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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

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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

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- 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)
<b>Tara Gomes</b>		
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.
<b>Gillian Kolla</b>		
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
<b>Jes Besharah</b>		
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

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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

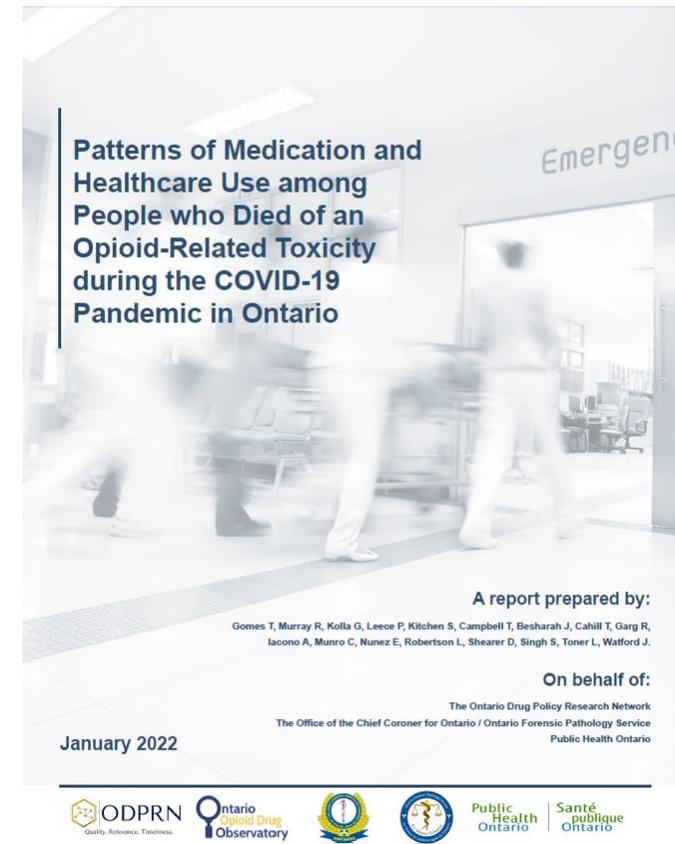


Gomes T, Murray R, Kolla G, Leece P, Bansal S, Besharah J, Cahill T, Campbell T, Fritz A, Munro C, Toner L, Watford J on behalf of the Ontario Drug Policy Research Network, Office of the Chief Coroner for Ontario and Ontario Agency for Health Protection and Promotion (Public Health Ontario). Changing 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



