

Nitrous oxide product types and sources among people who regularly use ecstasy and/or other illicit stimulants, 2021-2025

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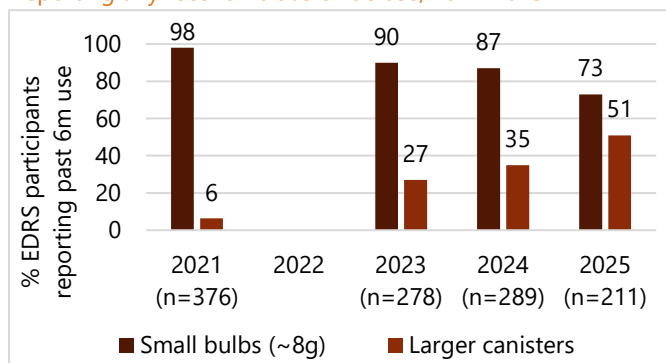
Introduction

Increasing reports of neurological and psychiatric harms associated with nitrous oxide use [e.g. 1-2] have prompted regulatory responses in multiple countries. In October 2022, the Therapeutic Goods Administration (TGA) [reclassified nitrous oxide](#) for non-therapeutic use as a Schedule 6 poison, prohibiting sales to persons under 16 and mandating warning labels. In addition, some Australian jurisdictions have introduced further measures to deter harmful use, including [Western Australia's October 2024 restrictions](#) limiting retail sales to licensed businesses and small bulbs only. This bulletin examines trends in product types used, purchase sources, and reported difficulties purchasing nitrous oxide.

Results

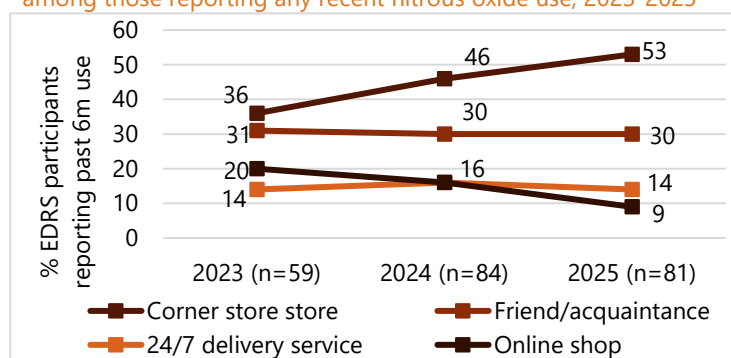
Among sentinel samples of people who regularly use ecstasy and/or other illicit stimulants recruited from Australian capital cities for the 2021–2025 [Ecstasy and Related Drugs Reporting System \(EDRS\)](#) annual interviews [3], past 6 months nitrous oxide use declined from 49% in 2021 (n=379/774) to 31% in 2025 (n=215/774). However, reports of larger canister use increased (Figure 1). Corner stores were reported as the most common source of this form (Figure 2). Reports of difficulties purchasing nitrous oxide (any form) in the past 6 months remained low but increased slightly (4% in 2023; 9% in 2024; 10% in 2025). Supplementary jurisdiction-specific data are available upon request.

Figure 1. Forms used in the past 6 months among those reporting any recent nitrous oxide use, 2021-2025



Note. Question on forms used was not asked in 2022.

Figure 2. Sources of larger canisters purchased in the past 6 months among those reporting any recent nitrous oxide use, 2023-2025



Discussion

These findings suggest a clear shift from the use of small bulbs to larger canisters, which is concerning given emerging evidence linking these products to greater exposure (e.g. faster balloon refills) and increased neurotoxicity [e.g. 2]. Continued sourcing from corner stores and 24/7 delivery services, alongside only a small increase in reported purchasing difficulties, suggests that nitrous oxide remained readily accessible despite regulatory responses and dissemination of information about health harms [4]. This likely reflects ongoing consumer demand and retail profit incentives. Overall, findings highlight the need for ongoing monitoring of use, harms, and market dynamics, continued refinement of regulatory responses, and a balanced approach addressing supply, demand, and harm reduction. This should include measures targeting large canisters, novelty packaging, flavouring, and multi-canister promotions, while minimising the risk of unintended consequences such as displacement to unregulated markets or reduced help-seeking.

References

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