A cost-benefit analysis of the implementation and scale-up of harm reduction interventions in the Australian Capital Territory

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Introduction: Harm reduction interventions aim to reduce negative consequences of drug use. We conducted a cost-benefit analysis of existing and new harm reduction interventions in the Australian Capital Territory.

Methods: Independent decision tree models captured health outcomes (opioid/non-opioid overdose; overdose-related deaths; injection-related skin/soft tissue/vascular infections (IRIs); hepatitis C incidence) for 2026-2030 according to intervention coverage. A baseline scenario (current intervention coverage maintained) was compared to a counterfactual no interventions scenario and scenarios with interventions linearly scaled up to maximum coverage. Societal economic benefits were estimated from health costs averted (emergency response; shorter hospitalisation for IRI; hepatitis C treatment) and years-of-life-lost. Benefit-cost ratios were calculated compared to the baseline. A sensitivity analysis considered a changed illicit drug market with increased probability of overdose and overdose-related death.

Results: Compared to no coverage, the current package of harm reduction interventions was estimated to cost $24.6 million over 2026−2030 and avert 474 overdoses, 70 overdose-related deaths, 215 emergency responses, 350 hepatitis C infections, and 199 IRIs. This corresponds to $265.7 million in economic benefits (benefit-cost ratio=10.8 [95%CI=8.3−13.3]).
Benefit-cost ratios for scaling up take-home naloxone (17.8 [5.4−30.3]), opioid agonist treatment (10.9 [5.8−16.4], technological interventions (3.8 [0.0−17.1]), drug consumption room/s (2.1 to 2.9 [0.6−4.8] depending on model), safer opioid supply (1.7 [0.8−2.8]) and needle-syringe programs (1.5 [0.9−2.5]) were favourable. The benefit-cost ratio for drug checking was 0.4 (0.0−6.8) but increased to 15.3 (0.1−32.2) under changed drug market conditions.

Discussions and Conclusions: Modelled harm reduction interventions are highly effective at reducing deaths, infections and associated health costs. Wider circulation of drugs with higher overdose risks would increase the impacts of interventions to prevent overdose and associated harms.

Implications on communities, practice, policy and/or First Nations communities: Expanding existing harm reduction services or introducing new harm reduction interventions in the Australian Capital Territory makes economic sense.

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