Any direct financial payments including receipt of honoraria	CATC CCSA MHCC CAMH	Patient Advisor Lived Experience Advisor Anti-stigma Campaign Knowledge Translation
Funded grants or clinical trials	Health Canada	Funding for Peer Program

Mitigating Potential Bias

This presentation was peer-reviewed to ensure that principles of scientific integrity, objectivity and balance have been respected.

Background

Previous report:

Compared circumstances of deaths **prior to, and during the COVID-19 Pandemic**

- Drug Involvement
- Employment
- Residence
- Focus on people experiencing homelessness

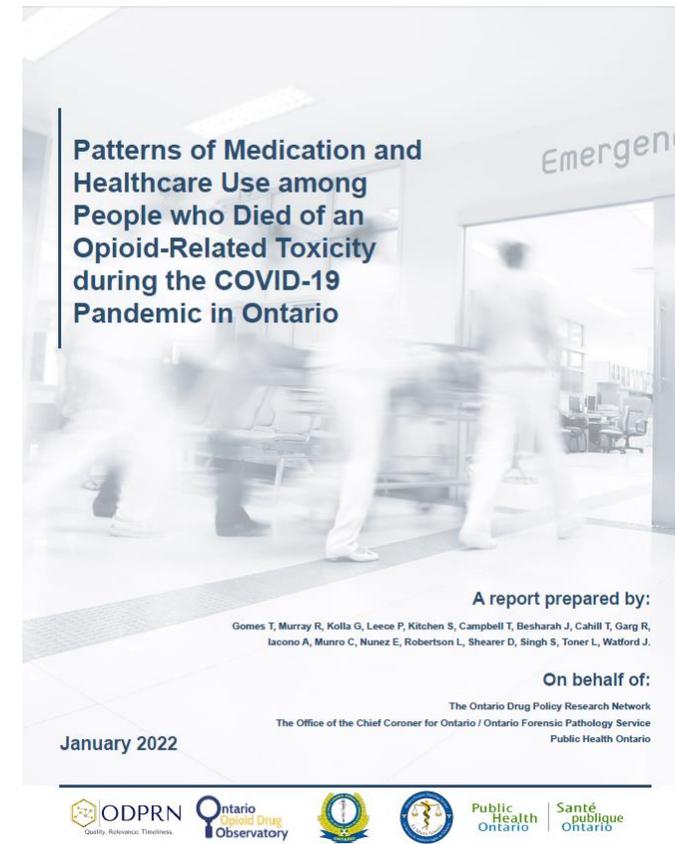


Gomes T, Murray R, Kolla G, Leece P, Bansal S, Besharah J, Cahill T, Campbell T, Fritz A, Munro C, Toner L, Watford J on behalf of the Ontario Drug Policy Research Network, Office of the Chief Coroner for Ontario and Ontario Agency for Health Protection and Promotion (Public Health Ontario). Changing circumstances surrounding opioid-related deaths in Ontario during the COVID-19 pandemic. Toronto, ON: Ontario Drug Policy Research Network; 2021

Gaps in knowledge

Expanded Analyses to understand:

- Role of pharmaceutical and non-pharmaceutical opioids
- Barriers to accessing healthcare and missed opportunities for supporting PWUD
- Clinical Diagnoses



Gomes T, Murray R, Kolla G, Leece P, Kitchen S, Campbell T, Besharah J, Cahill T, Garg R, Iacono A, Munro C, Nunez E, Robertson L, Shearer D, Singh S, Toner L, Watford J. on behalf of the Ontario Drug Policy Research Network, Office of the Chief Coroner for Ontario and Ontario Agency for Health Protection and Promotion (Public Health Ontario). Patterns of medication and healthcare use among people who died of an opioid-related toxicity during the COVID-19 pandemic in Ontario. Toronto, ON: Ontario Drug Policy Research Network; 2022.

Methods



Pre-Pandemic Period
March 17, 2019 - December 31, 2019
(N=1,017)



Pandemic Period
March 17, 2020 - December 31, 2020
(N=1,808)

Study Population

People who died of an opioid-related toxicity in Ontario



Data Sources

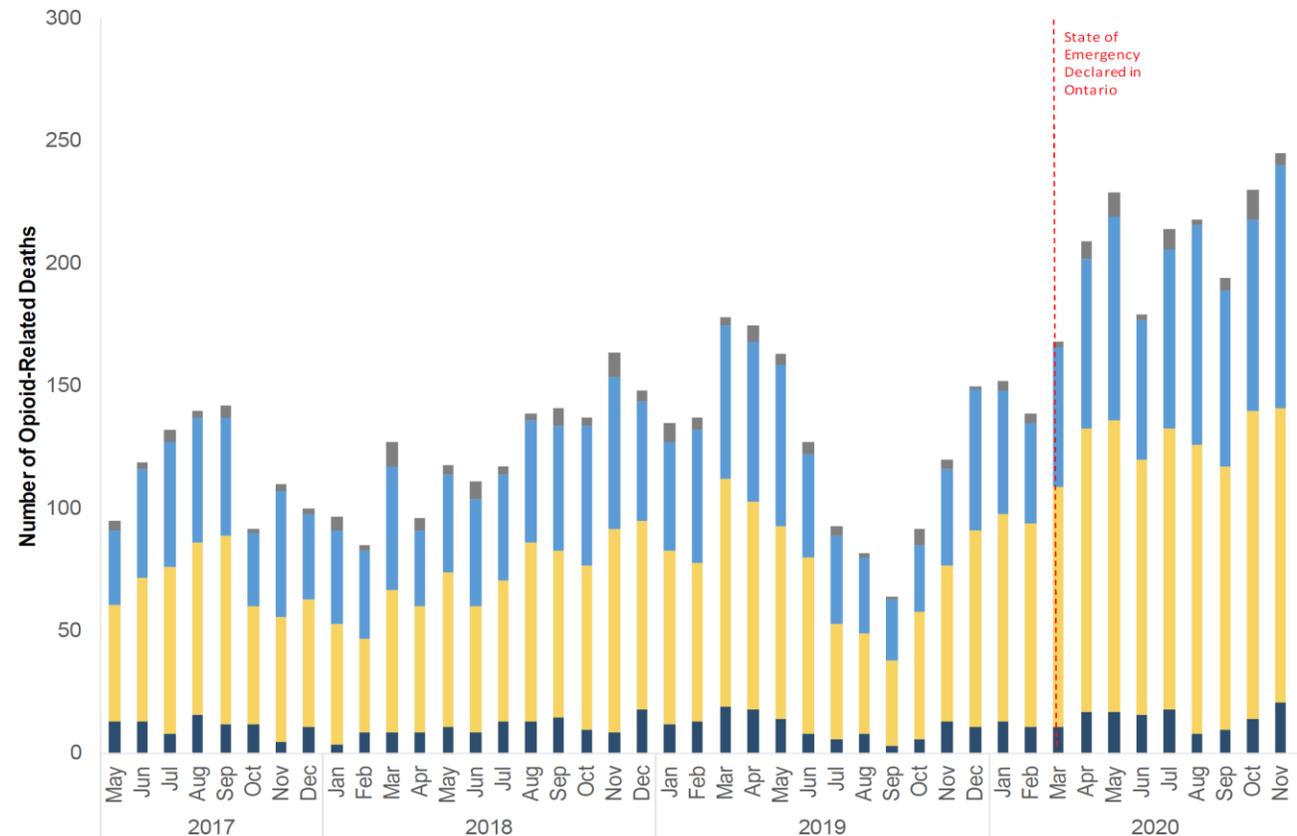
Linked health data, including:

- Prescription opioid dispensing (pain and OAT)
- Physician services
- ED Visits
- Acute inpatient hospital stays
- Mental health-related hospitalizations



