

An evaluation of a smoke free environment policy in two Sydney Hospitals

A Research Note

MELANIE JEAN BOOMER AND CHRIS RISSEL

Melanie Boomer is a Public Health Officer with the NSW Public Health Officer Training Program, NSW Department of Health. At the time of this project, she was working in the Central Sydney Area Health Service Health Promotion Unit.

Chris Rissel is the Director of the Central Sydney Area Health Service Health Promotion Unit and Chairperson of the CSAHS Tobacco Action Team.

Abstract

The Central Sydney Area Health Service introduced an Area-wide Smoke Free Environment Policy in May 2000, prohibiting smoking (except in designated areas) and requiring nursing and medical staff to manage nicotine withdrawal in their patients. This study assessed one aspect of the policy implementation process, by following up 68 hospitalised smokers after discharge, who were recruited through pre-admission clinics from two hospitals. Thirty-five percent of smokers recalled being told about the policy, 22% recalled being told information about designated smoking areas and 19% smoked whilst hospitalised. More than a third of inpatient smokers had problems with not smoking, or smoked while in hospital.

Background to the Smoke Free Environment Policy

The Central Sydney Area Health Service (CSAHS) introduced an Area-wide Smoke Free Environment Policy in May 2000 (CSAHS, 2000) in line with the NSW Department of Health Smoke Free Workplace Policy (1999). The Smoke Free Environment Policy aims to reduce the harm associated with environmental tobacco smoke (ETS) in accordance with occupational health and safety legislation and to reduce the harm associated with tobacco use amongst patients and staff (CSAHS, 2000). Managing nicotine withdrawal in hospitalised patients is a further goal of the CSAHS policy.

An Area-wide Smoke-free Environment Policy Implementation Taskforce assisted with the implementation of the policy. Membership of the Taskforce included representatives from all the major health service facilities (including hospitals and community centres) in the CSAHS. The Taskforce developed signage for designated smoking areas, and endorsed both a brief intervention training package, primarily for nursing and medical staff and facility performance indicators for compliance with the policy. Under the policy, patients in hospital for longer than one day who are nicotine-dependent smokers are offered free nicotine replacement therapy (NRT) while in hospital, if this is not contra-indicated.

Nursing staff were recognised as a key workforce in the identification and management of these nicotine-dependent inpatients. It has been argued that nurses have a duty of care to manage nicotine withdrawal

symptoms in moderate to heavy nicotine-dependent smokers who are unable to smoke due to hospital smoke-free policies (Lillington, 1997). Nurses generally have a positive attitude to offering brief interventions regarding nicotine withdrawal, but training in nicotine withdrawal management is required (Feeney et al, 1997; Mitchell et al, 2000). To facilitate the training of nursing staff, a nicotine withdrawal management brief intervention package was developed in CSAHS in collaboration with them (Rozensteins et al, 2000).

Prior to the evaluation of the impact of a new policy, it is important to ensure that the intervention is being delivered as planned. Evaluation of a policy implementation process is called a process evaluation (Hawe et al, 1990). A process evaluation of the Smoke Free Environment Policy in CSAHS was regarded as particularly important as the incorporation of nicotine management and brief intervention advice into standard patient management practice can be challenging (Rice and Stead, 2001). An earlier survey and series of focus groups, which were conducted six months after the initial implementation of the CSAHS policy, indicated widespread awareness of, and approval for the Smoke Free Environment Policy by managers. It also indicated substantial barriers to implementation, such as limited time and nursing staff shortages, resulting in the slow uptake of the brief intervention and nicotine withdrawal management training by nurses (Mitchell et al, 2000).

This paper describes an aspect of the process evaluation of the CSAHS Smoke Free Environment Policy implementation. The main aims of this process evaluation were to assess whether hospitalised smokers recalled the key elements of the policy and to determine their degree of satisfaction with how their nicotine withdrawal was identified and managed. Patients' recall of the smoke-free status of the hospital campus, the location of designated smoking areas, being given tobacco brief intervention advice and their use of NRT during hospitalisation were assessed.

Methods

Recruitment

Recruitment of participants for this study was undertaken at two of the four major hospitals in the CSAHS, The Canterbury Hospital (TCH) and Concord Repatriation General Hospital (CRGH), over a 10-week period from April to June 2001. Recruitment methods varied at the two sites due to local circumstances. At TCH, the administrative staff from the pre-admission clinic recorded the contact details of patients self-identified as smokers who presented to the pre-admission clinic. These patients were then telephoned by a research assistant and invited to participate in the study. At CRGH, a research assistant surveyed all patients who presented to the pre-admission clinic and identified patients who smoked. These patients were invited to participate in the study and those that signed a written consent form were later followed up by telephone.