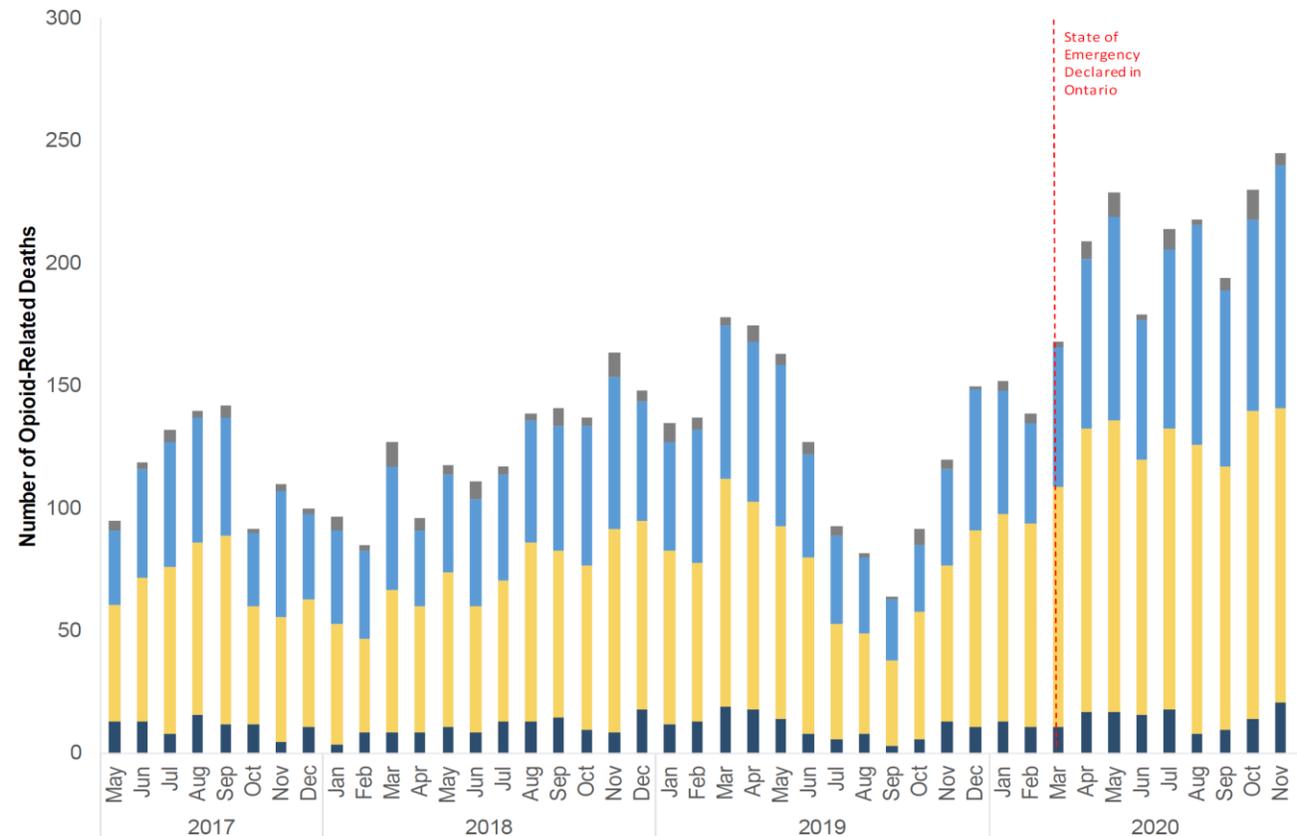
## Data Sources

### **Linked health data, including:**

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

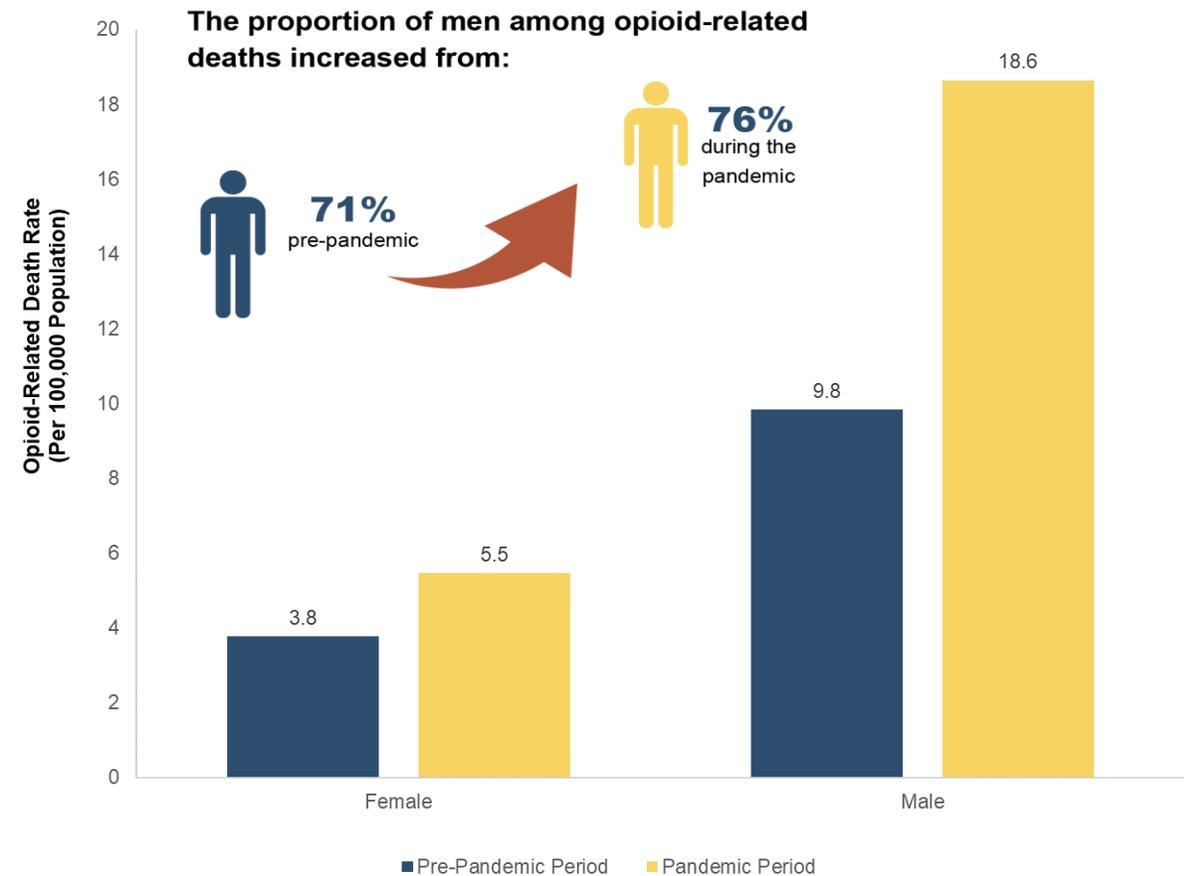
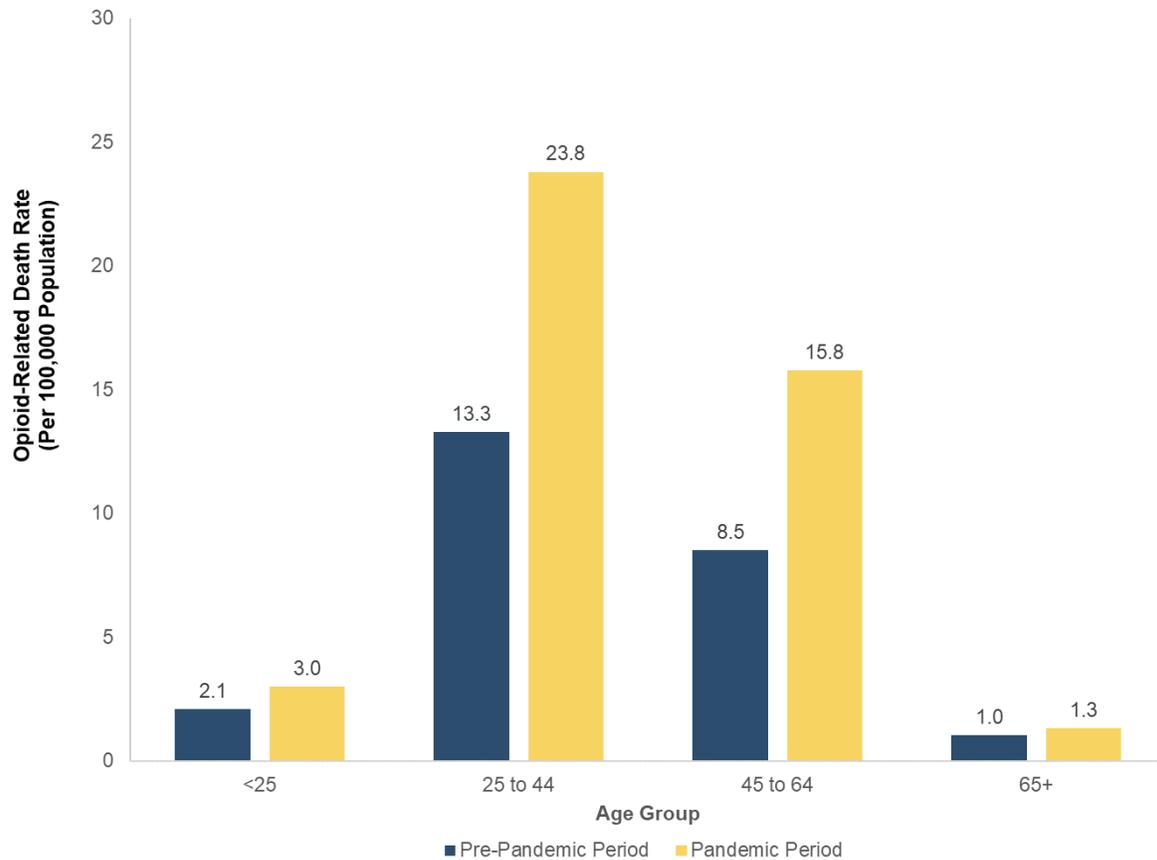


# Trends in Opioid-Related Deaths



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

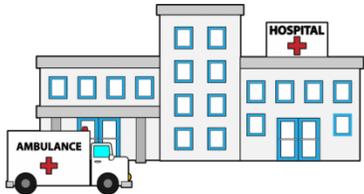
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Where geographically in Ontario are deaths occurring?

