SMOKE-FREE PSYCHIATRIC HOSPITALS: A PLATFORM TO INITIATE SMOKING CESSATION TREATMENT

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Submitted for the Degree of Doctor of Philosophy
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March, 2014
STATEMENT OF ORIGINALITY

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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 endorsed by the Faculty Assistant Dean (Research Training), attesting to my contribution to the joint publications.

Emily Stockings: _______________________________

March, 2014
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I, Emily Stockings, am the primary author of five co-authored papers that form the chapters of this thesis. I have been responsible for the development of ideas, research design, data collection and analysis, and have led the writing of these Chapters. My supervisors Jenny Bowman, John Wiggers and Amanda Baker, and co-authors Margarett Terry, Richard Clancy, Jenny Knight and Paula Wye assisted in the development of ideas and research design, and contributed to the writing and critical intellectual appraisal of each Chapter. Judith Prochaska contributed to the design, selection of papers for inclusion, and the writing and critical intellectual appraisal of Chapter 1. Kim Colyvas provided statistical advice, and assisted with general statistical interpretations for Chapters 2 and 5. Kate Bartlem and Kathleen McElwaine were involved in subject recruitment, prepared the dataset for analysis, conducted preliminary analyses and contributed to the writing and critical intellectual appraisal of Chapters 2 and 3. Paula Bridge was involved in subject recruitment and contributed to the writing and critical intellectual appraisal of Chapter 3. Lyndell Moore was involved in the study design, development of the intervention content and data collection tools, undertook subject recruitment and contributed to the writing and critical intellectual appraisal of Chapters 4 and 5. Maree Adams was involved in the study design, development of the intervention content and data collection tools, and contributed to the acquisition of data and the writing of Chapter 5.
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ABSTRACT

Persons with a mental disorder smoke at higher rates and suffer disproportionate tobacco-related morbidity and mortality than the general population. Targeted, intensive cessation treatment may be required to reduce the tobacco-related burden experienced by this group. A smoke-free psychiatric hospitalisation - where nicotine withdrawal can be managed in the absence of environmental cues to smoke - has been identified as an opportunity to address smoking among persons with a mental disorder. The broad aim of this thesis was to explore smoke-free psychiatric inpatient settings as a platform to initiate smoking cessation treatment, and to test the efficacy of linking hospital-based to community-based smoking cessation treatment in reducing tobacco consumption among persons with a mental disorder. The studies comprising the chapters of this thesis aimed to: 1) determine the impact of admission to a smoke-free psychiatric facility on patients’ smoking-related behaviours, motivations and beliefs; 2) examine the quality of implementation of a smoke-free policy in an Australian inpatient psychiatric facility, including patients’ self-reported adherence to the smoking ban; their perception of staff support for the smoke-free policy; their receipt of nicotine dependence treatment; and their acceptability of the smoke-free policy; 3) examine the smoking-related characteristics of patients admitted to an inpatient psychiatric facility with a smoke-free policy in Australia, including their readiness to quit smoking, previous quitting behaviours, and factors associated with readiness to quit; and 4) determine the efficacy of a smoking cessation intervention initiated during a smoke-free psychiatric hospitalisation and continued post-discharge in reducing tobacco consumption among smokers with a mental disorder.
Smoking remains a leading global cause of morbidity and mortality. Persons with a mental disorder smoke at higher rates, are more nicotine dependent, less likely to quit and more likely to die from smoking-related disease than the general population. Given a complex interaction of biological, psychological and social factors contributing to excess tobacco use among persons with a mental disorder, interventions designed to reduce smoking among general population smokers may not be efficacious among this group, and targeted, intensive cessation interventions may be required.

Smoking bans have been introduced in many general hospital settings internationally, including inpatient psychiatric settings, and are often accompanied by behavioural and pharmacological nicotine dependence treatment. A period of such supported abstinence has been identified as an opportunity to initiate smoking cessation, and has been associated with reductions in smoking among patients in general hospital settings. While evidence indicates that the implementation of such smoke-free policies in inpatient psychiatric settings has been delayed, and/or difficult, initiating smoking cessation treatment during a smoke-free psychiatric hospitalisation and providing ongoing community-based smoking cessation support post-discharge may offer the greatest opportunity for persons with a mental disorder to address their smoking.

The broad aims of this thesis were to explore smoke-free psychiatric inpatient settings as a platform to initiate smoking cessation treatment, and to test the efficacy of linking hospital-based nicotine dependence treatment to ongoing, community-based smoking cessation support post-discharge in reducing smoking behaviours among persons with a mental disorder. Chapter 1 describes a systematic review examining the impact of
admission to a smoke-free psychiatric hospital on patients’ smoking-related behaviours, motivations and beliefs both during admission and post-discharge. Results of included papers were explored based on the degree of smoking restrictions imposed, the provision of nicotine dependence treatment, and the risk of methodological bias in each study. While the risk of bias in included studies was generally found to be high, the available evidence indicates that reductions in patients’ cigarette consumption and increases in beliefs regarding their quitting ability may occur up to three months post-discharge, but not beyond; suggesting the need for continued cessation support post-discharge. Facilities with complete smoking bans and those that provided nicotine dependence treatment appeared to be associated with more positive smoking outcomes. However, few studies provided detailed information regarding adherence to the smoking ban and provision of nicotine dependence treatment to adequately assess if these factors were responsible for changes in patient smoking-related behaviours.

