MODELLING THE IMPACT OF UNSUPERVISED INJECTABLE OPIOID AGONIST THERAPY WITH OTHER OPIOID THERAPIES

Tse WC[1,2], Scott N[3], Dietze P[4,5,6], Nielsen S[1]
1. Monash Addiction Research Centre and Eastern Health Clinical School, Monash University
2. Monash University School of Medicine, Monash University
3. Burnet Institute Modelling and Biostatistics Group
4. Burnet Institute Centre for Epidemiology and Population Health Research Behaviours and Health Risks Program
5. National Drug Research Institute
6. School of Public Health and Preventive Medicine, Monash University

Background: Opioid agonist therapy (OAT) is a cost-effective treatment for PWID. Injectable opioid agonist therapy (iOAT) may provide increased treatment coverage for people who inject drugs (PWID), though the risks and benefits of providing iOAT unsupervised are unclear. We aimed to model the impacts of a range of different unsupervised iOAT coverage scenarios in reducing overdose risks and associated costs in a simulated population of 10,000 PWID in Australia.

Method: A decision tree model, based on parameters for overdose risk in PWID, was used to estimate overdoses (fatal and non-fatal) and treatment costs per 10,000 PWID per annum for scenarios defined by the percentage of PWID: not on OAT; on OAT; on iOAT; or on unsupervised iOAT. Scenarios considered were (1) OAT only (status-quo), or OAT plus (2) 5% supervised iOAT, (3) 5% supervised and 5.69% unsupervised iOAT, and (4) 1.2% supervised and 10% unsupervised iOAT (the same treatment cost as (2)). The cost-per death averted was calculated was compared to the status-quo.

Results: With only OAT, there was an estimated 1655.46 (1552.73-1705.29) overdoses, 19.29 (17.85-20.32) overdose deaths and AUD 23,335,081 in treatment costs per 10,000 PWID per annum. Scenario 2 (+5% supervised iOAT) cost an additional AUD 14,807,855 and averted 122.91 (95% CrI 114.21-130.50) overdoses and 1.95 (1.82-2.03) overdose deaths ($7,774,172 (7,283,182-8,146,989) per death averted) compared to status quo. For the same treatment cost as Scenario 2, Scenario 4 (+10% unsupervised iOAT and +1.2% supervised iOAT) averted 268.98 (95% CrI 250.02-278.74) overdoses and 3.95 (3.72-4.22) overdose deaths ($3,723,340 (3,385,878-3,894,379) per death averted)

Conclusion: Unsupervised iOAT, used with OAT and supervised iOAT, has the potential to reduce overdoses and overdose deaths per annum and increase coverage compared to scenarios where OAT and supervised iOAT is used exclusively at the same cost. This is alongside further benefits of iOAT treatment unaccounted for in this study.