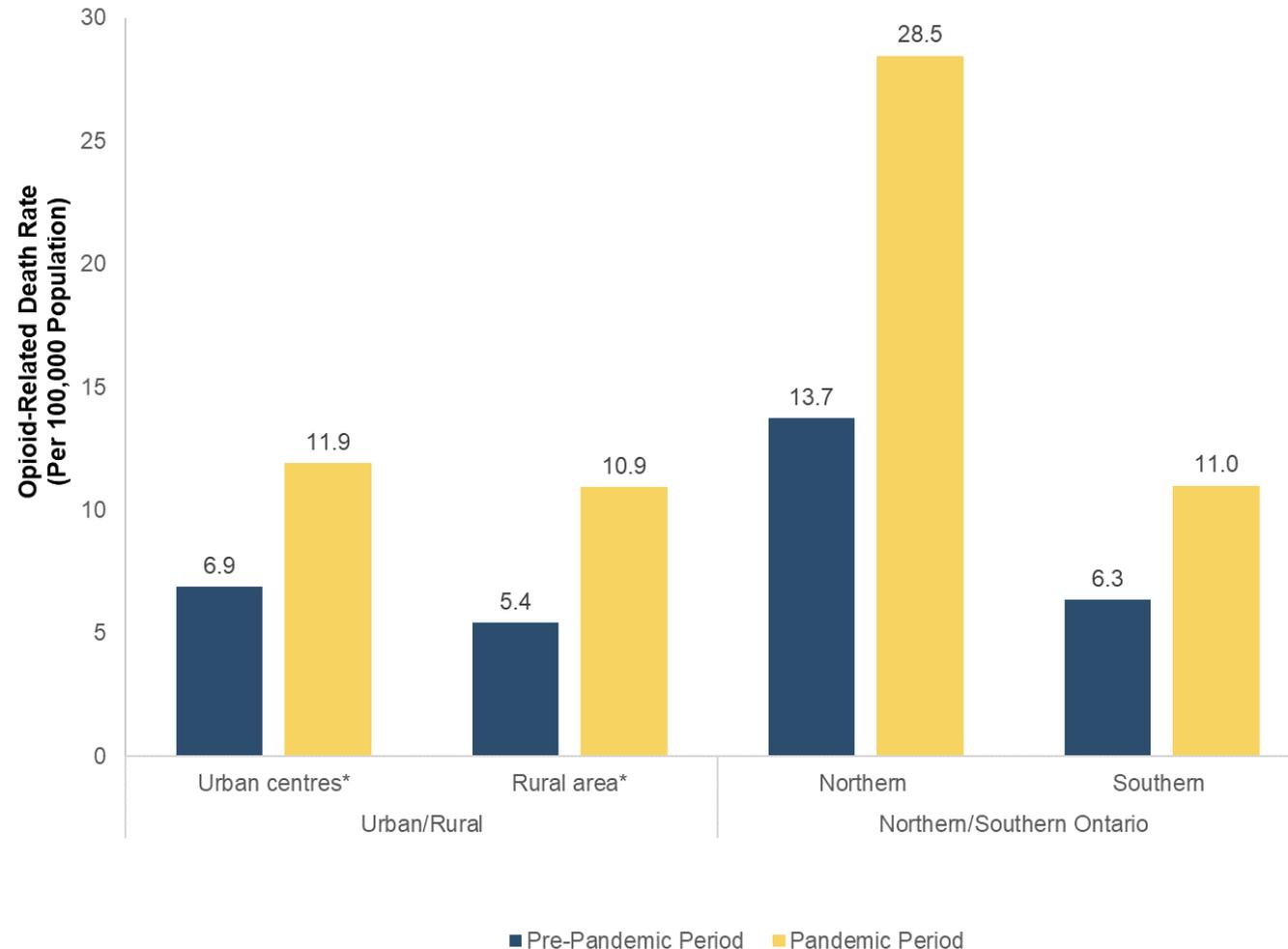


What types of services are needed?



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

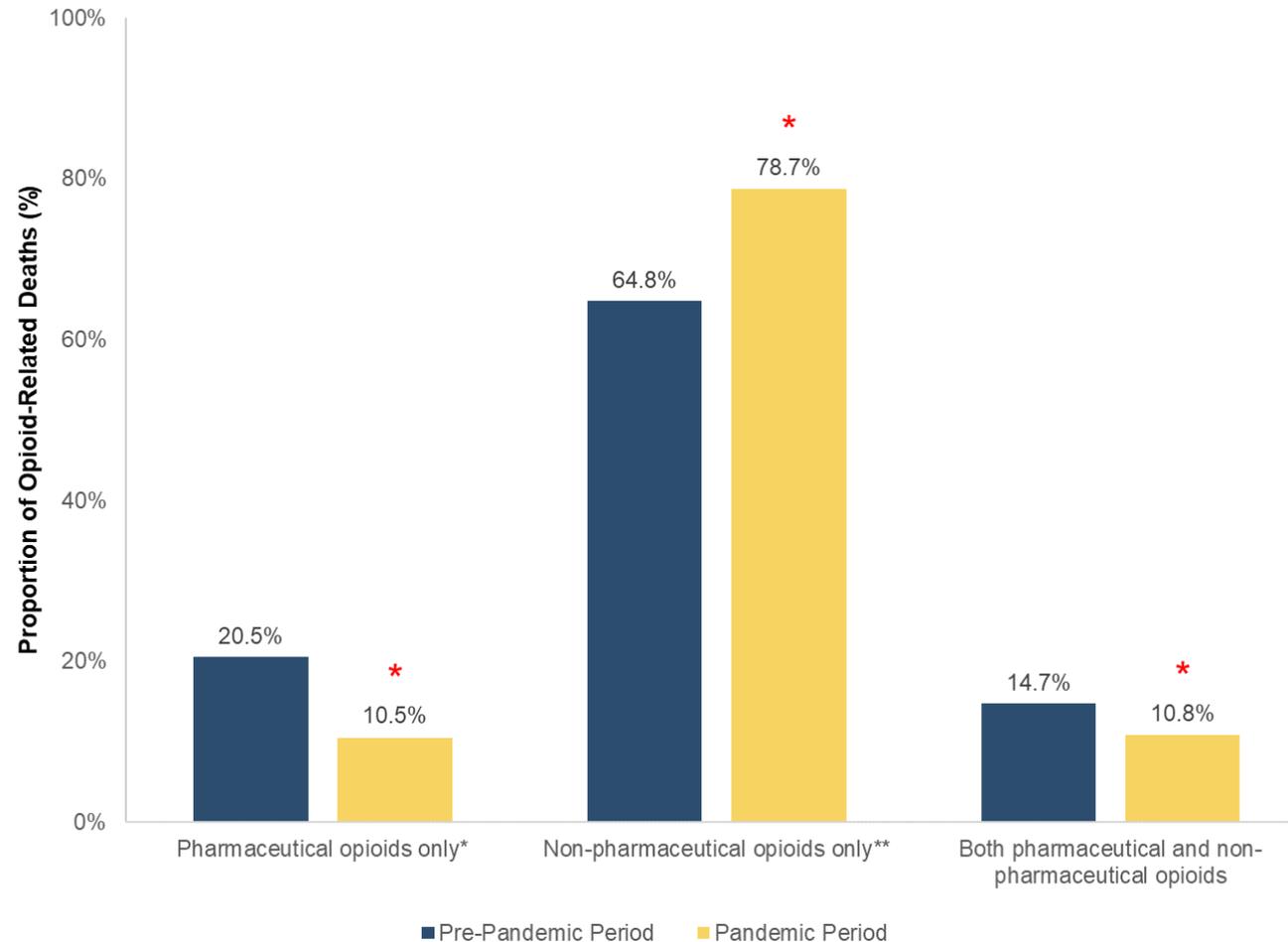


# What types of services are needed?

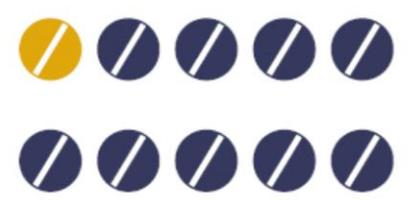
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Disentangling the Roles of Different Drugs to the Ongoing Crisis