Subjects were considered eligible for the study if they identified themselves as current smokers, were aged 18 years or over, had an adequate understanding of English (ie, an interpreter was not required) to complete the telephone interview and were not incapacitated, distressed or suffering from an impaired level of consciousness.

Follow-up

Subjects recruited from TCH were sent a letter approximately 3 weeks after their pre-admission visit, informing them of how they were recruited, details of the study and inviting their participation. A research assistant then telephoned subjects approximately 2 weeks later. A research assistant telephoned subjects recruited from CRGH approximately 4-6 weeks after their visit to the pre-admission clinic, reminded them of the study and their written consent to participate, and asked if they were still willing to participate.

A structured telephone interview questionnaire was then administered to all consenting patients from both hospitals. The questionnaire assessed patients' recall of the policy elements (nurse provision of brief intervention, use of NRT and designated smoking areas), satisfaction with elements of the policy, their smoking behaviour whilst in hospital, their current smoking status and their basic demographic information.

Ethics approval for this study was obtained from the CSAHS (RPAH zone) Ethics Review Committee and the CSAHS (CRGH zone) Ethics Review Committee.

Results

1389 patients were approached. Ninety-five percent of patients (N= 1324) were considered eligible for the study, with 89 self-reported current smokers. The total crude prevalence rate for smoking in this population was 6.7%, excluding 43 people from non-English speaking backgrounds for whom smoking status was uncertain. Of the 89 eligible smokers, 12 refused to participate, nine were unable to be contacted at follow-up and 68 completed the telephone interview surveys, giving a response rate of 76%.

Equal numbers of respondents were male and female and more than half (57%) were aged between 18 and 50 years. The average length of hospital stay was 3 days and the majority of patients stayed in hospital for less than 2 days (see Table 1).

Table 1: respondents in sample by length of hospital stay (N=68)

Length of hospital stay	N	%
Less than 1 day	2	3
1 day	27	40
2 days	13	19
3 days and less than 5 days	20	29
5 days and less than 7 days	6	9

More than two thirds of smokers (69%) smoked more than 10 cigarettes per day and half (50%) smoked more than 20 cigarettes per day. There were no statistically significant associations between age and sex and number of cigarettes smoked.

Recall of Smoke Free Environment Policy elements

More than a third of respondents (35%) recalled being told about the Smoke Free Environment Policy. Older people (51-90 year age group) were more likely (48%) to recall being told about the policy than younger respondents (26%), but this difference was not statistically significant ($p=0.053$).

One in five respondents (22%) recalled being told about the designated smoking areas. There was no significant association found between being informed about the designated smoking areas and age, sex, length of stay, or daily number of cigarettes smoked.

Nurses' brief interventions for smoking were recalled more often by patients from TCH, with 38% of respondents from TCH and 17% of respondents from CRGH reporting that they recalled receiving brief interventions from the nurses. However, this difference was not statistically significant ($p=0.58$). There were no statistically significant differences between those who received a brief intervention and those who did not by age, length of hospital stay, daily number of cigarettes smoked or reporting of problems with not smoking whilst in hospital. Fifty percent (50%) of respondents who recalled receiving a brief intervention from a nurse rated the advice as helpful, with males statistically significantly more likely to do so ($p=0.007$).

Smoking behaviour in hospital and Nicotine Replacement Therapy

While the majority of respondents reported that they did not smoke whilst in hospital (81%), those that did smoke were significantly more likely to have had a length of stay of more than 2 days ($p=0.03$) and significantly more likely to report smoking 10 or more cigarettes daily ($p=0.035$). Of the 68 smokers in the study, 13 (19%) smoked whilst in hospital.

Ten of these 13 smokers reported that they did not have any problems with "not being able to smoke in hospital" and 3 (4%) reported that they did have problems with "not being able to smoke in hospital". Of the 54 smokers who did not smoke whilst hospitalised, 51 (94%) reported no problems with "not being able to smoke in hospital" and 3 reported problems (6%).

We analysed smokers according to length of stay. Of those smokers who were hospitalised for less than one day (n=28, 42%), none smoked and 2 (7%) reported having a problem with “not being able to smoke in hospital”.

Analysis of the responses by those smokers who were hospitalised for more than one day (n=39, 58%) showed that 13 smoked during their stay, three (8%) of whom reported that they had problems with “not being able to smoke in hospital”. Of the 26 smokers (66%) who did not smoke while in hospital, one (3%) reported problems with “not being able to smoke in hospital” and the other 25 did not (see Table 2). No respondents in this study recalled receiving NRT before, during or after their hospitalisation.

