DRUG CHECKING TRENDS XYLAZINE:

Understanding the trends and implications of Xylazine in Canada's unregulated drug supply market

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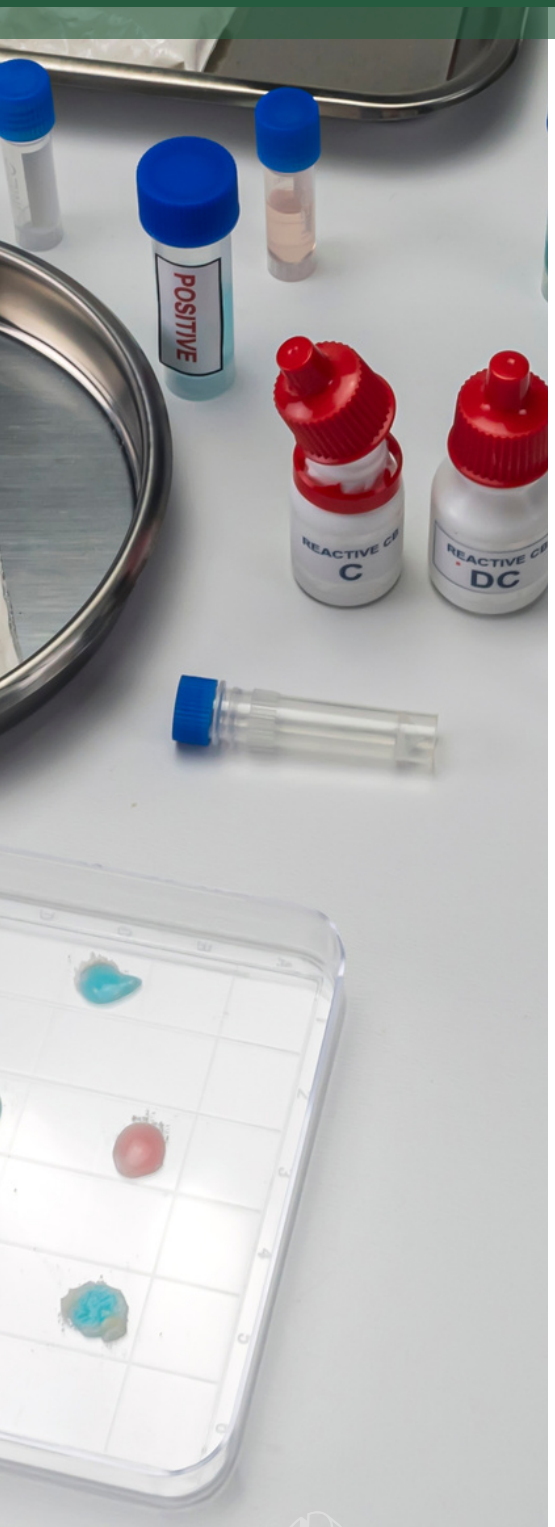
St. John Ambulance

ACCIDENTAL DRUG POISONING CRISIS

COMMUNITY OF PRACTICE

Understanding the trends and implications of Xylazine in Canada's unregulated drug supply market



INTRODUCTION

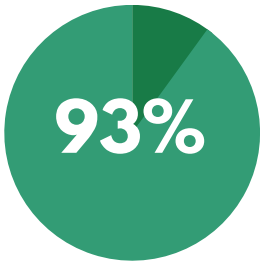
Canada's unregulated drug supply market is currently facing a significant crisis, leading to a surge in poisonings and drug-related harm. This crisis is primarily driven by the emergence of potent synthetic opioids, contamination of drug supplies with toxic substances, and challenges in accessing safe and regulated substances. To effectively tackle these issues, it is essential to analyze specific trends within this market. This report focuses on examining the trends of xylazine in Canada's unregulated drug supply market.

XYLAZINE OVERVIEW

Xylazine is a potent veterinary sedative and analgesic which is not approved human use. Itn is popularly know known as "tranq" acting as an alpha-2 adrenergic agonist, it induces sedation, muscle relaxation, and pain relief.

While originally developed for veterinary purposes, xylazine is predominantly found in powder form (93%) in the Canadian unregulated drug supply market as reported by Health Canada's Drug Analysis Service (DAS).