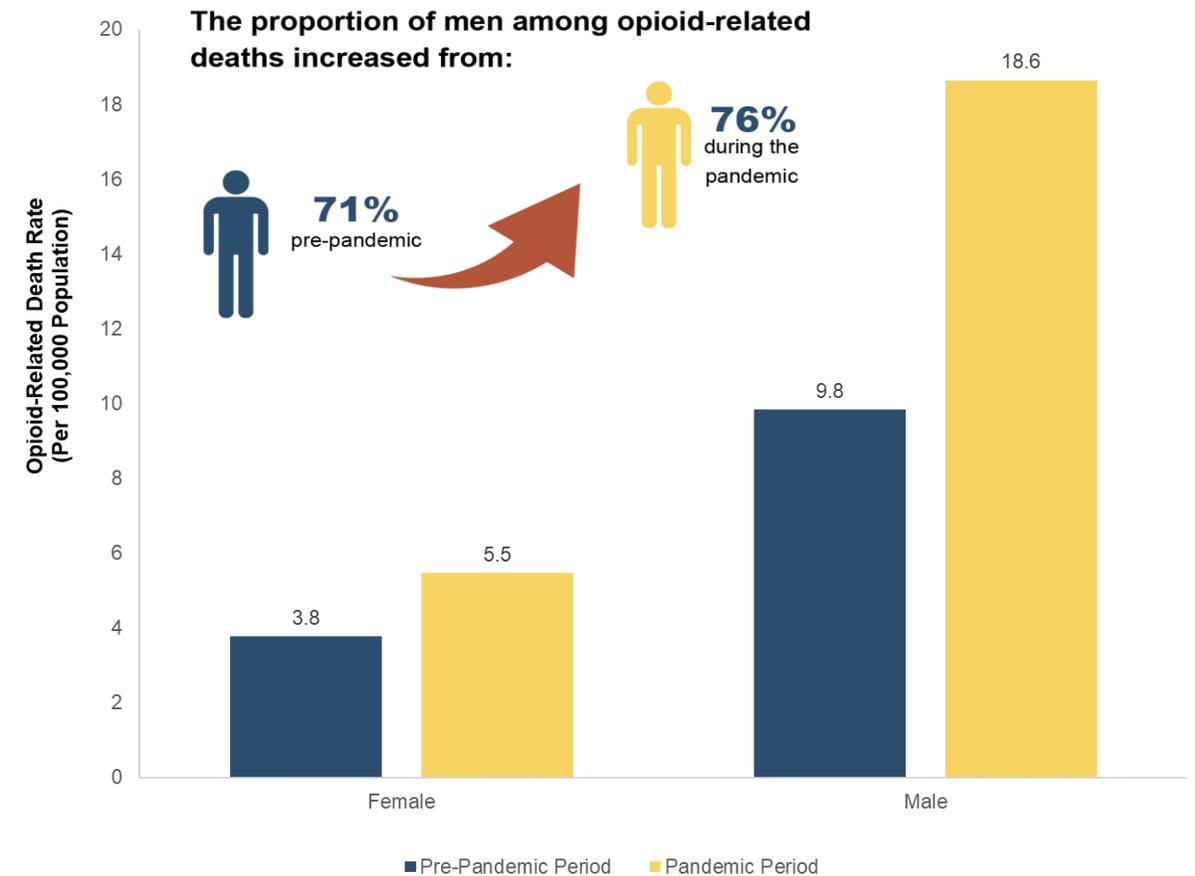
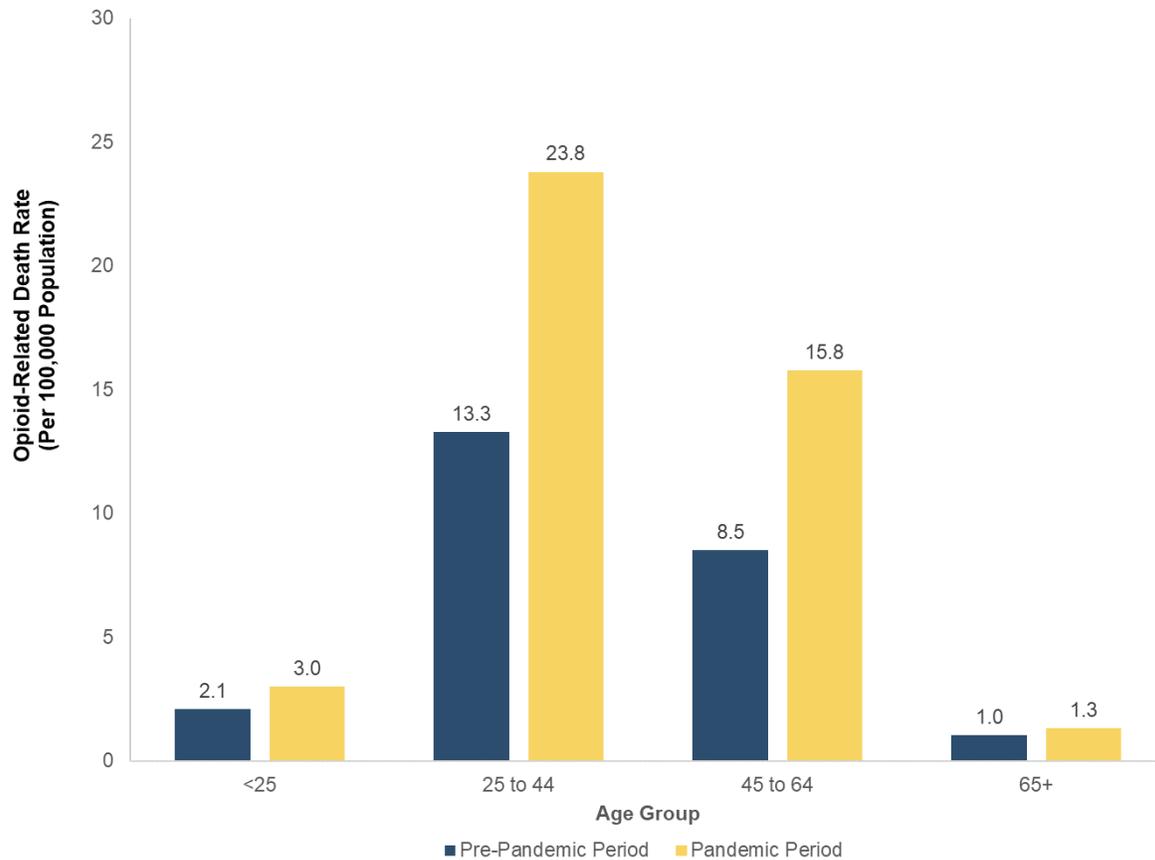
Data
Discovery
Better Health

Trends in Opioid-Related Deaths



There was a **79% increase** in monthly opioid-related deaths in 2020, from **139 deaths in February 2020** to **249 deaths in December 2020**.

Rates of opioid toxicity deaths have doubled among 25-64 year olds and among men during the pandemic



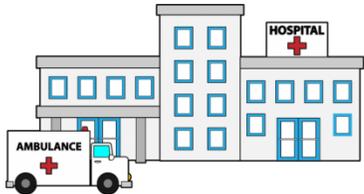
Effective Response Needs to Incorporate



Where geographically in Ontario are deaths occurring?

