

**Multiple and severe forms of socioeconomic disadvantage and tobacco use:
exploring the factors that contribute to smoking amongst clients of community
service organisations**

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Statement of Originality

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my thesis, when deposited in the University Library **, being made available for loan and photocopying subject to the provisions of the Copyright Act 1986.

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I hereby certify that this thesis is in the form of a series of published papers of which I am a joint author. I have included as part of the thesis a written statement from each co-author, endorsed by the Faculty Assistant Dean (Research Training), attesting to my contribution to the joint publications.

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List of Publications included within this thesis

Paper One: Twyman L, Bonevski B, Paul C, Bryant J, West R, Siahpush M, D’Este C, Oldmeadow C, Palazzi K.. What factors are associated with abstinence amongst socioeconomically disadvantaged smokers? A cross sectional survey of smoker characteristics, reasons for quitting, use of quitting support and quitting approach. Under Editorial Review.

Paper Two: Twyman L, Bonevski B, Paul C, Bryant J. Perceived barriers to smoking cessation in selected vulnerable groups: a systematic review of the qualitative and quantitative literature. *BMJ Open*. 2014;4(12):e006414.

Paper Three: Twyman L, Bonevski B, Paul C, Bryant J, Oldmeadow C, Palazzi K, Guillaumier A. What are the most important barriers? A ranking survey of socioeconomically disadvantaged smokers’ barriers to stopping smoking. Under Editorial Review.

Paper Four: Twyman L, Bonevski B, Paul C, Bryant J, West R, Siahpush M, D’Este C, Oldmeadow C, Palazzi K. Factors associated with concurrent tobacco smoking and heavy alcohol consumption within a socioeconomically disadvantaged Australian sample. Under Editorial Review.

Paper Five: Twyman L, Bonevski B, Paul C, Kay-Lambkin F, Bryant J, Oldmeadow C, Palazzi K, Guillaumier A. A mediation analysis of cannabis use, motivation to quit tobacco and length of previous tobacco quit attempts within an Australian sample of socioeconomically disadvantaged smokers. Under Editorial Review.

Paper Six: Twyman L, Bonevski B, Paul C, Bryant J, Gartner C, Guillaumier A. Electronic cigarettes: awareness, recent use, and attitudes within a sample of socioeconomically disadvantaged Australian smokers. *Nicotine & Tobacco Research*. In Press.

Statement of Contribution: Paper One

I attest that Research Higher Degree candidate Laura Twyman contributed substantially in terms of study concept and design, data collection and analysis, and preparation of the manuscript entitled:

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List of abbreviations

ABS	Australian Bureau of Statistics
ACOSS	Australian Council of Social Service
ACSS	Australian Community Sector Survey
CBT	Cognitive Behaviour Therapy
CSO	Community Service Organisation
ENDS	Electronic Nicotine Delivery System
FTND	Fagerstrom Test for Nicotine Dependence
GDP	Gross Domestic Product
HSI	Heaviness of Smoking Index
ITC-4	International Tobacco Control Four Country Survey
NHS	National Health Service
NIH	National Institutes of Health
NRT	Nicotine Replacement Therapy
NSW	New South Wales
PBS	Pharmaceutical Benefits Scheme
RA	Research Assistant
SDHF	Social Determinants of Health Framework
SEIFA	Socio-Economic Indexes for Areas
SEP	Socioeconomic position
SSS	Stop Smoking Services
STS	Smoking Toolkit Study
UK	United Kingdom
US	United States of America
WHO	World Health Organization

Synopsis

This thesis aimed to provide a detailed examination of the factors that affect smoking cessation within socioeconomically disadvantaged subgroups. Within this thesis socioeconomically disadvantaged groups were defined as groups who are more likely to experience multiple forms of social, material and financial disadvantage and who are less likely to be represented in epidemiological or population-wide studies. Six Papers are included in this thesis. Papers Two and Six are published and the remaining four papers are currently under editorial review. The results of two quantitative cross-sectional surveys carried out with clients of community service organisations formed the basis of this thesis. Clients of community service organisations represent a subgroup of the population who experience multiple forms of socioeconomic disadvantage.