XYLAZINE POWDER FORM



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Concerns and Dangers

The presence of xylazine in the unregulated drug supply market raises significant concerns due to its association with serious risks. When combined with opioids, xylazine can lead to intensified sedation and respiratory depression, greatly increasing the risk of poisonings and adverse effects. **Moreover, xylazine's effects can be unpredictable, resulting in prolonged highs, blackouts, amnesia, and an elevated risk of drug poisoning.**

Of particular concern is the fact that individuals consuming substances adulterated with xylazine are often unaware of its presence. Chronic use of xylazine has been linked to various health complications, including **skin abscesses, soft tissue infections, necrotic tissue damage, and severe abscesses following injection or snorting.**

Due to its potential to cause deep skin wounds, aggressive non-healing ulcers, and infections that may necessitate amputation, xylazine has earned the alarming labels of the **"zombie drug"** or the **"flesh-eating drug."**

The presence of xylazine in the drug supply also creates complexities in diagnosing and treating accidental opioid poisonings, as naloxone is not effective against xylazine. This poses challenges to harm reduction efforts and requires alternative interventions and treatment approaches for unintentional xylazine consumption. It is essential to comprehend the use of xylazine and its associated risks to develop precise prevention, harm reduction, and treatment strategies. Therefore, monitoring and addressing the presence and impact of xylazine in the unregulated drug supply market are crucial for mitigating risks and safeguarding public health.

How much of xylazine is considered dangerous?

The precise threshold for dangerous levels of xylazine remains **unclear**. Fatal cases of xylazine poisoning have reported blood concentrations ranging from trace amounts to **16,000 ng/mL,** while non-fatal toxic concentrations have been observed between **30 and 4,600 ng/ml.**

TRENDS IN DRUG SUPPLY ACROSS THE COUNTRY

DRUG ANALYSIS SERVICE

The Drug Analysis Service (DAS) data may not fully represent substances circulating in the market, as samples are based on investigation needs, influenced by factors such as awareness, law enforcement capacities, and reporting requirements, potentially resulting in underreporting of non-controlled substances like xylazine.

The data from DAS however reveals a significant increase in xylazine identifications from samples submitted by law enforcement agencies in across the country. **In 2021**, there were **536 xylazine identifications**, which further surged to **1,350 identifications in 2022** throughout the country.

536 total identifications in 2021

1350 total identifications in 2022

This increase in identifications can be attributed to both British Columbia and Ontario who saw a significant surge in xylazine identifications. In 2022, **British Columbia** reported **260** identifications, while **Ontario** recorded the highest number at **1,011** identifications.

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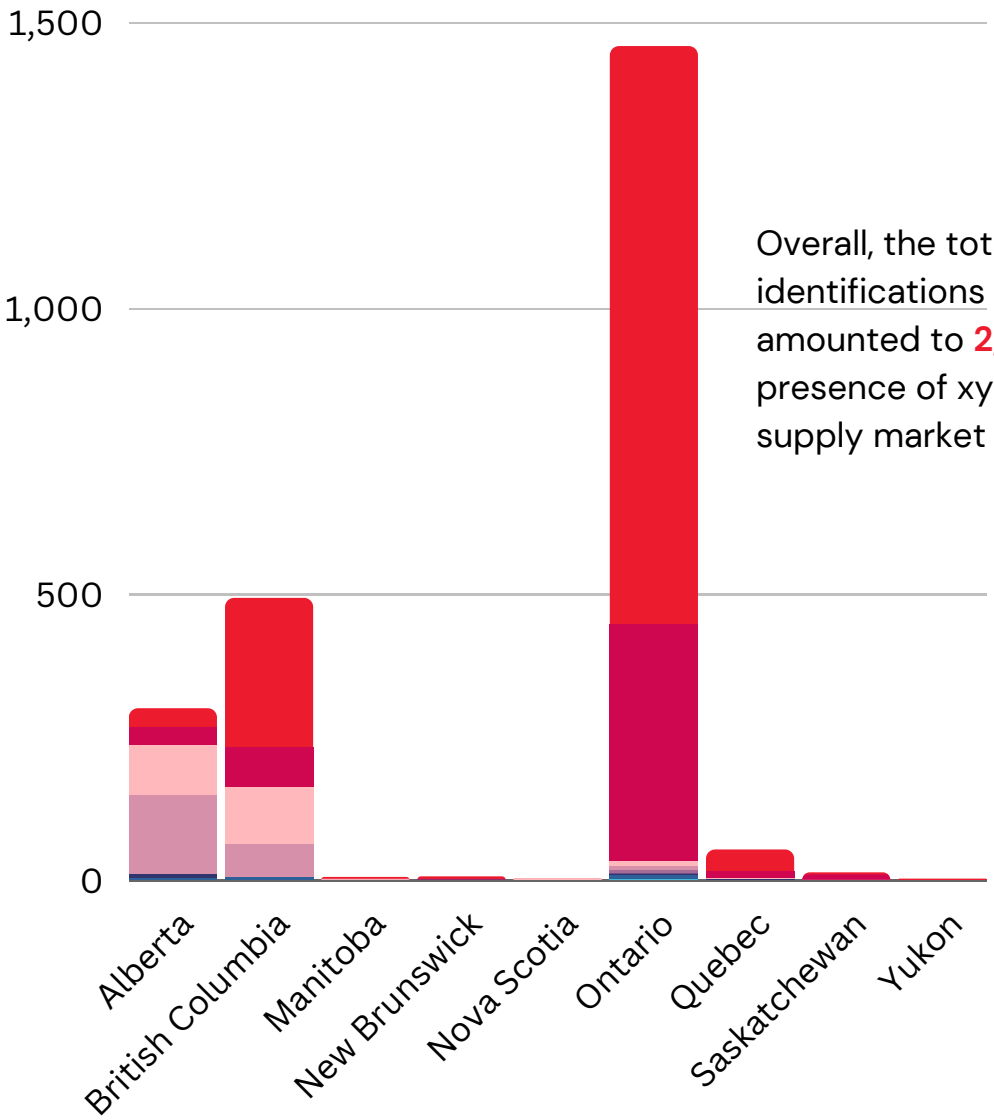
The chart provides the historical data (2012-2022) of xylazine identifications across different provinces/territories. Notably, **Alberta** had a total of **299** identifications, **British Columbia** with **492** identifications, followed by **Ontario** Columbia with **1458** identifications**. Other provinces/territories, such as Manitoba, New Brunswick, Nova Scotia, Quebec, Saskatchewan, and Yukon, also reported varying numbers of xylazine identifications over the years.**



