

# **Impact of Hospitalisation on Patient Smoking: Current Practice and Potential for Nurse-Provided Smoking Cessation Care**

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**A thesis presented to the University of Newcastle in candidacy for the degree of Doctor of Philosophy.**

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***I hereby certify that the work embodied in this thesis is the result of original research and has not been submitted for a higher degree to any other University or Institution.***

***Signed:***

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# SYNOPSIS

## SYNOPSIS

Tobacco smoking is currently responsible for the deaths of 50 Australians every day.<sup>1</sup> We have known for a long time that these deaths are preventable, however, the difficulty lies in helping people to overcome their addiction to nicotine, and in preventing young people from taking up the behaviour. The hospital setting has been described in the literature as a "window of opportunity" and a "teachable moment" for providing smokers with encouragement, support and skills to quit smoking while they are in hospital.<sup>2</sup> Nurses have been described as an "under-utilised resource" in efforts to control the tobacco epidemic.<sup>3</sup> The nature of the hospital setting differs markedly from that of the general practice setting, where extensive research effort has been focused over the last two decades. The public health research literature offers very little in the way of information about the potential of the hospital setting, or of nurses as providers of smoking cessation care. Therefore this thesis aims to determine the potential of the hospital setting and of nurses as providers of smoking cessation advice, and to inform the development, and appropriate targeting of hospital based smoking cessation interventions in the future. The approach taken follows the steps identified in research models designed to guide the development of health behaviour change research.<sup>4-6</sup> These models identify the need to have accurate measures of the target behaviour, knowledge of the prevalence of the targeted behaviour, an understanding of the perceptions of the target group towards health behaviour change, including knowledge of risk, attitudes to change and barriers to receiving help. They also stress the need for



knowledge of the perceived appropriateness of the intended provider group, their knowledge, attitudes, barriers and skills in providing the health behaviour intervention, and data on the current levels of health intervention, being provided to the target population by these providers.

Four decades have passed since the landmark article in *The Journal of the American Medical Association (JAMA)* in 1950, linking smoking as an aetiological factor in lung cancer.<sup>7</sup> However, during the 1980s American hospitals were still selling cigarettes.<sup>8</sup> This paradox between research literature and public health policy deserves investigation. Hence **Chapter 1** of the thesis summarises the history and nature of tobacco control in relation to hospitals, health policy and health professionals (particularly nurses). This literature review provides an understanding of some of the factors which will impact on the introduction of change to the health sector. Following this, the thesis discusses a series of studies providing the data necessary to develop, introduce and appropriately target smoking cessation care.

Data from the studies discussed in this thesis were collected during one data collection period during 1991. The patient studies in Chapters 2-4 involved a cross-sectional survey of all consenting and eligible inpatients in the 6 largest hospitals of the Hunter Area, on randomly selected data collection days. Immunology, Paediatrics, Intensive Care and the Delivery Suites were excluded from the study, as all patients in these wards would have been ineligible to participate. There was a total of 1552 patients in hospital during data collection and of these 744 (48%) were ineligible (mentally, physically or emotionally incapable of providing informed consent). Of eligible patients, 711 (88%) consented to participate in a study, which they were told would involve a brief bedside interview, possibly a saliva sample

taken for analysis of tobacco products, and a self-completed questionnaire. The studies reported in Chapters 5-6 involved a cross sectional survey of all day shift nursing staff on the wards, on the same randomly selected data collection days. There were 399 nurses on the day shifts in the 52 wards, and of these 388 (97%) were eligible, and 382 (98%) participated in the study. Nurses received a brief ward-based interview and completed a questionnaire (88% returned).

**Chapter 2** reports on the accuracy of self report as a measure of smoking status within the hospital setting. The aim of the study was to determine among hospital patients, on the biochemical evidence of salivary cotinine analysis, the proportion of self reported Smokers, Recent Quitters, Ex-Smokers and Never Smokers who appeared to be smokers. This study involved a randomly selected stratified subsample of 192 patients from the larger sample. Overall 18% of self reported non smokers (i.e. Recent Quitters, Ex-smokers and Never Smokers) had salivary cotinine levels above 10 ng/ml (the accepted cutpoint for determining smoking in populations where consumption is low).<sup>9-11</sup> There was, however, great variation in the level of disagreement between self report and salivary cotinine among the sub-groups of non-smokers, with 62% of self reported Recent Quitters, 17% of Ex-smokers and 12% of Never Smokers found to be deceiving. The deception rate among hospital patients more closely resembles that found among participants in smoking cessation trials, than the usually low levels of deception found among participants in community surveys. This implies that, when identifying at-risk patients for routine assessment of smoking status and intervention, methods should be utilised which encourage accuracy of self report. Additionally, any smoking cessation trials in this setting must incorporate biochemical validation of self report.