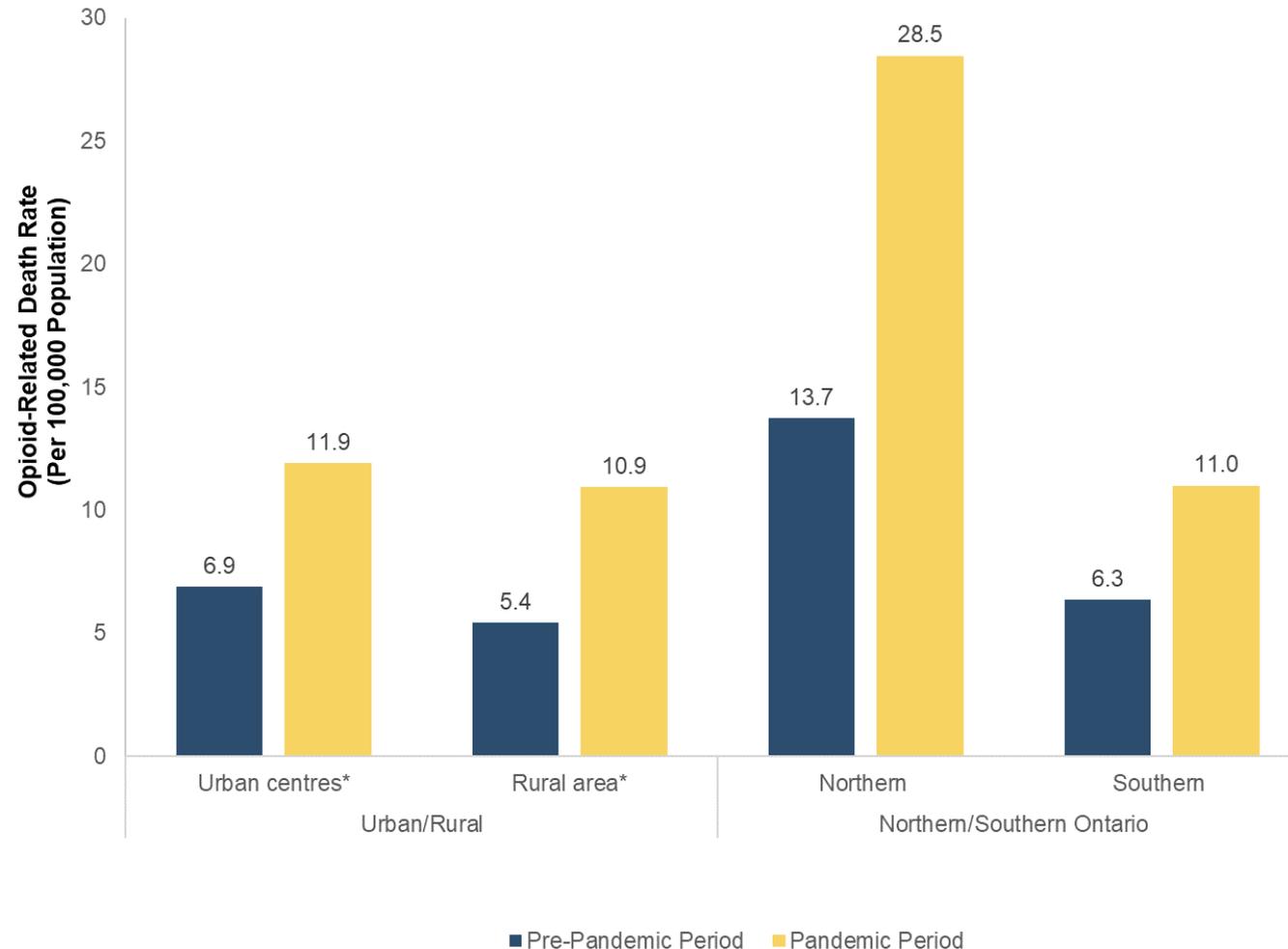


What types of services are needed?



What settings should we be providing services in?

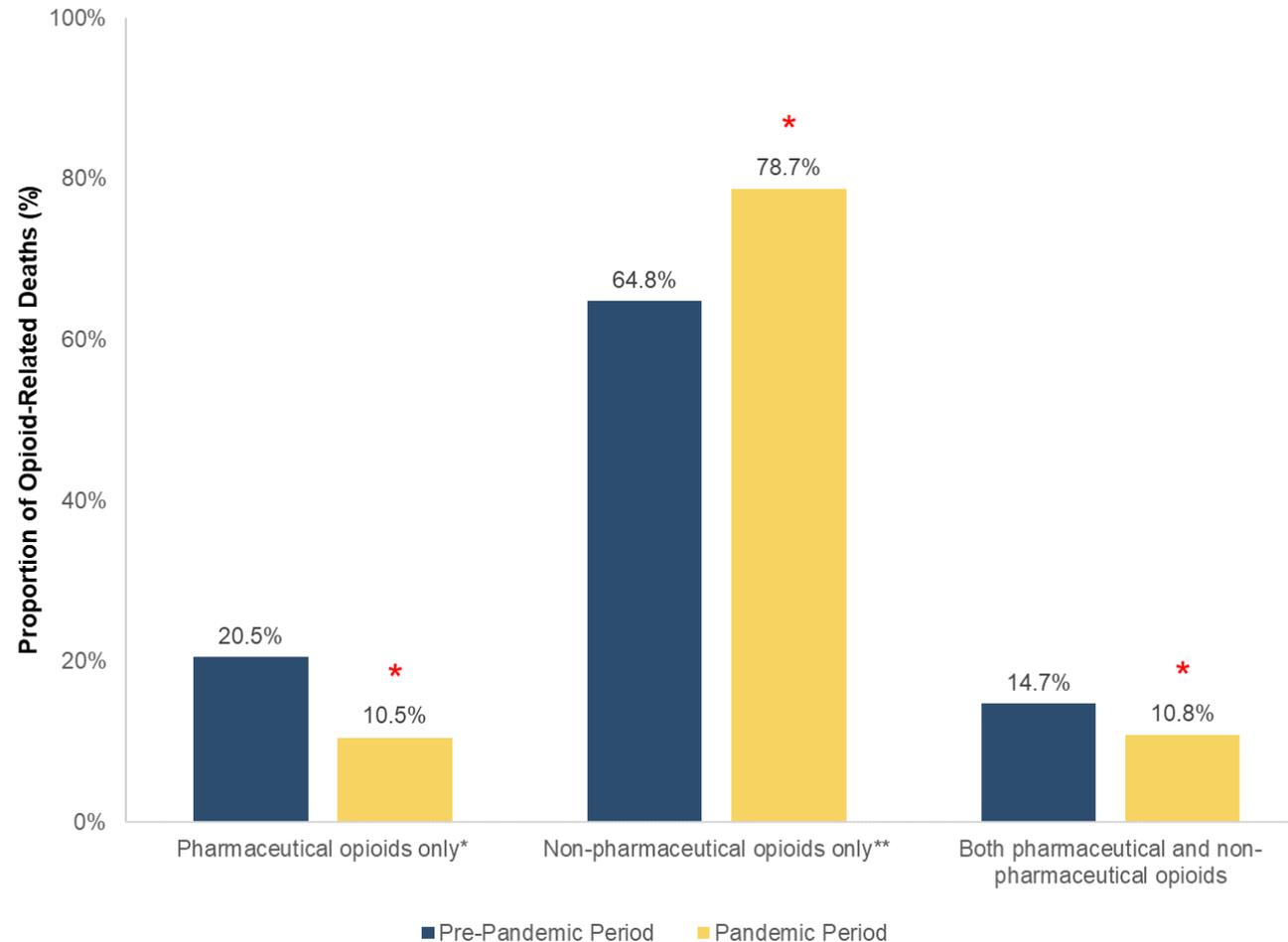
Opioid toxicity death rates similar in rural and urban parts of province, and much higher in Northern Ontario



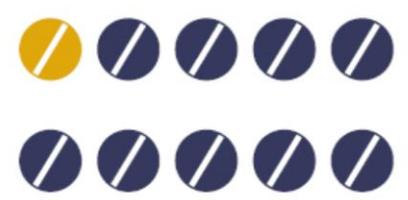
What types of services are needed?

