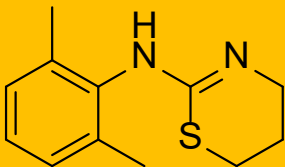


Medetomidine Xylazine



CURRENT SITUATION IN CANADA

INFOSHEET BY HEALTH CANADA’S DRUG ANALYSIS SERVICE

Health Canada’s Drug Analysis Service (DAS) operates laboratories across Canada that analyze suspected illicit drugs samples submitted by law enforcement agencies and public health partners.

Data from January 01, 2021 to March 31, 2026

	Medetomidine	Xylazine
IUPAC:	5-[1-(2,3-dimethylphenyl)ethyl]-1H-imidazole	N-(2,6-dimethylphenyl)-5,6-dihydro-4H-1,3-thiazin-2-amine
First Identification by the DAS:	May 11, 2022	February 14, 2001
Chemical (Pharmacological) Class:	Sedatives / Hypnotics	Sedatives / Hypnotics
Regulatory Framework:	Food and Drugs Act	Food and Drugs Act

PURPOSE

The aim of this info sheet is to offer key insights on medetomidine and xylazine based on samples submitted to DAS laboratories.

OVERVIEW

Medetomidine and xylazine are both sedative/hypnotics which act on the central nervous system to produce effects such as reduced anxiety, drowsiness, etc^{1,2,3}. Medetomidine is more potent than xylazine and their effects are not reversible by Naloxone^{2,4,5}. There are growing concerns with the increasing prevalence of these substances in Canada’s illicit drug supply^{2,4,5}. Geographic patterns over the last five years are described in Table 1.

Table 1. Count of Medetomidine and Xylazine identifications in samples submitted to DAS by Provinces and Territories (Jan 1, 2021, to Mar 31, 2026)

	Total Number of Medetomidine Identifications	Total Number of Xylazine Identifications
BC	331	1,166
AB	48	1,345
SK	3	112
MB	1	136
ON	3,564	5,503
QC	132	148
NB	70	108
PE	9	30
NS	17	14
NL	2	27
YT	0	3
NT	0	0
NU	0	0
TOTAL	4,177	8,592

TEMPORAL TRENDS OVER THE LAST 5 YEARS

Medetomidine identifications began increasing after 2023, surpassing xylazine in 2025. Xylazine identifications peaked around mid-2024 and have since declined steadily (Figure 1).

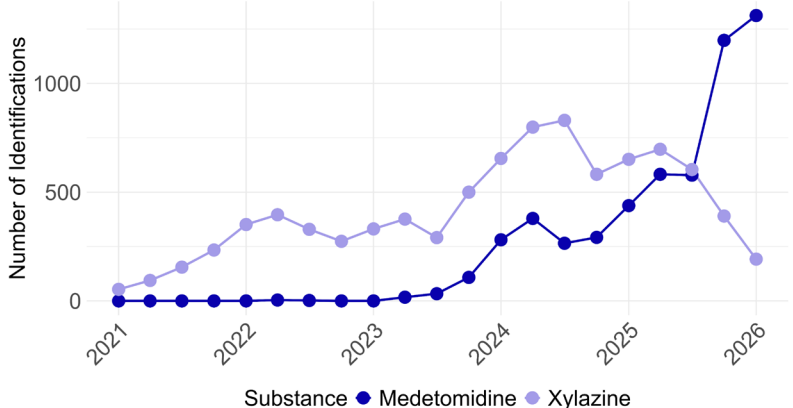


Figure 1. Quarterly Medetomidine and Xylazine identifications for the time period of Jan 1, 2021 to Mar 31, 2026

LIMITATIONS

- DAS data are based solely on the samples received for analysis and may not be representative of all drug seizures in Canada or of substances circulating on the illicit drug market. As such, caution should be exercised when using DAS data to identify trends or draw conclusions about the nature and composition of substances in circulation.
- The data shows the number of times each substance was identified in submitted samples. Because a single sample can contain more than one substance, the total number of identifications may be higher than the total number of samples.
- While DAS does not systematically report non-controlled substances, specific substances of interest (e.g., cutting agents, medetomidine, xylazine) are included on the Certificate of Analyst when identified through testing.