The study reported in **Chapter 3** aimed to determine the self reported prevalence of smoking and the factors associated with self reported smoking among hospital patients. The study also aimed to determine, among the population of patients who reported smoking in the preceding 3 months, the prevalence and factors associated with quitting at hospital admission, and the rate of maintained abstinence 9 months post discharge. Results showed the prevalence of smoking measured by self report was half (16%) the cotinine corrected estimate of smoking prevalence (32%). The study found that hospital patients who were smokers were more likely than hospital patients who were non smokers, to be aged 16-34; have a main lifetime occupation of blue collar work; be unmarried or single or widowed; and live with a smoker. Seventy one percent of hospitalised smokers reported not being in current paid employment, i.e. they were either unemployed (22%), retired (19%) or engaged in home duties (30%). Therefore it appears that the hospital setting provides an excellent opportunity to target low socioeconomic groups who have been found to have the greatest risk of mortality and morbidity from smoking, have the highest smoking rates in the community<sup>12</sup> and who are often difficult to reach with health promotion information.

The study found that 56% of those patients who were smokers in the last 3 months reported quitting smoking on admission to hospital. No socioeconomic variables were found to be associated with quitting on admission. The 9 month post discharge follow-up of patients who had quit smoking in the three months prior to bedside interview, found that the long term quit rates (biochemically verified) varied from a conservatively calculated 2.9% to a liberally calculated 9.5% of smoking inpatients. Thus hospitalisation appears to be a natural intervention with an efficacy rate equivalent to that found in general practice smoking intervention

studies.<sup>13</sup> It also appears that many smokers are not able to convert short term abstinence into maintained quitting.

The knowledge and attitudes of hospitalised smokers towards smoking and quitting, and also towards nurses as providers of cessation care, is described in **Chapter 4**. The specific aims of this study were to determine hospitalised smokers' perceptions of their vulnerability to risk, the benefits of quitting, knowledge of health risks and quitting strategies, intentions regarding quitting and perceived difficulties with quitting. The study examined differences on these variables between smokers who quit at admission, and those who continued smoking after admission. The final aim of this study was to explore hospitalised smokers' perceptions of the appropriateness of the hospital setting, and of nurses as providers of quit smoking support.

The results showed that whilst smokers perceived a generalised risk associated with smoking, when asked about personal risk, few thought that smoking had contributed to their current admission. The same discrepancy was found between the experience of symptoms of smoking related ill health, and the perception that smoking had contributed to those symptoms. The implications here for intervention design suggest a need to focus on personalised health risks. In terms of attitudinal predictors of quitting smoking on admission, the results showed that being admitted with a smoking related diagnosis, experiencing the smoking related symptoms of bronchitis, asthma or congestion in the preceding 2 months, intending to be a non-smoker in 3 months, and perceiving that the hospital stay was useful in encouraging non-smoking or cessation, were significantly associated with quitting at admission. The study found that 42% of smokers thought that the hospital stay was useful in encouraging non-smoking; 64% thought that providing

smoking cessation care should be part of the nurses role, however, only 33% thought nurses should counsel all patients. Patients were less concerned about nurses' smoking behaviour as a barrier to care provision (47%) and more concerned with the perception that nurses were too busy to provide care (80%). Interventions in this setting should assess patients' current symptoms of ill health in relation to smoking and relate improved prognosis with quitting. It is encouraging that 42% of smokers are enthusiastic about hospital smoking cessation care, however the 58% who do not agree may require additional efforts directed at changing this attitude.