Disentangling the Roles of Different Drugs to the Ongoing Crisis

With ~80% of opioid-related deaths involving only non-pharmaceutical opioids



1 in 10
deaths involved
solely
pharmaceutical
opioids

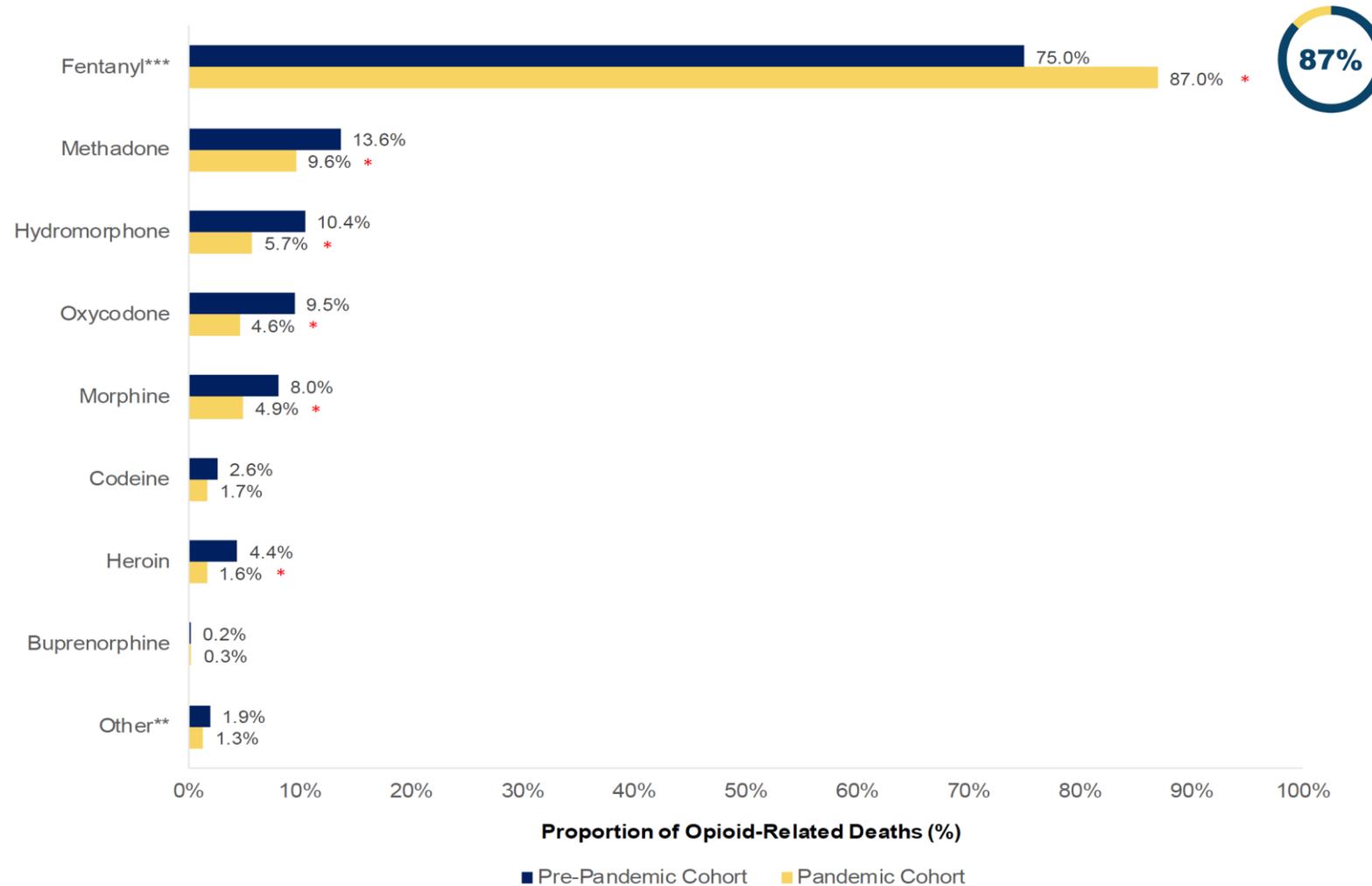


Rx

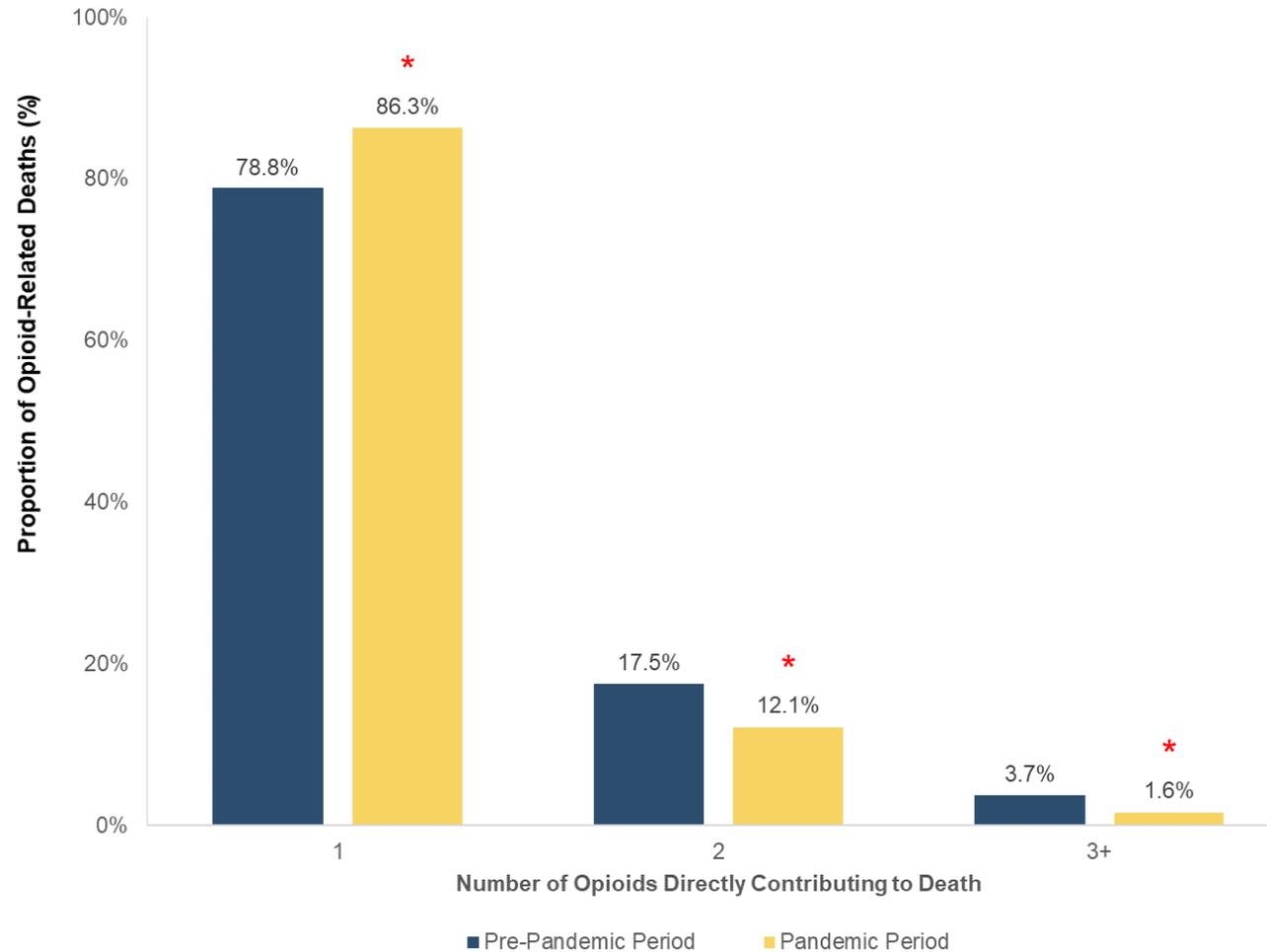
* Red asterisk indicates statistically significant difference between pre-pandemic and pandemic periods ($p < 0.05$).