Overall, the total number of xylazine identifications across all provinces/territories amounted to **2,324**, indicating the widespread presence of xylazine in the unregulated drug supply market

Xylazine Identifications per Province or Territory: 2012-2022.

Furthermore, DAS also reported xylazine has been frequently found in combination with opioids and cutting agents since 2019. However, as of 2021, xylazine has also been detected in conjunction with sedative/hypnotics, although this trend appears to have peaked in early 2022. Common co-occurring substances include **caffeine (cutting agent, 97%), fentanyl (opioid, 93%), dimethylsulphone (cutting agent, 38%), and flualprazolam (sedative/hypnotic, 28%)**. It is important to note that the combined use of xylazine with opioids like fentanyl or benzodiazepine-related drugs such as flualprazolam significantly increases the risk of fatality.

Drug Checking in British Columbia and Ontario

British Columbia

The first alert on xylazine by **the British Columbia Centre on Substance Use (BCCSU)** was published on July 16th, 2019. It involved a fentanyl-expected drug sample containing xylazine in Vancouver from Molson OPS. However, the first identification of xylazine by the BCCSU partner drug checking site, Safepoint, in Surrey, occurred on May 2nd, 2019.
Since then, there has been a drastic increase in the prevalence of xylazine in the province.

Xylazine Identifications per city in British Columbia

Cities	2019	2020	2021	2022	2023*	Total
Abbotsford	-	-	-	3	6	9
Burnaby	-	-	-	1	3	4
Chilliwack	-	-	-	6	6	12
Cranbrook	-	-	-	17	13	30
Hope	-	-	-	1	1	2
Kelowna	-	-	-	2	1	3
Maple Ridge	-	-	-	-	1	1
Mission	-	-	-	-	3	3
Nanaimo	-	-	-	4	6	10
New Westminster	-	-	-	1	-	1
Penticton	-	-	-	-	1	1
Powell River	-	-	-	-	2	2
Prince George	-	-	-	-	1	1
Princeton	-	-	-	-	3	3
Surrey	1	-	-	1	3	5
Vancouver	1	4	50	124	39	218
Vernon	-	-	-	1	1	2
Total	**2**	**4**	**50**	**161**	**90**	**307**

