

Depot buprenorphine as an opioid agonist therapy in New South Wales correctional centres: A costing model

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Introduction: Liquid methadone (>90%) and sublingual buprenorphine-naloxone (SL BPN) have been primary opioid agonist treatments in NSW correctional centres. Both have significant potential for diversion to other patients, and their daily administration is resource intensive. Following a safety trial (UNLOC-T), a long-acting subcutaneous depot formulation of buprenorphine became available in 2020. Depot BPN is more difficult to divert and requires only once-weekly or once-monthly administration. This paper reports two modelled comparisons of economic costs associated with providing depot BPN, methadone, and SL BPN in the seven UNLOC-T trial facilities.

Methods: Patient populations were a) depot BPN UNLOC-T patients; b) all methadone patients in trial facilities; and c) all SL BPN patients in trial facilities. We used a 'bottom-up approach' for collecting and analysing opportunity costs. Labour, materials and pharmacy data were collected during site observations and interviews. Cost perspectives were: the NSW government which funds custodial and health services; and the Australian Commonwealth government, which funds medications.

Results: For in-trial analysis, monthly-per-patient NSW government service costs for depot BPN, methadone and SL BPN were respectively: \$122, \$466 and \$1407. Respective monthly per-patient medication costs were \$434, \$81 and \$568. A simulation estimated costs for implementation where 60% of patients were receiving depot BPN by 12 months. At month one, the monthly-per-patient cost for depot BPN was \$165 as 81% of patients required weekly initiation doses. At month twelve, this cost declined to \$78 as most patients had moved to monthly administration. Per-patient costs of methadone and SL BPN increased as patient numbers declined against fixed costs.

Conclusions: Depot BPN consistently showed lowest opportunity costs. Future modelling can allow for dynamic patient populations and downstream impacts for the state health system.

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