

Benzodiazepines in the ACT Illicit Drug Supply: Surveillance Data from the CanTEST Health and Drug Checking Service

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Introduction: Novel benzodiazepines (NBZ) are an emerging and rapidly evolving class of substances presenting significant public health challenges. In its first three years of operation, CanTEST Health and Drug Checking Service - Australia's first fixed-site drug checking service - has reported as increase in NBZ presentations.

Methods: Data were drawn from CanTEST records. Primary analytical methods include Fourier-transform infra-red spectroscopy, ultra-performance liquid chromatography-photodiode array (UPLC-PDA) analysis, and benzodiazepine test strips; in January 2025, a dedicated UPLC-PDA method for NBZ identification was introduced at CanTEST, supported by secondary high resolution ultra-performance liquid chromatography-tandem mass spectrometry and nuclear magnetic resonance analysis at the Australian National University, substantially expanding detection capability. Where provided, client expectations of drug type are also presented.

Results: Over 6,000 samples were tested across the service's first three years, with benzodiazepines representing an increasingly prominent category. More than 12 benzodiazepine-related community notices were issued in Year 3. Registered benzodiazepines detected included alprazolam, clonazepam, diazepam, lorazepam, and nitrazepam; often in combination with other drugs, and frequently absent from samples where they were expected. The most commonly detected NBZ were bromazolam, clobromazolam, clonazolam, desalkylgidazepam (bromonordiazepam), and ethylbromazolam. Newly emerging NBZ included ethylflualprazolam (first detected March 2026), rilmazafone (Oct 2025), 4'-chlorodeschloroalprazolam (Oct 2025), ethylbromazolam (April 2025), and bromazolam (Aug 2024). A recurring pattern of multi-substance presentations was observed, with single pills found containing two or more distinct NBZ, and benzodiazepines co-occurring with opioids, nitazenes, and synthetic cannabinoids.

Discussions and Conclusions: CanTEST data document the dynamic illicit benzodiazepine market characterised by the emergence of NBZ, convincing counterfeit pharmaceuticals, and potentially dangerous multi-substance combinations. The introduction of advanced analytical methods in 2025 enabled Australian-first detections of multiple NBZ, often within months of their global emergence. Fixed-site drug checking services are essential infrastructure for early-warning surveillance of novel psychoactive substances and real-time harm reduction responses.

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