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# Process evaluation of a practice nurse-led smoking cessation trial in Australian general practice: views of general practitioners and practice nurses

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# Process evaluation of a practice nurse-led smoking cessation trial in Australian general practice: views of general practitioners and practice nurses

#### **Abstract**

Background. Support in primary care can assist smokers to quit successfully, but there are barriers to general practitioners (GPs) providing this support routinely. Practice nurses (PNs) may be able to effectively take on this role. Objectives. The aim of this study was to perform a process evaluation of a PN-led smoking cessation intervention being tested in a randomized controlled trial in Australian general practice. Methods. Process evaluation was conducted by means of semi-structured telephone interviews with GPs and PNs allocated in the intervention arm (Quit with PN) of the Quit in General Practice trial. Interviews focussed on nurse training, content and implementation of the intervention. Results. Twenty-two PNs and 15 GPs participated in the interviews. The Quit with PN intervention was viewed positively. Most PNs were satisfied with the training and the materials provided. Some challenges in managing patient data and follow-up were identified. Conclusion. The Quit with PN intervention was acceptable to participating PNs and GPs. Issues to be addressed in the planning and wider implementation of future trials of nurse-led intervention in general practice include providing ongoing mentoring support, integration into practice management systems and strategies to promote greater collaboration in GPs and PN teams in general practice. The ongoing feasibility of the intervention was impacted by the funding model supporting PN employment and the competing demands on the PNs time.

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**Abstract** 

Background: Support in primary care can assist smokers to quit successfully but there are barriers to

general practitioners (GPs) providing this support routinely. Practice nurses (PNs) may be able to effectively

take on this role.

Objectives: The aim of this study was to perform a process evaluation of a PN-led smoking cessation

intervention being tested in a randomised controlled trial in Australian general practice.

Methods: Process evaluation was conducted by means of semi-structured telephone interviews with GPs

and PNs allocated in the intervention arm (Quit with PN) of the Quit in General Practice trial. Interviews

focussed on nurse training, content and implementation of the intervention.

Results: 22 practice nurses and 15 general practitioners participated in the interviews. The Quit with PN

intervention was viewed positively. Most PNs were satisfied with the training and the materials provided.

Some challenges in managing patient data and follow-up were identified.

Conclusion: The Quit with PN intervention was acceptable to participating PNs and GPs. Issues to be

addressed in the planning and wider implementation of future trials of nurse-led intervention in general

practice include providing ongoing mentoring support, integration into practice management systems and

strategies to promote greater collaboration in GPs and PN teams in general practice. The ongoing feasibility

of the intervention was impacted by the funding model supporting PN employment and the competing

demands on the PNs time.

Trial Registration: ACTRN012606000304538

Keywords: general practice, health promotion, smoking cessation, qualitative evaluation, Australia, nurses

#### Introduction

Despite the reduction in smoking prevalence, tobacco use and dependence remains one of the single most preventable causes of premature mortality<sup>(1)</sup>. Approximately 40% of smokers report having tried to quit in the previous year<sup>(2)</sup> but unaided, smokers have a success rate of only about 4% remaining abstinent at 12 months<sup>(3)</sup>. Primary care is an important setting that provides a major opportunity for supporting smoking cessation<sup>(4)</sup>. In Australia, over 80% of the community visits a general practitioner (GP) at least annually<sup>(5)</sup>. Previous research on smoking cessation interventions in general practice has concentrated on comparisons between GP advice and referral to external support<sup>(6-8)</sup>. This previous work has demonstrated mixed results, however, key issues of reach, uptake, retention, and possible dilution effects were identified.

Despite the evidence for the effectiveness of nurse-led smoking cessation advice or counselling<sup>(9)</sup>, general practice research has demonstrated variable outcomes<sup>(10, 11)</sup>. The significant growth in the numbers of nurses in general practice, the growing emphasis on health promotion and the ability of nurses to overcome some of the previous barriers in general practice smoking cessation, makes this an important target group for further evaluation<sup>(12)</sup>. The aim of this paper is to evaluate the views of nurses and GPs on the acceptability and feasibility of implementing a nurse-led smoking cessation intervention within Australian general practice. The trial design<sup>(13)</sup> and patient outcomes of this trial are reported elsewhere<sup>(14)</sup>.

