# Responding to Ontario's Overdose Crisis in the Context of the COVID-19 Pandemic

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on Behalf of the Ontario Opioid Drug Observatory

## Abstract

**The COVID-19 pandemic has exacerbated the overdose crisis in Canada. Using data from ICES and the Office of the Chief Coroner of Ontario, the authors characterized changing patterns of medication use and health services utilization during the pandemic. This analysis suggests that responses to the overdose crisis must confront the rapidly changing unregulated drug supply with a tailored response that addresses varied population needs, expands accessible treatment and harm reduction services and responds to the missed opportunities for engagement and support within various healthcare settings.**

## The Issue

The COVID-19 pandemic has led to rising rates of unintentional opioid-related deaths (Government of Canada 2022) as evidenced by a 79% increase in opioid-related deaths in the early months of the pandemic in Ontario (Gomes et al. 2021). There are many reasons for this rapid acceleration in the overdose crisis, including the increasingly unpredictable unregulated drug supply, reduced access to healthcare services, limited access to community-based programs and increased social isolation that can lead to more people using drugs alone (i.e., without someone there to intervene) (Galarneau et al. 2021).

Several populations have been disproportionately impacted by the intersection of the overdose crisis and the COVID-19 pandemic – including men, young adults, First Nations populations and people experiencing homelessness – reinforcing the need for a multifaceted response tailored to the varying needs of different populations (The Chiefs of Ontario and The Ontario Drug Policy Research Network 2021; Gomes et al. 2021). There is now an urgent need to extend our understanding of drug toxicities in the context of the pandemic to inform interventions and programs. In light of this, the authors used data from the Office of the Chief Coroner for Ontario, which are linked to data housed at ICES. They compared the findings on post-mortem toxicology, clinical characteristics and health services utilization between people who died of an accidental opioid-related toxicity in Ontario during the first two waves of the pandemic (March to December 2020, $n$ = 1,808) and those who died during a similar time frame the year before (March to December 2019, $n$ =1,017) (Gomes et al. 2022a). These datasets were linked using unique encoded identifiers and analyzed at ICES.

## Rapidly Changing Unregulated Drug Supply

Fentanyl from unregulated street markets emerged as a major contributor to opioid-related deaths in Ontario in 2016, and by 2019 it directly contributed to approximately three-quarters (76.3%) of all opioid-related deaths in the province (Public Health Ontario 2022). During the pandemic, these trends have accelerated, with fentanyl (and its analogues) directly contributing to 89.3% of all opioid-related deaths, rising from 78.9% of deaths the year before ($p < 0.001$; Table 1). The overwhelming role of nonpharmaceutical opioids in the ongoing overdose crisis has occurred in contrast to low proportions of deaths involving opioids prescribed for pain both before and during the pandemic. Furthermore, the involvement of polysubstance use in opioid-related deaths has climbed during the pandemic, with 59.0% of deaths involving nonpharmaceutical stimulants (i.e., methamphetamines or cocaine) and 28.7% having nonpharmaceutical benzodiazepines detected in post-mortem toxicology. These shifts suggest changes in patterns of substance use and the volatility of the unregulated drug supply during the pandemic, demonstrating the growing need for policy responses tailored to address these evolving characteristics. For example, during the pandemic, there has been increased availability of safer opioid supply programs (wherein an opioid, usually hydromorphone, is prescribed as an alternative to the unregulated drug supply) (Government of Canada 2020) and more flexible provision of opioid agonist therapy (OAT) (Lam et al. 2020; SAMHSA 2021). Early evaluations of these changes have demonstrated the benefits of these pandemic-related responses, including reduced overdose risk and improved retention in OAT (Gomes et al. 2022b;

McMurchy and Palmer 2021; McNeil et al. 2022). This is reinforced by data from Ontario that showed a reduction in the prevalence of hydromorphone and methadone in deaths due to opioid toxicity during the pandemic (Table 1). Taken together, the rising unpredictability of the unregulated drug supply, along with emerging evidence of benefits of safer supply programs and more flexible OAT programs underscore the need for ongoing investments into the expansion of these services. There is also an emerging need to optimize health and social care for people who use stimulants, with focused harm reduction programs that provide supervised inhalation and smoking spaces and safer prescribing of stimulants.