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



**1 in 10**  
deaths involved  
solely  
pharmaceutical  
opioids

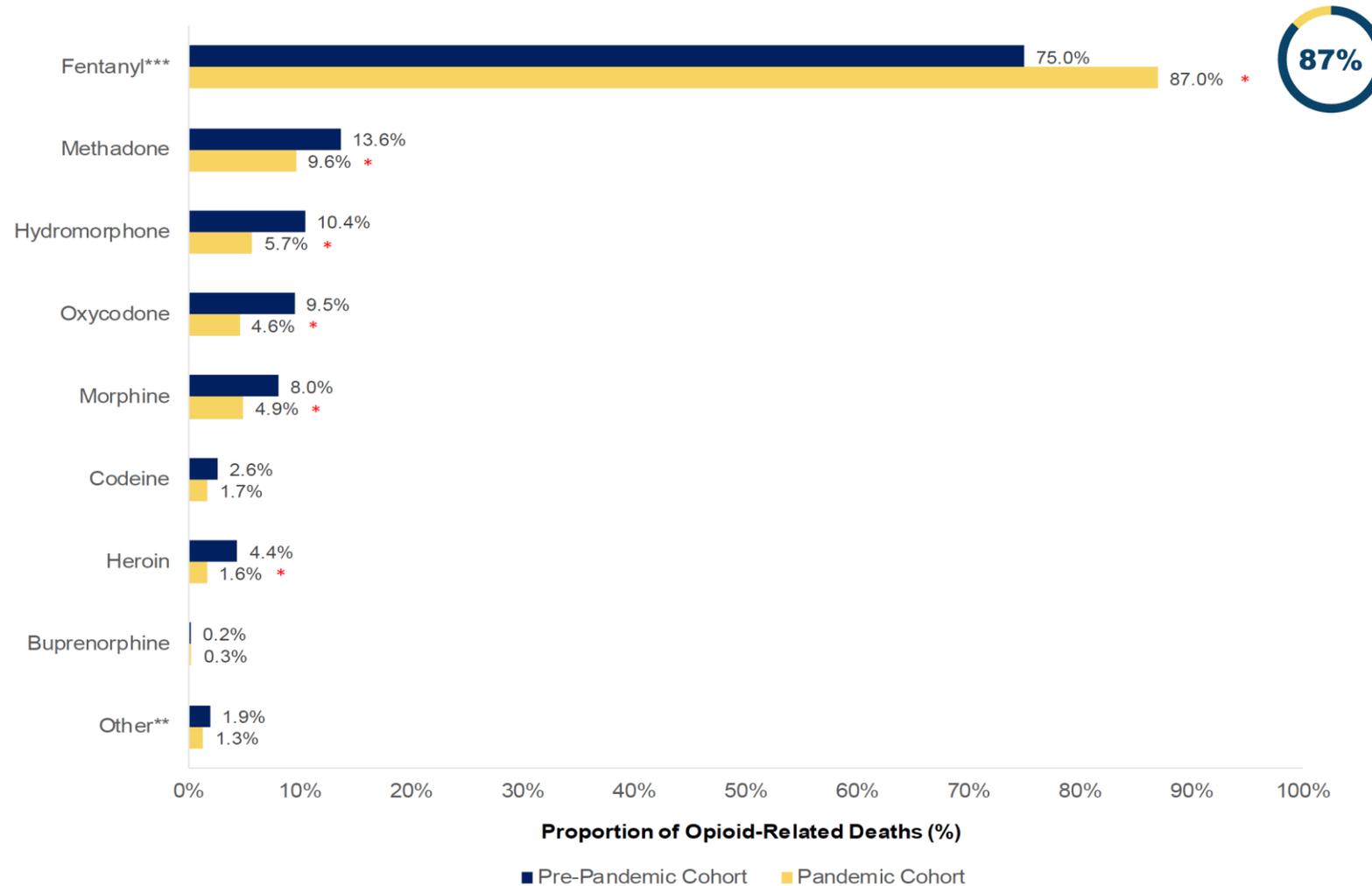


Rx

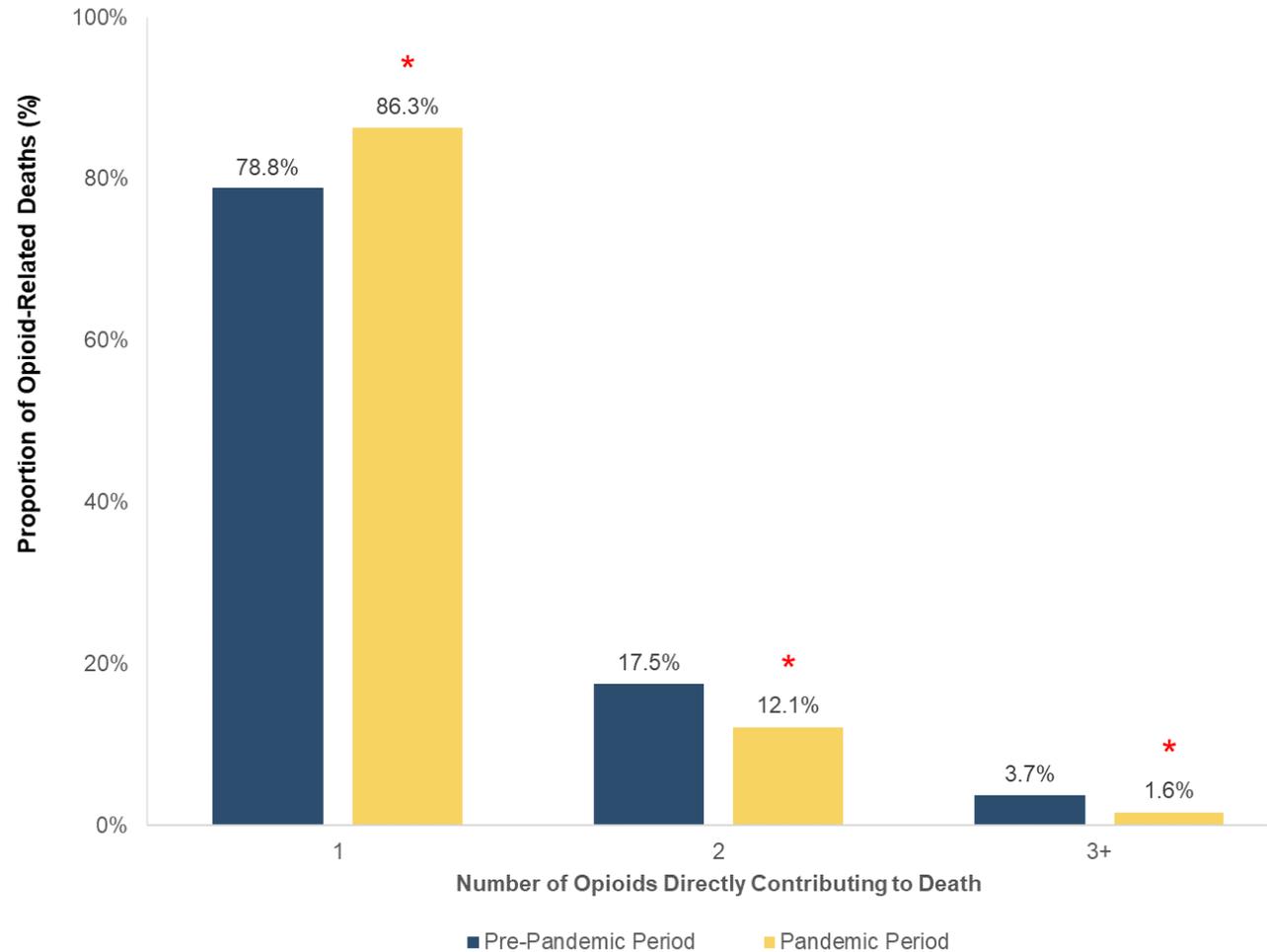
\* Red asterisk indicates statistically significant difference between pre-pandemic and pandemic periods ( $p < 0.05$ ).