**Chapter 5** focuses on nurses' attitudes and knowledge about providing smoking cessation care to inpatients. The aims of this study were to determine the prevalence of self reported smoking among hospital nurses in 6 Hunter region public hospitals, and the characteristics of smoking nurses; to describe nurses' knowledge of the health risks of smoking and the strategies to aid quitting; to describe their attitudes to smoking and quitting, and to providing smoking cessation care to inpatients. The results showed that 21.7% of nurses reported being current smokers, indicating a marked decrease in smoking among nurses compared to rates reported in studies conducted in the last 2 decades, which found smoking rates of more than 40%.<sup>14-16</sup> This rate was also lower than the 24.7%<sup>17</sup> of women in the Australian community who report being smokers. The majority of nurses (72%) were able to describe at least 3 strategies to assist smoking patients who wanted help to stop smoking. However the responses most often did not reflect state-of-the-art practice guidelines and were more passive in nature, such as sucking sweets and knitting (22%) or providing emotional support (19%). Knowledge of more active strategies was less prevalent with 5.5% of responses citing the provision of literature, and 3.6% citing use of nicotine replacement therapy.

Nurses felt that helping patients to quit smoking should be part of their role (60%). This rate rose to 75% support when asked about providing care to those patients who want to quit, and dropped to 42% when asked about providing care to all smokers. The implication of this finding is that the majority of nurses are comfortable with providing smoking cessation care reactively, but that there is less support for a comprehensive proactive program. The main barriers identified by nurses to providing smoking cessation support, were patients not requesting it, lack of time and lack of in-service training. The majority of nurses (75%) were enthusiastic about attending in-service training programs. In-service training programs must be integrated into the hospital sector in order to provide opportunities for nurses to share their concerns, and to acquire current information in practice relating to smoking cessation care.

**Chapter 6** reports on the nature and extent of current recording of smoking status on patient medical records, and the current levels of smoking cessation care provided by nurses within the hospital setting. The medical records of each patient were audited for evidence of any mention of the patient's smoking status. Nurses were interviewed and asked if they had provided care for a particular patient in their ward, if they thought a particular patient was a smoker, and if they had provided various types of smoking cessation care to this patient. The aims of the study were to determine the proportion of patients who reported having been assessed for smoking status at admission; to compare the self reported smoking status of patients with the medical record of smoking status; to describe the proportion of patients who currently received various types of smoking cessation care from nurses (as reported by both patients and nurses); and finally to describe the proportion of nurses who reported providing smoking cessation care to any

smoking patients. The results of this study showed that 36% of all patients reported not being asked by anyone about their smoking status at admission to hospital. Similarly 38% of all patients had nothing recorded on their medical records relating to smoking status. Patients who had their smoking status recorded on their medical record were significantly more likely to be young, more educated, to be scheduled to receive anaesthesia, to be admitted to hospital 6 and to be a self reported smoker. There was also a trend towards significance for the variable of occupation, with white collar workers more likely to have smoking status recorded than patients reporting home duties or no lifetime occupation.

Nurses reported having advised 20% of self reported smokers to quit, discussed quitting with 17%, given literature to 2% and referred 1% to outside quit agencies. Patients reported slightly less care received than nurses reported care provided. Interestingly, nurses reported that 26% of smokers asked to be taken outside for a cigarette. These findings suggest that currently the provision of smoking cessation care by nurses is poor in this setting, and that many opportunities to intervene are missed. It also appears that assessment for smoking status is not comprehensively elicited from all patients, and that assessment for smoking status depends on the characteristics of the patient and on the hospital to which the patient is admitted.

**Chapter 7** discusses the implications of these findings for tobacco control within the hospital setting in relation to policy, and the design of an effective hospital based, nurse provided smoking cessation intervention. Hospital policy on smoking control should require the assessment for smoking status and intentions concerning quitting to be recorded on the medical records of all admitted patients. Additionally policy should establish a framework for the training of nurses through

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the existing in-service training program. Such training should be skills-based and practical in nature and focus on assessing and supporting the withdrawal process of patients who quit smoking during hospitalisation. A hospital-based intervention should be brief, capable of maximising the multiple contacts patients receive from nurses during their hospital stay, and incorporate post-discharge follow-up, linking in-hospital treatment with other services in the community. The development, implementation and evaluation of such policy initiatives by hospitals are capable of reducing the prevalence of smoking in the community and of contributing to the national goals and targets for health by the Year 2000.