# Method

#### Design and subjects

This study took place in the context of Quit in General Practice, a three arm cluster randomised controlled trial (RCT) that compared a practice nurse-led smoking cessation intervention (QUIT with PN) against active referral to a telephone Quitline service and usual care in Australian general practice<sup>(13)</sup>. One hundred and one general practices from New South Wales and Victoria participated in the study between August 2010 and May 2012 (Table 1). Randomisation was undertaken at the practice level. Research assistants approached consumers in the waiting room prior to their appointment. Consumers were eligible if they were aged over 18 years, self-identified as being a daily or weekly smoker and provided consent to participate. Individuals were excluded if poor physical or cognitive state or an inability to communicate in English precluded them providing informed consent. Participants were then given a study card to hand to their GP at their appointment. In Quit with PN intervention practices the nurse was given a copy of this card. Intention to quit was not measured at recruitment, however, during the first consultation participants were asked to identify their readiness to quit and perceived difficulty of smoking cessation<sup>(15)</sup>.

For those in the Quitline referral group, GPs offered a faxed referral to a telephone Quitline service in addition to usual care. GPs in the usual care arm were given a copy of the latest smoking cessation guidelines and advised to manage participating patients according to their usual care.

The trial and process evaluation were approved by the Human Research & Ethics Committees of the University of New South Wales, University of Melbourne and University of Western Sydney.

#### **QUIT with PN Intervention**

The QUIT with PN intervention was based on the principles of motivational interviewing and the 5As approach to smoking cessation counselling as described in Australian smoking cessation guidelines<sup>(16)</sup>. Specific details of the intervention have been published previously<sup>(13)</sup>. Nurses from intervention practices attended a full day workshop facilitated by a nurse with expertise in smoking cessation counselling. The training session covered; current smoking cessation guidelines, the use of pharmacotherapy, motivational interviewing skills, the 5As approach and the procedures of study implementation / administration. Simulated counselling sessions were also undertaken in small groups. Practice Nurses were provided with a resource book and a range of physical resources to use to facilitate their counselling.

Participants in the Quit with PN arm were advised by the GP to make an initial assessment appointment with the PN and then were encouraged to attend four subsequent sessions at weekly intervals. There was an option of undertaking these sessions via telephone if this suited the PN and consumer. The content of these visits is shown in Table 2. PNs were also encouraged to provide referrals to external counselling, such as the Quitline, if this was felt to be appropriate. The practices were remunerated at a rate of \$AU30 per visit.

#### Pharmocotherapy

Best practice guidelines were used to guide the use of smoking cessation pharmacotherapy by participant<sup>(16)</sup>. GPs participating in the study received copies of relevant guidelines. The PNs in practices randomised to the Quit with PN intervention arm received copies of smoking cessation guidelines and specific training about smoking cessation pharmacotherapy. Patients assessed as nicotine dependent in all three arms were offered free nicotine replacement therapy patches for eight weeks.

#### **Process evaluation**

GPs and PNs randomised to the Quit with PN arm were interviewed after completing the trial. Practices were stratified based on the number of patients recruited and the number of PN consultations per practice.

Potential GP and PN participants were then purposively selected. This maximum variation sampling aimed to Page 4 of 17

provide different perspectives on the implementation of the intervention. Semi-structured telephone interviews were conducted by three trained research assistants not previously involved in the study. The interview schedule (Figure 1) consisted of a series of open-ended questions and interviewers were encouraged to probe for more details. Interviews were audio-taped and transcribed verbatim. Transcripts were imported into NVivo 2.0<sup>TM</sup> and read independently by two authors (EH and JF) who were experienced in qualitative analysis. Preliminary coding was then developed using recognised thematic analysis principles<sup>(17)</sup>. Themes and sub-themes were subsequently developed using a period of iterative analysis.

#### **Results**

There were 36 practices randomised to the Quit with PN intervention, 16 from Victoria and 20 from NSW. Twenty-two PNs and 15 GPs participated in the interviews. Data collection was continued until data saturation was achieved. Interviews ranged in duration from 3 to 16 minutes (Mean 9 minutes). Interviews with GPs were shorter in duration than those with PNs (Mean 5.5 versus 11.2 minutes). Despite PNs and GPs having agreed to take part in these interviews during initial recruitment for the study, they had limited time available when these interviews were conducted. Additionally, interviews where participants had limited recall or depth of information to provide were noticeably shorter than those in which the participants provided extensive feedback.