Opioids contributing to deaths

Opioids directly contributing to opioid-related deaths in Ontario



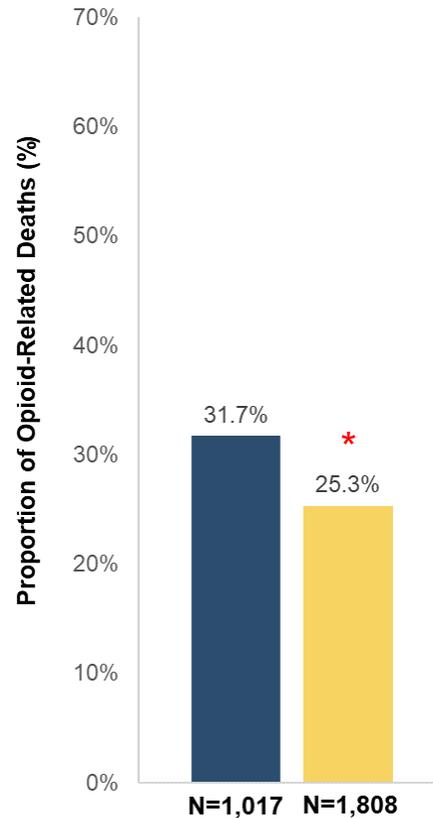
Nearly 90% of deaths during pandemic involved only 1 opioid



* Red asterisk indicates statistically significant difference between pre-pandemic and pandemic periods ($p < 0.05$).

1 in 4 people had a recent (30 days) opioid prescription prior to death

Recent Opioid Prescription



All opioid-related deaths

1 in 4
people had a
**recent opioid
prescription**
prior to death



Almost half of
these were
prescribed
methadone

**Among Methadone
Deaths:**

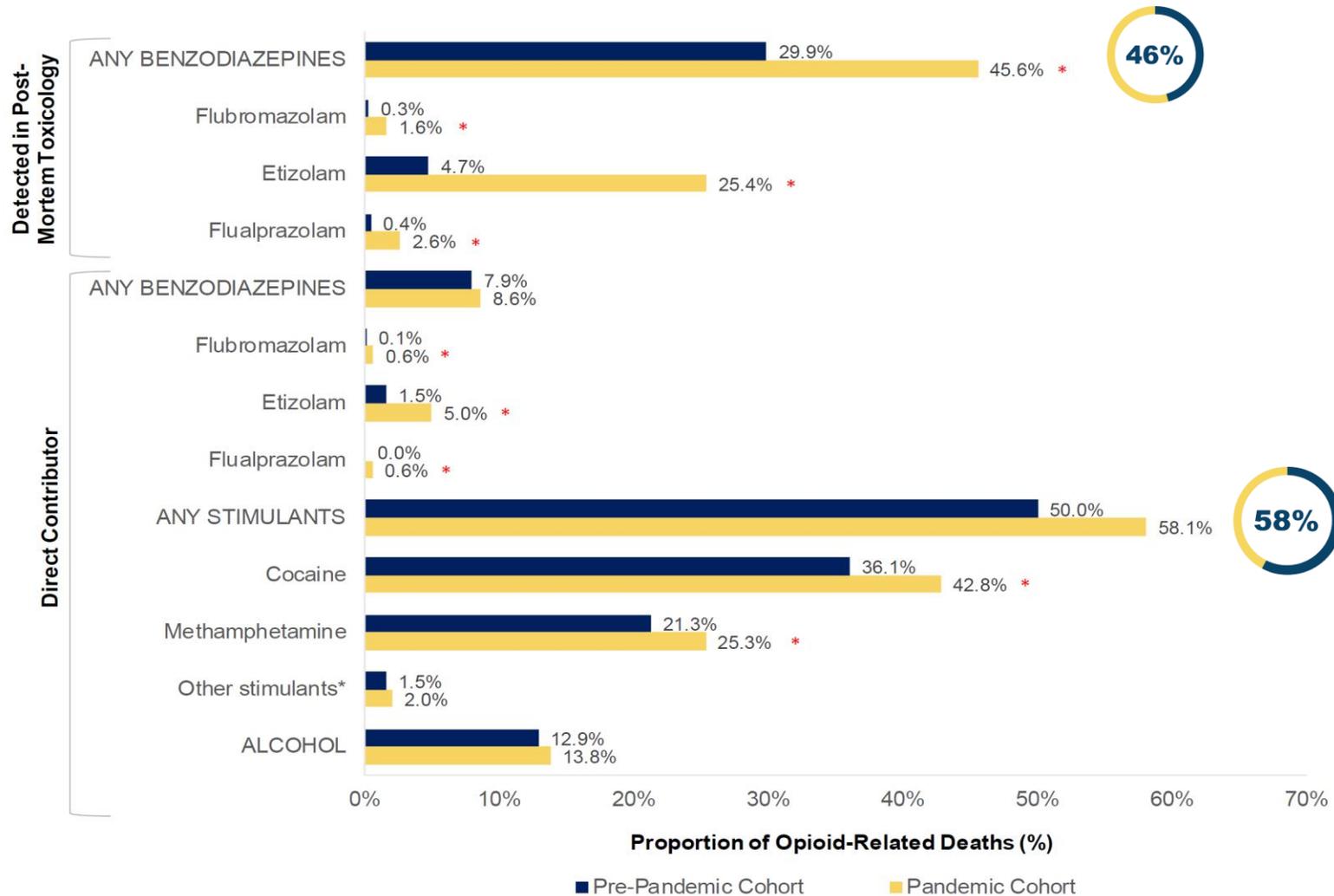
2/3 had recent methadone
prescription

Median methadone dose=
70mg

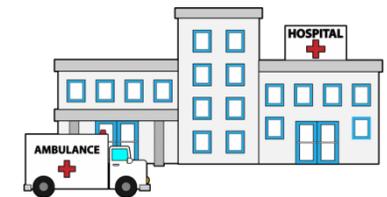
~Half also involved fentanyl

* Red asterisk indicates statistically significant difference between pre-pandemic and pandemic periods ($p < 0.05$).

Not a crisis of opioids alone...