Chapters 2 and 3 describe the results of a survey conducted among patients of a smoke-free inpatient psychiatric facility in Australia. Given the limitations of previous research identified in Chapter 1, the aim of Chapter 2 was to examine key quality of implementation indicators of the smoke-free policy, including patients’ self-reported adherence to the smoking ban; their perception of staff support for the smoke-free policy; their receipt of nicotine dependence treatment; and the association between these factors and patients’ acceptability of the smoke-free policy. By assessing such indicators, potential barriers to the successful implementation of smoke-free policies in inpatient psychiatric settings were identified, as were strategies that may enhance the opportunity provided by a smoke-free psychiatric hospitalisation to initiate smoking
cessation treatment. Overall, adherence to the smoking ban was poor, and nicotine dependence treatment was variable. The smoke-free policy in the study unit was acceptable to less than half of participants, and least so to smokers. Modifiable factors pertaining to policy implementation, including staff support of the smoke-free policy, and patient adherence to the smoking ban, predicted patient acceptability.

Chapter 3 presents the smoking-related results of the survey of psychiatric inpatients described in Chapter 2 and examined smokers’ readiness to quit smoking, their previous quitting behaviours, and factors associated with readiness to quit and making a recent quit attempt. The findings of the survey in Chapter 3 confirmed the high prevalence of smoking and levels of nicotine dependence among persons hospitalised for psychiatric treatment, however also indicated that most smokers had made a number of recent, unsuccessful attempts to quit. Readiness to quit was found to predict making a quit attempt in the previous 12 months. These findings counter common staff perceptions that smokers with a mental disorder do not want, or do not attempt to quit, and further support the assertion that intensive smoking cessation interventions, comprising behavioural and pharmacological support should be provided to smokers with a mental disorder.

Chapters 4 and 5 describe a randomised controlled trial that examined the efficacy of a multimodal smoking cessation intervention, initiated during a smoke-free psychiatric hospitalisation and continued for four months post-discharge in reducing tobacco consumption among smokers with a mental disorder. Chapter 4 describes the protocols and methodologies employed in the trial, and Chapter 5 describes the primary and secondary smoking-related outcomes. At end-of-treatment, patients who received
ongoing treatment for their smoking post-discharge had significantly higher rates of biochemically validated seven day point-prevalence abstinence than those in the treatment as usual control condition. At the six month follow-up, patients in the intervention condition were significantly more likely to have reduced their tobacco consumption by 50% or greater since baseline, were more likely to have made a quit attempt, and had lower levels of nicotine dependence than smokers in the control condition. The findings of this trial indicated that a smoking cessation intervention, initiated during a smoke-free psychiatric hospitalisation, and continued for up to four months post-discharge is an effective treatment model for reducing tobacco consumption among persons with a mental disorder. However, the trial produced limited results for smoking cessation beyond end-of-treatment, indicating that further research, incorporating more intensive and extended cessation support may be needed to reduce the prevalence of smoking among persons with a mental disorder.

The concluding chapter of this thesis provides an overview and synthesis of the main findings of these five papers, and discusses their implications for future research and the development of effective intervention strategies for smokers with a mental disorder. Overall, this thesis represents a significant step forward in understanding the smoking-related characteristics, motivations and behaviours of smokers with a mental disorder, and contains one of only two trials conducted internationally to test the efficacy of initiating smoking cessation treatment during a smoke-free psychiatric hospitalisation and continuing such care post-discharge. This thesis highlights the importance of providing tailored, intensive smoking cessation support to smokers with a mental disorder, and provides promising results for the feasibility, acceptability and efficacy of
smoking cessation interventions initiated in the psychiatric inpatient setting and continued post-discharge for reducing smoking behaviours among this vulnerable group. In order for sustained, large scale changes in smoking rates among persons with a mental disorder to occur, three main areas need to be addressed in future research:

1. Identifying strategies to increase effective implementation of smoke-free policies in inpatient psychiatric facilities, particularly in regards to increasing staff support for smoke-free policies, increasing patient adherence to smoking bans, and increasing staff provision of nicotine dependence treatment to patients.

2. Testing the efficacy of extended, more intensive evidence-based smoking cessation interventions for reducing the prevalence of smoking among persons with a mental disorder.

3. Identifying pathways for continued smoking cessation support post-discharge, and to identify methods of effective integration of smoking care within mental health services.