**TABLE 1.**
**Opioids and other substances directly contributing to opioid-related deaths before and during the COVID-19 pandemic in Ontario***

| Substance | March – December 2019 *n* = 1,017 | March – December 2020 *n* = 1,808 | *p* value |
|---|---|---|---|
| **Nonpharmaceutical opioids** | | | |
| Fentanyl and fentanyl analogues | 802 (78.9%) | 1,614 (89.3%) | < 0.001 |
| Heroin | 52 (5.1%) | 27 (1.5%) | < 0.001 |
| **Opioids prescribed for pain** | | | |
| Hydromorphone | 103 (10.1%) | 88 (4.9%) | < 0.001 |
| Oxycodone | 81 (8.0%) | 70 (3.9%) | < 0.001 |
| Codeine | 18 (1.8%) | 22 (1.2%) | 0.23 |
| Morphine | 77 (7.6%) | 78 (4.3%) | < 0.001 |
| **Opioid agonist treatment** | | | |
| Methadone | 132 (13.0%) | 179 (9.9%) | 0.01 |
| Buprenorphine | ≤ 5 | ≤ 5 | > 0.05 |
| **Other substances directly contributing to opioid-related death** | | | |
| Alcohol | 131 (12.9%) | 242 (13.4%) | 0.70 |
| Any stimulant | 543 (53.4%) | 1,073 (59.3%) | 0.002 |
| Nonpharmaceutical stimulants | 540 (53.1%) | 1,067 (59.0%) | 0.002 |
| Methamphetamines | 231 (22.7%) | 482 (26.7%) | 0.02 |
| Cocaine | 392 (38.5%) | 787 (43.5%) | 0.01 |
| Any benzodiazepine | 80 (7.9%) | 163 (9.0%) | 0.30 |
| Nonpharmaceutical benzodiazepines§ | 18 (1.8%) | 109 (6.0%) | < 0.001 |
| **Other substances detected in opioid-related death** | | | |
| Any benzodiazepine | 324 (31.9%) | 855 (47.3%) | < 0.001 |
| Nonpharmaceutical benzodiazepines§ | 53 (5.2%) | 519 (28.7%) | < 0.001 |

* Not mutually exclusive. Some deaths were attributed to multidrug toxicity, where more than one substance can contribute to an individual death.

§ Etizolam comprises more than 90% of the nonpharmaceutical benzodiazepines across both time periods.

## Tailoring the Response to Different Population Needs

Although the majority of opioid-related deaths during the pandemic occurred among people with opioid use disorder (OUD) diagnoses (65.6%; Table 2), a considerable number of those deaths occurs in people without OUD, a population that is likely using opioids intermittently and is often ignored in discussions of responses to the overdose crisis. There was also a relatively high rate of concurrent diagnoses, with nearly one in five (18.7%) opioid-related deaths during the pandemic occurring among individuals with both chronic pain and OUD and 88.9% having a mental health diagnosis (Table 2). Furthermore, there was an increase in opioid-related deaths among people with outpatient visits for psychotic disorders

(from 12.7% to 16.2%; $p = 0.012$) and those with hospital visits related to schizophrenia or related disorders (7.8% to 11.6%; $p = 0.001$), or trauma/stressor-related disorders (9.5% to 14.0%; $p < 0.001$). This suggests that the pandemic had potential destabilizing effects on people with complex mental health diagnoses. These findings highlight the need for policy responses to consider the varied populations at risk of fatal opioid-related harms across the country, including harm reduction approaches accessible to people without an OUD diagnosis and improved connection to primary care, pain specialists and mental health supports.

**TABLE 2.**
**Clinical characteristics of people who died of an opioid-related toxicity before and during the COVID-19 pandemic in Ontario**