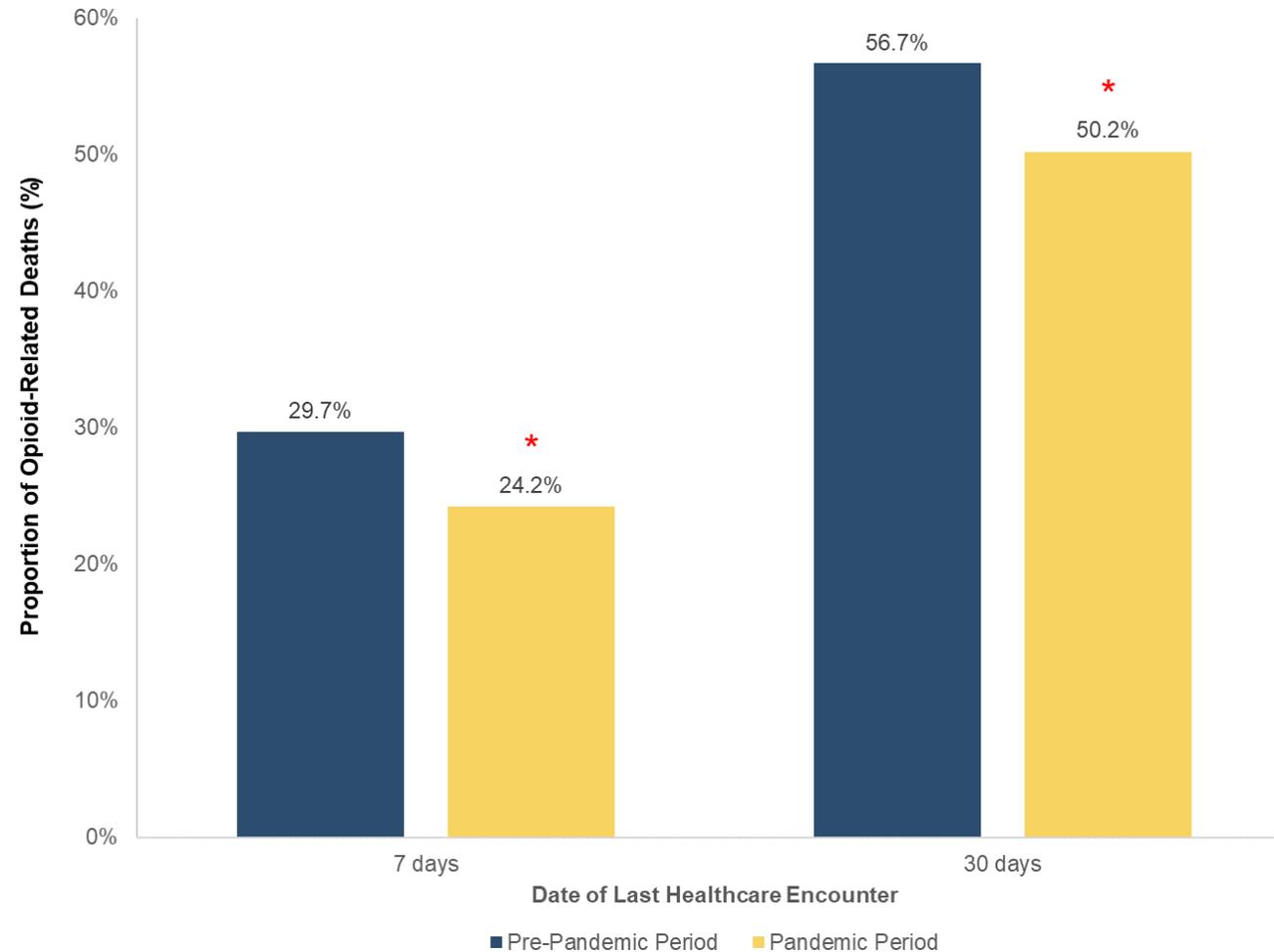


What settings should we be providing services in?



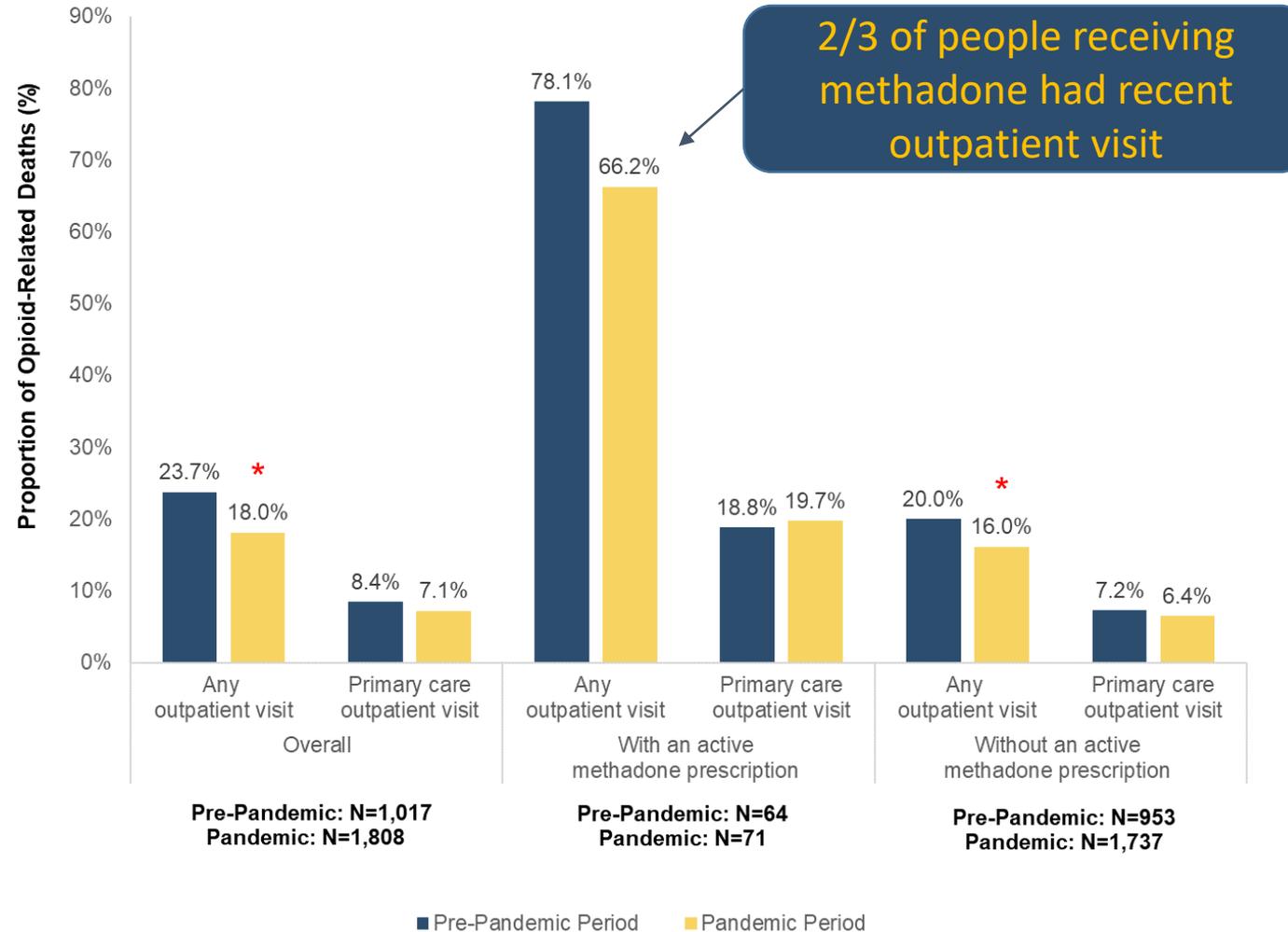
Recent Healthcare Encounters and Clinical Diagnoses

1 in 4 people interacted with healthcare system in week before opioid toxicity death during pandemic



