

Introduction

- ❖ Novel synthetic opioids are generally highly potent synthetic opioids manufactured by clandestine laboratories.
- ❖ Of concern, opioid harms characterised by novel synthetic opioids have increased over recent years.

Aims

This study describes the availability of novel synthetic opioids for purchase via cryptomarkets between June 2021 and May 2026.

Methods

- ❖ Monthly drug listings were collected from 45 cryptomarkets. An approach combining a rule-based algorithm and a neural network model was used to identify and categorise listings.
- ❖ Terms for novel synthetic opioids were sourced from external databases including UNODC, HighResNPS and NPS Data Hub for identification of these listings.
- ❖ Temporal trend in the proportion of novel synthetic opioids as a percentage of all drug listings is presented. This is compared with trends in the proportions of heroin and other opioids.
- ❖ The novel synthetic opioid types and the most frequently listed novel synthetic opioids as a percentage of all novel synthetic opioids are also presented in each year of the study.

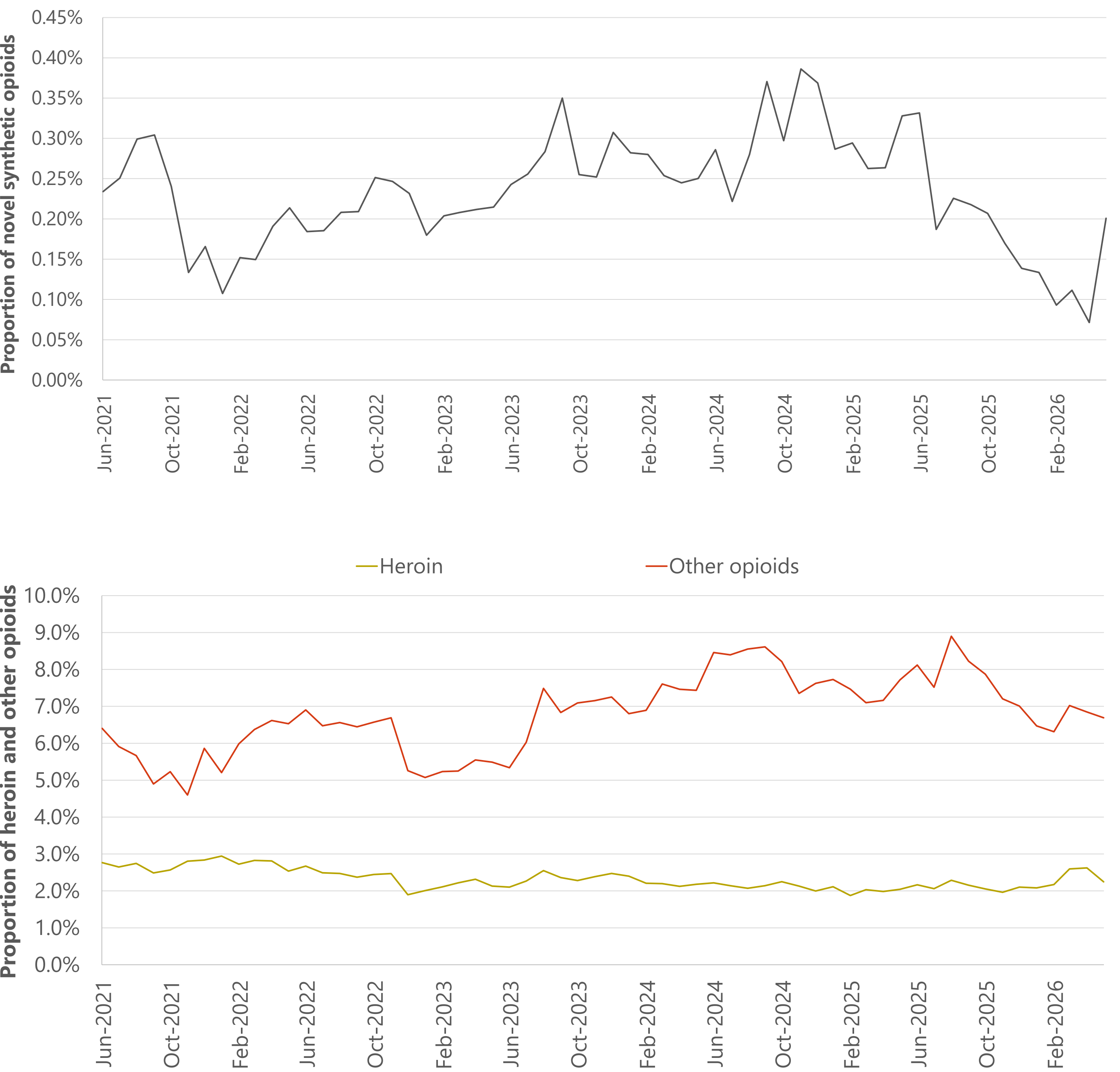
Results 1

- ❖ Of the 45 cryptomarkets studied between June 2021 and May 2026, 39 had at least one novel synthetic opioid listing. A total of 5605 listings selling novel synthetic opioids were identified: this constituted 0.23% of all drug listings.