# Opioids contributing to deaths

## Opioids directly contributing to opioid-related deaths in Ontario



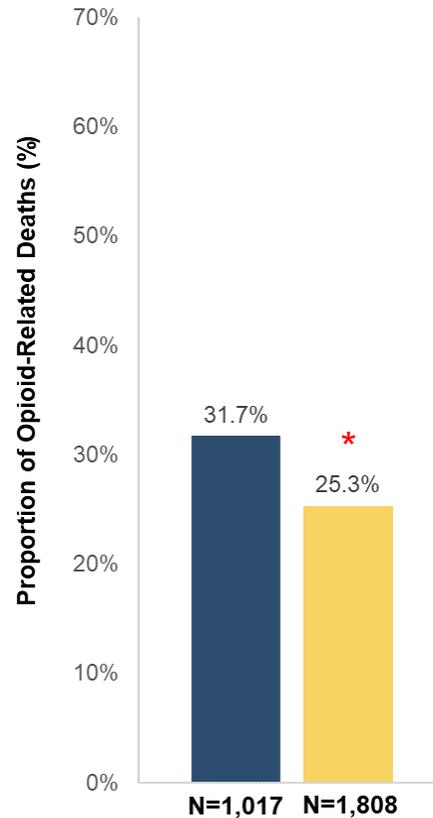
# Nearly 90% of deaths during pandemic involved only 1 opioid



\* 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:

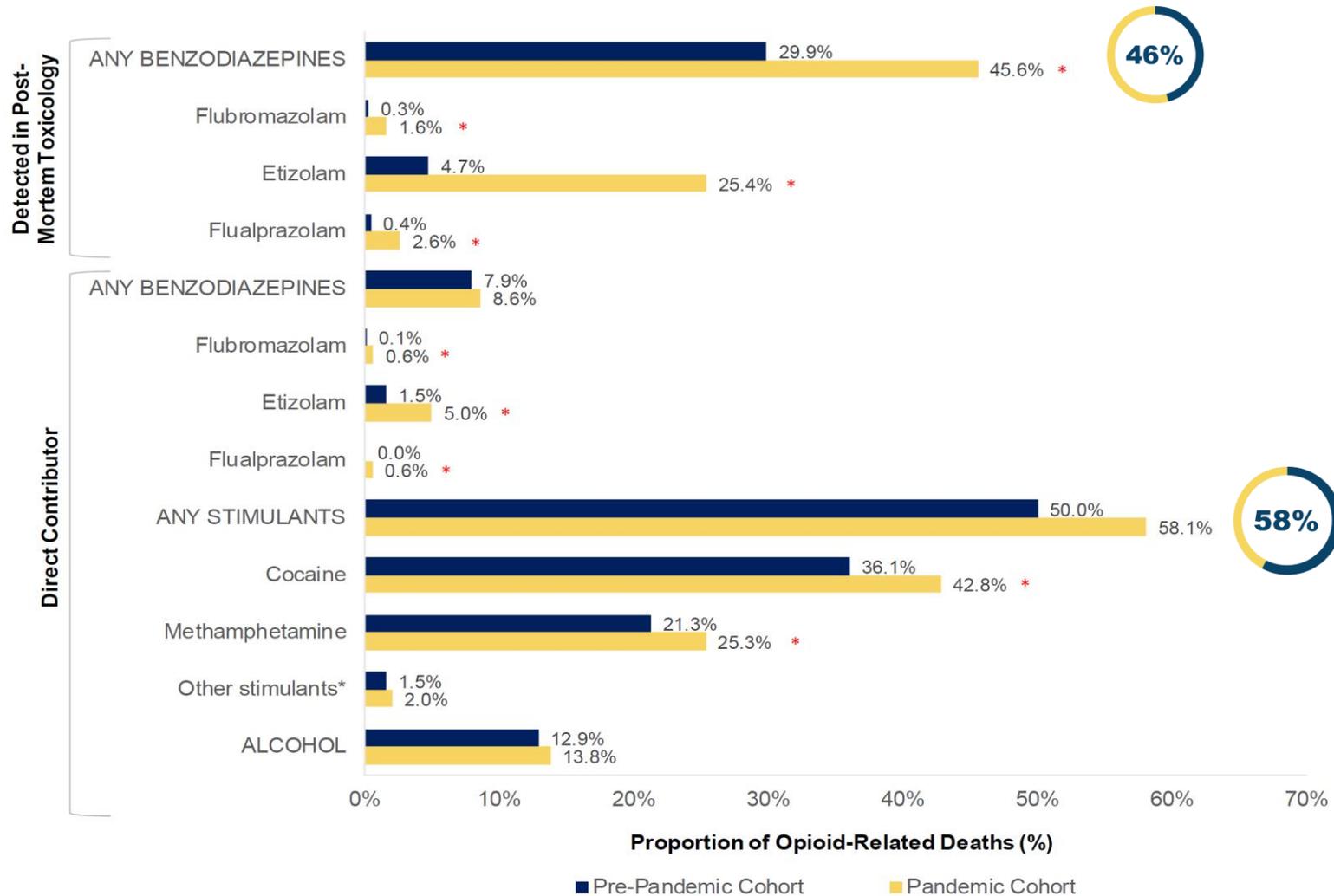
2/3 had recent methadone  
prescription

Median methadone dose=  
70mg

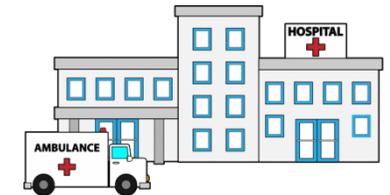
~Half also involved fentanyl

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

# Not a crisis of opioids alone...



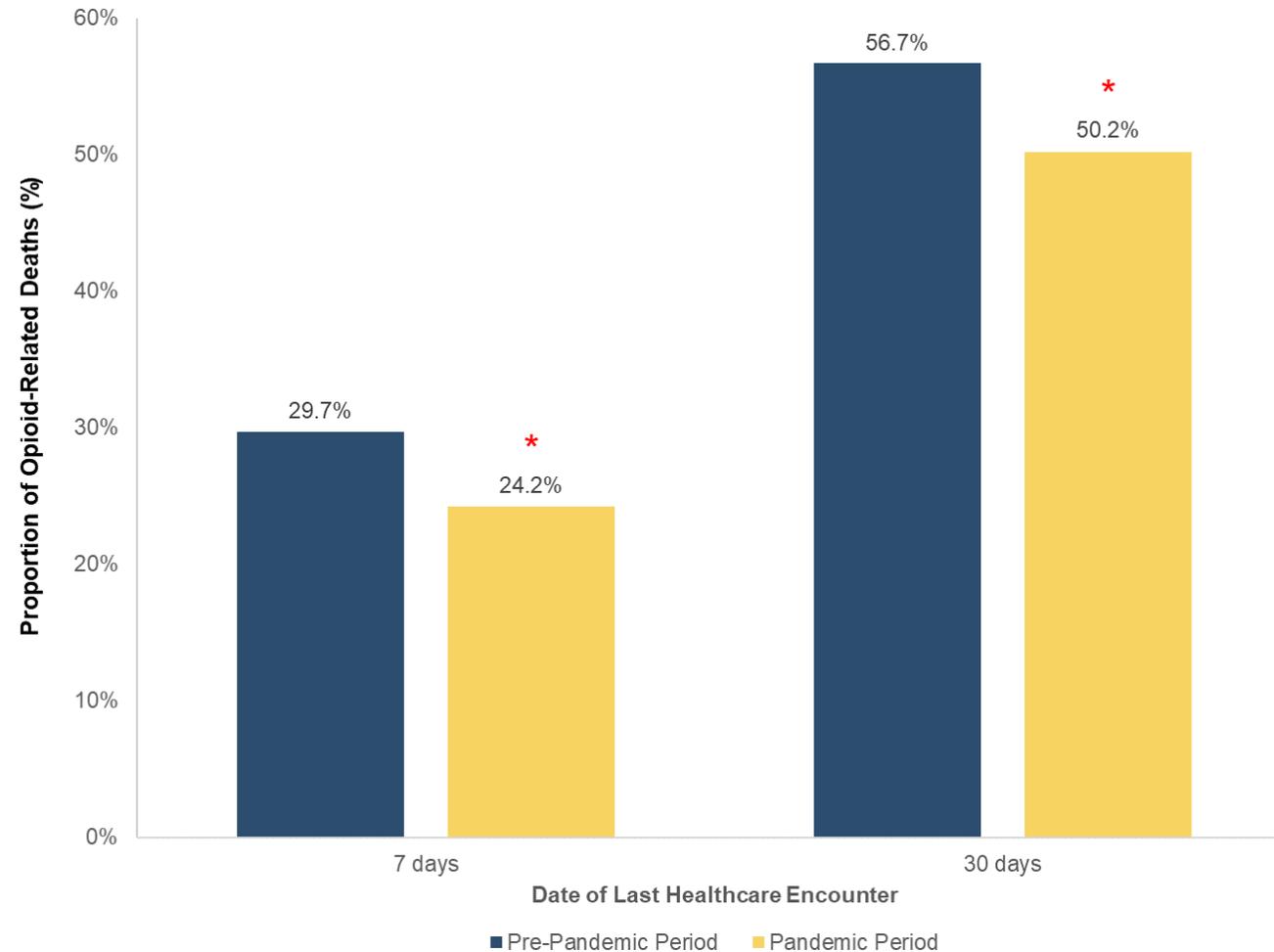
# What settings should we be providing services in?



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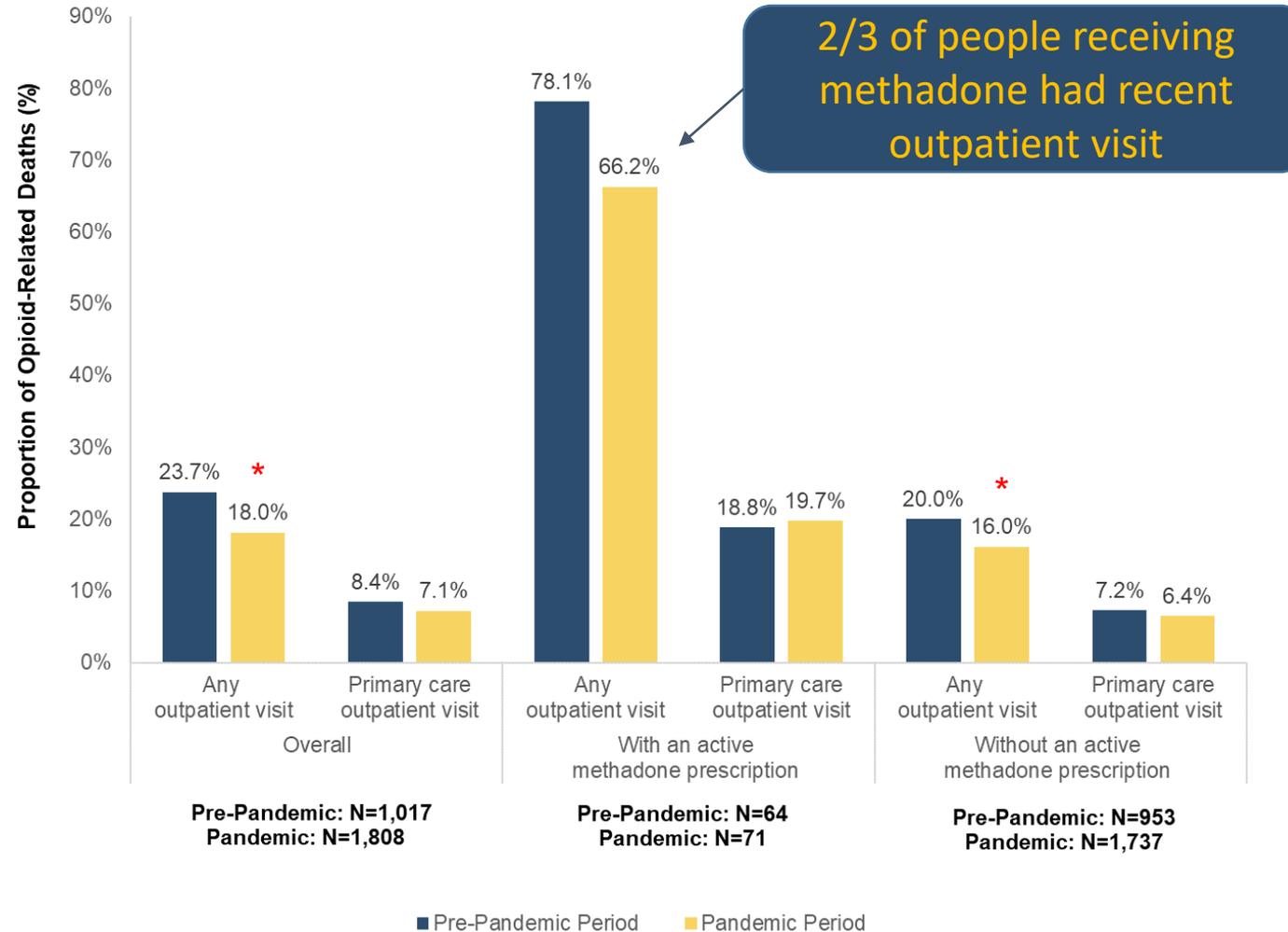
Recent Healthcare Encounters and Clinical Diagnoses