Table 2: smoking behaviour and problems with not smoking in hospital by length of hospital stay

All patients (N= 68)							
1 day or less in hospital N= 29 (42%)*				More than 1 day in hospital N= 39 (58%)			
Smoked in hospital N= 0		Did not smoke in hospital N= 28 (100%)		Smoked in hospital N= 13 (33%)		Did not smoke in hospital N= 26 (66%)	
Problems with not smoking N= 0	No problems with not smoking N= 0	Problems with not smoking N= 2 (7%)	No problems with not smoking N= 26 (93%)	Problems with not smoking N= 3 (8%)	No problems with not smoking N= 10 (26%)	Problems with not smoking N= 1 (3%)	No problems with not smoking N= 25 (64%)

* Missing data from one smoker on smoking while in hospital

Discussion

The potential limitations of this study include the small number of smokers in the sample, which reduces the power of the statistical analysis. The low crude prevalence of smoking (6.7%) was surprising as a previous study in CSAHS, at the Royal Prince Alfred Hospital (RPAH), found a crude smoking prevalence rate of 15% (Rissel et al, 2000). Low smoking prevalence may, in part, be due to variance in the population bases of the hospitals within CSAHS, as RPAH is a large teaching hospital and may take patients with more complex health problems than the smaller CRGH and TCH. Under-reporting of positive smoking status is also likely to have occurred as self-reported smoking status has been found to be under-reported in hospital patients (Bittoun et al, 1991), and administrative staff also fail to detect a third of smokers (Schofield and Hill, 1999).

A key aim of this process evaluation was to determine the level of exposure smokers had to the Smoke Free Environment Policy. It is encouraging that only 12 months after the introduction of a new policy which requires additional work from clinical staff, one in three in-patient smokers recalled information about the policy (35%), one in five recalled information about designated smoking areas (22%) and 38% of smokers at TCH recalled brief intervention advice about smoking from staff (17% at CRGH).

The absence of the prescription of NRT to any patients in this group is of concern, given the report of ‘problems with not smoking’ by 9 % (N=6) of these patients and a high proportion of patients who smoked more than 10 cigarettes per day (69%). The prescription of NRT to hospitalised smokers suffering nicotine withdrawal symptoms is an important component in the medical management of this recognised chemical dependency (Rigotti et al, 1999). More than one third of patients (36%) who stayed in hospital for more than one day reported that they smoked whilst in hospital, had problems with not smoking in hospital even though they did smoke, or did not smoke in hospital and had problems with not smoking in hospital. As the final phase of the implementation of the Smoke Free Environment Policy will require the abolition of designated smoking areas on Area Health Service grounds, the use of NRT amongst this group will become even more important.

Whilst hospital pharmacy data has shown that the prescription of NRT to hospital in-patients in CSAHS is steadily rising (Wilson, 2001), the ongoing training of nursing and medical staff is still required to improve the uptake of NRT. The absence of any patient who recalled being prescribed NRT in this sample may also indicate reluctance on the part of the patients to use NRT or problems with access to NRT within the hospitals.

For the purposes of this study, the coverage of the nurse-training program for the Smoke Free Environment Policy implementation was enhanced through additional support offered to the inpatient wards that routinely receive patients from the pre-admission clinics at TGH and CRGH. These wards, which were primarily surgical wards, were provided with additional forms and resources, as well as the opportunity of running a co-facilitated staff in-service training with the researcher. A total of 200 nursing staff from 18 wards across the two sites received at least 20 minutes of training from the researcher during the period from May 2000 to March 2001.

The finding of a substantial (albeit non-statistically significant) difference regarding the provision of quit advice by nurses between the two hospital sites indicates the impact on behaviour that training nurses can have. While the number of staff trained across the two sites was similar, the chance of exposure to the brief intervention was higher at TCH. At TCH, 104 people were trained from a pool of approximately 300 Full Time Equivalent (FTE) nursing staff, compared to 96 people trained at CRGH from a pool of approximately 840 FTE nurses. Nurses in CSAHS report that nursing shortages and time constraints are barriers to improving the number of nurses attending training or giving brief advice about nicotine withdrawal (Mitchell et al, 2000). Further, considerable staff turnover reduces the pool of trained staff and thus reduces the possible effectiveness of the intervention.