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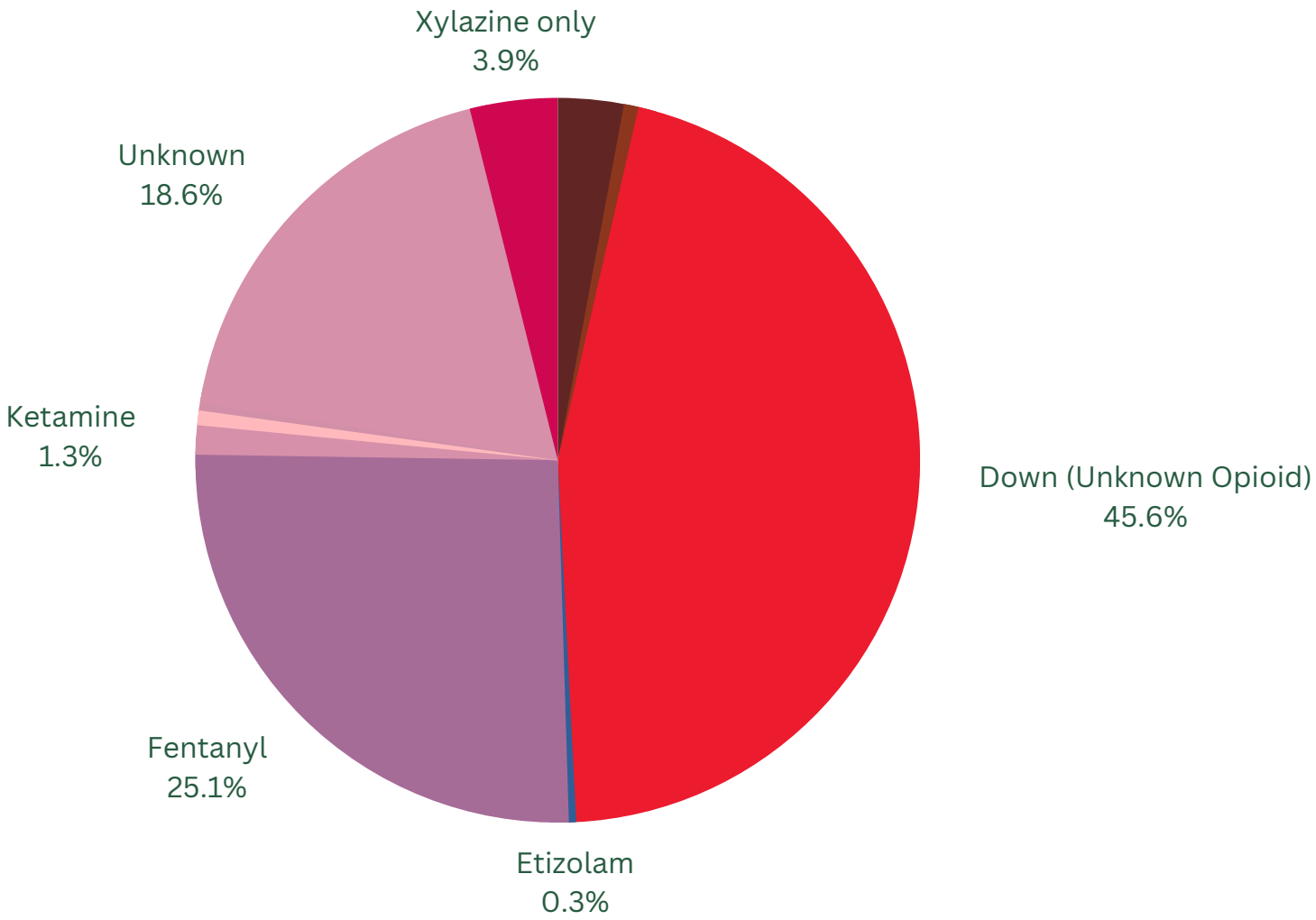
The table presents the number of xylazine identifications for each city from 2019 to 2023* (*data for 2023 only includes data from January 1st to April 30th) from the **BCCSU DrugSense data**. **Vancouver** had the highest number of xylazine identifications, totaling **218 identifications**. Notably, even with only four months of data for 2023, xylazine has been identified in every city. This indicates an increasing prevalence of xylazine this year.

Furthermore, the data from the BCCSU also confirms that xylazine is commonly found to be cut with opioids (including down and unknown opioids) and fentanyl. The chart belowprovides insights into the prevalence and co-occurrence of xylazine in drug samples. It highlights the instances where xylazine was unexpectedly detected during testing, indicating its prevalent use as a cutting agent or adulterant.