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



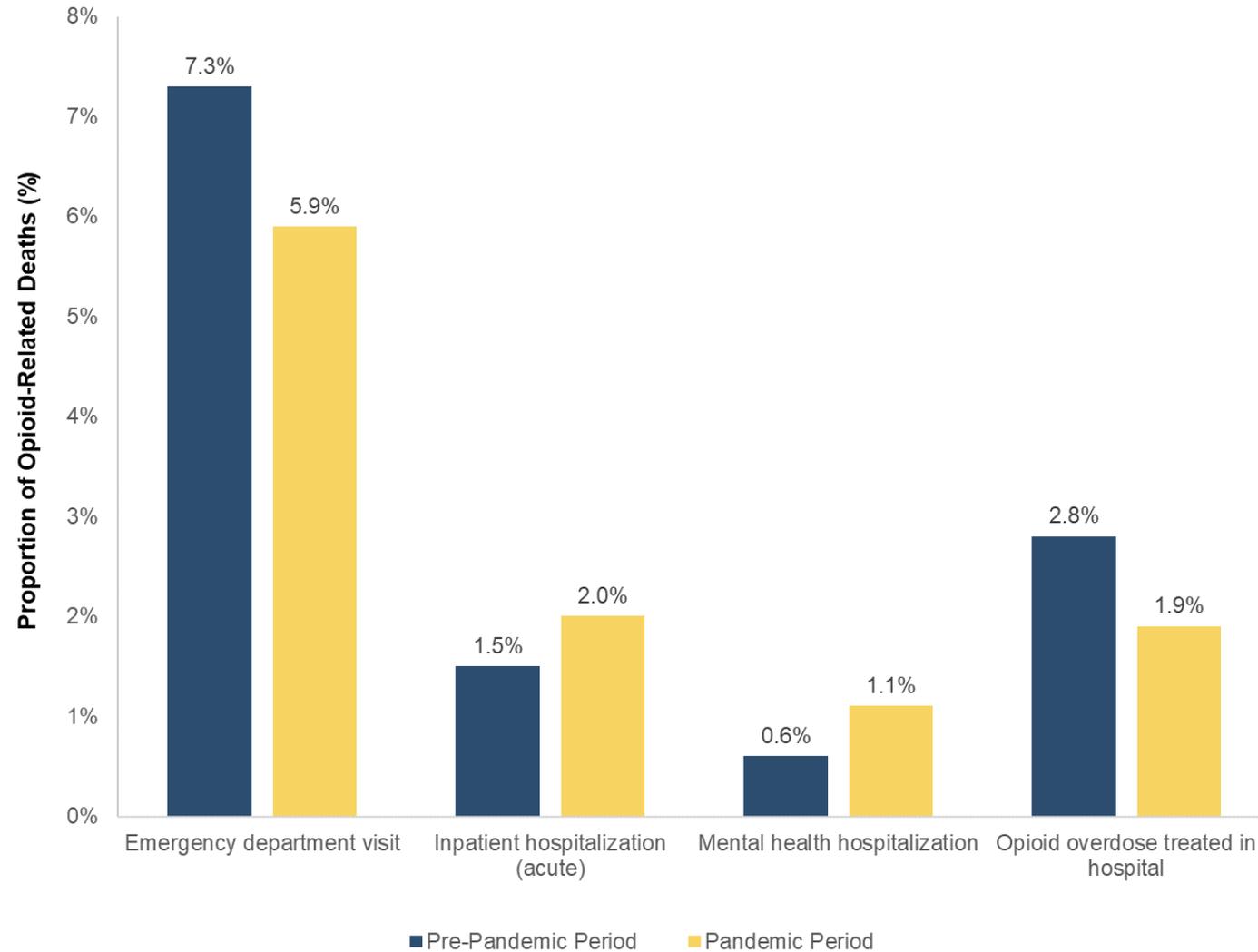
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# Outpatient visits significantly declined, but still 1 in 5 had visit in week before death