Despite previous findings of good support for the SFE Policy in CSAHS (Mitchell et al, 2000), goals of all hospitalised smokers receiving information regarding the SFEP have not been met within the first year of the policy implementation. However, this is not surprising given the change in clinical practice required. Such a change is likely to take many years to implement consistently but after 12 months reasonable progress has been made. There remains a clear need for the management of smokers who are unable to smoke while in hospital.

Acknowledgments

Mr Matthew Rochford, Ms Raylene Ann Tunks, Mr Tim Brokenshire, Ms Tasha Demel (Nurse Unit Manager), Mrs Betty Hutchinson and the staff of the Canterbury Hospital pre-admission clinic, Ms Lyla Webster (Nurse Unit Manager) and the staff of the CRGH pre-admission clinic. Glenys Rickard-Bell, Therese Findlay, Anita Mansfield, Myna Hua, Karen Bedford, Allison Salmon and Lynne Madden for comments on this manuscript.

References

- Bittoun R, McMahon M & Bryant D 1991, 'Smoking in hospitalised patients', *Addictive Behaviours*, 16, pp79-81.
- Central Sydney Area Health Service 2000, *'Smoke Free Environment Policy, 2000'*.
- Feeney G, Kelly A, Griffin DK & Young R 1997, 'Smoking interventions within hospital settings: a study of demand for smoking interventions and perceived efficacy of nurses in delivery of services', *Health Promotion Journal of Australia*, Vol 7, no 1, pp 52-56.
- Goldstein, Westbrook W, Howell E & Fischer P 1992, 'Hospital efforts in smoking control: remaining barriers and challenges', *The Journal of Family Practice*, Vol 34, no 6, pp 729-734.
- Hawe P, Degeling D & Hall J 1990, *"Evaluating Health Promotion"*, MacLennan and Petty Pty Ltd; Sydney.
- Hughes AM & Rissel C 1998, 'Smoking rates and attitudes among health services staff in Central Sydney, Australia', *Tobacco Control*, vol 7, no 4, pp 441- 442.
- Lancaster T, Stead L, Silagy C & Sowden A 2000, 'Effectiveness of interventions to help people smoke smoking: findings from the Cochrane Library' *BMJ*, vol 321, pp 355-358.
- Lillington LM 1997, 'AHCPR smoking cessation guideline goals and impact: examples from the nursing field', *Tobacco Control*, vol 6, suppl 1, ppS39-S43.
- Mitchell E, Rissel C & Kiel K 2000, *'Central Sydney Area Health Service Smoke Free Environment Policy process evaluation: Manager survey and nurse focus groups'*, CSAHS Health Promotion Unit, CSAHS.

- Neighbor WE, Stoop DH & Ellsworth A 1994, 'Smoking cessation counselling among hospitalised smokers', *American Journal of Preventive Medicine*, vol 10, no3, pp140-144.
- New South Wales Department of Health 1999, *'Smoke Free Workplace Policy'*, North Sydney: New South Wales Department of Health.
- Raw M, McNeill A & West R 1999, 'Smoking cessation: evidenced based recommendations for the health care system', *BMJ*, vol 318, no 7177, pp182-185.
- Rice VH & Stead LF 2001, 'Nursing interventions for smoking cessation (Cochrane Review). In *The Cochrane Library, Issue 2*, 2001, Oxford: Update Software.
- Rigotti N, Arnsten J, McKool K, Wood-Reid K, Singer D & Pasternak R 1999, 'The use of nicotine replacement therapy by hospitalised smokers', *American Journal of Preventive Medicine*, vol 17, no 4, pp255-259.
- Rissel C, Salmon A & Hughes AM 2000, 'Evaluation of a (pilot) stage- tailored brief smoking cessation intervention among hospital patients presenting to a hospital pre-admission clinic.' *Australian Health Review*, vol 23, no 31, pp83-93.
- Rozensteins J, Kiel K & Peschar I 2000, *"Brief Intervention for Tobacco Cessation Training for Staff Trainers"*, Central Sydney Drug Health Services.
- Schofield PE & Hill DJ 1999, 'How accurate is in-patient smoking status data collected by hospital admissions staff?', *Australian and New Zealand Journal of Public Health*, vol 23, no 6, pp 654- 656.
- Stevens VJ, Glasgow RE, Hollis JF, Lichtenstein E & Vogt TM 1993, 'A smoking-cessation intervention for hospital patients', *Medical Care*, vol 31, no 1, pp 65-72.
- Wilson T 2001, *Report to the Smoke Free Environment Policy Implementation Taskforce*, Central Sydney Area Health Service, October 2001.