

## Establishment of a smoking cessation programme in primary and secondary care in Canterbury

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## **Abstract**

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### **Aims:**

Smokescreen for the 1990's is a smoking cessation programme devised for use in primary care in Australia. It is based on the 'readiness to change' model where smokers are categorised as being 'ready', 'unsure', or 'not ready' to quit smoking. Those in the 'ready' group are encouraged to set a quit date and offered nicotine replacement therapy. Those in the unsure group receive brief motivational intervention, and those 'not ready' are given simple health advice. The aims of the study were to evaluate the process and outcome of establishing this program in primary and secondary care in Christchurch.

### **Methods:**

Process evaluation involved all staff participating in the program. Patient outcomes including quit rates were assessed by interview six months after enrolment.

### **Results:**

Implementation was successful with 59 general practitioners, 49 practice nurses and 294 hospital staff receiving education in the use of the programme. Nine hundred and seven patients (smokers) were enrolled in the study, 347 from primary care and 560 from Christchurch Hospital. The point prevalence abstinence rate at 6 months was 10.4% for the primary care sample and 17% for the secondary care group, with an overall rate of 14.4%.

### **Conclusions:**

The programme was successfully implemented across primary and secondary care with an acceptable quit rate at 6 months.

## **Introduction**

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Tobacco smoking is the main cause of preventable death and morbidity in New Zealand and in many western countries. Despite decades of health promotion and tobacco control legislation, the prevalence of smoking among adults and teenagers in New Zealand remains unacceptably high. In the 1996/7 Health Survey, the proportion of New Zealanders who smoked was 24.9%, with nearly half of all Maori adults reporting that they smoked.<sup>1</sup> Cigarette smoke contains nicotine, a powerful addictive substance which can cause chemical addiction after just a short exposure. In addition, many continue to smoke for social and psychological reasons. Many people want to quit but for a variety of behavioural, psychological and pharmacological reasons find it difficult to achieve.

A wide variety of smoking cessation programmes have been developed and studied over recent years. Most programmes achieve point prevalence abstinence rates in the region of 10 - 30% at 12 months with higher rates within this range described for programmes using nicotine replacement therapy (NRT).<sup>2</sup>

The programme we used was Smokescreen for the 1990's, which was developed specifically for general practitioners in Australia at the School of Community Medicine, University of New South Wales.<sup>3,4</sup> This report describes the simultaneous implementation of the programme in primary and secondary care in Christchurch.

## **Methods**

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**Setting up the Programme.** The smoking cessation programme was planned as a joint initiative between Canterbury Respiratory Services of Canterbury Health and the Pegasus Medical Group, which includes the majority of general practitioners in Christchurch. A Steering Committee was established which included the key staff from each organisation. Funding from the then Southern Regional Health Authority was provided to establish this pilot scheme. The funds were used to purchase resources and provide training for hospital and general practice staff through the appointment of two part-time educators. These staff played a key role in establishing the programme and maintaining primary/secondary care linkages.

The Smokescreen resources were purchased from the University of New South Wales and used without modification.<sup>3</sup> The kit includes patient leaflets and educational resources giving detailed information about the adverse health effects of smoking. The approach recommended was that all patients who smoke were identified in their medical records and using the simple question "How do you feel about your smoking?" were categorised as 'ready', 'unsure' or 'not ready' to give up smoking. Those categorised as 'ready' to quit were asked to set a quit date, offered nicotine replacement therapy (NRT) and encouraged to attend for follow-up and in selected cases offered ongoing telephone counselling. Those categorised as 'not ready' were given simple health advice, while those categorised as 'unsure' were offered more detailed advice about the pros and cons of smoking and using the 'readiness to change' approach encouraged through motivational interviews to consider giving up smoking in the future.

Prior to launch date in 1995, one of the Sydney based programme directors spent several days in Canterbury and undertook a series of workshops to train the trainers. Thereafter, key hospital and primary care staff underwent training in readiness for participation in the programme. The Pegasus Medical Group provided subsidised NRT for their patients.