Prevalence and Co-Occurrence of Xylazine in Expected Drug Samples



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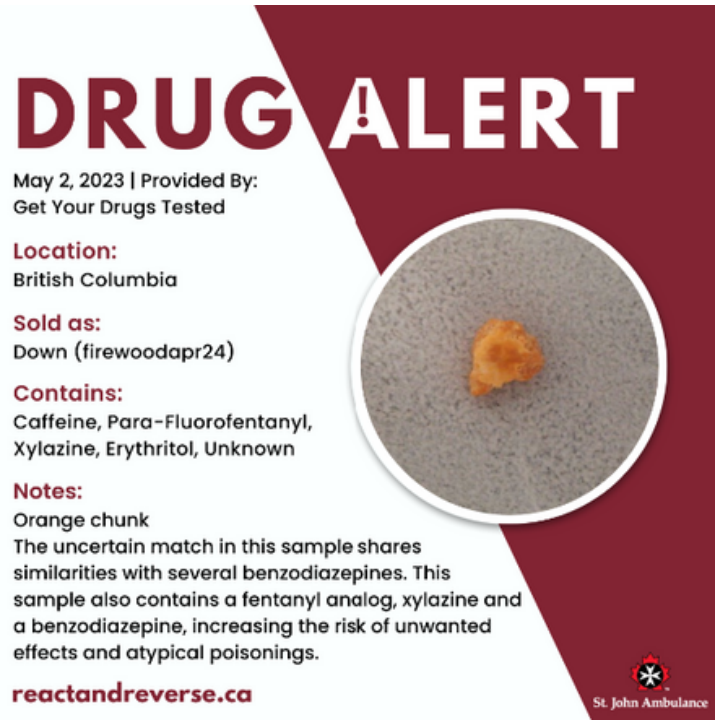
Toronto:

In October 2020, the CDPE - **Toronto's Drug Checking Service raised the first alert regarding xylazine in Toronto**. Since then, its presence has become more prevalent. In **2021,** xylazine was identified **14** times in fentanyl-expected samples, and this number significantly increased to **81** identifications in **2022**. Even in just the early months of **2023** (between January 1st and May 19th), xylazine has already been identified **47** times.

According to Toronto's Drug Checking Service, **most individuals who consume xylazine in their fentanyl supply are not aware of its presence**. It appears that xylazine is being cut into their drugs without their knowledge or intention.

This data emphasizes the concerning presence of xylazine in Toronto's unregulated drug market and highlights the need for increased awareness, prevention, and harm reduction measures to mitigate the risks associated with its use.

The SJA National Drug Alert System: Empowering Harm Reduction through Real-time Information



The SJA National Drug Alert System (NDAS) was established on December 12, 2022 to provide accurate and timely information on contaminated drug supply. We collaborate with harm reduction and drug-checking services nationwide to gather real-time data. Our goal is to enhance harm reduction efforts and promote the well-being of people who use drugs

We share alerts via email and social media to reach a wide audience. Subscribing to our alerts keeps individuals informed about contaminated drug supply, new substances, and potential risks.

Subscribe here!

In addition, our map-based dashboard offers access to a comprehensive database of alerts related to tainted substances. This interactive platform displays contaminated drug supply alerts sourced from our partner organizations. The map-based interface provides a visual representation of the affected regions, enabling users to stay informed about specific locations and the associated risks.

In collaboration with "Get Your Drugs Tested" in Vancouver, we recently released an alert regarding a sample submitted for testing. This sample, sold as **"Down"** and referred to as ***"firewoodapr24",*** raised concerns due to its contamination with xylazine **(click here for more information).**

Harm Reduction Tips for Safer Drug Use: Protecting Yourself in the Unregulated Drug Supply Market

- ·Test your drugs: Utilize drug checking services available in your community to check the composition and purity of substances before using them. This can help identify the presence of dangerous substances like xylazine and mitigate potential risks.
- ·Use supervised consumption sites (SCS): Visit SCS facilities where you can use drugs under the supervision of healthcare professionals. SCS provide a safe and controlled environment, reducing the risk of poisoning and providing immediate medical assistance if needed.
- ·Use with a buddy: Whenever possible, use drugs with a trusted friend or someone who can respond in case of an emergency. Watch out for each other and seek help immediately if any adverse reactions occur.
- ·Start low, go slow: Begin with a small amount of the substance and gradually increase the dose if needed. This approach allows you to gauge the strength and effects of the substance, reducing the risk of poisoning or unexpected reactions.
- Avoid using alone: If you must use drugs alone, inform someone you trust about your plans, the substances you intend to use, and establish a regular check-in system to ensure your well-being.

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In conclusion, the presence of xylazine in the unregulated drug supply market poses significant risks and complexities for individuals who use drugs and for public health as a whole. The increasing prevalence of xylazine, combined with its potential for serious health complications and the challenges it presents in terms of harm reduction and treatment, necessitates comprehensive and targeted interventions. By implementing evidence-based strategies such as drug testing, supervised consumption sites, harm reduction education, and close collaboration between stakeholders, we can work towards mitigating the risks associated with xylazine and ensuring the well-being of individuals who use drugs.

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