| Substance | March – December 2019 *n* = 1,017 | March – December 2020 *n* = 1,808 | *p* value |
|---|---|---|---|
| Indication of opioid use disorder in past five years | 668 (65.7%) | 1,186 (65.6%) | 0.96 |
| **Receipt of opioid agonist treatment** | | | |
| Past 30 days | 143 (14.1%) | 216 (11.9%) | 0.11 |
| Past 180 days | 233 (22.9%) | 363 (20.1%) | 0.08 |
| Past five years | 408 (40.1%) | 664 (36.7%) | 0.08 |
| History of chronic pain | 340 (33.4%) | 505 (27.9%) | 0.002 |
| History of chronic pain and indication of OUD in past five years | 244 (24.0%) | 338 (18.7%) | < 0.001 |
| Healthcare encounter for mental health-related diagnosis in past five years* | 881 (86.6%) | 1,607 (88.9%) | 0.08 |
| Emergency department visit or hospitalization | 554 (54.5%) | 1,010 (55.9%) | 0.48 |
| Schizophrenia or related disorders | 79 (7.8%) | 210 (11.6%) | 0.001 |
| Trauma/stressor-related disorders | 97 (9.5%) | 253 (14.0%) | < 0.001 |
| Community health centre visit | 94 (9.2%) | 184 (10.2%) | 0.42 |
| Other outpatient visit | 845 (83.1%) | 1,532 (84.7%) | 0.25 |
| Psychotic disorders | 129 (12.7%) | 293 (16.2%) | 0.01 |
| Mood and anxiety disorders | 676 (66.5%) | 1,243 (68.8%) | 0.21 |
| Substance use disorders | 622 (61.2%) | 1,118 (61.8%) | 0.72 |
| Nonpsychotic disorders | 185 (18.2%) | 344 (19.0%) | 0.59 |
| Other | 102 (10.0%) | 237 (13.1%) | 0.02 |
| Infective endocarditis in the past 180 days | 10 (1.0%) | 7 (0.4%) | 0.05 |
| Any other serious infection in the past 180 days | 22 (2.2%) | 49 (2.7%) | 0.37 |
| Diagnosis of COVID-19 prior to death | N/A | ≤ 5 | N/A |

*Outpatient visit, emergency department visit or hospital admission for mental health-related diagnosis.
OUD = opioid use disorder.