\* 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%)	*

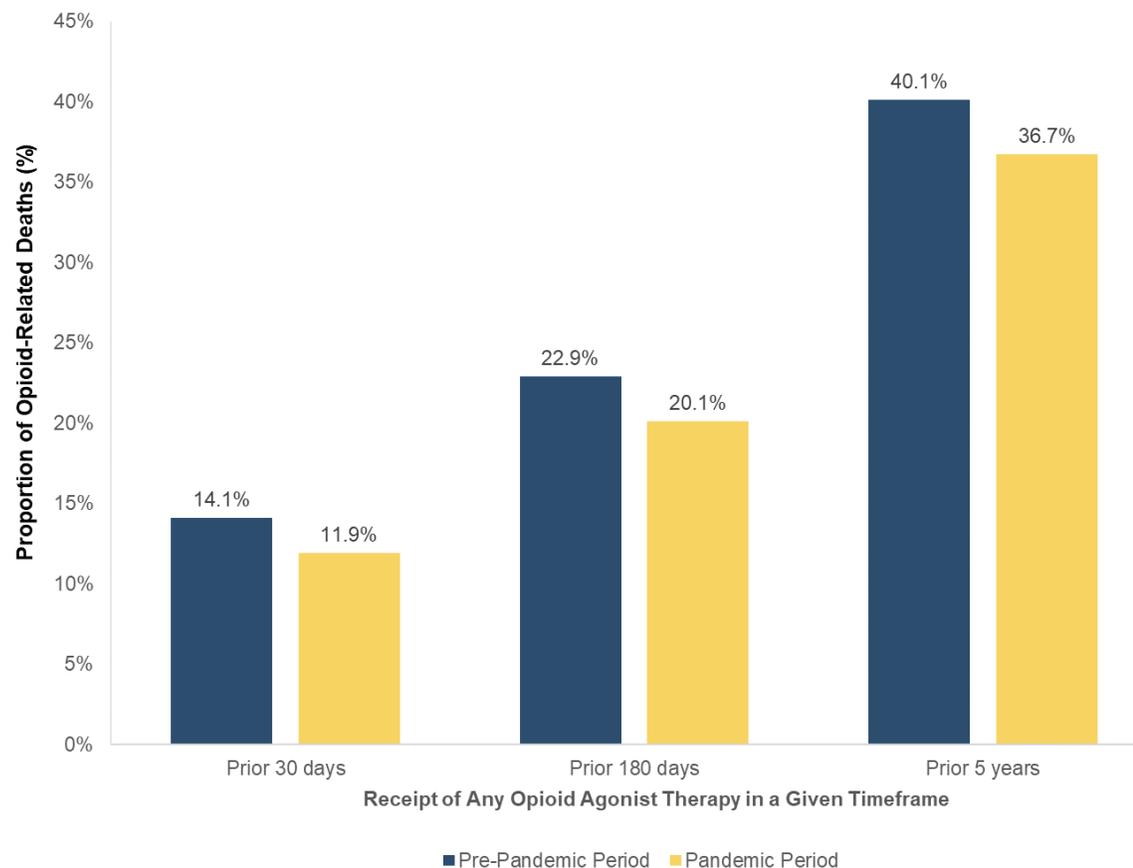
\* Red asterisk indicates statistically significant difference between pre-pandemic and pandemic periods ( $p < 0.05$ ).

**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

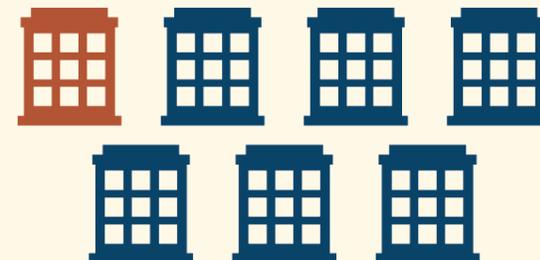
### Almost 1 in 6

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

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# High levels of health services use

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- 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

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- 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?

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- 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

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- 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

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- 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

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- 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

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# Acknowledgements

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## Authors

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**Tara Gomes** (Ontario Drug Policy Research Network; ODPRN)

**Regan Murray** (Office of the Chief Coroner/Ontario Forensic Pathology Service; OCC/OFPS)

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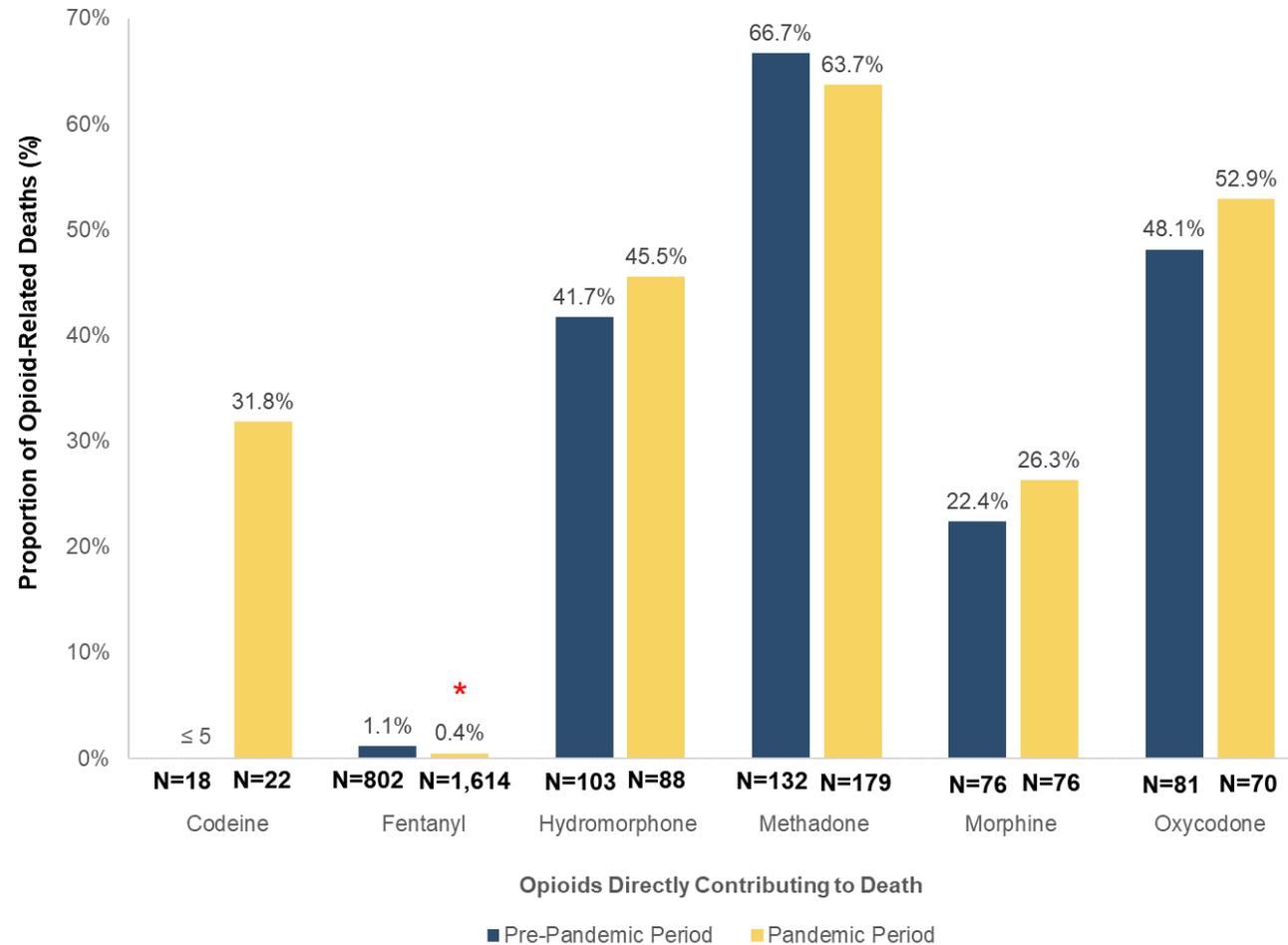
# Thank you!

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# Role of prescription opioids among deaths involving pharmaceutical opioids



**1 in 4**  
people had a  
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Almost half of  
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