Data analysis revealed three key themes related to the implementation of the intervention at a practice level. The first theme relates to the PN training, in particular which elements were most valuable and what areas could have been improved to preparing the PNs to take on the active counselling role. The second theme relates to the barriers faced in integrating the PN role into the daily work of the practice. These barriers included; patient data management, managing the PN workload, communication between GPs and PNs. The final theme was around the acceptability of the intervention in clinical general practice. Each of these themes is discussed in detail below.

#### Pre-intervention Training

The pre-intervention training was seen as an important step in preparing PNs to deliver the intervention. All of the participating PNs expressed a greater level of "confidence" in their knowledge and understanding of the pathophysiology of smoking and smoking cessation strategies. They also articulated that they felt that this better positioned them to answer questions about quitting. "I was happy with the responses that I got and I feel confident.......I could answer their questions" (PN2). Despite the positive evaluation, some participants expressed concern that the amount of information provided in a single training session was a bit

"overwhelming", "intense" or "too much in one day to absorb". Several participants suggested that a follow up training session once PNs had the opportunity to trial the intervention may have been useful to problem solve issues and clarify concerns. One PN commented; "I thought it would've been good to have, once you actually started doing it, another whole day where you got together and started discussing different things that had come up and just to make sure that - I don't know. I just felt like it would've been good to have spoken to someone else once we'd actually started it - implemented it" (PN20). Whilst all PNs were provided contact details for mentoring and support by experienced smoking cessation counsellors who were present at their training session, few PNs initiated contact to actively seek support. In the later stages of the study the counsellors were encouraged to actively follow-up education with ongoing telephone support. However, ongoing active support from the Project team as part of the intervention may have been beneficial for intervention nurses to assist them in embedding the intervention in their practice and problem solving he challenges that they faced.

A key component of the training was identified as the provision of physical resources to take back to the Practice. Many participants commented that the "resource book is fabulous.....if you can't remember, at least you've got that to go back on" (PN02) and refer to.

#### **Barriers**

When asked about barriers to implementing the intervention, the most significant barrier related to difficulties in integrating the intervention into routine clinical practice. This encompassed issues of patient data management, managing the PN workload, communication between GPs and PNs. Each of these subthemes is addressed below.

#### a) Patient data management

Whilst a growing number of Australian general practices have adopted electronic records and recall / reminder systems, data collection for this trial was paper-based. This required PNs to develop their own methods for monitoring participating patients' progress and facilitating recall. Interview data revealed a poor understanding of the numbers of patients participating in the trial or their progress towards smoking cessation. "I don't know any actual statistics but I think our success rate was reasonable" (GP06). "I haven't gone through with them in detail...I haven't found out from the girls whether our patients utilised that.[the intervention]" (GP09).

Difficulties in identifying which patients were due for a PN visit and the need to manually generate recalls may also have impacted on the frequency of follow-up of participants from the practice.

#### b) PN workload

Most PNs reported a lack of time and increased workload as major barriers to successful implementation of the intervention. "I wished I had more time, because it's more about time, talking, reassurance" (PN15). Despite practices receiving reimbursement from the study to support PN time for each patient visit, several PNs spoke of delivering the intervention in their own time. "The timing, they did not give me time to do it. I have to do it in my own private time" (PN21). Others spoke of the challenges of trying to fit an additional role into their already busy schedule "it was the time of fitting it into amongst all the other practice, or the other things to do in the practice… with the immunisations and the wound care and everything" (PN016).

#### c) GP-PN communication

Interview data revealed that PNs took on the role of counsellor and coach, whilst GPs took responsibility for prescription of pharmacotherapy. These two roles were generally described as being solitary activities between the provider and consumer, with limited discussion between the GP and PN about either the study in general or specific patients. Few interview participants spoke of planned communication between PNs and GPs to discuss participants' progress, challenges faced, relapses or future goals. "I don't know what's happening. I haven't had a report, we haven't had a meeting and discussed it" (GP14). "I don't know what my nurses where doing during those interviews to be honest - I wouldn't have a clue" (GP1).

