Implementing guidelines for smoking cessation advice in Australian general practice: opinions, current practices, readiness to change and perceived barriers

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Objective. The aim of this study was to ascertain opinions, current practices, likely readiness to change and perceived barriers to change among Australian GPs in order to develop a plan to implement national guidelines for smoking cessation advice.

Method. A postal survey of randomly selected GPs in New South Wales, Australia was carried out.

Results. We received 311 returned questionnaires (73% response rate). Only 34% of respondents reported providing cessation advice during every routine consultation with a smoker, in accordance with national guidelines. Specific evidence-based approaches recommended in guidelines were under-utilized, with only 54% ‘always’ or ‘frequently’ arranging follow-up, 32% providing written materials and 28% setting a ‘quit date’. Respondents were no more likely to advise quitting completely than the less effective method of nicotine fading. More than one in four respondents (28%) indicated readiness to change their behaviour. Respondents rated their patients’ lack of motivation and uninterest as the most important barriers to smoking cessation advice in general practice. Neither uncertainty about effective smoking cessation strategies nor lack of reimbursement for smoking cessation advice were identified as barriers.

Conclusions. A multicomponent intervention to address suboptimal behaviour and barriers as revealed by this survey holds considerable potential to plan effective implementation of smoking cessation guidelines in general practice. The use of readiness to change as a tool to ‘individualize’ strategies for guideline implementation should be explored.

Keywords. Clinical practice guidelines, family practice, smoking cessation advice, stage of change.

Introduction

In Australia, GPs provide primary medical care on a predominantly fee-for-service basis.1 Recently, there has been increasing recognition of the potential role of GPs in improving population health outcomes by embracing a broader public health role.2 Strategies to support systematic provision of clinical preventive services and implementation of evidence-based clinical practice guidelines have been identified as priorities for Australian general practice.2 Implementation of evidence-based guidelines for smoking cessation advice represents a key area where GPs may contribute to a national public health strategy, namely the National Tobacco Strategy.3

Despite compelling evidence for the effectiveness of smoking cessation advice from a GP,4,5 rates of provision of such advice remain persistently suboptimal in Australia.6–10 In response, both the National Health and Medical Research Council (NHMRC) in Australia and
the Royal Australian College of General Practitioners (RACGP) have produced clinical practice guidelines to promote an evidence-based approach.\textsuperscript{11–13} These local guidelines are consistent with international recommendations\textsuperscript{14,15} for GPs to capitalize on their unparalleled access to the community to provide smoking cessation advice ‘opportunistically’ during every routine consultation with smokers.\textsuperscript{16}

However, passive dissemination of guidelines is unlikely to change clinical behaviour.\textsuperscript{17} Implementation strategies are required for guidelines recommendations to be followed in actual practice.\textsuperscript{18} To date, results from rigorous evaluations of efforts designed to increase Australian GPs’ identification of and advice to smokers during routine consultations have been disappointing. In one randomized trial, GP trainees (\(n = 34\)) allocated to a 3-day workshop in preventive care demonstrated significantly improved rates of asking about smoking status at post-test.\textsuperscript{19} However, two-thirds of smokers remained undetected and <20\% received cessation advice, despite intensive training.\textsuperscript{19} While reinforcement telephone contact following a smoking cessation workshop increased cessation advice by volunteer GPs choosing to participate in the workshop (\(n = 198\)),\textsuperscript{20} strategies such as computer-generated feedback (\(n = 19\))\textsuperscript{21} and one-off academic detail visits (\(n = 264\))\textsuperscript{22} have not improved preventive care provided by randomly selected GPs.

A systematic review has concluded that physician training improves the provision of smoking cessation advice.\textsuperscript{23} Further, the effect of training is enhanced when organizational strategies to facilitate provision of advice, for example reminders and prompts, are also in place. Multicomponent interventions are considered more likely than single strategies to change physician behaviour successfully.\textsuperscript{24} Yet, as each health care system represents a unique mix of funding arrangements, traditions in undergraduate education and requirements for continuing education, it has been argued that the selection of strategies ought to respond to an analysis of specific contextual barriers.\textsuperscript{13,24,25} Furthermore, tailoring strategies to an individual physician’s preparedness to change has been proposed to enhance the efficiency of guideline implementation among GPs.\textsuperscript{26,27} In other words, strategies can be targeted to those GPs on the basis of their stage of change, consistent with the trans-theoretical model developed initially by Prochaska and DiClementi and now applied to various behavioural contexts.\textsuperscript{28}

Thus, assessment of prevailing opinions and identification of barriers could better inform development of a responsive, multifaceted guidelines implementation strategy to increase smoking cessation advice in general practice. Our needs assessment is the first dedicated study of its type in Australia to identify GPs’ opinions, self-reported practices, readiness to change and barriers before an implementation trial.