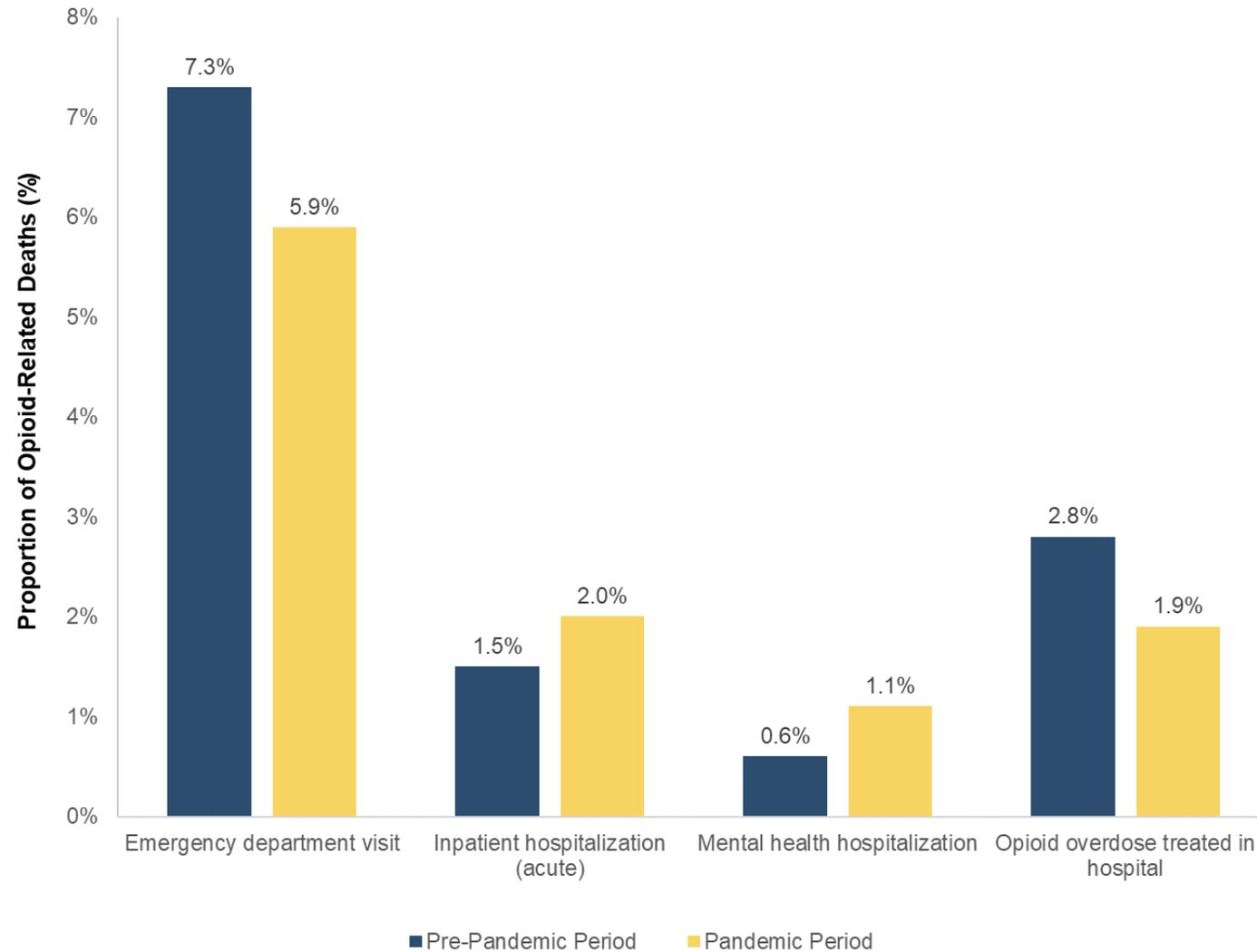
* Red asterisk indicates statistically significant difference between pre-pandemic and pandemic periods ($p < 0.05$).

Outpatient visits significantly declined, but still 1 in 5 had visit in week before death



* Red asterisk indicates statistically significant difference between pre-pandemic and pandemic periods (p<0.05).

Less ED visits during pandemic, but potentially more severe



Healthcare encounters for mental health-related diagnoses are high, and rose during the pandemic

	Pre-Pandemic Period N=1,017	Pandemic Period N=1,808	Stat. Sig.
Healthcare encounter for mental health-related diagnosis (prior 5 years†)	881 (86.6%)	1,607 (88.9%)	
Emergency department visit or hospitalization	554 (54.5%)	1,010 (55.9%)	
Community Health Centre visit	94 (9.2%)	184 (10.2%)	
Other outpatient visit	845 (83.1%)	1,532 (84.7%)	
Psychotic disorders	129 (12.7%)	293 (16.2%)	*
Mood and anxiety disorders	676 (66.5%)	1,243 (68.8%)	
Substance use disorders	622 (61.2%)	1,118 (61.8%)	
Non-psychotic disorders	185 (18.2%)	344 (19.0%)	
Other	102 (10.0%)	237 (13.1%)	*

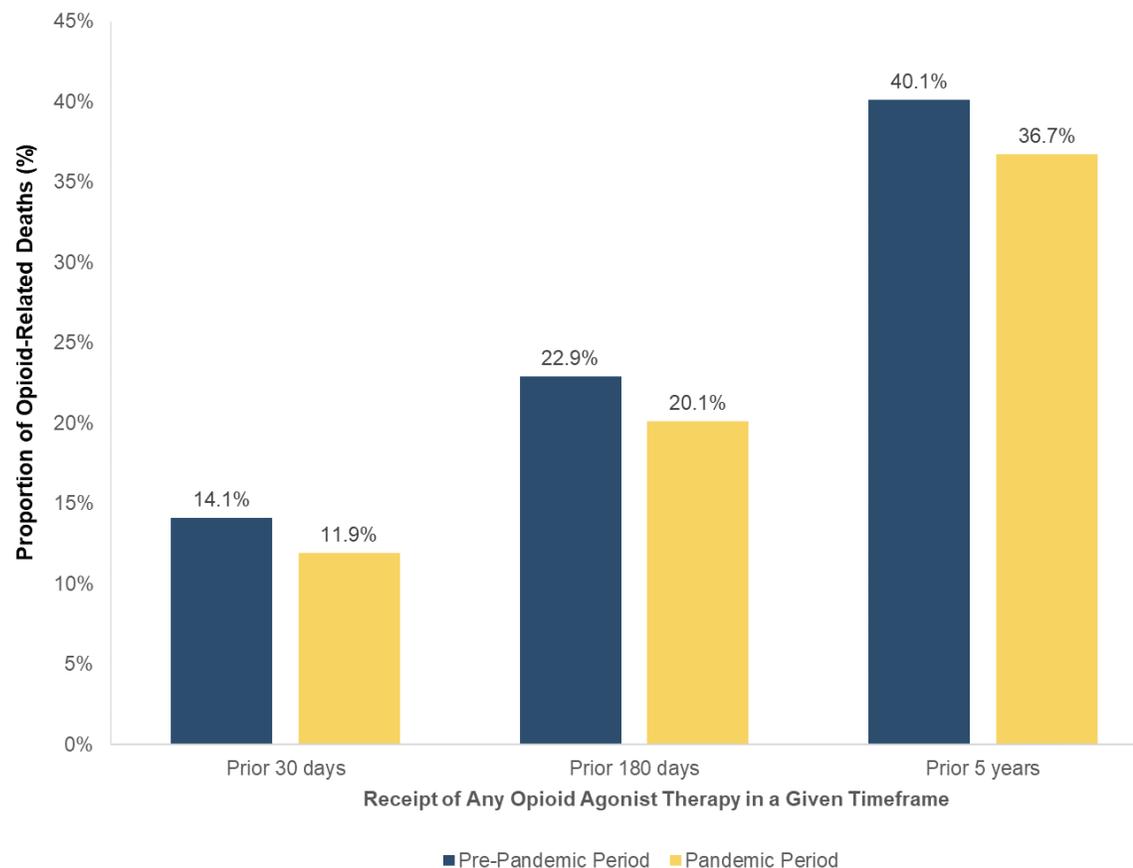
* Red asterisk indicates statistically significant difference between pre-pandemic and pandemic periods ($p < 0.05$).

Significant increases in hospital visits related to schizophrenia and trauma/stressor-related disorders

Despite high prevalence of OUD, **only 37% of people had received OAT in prior 5 years**

2 in 3
deaths occurred among people with a prior healthcare encounter related to opioid use disorder (OUD)

Recent Receipt of OAT prior to death



Focused analysis: People experiencing homelessness

The pandemic has had a disproportionate impact on people experiencing homelessness

Almost 1 in 6

opioid-related deaths during the pandemic occurred among people experiencing homelessness.