# Acceptability

Despite the barriers to its implementation and sustainability, the intervention was perceived to be acceptable in clinical practice to both PNs and GPs and a positive strategy to facilitate opportunities for smoking cessation.

"Well basically very well. It meant that patients had access to our practice nurses, who spent time with them and went through things in detail, probably a lot more detail than they would have if they'd had a consultation with the GP" (GP7).

"We certainly have I think more success with the program than we've had before..." (GP9).

"it was good and that's why they [patients] enjoyed coming back and that's why they did come back" (PN01).

#### **Conclusion & Discussion**

This study aimed to evaluate the views of PNs and GPs on the implementation of the Quit with PN intervention to promote smoking cessation in Australian general practice. Such qualitative work is important in looking inside the black box of complex interventions in clinical practice<sup>(18)</sup>. Despite identifying a number of challenges, both PNs and GPs provided positive evaluations of the intervention. There is a need for further studies of practice-nurse led interventions in general practice. This qualitative study raises a number of issues, discussed below, that could inform these investigations.

#### Preparation of PNs

Whilst some PNs indicated that they felt unprepared initially to deliver smoking cessation advice, they reported that the training prepared them by developing their knowledge base and understanding of key issues in smoking cessation. Currently, there is little evidence to guide nurse education for this kind of intervention. However, data from this study indicates that nurses would have liked to have had more structured ongoing, active interaction with clinical experts and/or peers to facilitate problem solving of issues as they arose. Given the issues with patient data management and PN-GP communication, performance feedback may have provided an opportunity for GPs and PNs to reflect on their progress in delivering the intervention and plan future strategies. Such performance feedback has been demonstrated to be effective in increasing the delivery of interventions in smoking cessation<sup>(19)</sup>.

# Integration of intervention into practice

Some issues of integrating the requirements of the intervention into the busy environment of contemporary general practice were identified. Boase et al.<sup>(20)</sup> similarly identified that PNs engagement in clinical research is impacted on by a combination of issues of time and of competing demands. As was our experience, Boase et al.<sup>(20)</sup> identified a degree of variation in how the practice teams organised the intervention within their practice. The qualitative data from this study suggests that future clinical trials should consider the extent to which the PN role in delivering an intervention is embedded into their clinical practice as a priority within the study development.

## Collaboration between GP & PN

It was the intention of the intervention that the PN and GP would work together to provide smoking cessation support, however, these qualitative data indicated that this was not fully enacted. Whilst the growth in the

Australian PN workforce in the last decade has facilitated a growing number of GP-PN teams in general practice, achieving collaborative teamwork has long been identified as challenging<sup>(21)</sup>. Future research needs to explicitly consider strategies to promote interdisciplinary collaboration within the delivery of the intervention and embed this collaboration within clinical practice.

#### Strengths and limitations

Participants in this evaluation represented PNs and GPs from a mix of outer metropolitan and urban practices, with variable experiences in implementing the intervention. However, as data was collected on a practice, rather than individual clinician, level it was not possible to interrogate the exact role of each individual clinician in delivering the intervention. Additionally, a significant number of PNs were no longer employed at the participating practice and so were no longer contactable. Therefore, the PNs who participated may be different to those who did not participate. Secondly, it is known that participants, in trials such as this, likely have a greater interest in lifestyle modification than other clinicians. Whilst this does not necessarily equate to high performing implementation of the intervention, the willingness of PNs to undertake aspects of the study in their own time may reflect their enthusiasm for health promotion or the challenges of managing competing demands<sup>(20)</sup>. Finally, as participating PNs and GPs were not necessarily from the same practices it was not possible to compare the differing perspectives of health professionals to the same practice experience.

## Implications for future research

Despite the largely positive evaluation three aspects of the study require further attention. Whilst an experienced cessation counsellor was available to provide support to PNs, uptake was minimal. Providing active follow-up and mentoring support to each PN after they receive training may have assisted in addressing issues that they were facing in a timely manner. Secondly, there was evidence that the patient data collection required by the intervention was difficult to integrate into the usual practice systems. In future, attention should be paid to not only minimising burden associated with data collection but also in actively working with GPs and PNs to integrate data collection within their practice management systems in order to facilitate both data and patient clinical management. Finally, given the evidence that PNs and GPs did not always communicate well about the intervention and update on patients' progress, future studies that involve multiple health professionals need to ensure that at least some component of the training is conducted together or that health professionals' work together to plan communication to facilitate interdisciplinary care.