**The Evaluation.** The pilot programme included an evaluation component which aimed to describe in detail the establishment of the programme and the outcomes including number of patient contrarrrs, anti for participants their smoking status six months following enrolment.

The process evaluation comprised written questionnaires to health care staff participants including medical and nursing staff. The outcome evaluation was based on the registration of all enrolled smokers using a simple card. They gave verbal consent to a telephone interview at three and six months to establish their use or not of NRT and their smoking status. Participants were asked to answer the following three questions in this regard:

- i. "Have you smoked at all since your quit date approximately six months ago?"
- ii. "How many cigarettes a day are you currently smoking?"
- iii. "How long have you been smoke free since your quit date?"

Only those categorised as 'ready' or 'unsure' were followed up for smoking status at six months. For 50 subjects in the secondary care group, the evaluation included biochemical validation of their smoking status by means of an exhaled carbon monoxide measurement using a Bedfont (Kent, UK) micro carbon monoxide analyser. Participants were asked to hold their breath for 15 seconds then blow out gently into the mouth piece for as long as possible.

## **Results**

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Initial implementation of the programme was by staff of respiratory inpatient and outpatient units at Christchurch hospital together with 59 self selected general practitioners and 49 practice nurses from 40 practices in Christchurch.

### **Process Evaluation**

**Primary Care.** Forty general practitioners and 15 practice nurses were sent written questionnaires with a response rate of 78% and 86% respectively. Most respondents (84%) considered that the training session was sufficient to allow them to use the programme. The majority found the resources easy to use and most (93%) offered NRT to their clients. It appeared that most general practice screening was opportunistic, as only 21 % of respondents reported using the case note stickers to identify smokers. A greater proportion (64%) of primary care subjects were classified as 'ready' to quit smoking than in secondary care. Potential barriers to the use of the programme included time constraints (83%) and remuneration issues (50%). Nevertheless, all respondents stated their intention to continue using the programme.

**Secondary Care.** Questionnaires were sent to 26 medical staff and 46 nursing staff who had been exposed to the programme. Approximately half (53%) of these were returned, which was as expected given the mobility of the workforce. As for the

primary care sample, the majority (84%) felt that they had received adequate training in the use of the programme. NRT was available through the retail hospital pharmacy at a discounted price and 66% of respondents recommended this for their patients. Free NRT for inpatients was available. Potential barriers to the use of the programme included time constraints (79%) and lack of confidence with the programme (36%).

### Outcome Evaluation

**Primary Care.** Three hundred and forty seven subjects were enrolled in the programme over the initial five months and at entry the median number of cigarettes smoked per day was 20 (range 2 - 60). Of these 347, 216 (62%) were classified as 'ready' to quit, with 93 (27%) being 'unsure' and 38 (11%) 'not ready'. The response rates for follow-up at three and six months were 89% and 50% respectively. Non respondents were classified as still smoking. The results of the programme in terms of quit rates at six months are given in Table 1.

**Table 1. Smoking cessation rates at 6 months**

	<b>Primary Care</b>	<b>Secondary Care</b>
<b>Total original sample</b>	347	560
<b>Eligible sample at 6 months</b>	309	506
<b>Response rate</b>	50%	55%
<b>Point prevalence quit rate</b>	10.4%	17%

Note: All non respondents and those in the 'not ready' group were categorised as still smoking.

**Secondary Care.** Five hundred and sixty subjects were enrolled in the secondary care programme over the initial eight months, the majority having been admitted to the hospital with a smoking related disorder. Their median age was 52 years (range 18 - 85) and the median number of cigarettes smoked per day was 20 (range 1- 85). Of these 560 subjects, 302 (54%) were classified as 'ready' to quit smoking with 204 (36%) and 54 (10%) being 'unsure' and 'not ready' respectively. Of those in the 'ready' group, 48% used NRT. Biochemical evaluation was performed in 50 randomly selected subjects, of whom seven had a level of 7ppm or higher indicating a deception rate of 14%.