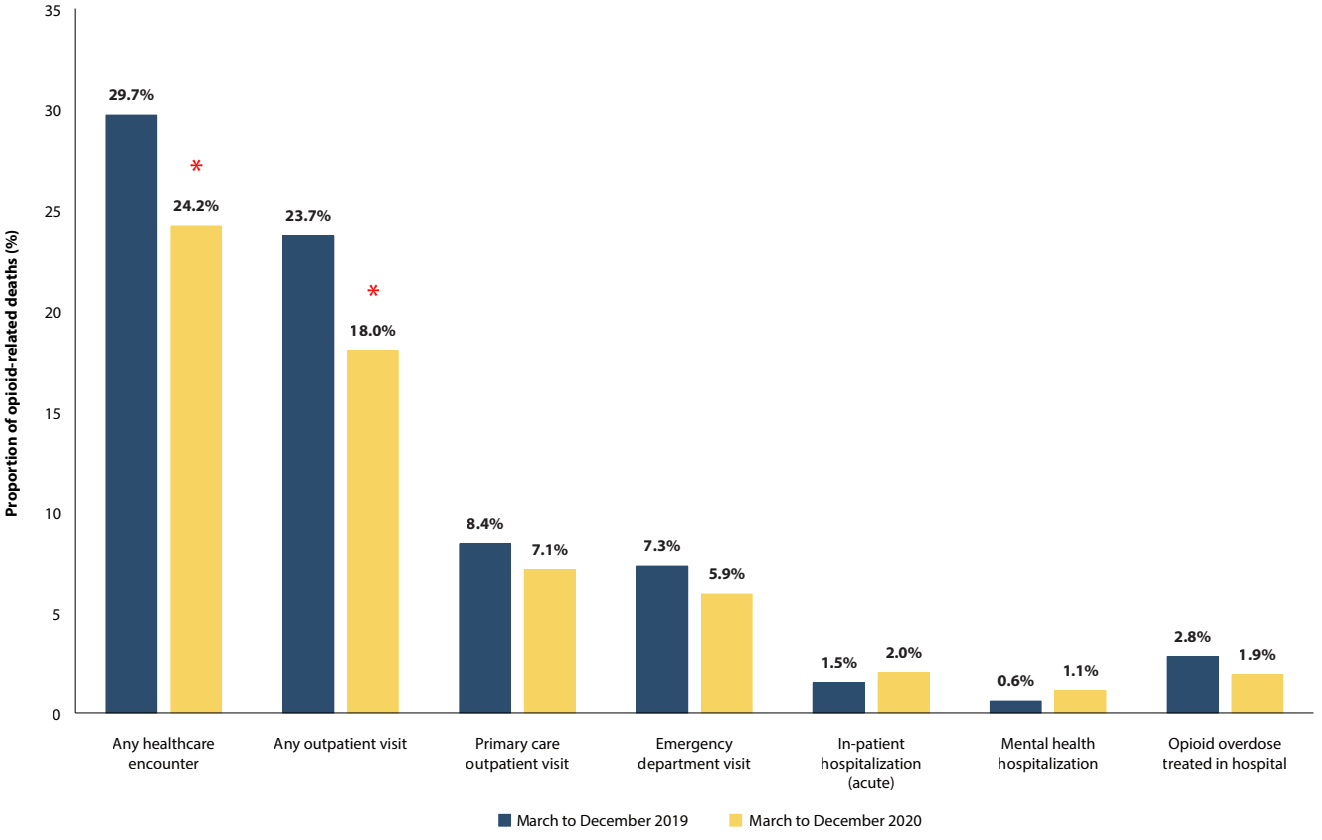
## Supporting More Accessible OAT

Although two-thirds of opioid-related deaths during the pandemic occurred among people with OUD, only one-third (36.7%) had accessed OAT in the previous five years (Table 2). Therefore, there is a need for investments into accessible, person-centred OAT programs that meet the needs of at-risk communities, provide a variety of choices – including methadone, buprenorphine, slow-release oral morphine and injectable OAT – and focus on measures to improve treatment engagement and retention. It is also imperative that we recognize that not all people with OUD will choose OAT or find it to be effective (Cioe et al. 2020; Nordt et al. 2019), which highlights the necessity of investments in comprehensive harm reduction programs, including supervised consumption services and safer opioid supply prescribing.

## Responding to Missed Opportunities for Engagement and Support

When people who use drugs visit hospitals or outpatient offices, there is an opportunity to connect them to programs and services, including OAT, mental health services, harm reduction services and housing support. Our findings showed that one-quarter (24.2%; *n* = 438) of opioid-related deaths during the pandemic occurred among people who had interacted with the healthcare system in the week before their death, with 7.1% having visited a primary care provider and 5.9% having visited an emergency department (Figure 1). Although we were unable to determine whether people were connected with services during these interactions, these findings suggest that considerable gaps exist in the healthcare system's ability to support people at risk for drug poisoning when they seek medical care. This speaks to the urgent need within the Canadian healthcare system to better integrate comprehensive care for people who use substances, including coordination of OAT, harm-reduction approaches and mental healthcare in hospital settings, while also improving transitions in care for outpatient and community-based health and social follow-ups (Kaczorowski et al. 2020). Furthermore, people who use drugs report widespread experiences of stigma and discrimination within the healthcare system (Biancarelli et al. 2019; Garpenhag and Dahlman 2021; Muncan et al. 2020). Urgent action is necessary to address this in healthcare settings, including improved training for healthcare providers in substance use and in the provision of non-stigmatizing and trauma-informed medical care. It is also imperative that input from people who use drugs is integrated into service development and provision to ensure that safe, respectful environments are created for people when seeking care.

**FIGURE 1.**
**Recent healthcare encounters (past seven days) prior to opioid-related deaths before and during the pandemic in Ontario**




*Indicates a statistically significant difference in proportion between the pre-pandemic and pandemic periods.

## Conclusion

These findings demonstrate the rapid evolution of the overdose crisis across Canada. The unpredictable unregulated drug supply that is dominated by fentanyl, changing patterns of polysubstance use and complex comorbidities and social circumstances of people at risk for drug overdose reinforces the need for expanded access to a broad suite of programs designed to support people who use drugs in their community. This should include pathways for accessing low-barrier OAT and community-based programs in multiple healthcare settings. Although an essential element of the overdose response, OAT alone is insufficient because many opioid-related deaths occur among people without OUD diagnoses. Therefore, it is imperative that investments are also focused on programs that provide comprehensive health and social care for all people who use substances, including expanded access to harm reduction programs. These should be tailored to the needs of individual communities, with considerations toward equitable availability of safer drug supply programs and supervised consumption services that include spaces for supervised inhalation and smoking across the country. HQ

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