



# Same-day use of risky substance combinations among a sample of people who frequently inject drugs in Australia, 2025

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## Key Findings

### AT LEAST 1/3 OF THE SAMPLE

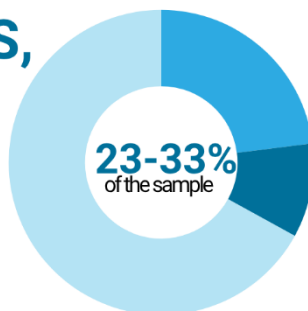
(33-41%) reported same day use of two drugs that increase risk for overdose.



33-41%  
of the sample

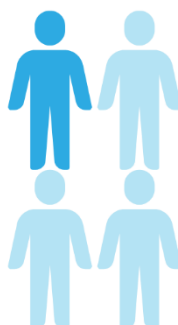


**PHARMACEUTICALS,**  
WHETHER PRESCRIBED OR  
NON-PRESCRIBED,  
were involved in the  
majority of these  
combinations (23-33%  
of the sample).



### MORE THAN 1/4

(26-46%) of those taking benzodiazepines or gabapentinoids daily did not report using them yesterday.



26-46%  
did not report using  
them yesterday



## Introduction

In Australia, most drug overdose deaths involve polysubstance use; that is, when more than one drug class (or more than one drug within a class) is used at a time (1). While overdose can arise from many factors, given the unpredictability of the illicit drug supply, there are particular combinations of drug classes that can substantially increase the risk of overdose to a greater extent than that from either substance by itself. Complicating matters further, substances both within and between drug classes can have very differing durations of action, and due to tolerance, may remain quite active in the body even when noticeable subjective effects have worn off.

In this bulletin, we examine reported same-day use of drug classes that may carry particular risk when used in combination, and that make notable contributions to drug-related mortality in Australia. These combinations include:

- *Multiple opioids* (for example, heroin and pharmaceutical opioids, or multiple different pharmaceutical opioids): Opioids can suppress respiration at high doses, and using multiple opioids can have additive effects, increasing the risk of respiratory depression and overdose.
- *Opioids with alcohol, gabapentinoids (such as pregabalin or gabapentin) or benzodiazepines*: These substances can have additive or synergistic effects on opioid-related respiratory suppression, making a normally well-tolerated opioid dose much more likely to result in overdose.
- *Opioids and amphetamine-type stimulants (e.g., methamphetamine)*: While opioids and stimulants have differing effects, overdoses involving opioids and amphetamine-type stimulants have increased in Australia, relating to 1.5 deaths per 100,000 people in 2024 (1). The reasons behind these increased rates are not entirely clear (2), and may be co-incidental (an opioid overdose but stimulants were used earlier in the day), or from stimulant effects masking opioid effects, increased strain across multiple body systems, and emerging animal studies suggest the possibility of stimulants increasing respiratory suppression from opioids at low rather than high doses (3).
- *GHB with benzodiazepines or alcohol*: GHB has a narrow dose window between desired effects and coma and respiratory failure. Benzodiazepines are depressants with parallel effects to GHB so have additive effects to risks from GHB and alcohol has interactive, synergistic effects that increase risk.

Many of these interactions relate to combinations of illicit drugs and pharmaceuticals. This itself is a complex situation for the consumer: pharmaceuticals should have a known content but those purchased on the illicit market may be counterfeit, containing different types or amounts of active substances than expected (5, 6); adaptations to regular pharmaceutical use may mean there are no noticeable effects to remind the consumer that it is active; recall of daily habits such as taking medication is especially vulnerable to poor recall (7); and some substances such as benzodiazepines have substantial memory impairing effects (8).

## Methods

We analysed data from all 865 people who regularly injected illicit/non-prescribed drugs interviewed in the 2025 Illicit Drug Reporting System (see 11 for methods). Participants were asked “*What drugs did you take yesterday including alcohol, tobacco, cannabis and prescription medications like antidepressants and benzodiazepines?*”. Because there are gaps in recall, particularly of substances used regularly (10), we also created a second estimate of use, based on responses earlier in the interview where people were systematically asked how often they had used a range of substances. In this estimate, if a person reported that they used a substance every day in the past 6 months (i.e., 180 days), we assumed they had also used it yesterday. The percentages of same day use of selected key drug pairings were assessed under each of these definitions.

## Results

While use of two substances on the same day does not necessarily imply risk at the individual level, as this will depend on dose, tolerance, general health, and importantly the specific timing of each drug (some drugs assessed have active times of 2-5 hours; others have 6-12 hour or longer windows of effect), this is a useful proxy for risk experienced in the cohort.