**Cost of Programme.** The total budget for the programme for the six month pilot study was \$55 329 comprising the salary costs for the two part-time educators (\$21 000) and set up costs including purchase of the kits (\$17 350). During this period the Pegasus Medical Group provided some \$22 765 in NRT subsidies to their patients. The cost per contact over this period was approximately \$61 and the cost per successful quit approximately \$425 excluding NRT costs.

## Discussion

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This pilot study has demonstrated the acceptability of the Smokescreen for the 1990's programme in New Zealand and successful outcomes in terms of quit rates at six months. The overall point prevalence quit rate for the eligible sample was 14.4%, a figure comparable to that achieved in the Australian setting using the same programme<sup>4</sup> This result may have been affected by non-response bias since all non respondents were classified as still smoking. The quit rate was significantly higher for the hospital sample which may reflect the high impact of smoking cessation advice when delivered while the patient is in hospital with a smoking related disorder. The hospital patients were also older and a significant proportion had a chronic illness. In addition, a greater proportion of subjects enrolled in primary care were classified as 'ready' to quit, perhaps reflecting lack of experience with the programme.

Funding limitations for this programme did not permit full biochemical evaluation of smoking status for all participants. There were insufficient resources for urinary cotinine measurements so we relied on carbon monoxide assessments. Subjects were not informed of the purpose of this test until they arrived for their appointment which makes it less likely they would have knowingly refrained from smoking beforehand. The deception rate in this sub group was only 14%.

A unique feature of this venture was the joint participation of both primary and secondary care providers from the outset to ensure integration of the programme in the community. This is in keeping with recommendation of the most recent guidelines for the implementation of smoking cessation programme published by the British Thoracic Society.<sup>5</sup> Also in keeping with these guidelines was our decision to recommend NRT for all participants. This strategy has been shown to increase the successful quit rate two-three fold. In the Pegasus Medical Group cohort, patients were provided with direct access to subsidised NRT. 'While this was very well received and was used by 87% of participants, it did not lead to a particularly high quit rate by international standards.

The Smokescreen Programme does not involve detailed education and follow-up counselling as may occur in a group programme. In the Australian setting, follow-up visits for participants are provided free of charge by the general practitioner and their staff. In New Zealand there are significant financial barriers to this and we believe that ongoing support and counselling for participants, either by telephone or at the family practice, may have improved the outcome.

The costs of this programme were relatively modest. Obviously a substantial portion of the initial budget was for set up costs which would reduce over time as more patients are enrolled into the programme. Even at the cost of \$425 per successful quit, this is a remarkably cheap public health intervention and is in keeping with costs estimated for UK programmes which range from £212 to £873 per successful quit. There are numerous studies which support the cost effectiveness of smoking cessation programmes, and they are guaranteed to bring population health gains in the longer term through reductions in health care costs.<sup>6,7</sup>

Since the pilot phase of this programme was completed in 1996, the initiative has been extended widely throughout primary and secondary care in Canterbury. In

primary care the vast majority of Pegasus Medical Group doctors are using the programme and it has also been introduced to most other independent general practices in the metropolitan area. The Pegasus Medical Group has continued to provide subsidised NRT and other general practitioner groups have negotiated substantial discounts for their patients. Quit rates at six months in primary care are now approaching 30% (unpublished data Pegasus Medical Group). In secondary care the programme has been implemented in almost all wards and departments within Canterbury Health, including the recent establishment of a Staff Smoking Cessation Programme. Most patients enrolled in the programme from secondary care are referred back to their general practitioner for ongoing follow-up and NRT.

The resources originally supplied with the Smokescreen Programme have now been significantly modified to make them more appropriate to the New Zealand situation. This has, however, not altered the main thrust of this successful model which provides a non-threatening assessment of each individual's readiness to quit smoking.

This programme, either in its original form or using locally modified resources, could be readily adopted anywhere in New Zealand. Funding for the Canterbury programme has been secured within the Canterbury Health contract with the Health Funding Authority. Other primary and secondary care providers should insist on funding for smoking cessation services in their area. This would appropriately complement the recently established 0800 Quit Line.

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