ACKNOWLEDGEMENTS

- Drug Analysis Service – Health Canada: Ayesha Khan, Justin Dyck, Priscilla Karnabi, Melina Thibault, Sarah O'Connor, Caroline Maurice-Gélinas, Marie-Line Gilbert, Thierry Lefrançois

TOP 10 CO-OCCURRING CONTROLLED SUBSTANCES

Fentanyl and para-fluorofentanyl were the top 2 co-occurring substances within both medetomidine and xylazine samples submitted to DAS laboratories in the past 5 years (Figures 2 and 3, below). Fentanyl is the top co-occurring substance identified in 64% of medetomidine samples and 74% of xylazine samples. Specifically, in 2025, 30.2% of fentanyl and/or fentanyl analogue samples contained xylazine and/or medetomidine, an increase from their introduction on the market in 2020, where they were present in less than 2% of samples.

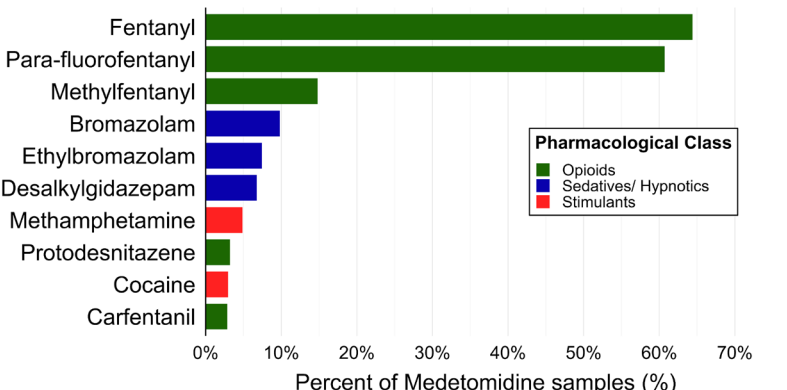


Figure 2. Co-occurring Controlled Substances within Medetomidine Samples for the time period of Jan 1, 2021, to Mar 31, 2026

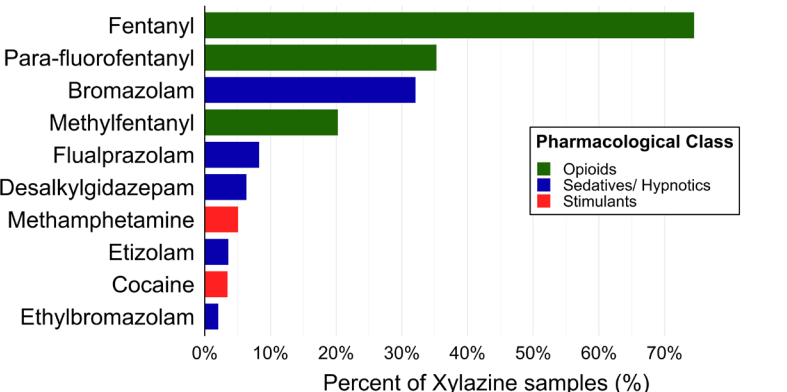


Figure 3. Co-occurring Controlled Substances within Xylazine Samples for the time period of Jan 1, 2021 to Mar 31, 2026

Note 1: Figures 2 and 3 only include controlled substances under the Controlled Drugs and Substances Act (CDSA)
Note 2: A sample may contain more than one co-occurring substance(s)

QUICK STATISTICS

(Data from January 1, 2025, to December 31, 2025)

19.4%

of samples containing fentanyl and/or fentanyl analogues also contained medetomidine

16.3%

of samples containing fentanyl and/or fentanyl analogue also contained xylazine

Majority (~95%)

of samples containing medetomidine or xylazine had a powder and/or grainy substance form

28.6%

of medetomidine samples also contained xylazine

REFERENCES

- To access references, please use the following dynamic hyperlink [\(1\)](#), [\(2\)](#), [\(3\)](#), [\(4\)](#), [\(5\)](#).
- For the printed version, you can access references by following this QR code.