Opioid-related deaths among people experiencing homelessness increased by **139%** during the pandemic:



Nearly **1 in 10** of these deaths occurred within shelters or supportive housing.



1 in 7 of these deaths occurred within hotels providing emergency shelter services.

Focused analysis: People experiencing homelessness

The pandemic has had a disproportionate impact on people experiencing homelessness

1 in 4 had a healthcare encounter in the 7 days prior to death. Specifically:

14%

had an
outpatient visit

5%

had a primary
care visit

10%

had an
ED visit

In the past 5 years:

3 in 4 had a prior healthcare encounter related to OUD

93% had a mental health-related healthcare encounter

Hospitalizations for schizophrenia (21%) and trauma/stressor-related disorders (22%) was much higher than the overall population (12% and 14%)

Implications and Community Response

High levels of health services use

- Interaction with health system in the **week** before death = 24%
- Interaction with health system in the **month** before death = 50%
- Missed opportunity to meet the needs of people at risk for overdose?

Overdose in people without history of OUD

- 66% of people who died had indication of opioid use disorder in the past 5 years
 - 1/3 of people with no indication of OUD
 - Limitations of admin data in identification
- Strong need for approaches beyond OAT for people who may not meet OUD criteria but are still at risk for fatal overdose
 - Harm reduction interventions
 - Recreational and occasional drug use not well described or addressed

How to better meet the needs of people who use drugs?

- 37% of people who died had an OAT prescription in the past 5 years
 - 12% had an OAT prescription in 30 days before death
- Need for removal of barriers to OAT access & access to a variety of treatment options
- How to improve treatment retention?

Role of methadone

- Methadone is a direct contributor to a relatively small number of overall deaths (n=179)
- Among overdoses due to pharmaceutical opioids → ½ had methadone as a direct contributor
 - Median dose of 70mg
 - 55% of deaths also had fentanyl as a direct contributor
 - Inadequate dosing to address tolerance associated with fentanyl exposure?
- 63% of people where methadone was a direct contributor to death had a prescription for it
 - Need for easy access to OAT to reduce demand from other sources

Continuing volatility in the unregulated drug supply

- Fentanyl contributed to 89% of deaths overall
 - In 79% of deaths, only non-pharmaceutical opioids were detected; over 99% were fentanyl
- Continuing role of polysubstance use
 - 59.3% had a stimulant directly contributing to death
- Increasingly concerning role of benzodiazepines
 - Nearly half of all deaths had a benzodiazepine detected
 - Non-pharmaceutical benzodiazepines rose from 5.2% pre-pandemic to 28.7% during the pandemic
 - Mostly etizolam

Impacts of overdose on people experiencing homelessness

- High number of deaths in this period among people experiencing homelessness
- Variability in healthcare use in this group:
 - Higher rates of healthcare use in week prior to death
 - Increase in mental health diagnosis & hospitalizations during pandemic
 - But fewer healthcare encounters overall compared to pre-pandemic period
- Strong need for integrated services within sheltering settings and in supportive housing

Community Response and Lived Experience

Acknowledgements

Authors

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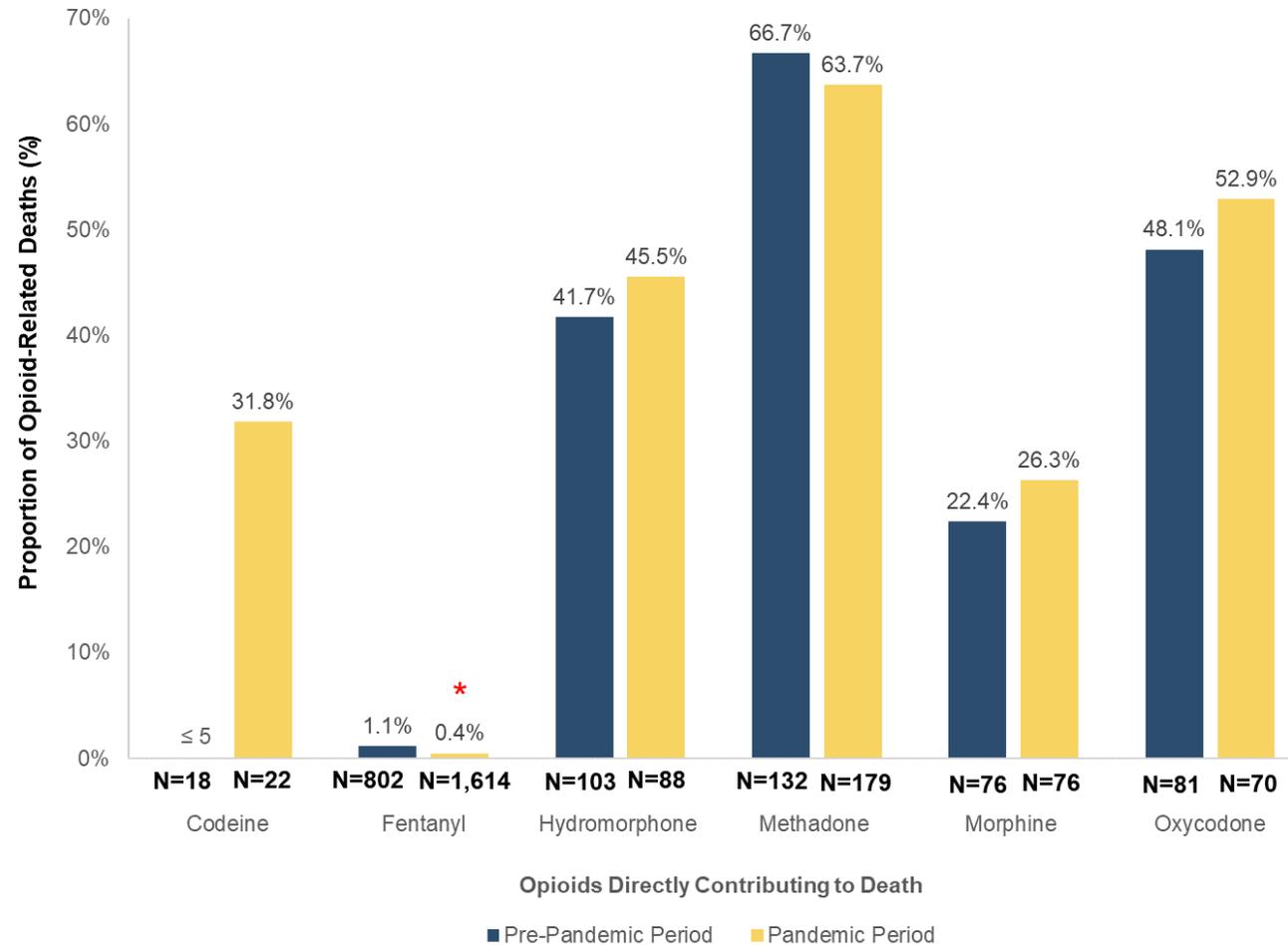
The authors also wish to acknowledge all people who use drugs, harm reduction workers, peer support workers, first responders, and health care professionals who are working tirelessly to support affected individuals and families during the extraordinary circumstances of the COVID-19 pandemic, including their enormous role in overdose response and resuscitation efforts.

Thank you!

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Role of prescription opioids among deaths involving pharmaceutical opioids



1 in 4
people had a recent opioid prescription prior to death



Almost half of these were prescribed **methadone**

* Red asterisk indicates statistically significant difference between pre-pandemic and pandemic periods (p<0.05).