The results of this process evaluation show that the PN training, content and implementation of the intervention was acceptable and feasible within Australian general practice. Considerations of the barriers identified may assist in the implementation of future studies of nurse-led interventions in the general practice setting.

#### Implications for clinical practice

The findings of this study provide some useful insights into factors that can enhance clinical practice into the future. Providing regular performance feedback can encourage critical reflection by clinicians on the delivery of services within their practice. In particular, the provision of proactive outreach and academic detailing to coach nurses in new roles has the potential to improve their confidence and thus engagement with and application of new interventions. Performance feedback needs to also extend beyond individual health professionals and also encompass evaluation of communication and teamwork within the general practice. Critical reflection and continual improvement in ways of multi-disciplinary health professionals working together has significant potential to enhance service delivery and patient care.

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#### 1. Ethical Approvals

The Human Research Ethics Committees of University of New South Wales, University of Melbourne, University of Western Sydney and University of Canberra approved this study prior to the commencement of recruitment and data collection.

# 2. Funding

This study was funded by the National Health and Medical Research Council. Nicotine replacement therapy was purchased at cost from the study funding and provided free of charge for all consumers with a pension or health care card.

# 3. Trial registration details

Australian Clinical Trials Registry. Registration number ACTRN012609001040257

#### 4. Conflict of interest

None declared.

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#### **Practice Nurse Interview Schedule**

- 1. Looking back now, what comments would you make about the training that was provided in smoking cessation skills?
- 2. Following the PN training and once patients were recruited, how did things go in your practice in putting the smoking cessation counseling into practice?
- 3. What things were important in facilitating or helping support your smoking cessation counseling role?
- 4. What challenges or difficulties did you encounter in putting the smoking cessation counseling into practice?
- 5. Preliminary results show that a number of patients in some practices did not receive as many nurse-led sessions as we had envisaged. What factors do you think might have influenced this?
- 6. One aspect of the intervention to make it more flexible to deliver was phone support for patients. How did offering phone support work in your practice?
- 7. As part of the intervention you had the option of asking patient to use the Quitline in addition to your support. Did you make use of this option and if so how useful was it?
- 8. Since the study has finished have you continued to provide smoking cessation counseling in your practice and what factors have been influential in supporting that?
  - 8a. How often have you done this?
  - 8b. What factors have impacted on you doing this?

#### **GP Interview Schedule**

- 1. Following the PN training and once patients were recruited, how did things go in your practice in putting the PN smoking cessation counseling into practice?
- 2. What role did you play in the smoking cessation counseling intervention?
- 3. What things were important in facilitating or helping support the PNs smoking cessation counseling role in the practice?
- 4. What challenges or difficulties did you encounter in implementing the PN smoking cessation counseling in your practice?
- 5. Preliminary results show that a number of patients in some practices did not receive as many nurse-led sessions as we had envisaged. What factors do you think might have influenced this?
- 6. One aspect of the intervention to make it more flexible to deliver was phone support for patients. How did offering phone support work in your practice??
- 7. Since the study has finished have you continued to provide smoking cessation counseling in your practice and what factors have been influential in supporting that?
  - 7a. How often have you done this?
  - 7b. What factors have impacted on you doing this?

Table 1. Summary of Trial Participants

| Study Arm         | No of Practices | No. of Patients |  |  |
|-------------------|-----------------|-----------------|--|--|
| Quit with PN      | 36              | 876             |  |  |
| Quitline referral | 33              | 836             |  |  |
| Usual GP care     | 32              | 678             |  |  |
| Total             | 101             | 2390            |  |  |

Table 2. Focus of Nurse Visits

|   | Visit 1 | Visit 2 | Visit 3 | Visit 4 |
|---|---------|---------|---------|---------|
| Smoking assessment                            | ✓       |         |         |         |
| Nicotine dependence assessment                | ✓       |         |         |         |
| Pharmacotherapy discussed                     | ✓       | ✓       | ✓       | ✓       |
| Nicotine patches offered to eligible patients | ✓       |         | ✓       | ✓       |
| Quit support plan developed                   | ✓       |         |         |         |
| Cessation counselling support                 | ✓       | ✓       | ✓       | ✓       |