Smoking in women attending substance use in pregnancy antenatal services: Cost-consequence analysis of an intensive, remotely delivered cessation programme

Melissa A. Jackson[1,2,4], Amanda L. Brown[1,3], Amanda L. Baker[3], Gillian S. Gould[5], Adrian J. Dunlop[1,3,4], Kypros Kypri[1,3]

[1]Drug and Alcohol Clinical Services Research Unit, Hunter New England Local Health District, Newcastle, Australia, [2]School of Psychological Sciences, University of Newcastle, Callaghan, Australia, [3]School of Medicine and Public Health, University of Newcastle, Callaghan, Australia, [4]Drug and Alcohol Clinical Research Improvement Network (DACRIN), St Leonards, Australia, [5]Faculty of Health, Southern Cross University, Coffs Harbour, Australia.

Presenter's email: Mel.Jackson@health.nsw.gov.au

Introduction: Smoking in pregnancy causes significant harm but remains common in certain vulnerable groups, including women with substance use problems. 'Incentives to Quit Tobacco in Pregnancy' (iQuiP) involves posting nicotine replacement therapy (NRT) to women and other smokers in the household, telephone-delivered behavioural counselling, and financial incentives to quit ('contingency management'). Pilot data showed objectively measured reductions in smoking. We report an economic analysis to help determine the merits of a definitive clinical trial of the programme.

Method: Employing a health service provider perspective, we conducted a cost-consequence analysis, quantifying programme costs alongside short-term consequences arising from intervention effects estimated from pilot data. Cost components included programme administration, counselling and related overheads, telephony, NRT, incentives, postage, carbon monoxide monitors, and adverse events. Consequences included reduced service utilisation due improved neo-natal and maternal health. We estimate marginal costs of enhancements recommended in pilot research, namely: extending treatment into the postpartum period, new technologies to enhance contingency management, and counselling for partners. We performed sensitivity analyses assuming intervention effects and costs at half and double those in the base analysis.

Results: We present tables of costs per participant disaggregated by intervention element: counselling ($64), NRT ($237 week 1; $16 subsequent weeks), and contingency management ($355). We summarise consequences under assumptions based on pilot research of 15%, 30%, and 45% cessation 12 weeks post intervention.

Discussion and Conclusions: Cost-consequence estimates suggest large health service savings if the iQuiP programme is even half as effective as pilot data suggest.

Implications for Practice: Findings support a definitive trial to estimate the effectiveness of IQUIP.

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