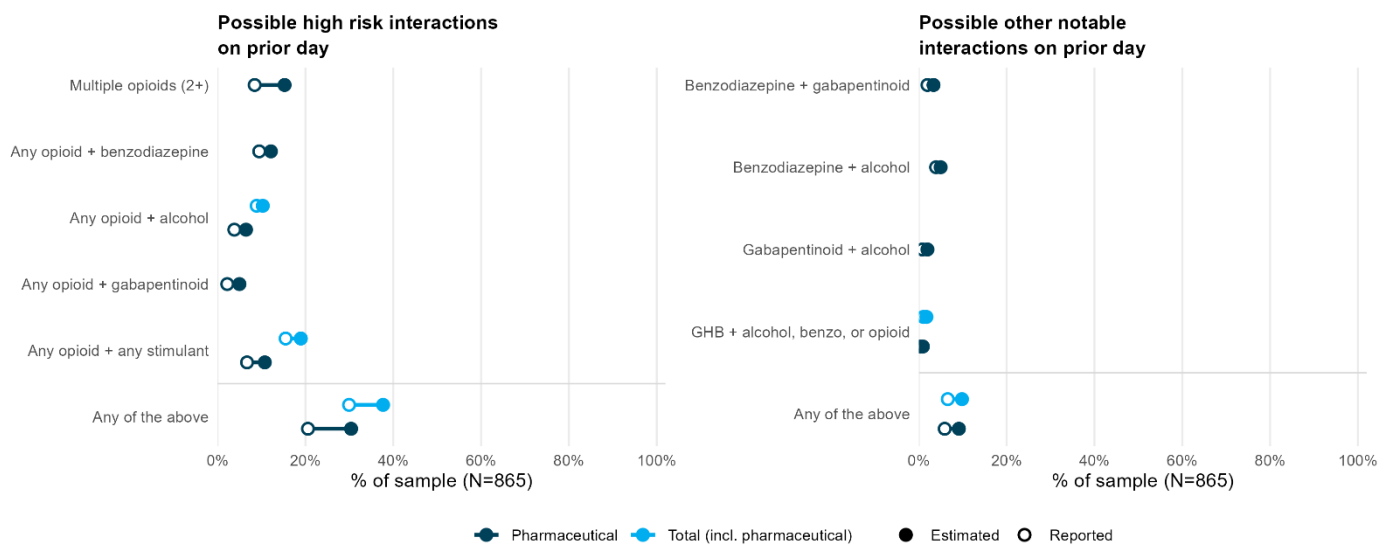
Reports of use of each drug class yesterday are presented in Table 1. The proportion of people who reported daily use of a substance earlier in the interview but did not report use daily was low for illicit substances (e.g. 5% of those reporting daily heroin use and 9% of those reporting daily methamphetamine use) but was substantially larger for pharmaceutical substances (e.g. 41% of those reporting daily use of any pharmaceutical opioid, 26% of those reporting daily benzodiazepine use).

**Table 1. Percentage of participants who reported use yesterday, daily use and participants who reported daily use but did not report use yesterday of key substance classes, IDRS National, 2025**

| Drug                     | Reported use yesterday<br>(% of total sample, n) | Reported daily use<br>(% of total sample, n) | Participants who reported daily use but did not report use yesterday<br>% of daily, n) |
|--------------------------|--------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------|
| Heroin                   | 35% (n=305)                                      | 23% (n=195)                                  | 5% (n=10)                                                                              |
| Pharmaceutical opioid    | 19% (n=168)                                      | 24% (n=205)                                  | 41% (n=85)                                                                             |
| Illicit stimulant        | 49% (n=425)                                      | 21% (n=184)                                  | 9% (n=17)                                                                              |
| Pharmaceutical stimulant | 1% (n=11)                                        | 1% (n=9)                                     | 67% (n=6)                                                                              |
| Benzodiazepine           | 14% (n=125)                                      | 12% (n=102)                                  | 26% (n=27)                                                                             |
| Alcohol                  | 20% (n=173)                                      | 8% (n=72)                                    | -                                                                                      |
| Gabapentinoid            | 4% (n=38)                                        | 6% (n=52)                                    | 46% (n=24)                                                                             |
| GHB                      | 2% (n=19)                                        | 1% (n=9)                                     | -                                                                                      |

Notes. - Per cent suppressed due to small cell size (n≤5 but not 0).

**Figure 1. Percentage of participants reporting or estimated to have used possibly risky substance pairings on the prior day, with involvement of pharmaceuticals specified, National IDRS, 2025**



Note: 'Any of the above' is assessed on the individual level, noting that an individual may be included in multiple risk pairings (e.g. both multiple opioids and an opioid plus benzodiazepine). Multiple opioids refers to either multiple types of pharmaceutical opioids or heroin plus a pharmaceutical opioid. Pharmaceutical relates to the preparation of the substance, not whether it was prescribed or purchased illicitly.

One third of all participants (33%; n=283) self-reported using at least one of these drug class pairings yesterday. This estimate increased to 41% (n=350) when prior daily use was incorporated. Figure 1 shows overall engagement in these potentially risky drug combinations, with combinations involving pharmaceuticals presented separately. Pharmaceuticals were commonly involved, with 23%-33% of the sample reporting one or more risky pairings involving a pharmaceutical of interest.

## Discussion

Despite general declines in use of pharmaceuticals among successive IDRS cohorts (8), pharmaceuticals remain central in overdose deaths in Australia (1) and are a key component of the risk profiles identified here. Among people reporting benzodiazepine use, around *two thirds* (69%) *used some type of opioid on the same day* (152 were estimated to have used benzodiazepines, 105 of these were estimated as using opioids on the same day), with similar patterns observed among people using gabapentinoids. With counterfeit benzodiazepines often containing NPS from the benzodiazepine class (5), it is unlikely that any consumer will be able to reliably predict the duration of action, and several substances in this group have half-lives longer than 24 hours, making same day use particularly high risk.

Our approach here to identifying use on the prior day, comparing reports of 'daily use' of a substance to what was recalled yesterday, highlights that habitual use of medications may be particularly prone to forgetting. The discrepancy between recalled use and previously reported daily use was low for drugs such as heroin but much greater for benzodiazepines (>25% of those reporting daily use not reporting use yesterday) and gabapentinoids (>40%).

As such, it is important that harm reduction messaging continue to emphasise the importance of avoiding same day use of opioids (pharmaceutical or otherwise) with pharmaceuticals, whether they be prescribed or non-prescribed. Moreover, ensuring that naloxone is on hand with people around able to use it continues to be a crucial message.

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