Paper One provided insight into the factors associated with being an ex-smoker versus a current smoker in a sample of individuals experiencing multiple and severe forms of disadvantage. To the authors' knowledge, no other study has examined the sociodemographic differences between disadvantaged current smokers and ex-smokers. Overall, ex-smokers appeared to exhibit less socioeconomic disadvantage relative than current smokers. Ex-smokers were also less likely to report using cessation aids and more likely to have abruptly quit smoking during their last quit attempt.

The systematic review presented in Paper Two systematically synthesised and compared the perceived barriers to smoking cessation across six disadvantaged groups: low income, Indigenous people, people with mental illness, people experiencing homelessness, prisoners and at risk youth. This paper provided new knowledge about the barriers to smoking cessation identified by disadvantaged smokers that were common across six selected socioeconomically disadvantaged groups. Smoking in order to manage stress, high prevalence and perceived acceptability of smoking and lack of

support from health and other professionals are the three common barriers reported. The review also identified unique barriers that were specific to disadvantaged groups that should be considered when designing interventions for example, ceremonial and traditional significance of tobacco use in certain Indigenous communities.

Paper Three extended the existing literature about the barriers to quitting by using a valid and reliable measure to identify the most important barriers to smoking cessation experienced within a socioeconomically disadvantaged sample of smokers. To date, no other study has clarified disadvantaged smokers' perspectives on the prioritisation of barriers with a view to maximising smoking cessation success. Addiction, stress management and enjoyment were the top three barriers ranked as most important to address before cessation could occur. Barriers rated as large by more than a third of the sample included addiction, stress management, anxiety or depression management, relaxation, being unable to manage withdrawal symptoms and stressful life events.

It is important to examine use of alcohol and tobacco in disadvantaged groups because use of both substances compounds the negative health effects associated use of either substance alone, and because heavy alcohol use compromises smokers' ability to maintain smoking cessation. Paper Four extended the literature by examining the characteristics of individuals with different alcohol and tobacco use profiles compared to individuals who were neither heavy drinkers nor tobacco users. The comparison of different alcohol and tobacco use profiles with neither smokers nor heavy drinkers was a novel feature of this study and allowed the identification of potential factors that promote heavy drinking and tobacco use within disadvantaged groups. People who were concurrent heavy alcohol and tobacco users were more likely to experience more

isolated living conditions and financial stress than individuals who were neither heavy alcohol users nor tobacco users.

Similarly, examining the use of cannabis by disadvantaged smokers is important to consider, as cannabis use also compromises smokers' ability to maintain smoking cessation. Paper Five provided new information on the prevalence of co-occurring cannabis and tobacco use in disadvantaged groups (including simultaneous use and the way cannabis may impact on cessation attempts. While there is a literature base surrounding the effects of cannabis use on smoking cessation, the literature provides limited guidance regarding the proposed mechanisms through which cannabis effects smoking cessation. Regular cannabis use was associated with decreased motivation to quit tobacco smoking and shortened length of previous quit attempt in a sample of socioeconomically disadvantaged smokers. Lower motivation to quit tobacco significantly mediated the association between regular cannabis use and shorter quit attempts.

Paper Six explored the new and topical area of electronic nicotine delivery systems (ENDS; also known as electronic cigarettes) which may present opportunities for disadvantaged smokers interested in quitting or reducing their tobacco use. The Paper assessed awareness and use of electronic cigarettes amongst socioeconomically disadvantaged smokers in Australia, where electronic cigarettes containing nicotine are restricted. At the time of publication, only two other studies had assessed electronic cigarette use in disadvantaged groups in high income countries, and neither of these studies were carried out in Australia. Levels of awareness and use were comparable to levels in the Australian general population. Higher motivation to quit tobacco and use of e-cigarettes in the past 12 months is associated with perceiving e-cigarettes as effective aids to quit smoking and as a safer product compared to traditional cigarettes.

In summary, this thesis provided new knowledge of the factors that affect smoking cessation within a subgroup of the population (clients of CSOs) who experience multiple and severe forms of socioeconomic disadvantage. The findings within this thesis suggest that there are multiple influences that affect smoking cessation that need to be addressed through individual and broader community and social network interventions. These include high levels of social and economic disadvantage, low levels of use of evidence based methods to quit, multiple and severe barriers to cessation at the individual, community and socio-economic level, and high levels of concurrent risky alcohol use and cannabis use. This thesis highlights the complexity of addressing smoking and cessation and the fundamental requirements for interventions to effectively aid quitting in groups experiencing multiple and severe forms of disadvantage.