Temporal trend in novel synthetic opioids in cryptomarkets

- ❖ Over the 5-year study, the proportion of novel synthetic opioids listings gradually increased from the end of 2021 to the beginning of 2025, then decreased to its lowest proportion at the beginning of 2026.
- ❖ The proportion of other opioids also gradually increased from the end of 2021 to the middle of 2025, before decreasing to 2022 levels at the end of the study.
- ❖ The proportion of heroin remained relatively stable over time.

Figure 1. Trends in the proportion of novel synthetic opioid (top), heroin and other opioid (bottom) listings, as a percentage of all drug listings on the cryptomarkets.



Results 2

Novel synthetic opioid types

- ❖ Nitazenes were the most common listing (67.0%). They comprise about 3 in 4 listings of novel synthetic opioids in 2021-22 (75.8%) and 2022-23 (73.2%). This decreased to less than half of the listings in 2025-26 (Table 1).
- ❖ Other synthetic opioids were the next most common with proportions between 17.7% and 28.7%.
- ❖ Orphine analogues were not identified in 2021-22 and 2022-23, and their proportion increased to 27.5% of listings in 2025-26.

Table 1. Novel synthetic opioids types identified

Substance	2021-22 (N=1159)	2022-23 (N=1338)	2023-24 (N=1206)	2024-25 (N=1097)	2025-26 (N=805)	Total (N=5605)
Nitazenes	75.8%	73.2%	71.2%	65.2%	40.0%	67.0%
Orphine analogues	0.0%	0.0%	1.8%	16.3%	27.5%	7.5%
Fentanyl analogues	4.2%	2.7%	1.7%	0.6%	3.9%	2.6%
Other synthetic opioids	20.0%	24.1%	25.2%	17.7%	28.7%	22.9%
Synthetic opioids, non-specific ¹	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: The year extends from June each year to May in the following year, e.g., '2021-22' extends from June 2021 to May 2022. 'Synthetic opioids, non-specific' denote listings where more than one novel synthetic opioid type was identified.

- ❖ Of the 12 most common novel synthetic opioids in the 5-year period, 7 were nitazenes, one was an orphine analogue (SR17018), one was a fentanyl analogue (carfentanil), and 3 were other synthetic opioids (Table 2).
- ❖ Except for O-desmethyltramadol (an 'other synthetic opioid'), the most frequent listings (comprising >10% of listings) were all nitazenes from 2021-22 to 2024-25. In 2025-26, SR171018 and methiodone (an 'other synthetic opioid') also comprised >10% of the novel synthetic opioid listings.

Table 2. The most common specific novel synthetic opioids identified

Substance	2021-22 (N=1159)	2022-23 (N=1338)	2023-24 (N=1206)	2024-25 (N=1097)	2025-26 (N=805)	Total (N=5605)
Isotonitazene ¹	11.0%	16.8%	22.6%	30.8%	10.4%	18.7%
O-desmethyltramadol ⁴	10.2%	15.4%	18.6%	11.4%	12.8%	13.8%
Protonitazene ¹	2.5%	14.5%	16.7%	11.0%	10.9%	11.3%
Metonitazene ¹	15.4%	16.3%	7.9%	2.6%	1.6%	9.5%
Etodesnitazene ¹	20.7%	4.8%	3.3%	1.9%	1.6%	6.7%
SR17018 ²	0.0%	0.0%	0.9%	6.0%	14.8%	3.5%
Methiodone ^{4,5}	0.0%	0.0%	0.7%	4.9%	10.6%	2.6%
2-methyl-AP-237 ⁴	3.3%	5.0%	3.2%	0.2%	0.0%	2.6%
Etonitazepyne ¹	8.0%	2.8%	0.5%	0.5%	0.0%	2.5%
N-desethyl protonitazene ¹	0.0%	0.0%	0.6%	8.5%	3.6%	2.3%
Carfentanil ³	3.9%	1.9%	1.5%	0.5%	3.0%	2.1%
Fluonitazene ¹	6.1%	3.2%	0.0%	0.0%	0.0%	2.0%
All other	19.0%	19.4%	24.2%	26.5%	41.2%	24.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Only substances with listings comprising >2% of the overall are shown. ¹ Isotonitazene, protonitazene, metonitazene, etodesnitazene, etonitazepyne, etonitazepyne and fluonitazene are nitazenes. ²SR17018 is an orphine analogue. ³Carfentanil is a fentanyl analogue. ⁴O-desmethyltramadol, 2-methyl-AP-237 and methiodone are 'other synthetic opioids'. ⁵Methiodone included N-piperidinyl methiodone.

Implications

- ❖ There is widespread availability of novel synthetic opioids for sale on cryptomarkets though the proportion of novel synthetic opioid listings had decreased in 2025.
- ❖ While nitazenes were the most common novel synthetic opioids, its proportion has declined, and the proportion of orphine analogues increased. The most commonly listed nitazenes also changed in this time.
- ❖ Some of the most common novel synthetic opioids identified on cryptomarkets have been identified through clinical and forensic data internationally and in Australia.
- ❖ Novel synthetic opioid listings on cryptomarkets had evolved over the 5-year period. This study illustrates that online market monitoring can serve as part of a data monitoring system to enable timely, sensitive detection of changes in drug markets and harms.

Acknowledgements and more information

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