**Methods**

**Questionnaire content.** We developed an eight-page self-administered questionnaire from existing instruments.\textsuperscript{26,27,29,30} After pilot testing with 12 non-academic GPs, we substituted visual analogue scales for uncued responses in questions designed to estimate the proportion of smokers advised to quit. The final questionnaire included the following sections:

**Opinions about opportunistic smoking cessation advice.** To assess belief in the effectiveness of opportunistic smoking cessation advice, we asked respondents to indicate their level of agreement with each of four attitudinal statements\textsuperscript{29} on a six-point Likert scale from ‘strongly disagree’ to ‘strongly agree’. There was no neutral point on this scale. We then asked respondents to select the appropriate response (‘yes’, ‘no’, ‘unsure’) to indicate if they agreed that smoking should be discussed during every consultation with a smoker. Using a visual analogue scale, we asked them to estimate the proportion of routine consultations with smokers in which it was feasible to discuss smoking.

**Self-reported smoking cessation practices.** Using an identical visual analogue scale, we asked respondents to estimate the proportion of consultations with smokers in which they actually discussed smoking. On another page, we asked how frequently they discussed smoking with their patients (‘never’, ‘initial visit only’, ‘at intervals or when symptomatic’ or ‘almost every visit’). They were then asked if they used an office system to prompt them about their patients’ smoking status. Next, we asked respondents to indicate how frequently they used each of 17 specific cessation techniques, listed in random order, using a five-point scale (‘always’, ‘frequently’, ‘sometimes’, ‘occasionally’ and ‘never’). NHMRC guidelines recommend the provision of brief, personalized advice to all smokers and assessment of readiness to quit.\textsuperscript{11} For those ready to quit, the guidelines recommend that GPs negotiate a quit date, provide behavioural advice, reinforce their advice with written materials, recommend nicotine replacement therapy (for appropriate smokers) and arrange follow-up.\textsuperscript{11} Nicotine fading, in which the smoker gradually cuts down, is not recommended. There is insufficient evidence to support acupuncture or hypnosis for smoking cessation.\textsuperscript{14}

**Readiness to increase opportunistic smoking cessation advice.** We pilot tested an existing instrument to measure physicians’ ‘stage of change’ for provision of smoking cessation advice.\textsuperscript{26,27} This instrument consisted of two questions. First, respondents were asked to estimate the proportion of smokers they currently advised to quit during routine consultations (‘less than 20\%’; ‘between
20 and 40%'; ‘between 41 and 60%'; ‘between 61 and 80%'; ‘more than 80%’). Participants who reported providing advice to <80% of smokers were next asked to indicate which of the following three statements best described their intentions for the future: “I am not considering giving quit advice to more than 80% of my patients who smoke” (pre-contemplation stage); “I am considering giving quit advice to more than 80% of my patients who smoke within the next 6 months” (contemplation stage); or “I am planning to give quit advice to more than 80% of my patients who smoke in the next month” (planning stage). Participants who reported that they provided cessation advice to >80% of smokers were asked to indicate how long they had been providing this level of advice: “I have done this for less than 6 months” (action stage); or “I have done this for more than 6 months” (maintenance stage).

Negative feedback following this pilot testing centred on two issues. First, the proposed time frames for change (in the next 6 months or in the next month) were perceived as artificial and irrelevant. Similar concerns have been expressed by others.31,32 Secondly, respondents in the pilot study expressed difficulty in estimating the proportion of smokers they advised to quit. In response, we developed a scale consisting of five statements, broadly consistent with a stage of change framework,28 to represent readiness to increase opportunistic provision of smoking cessation advice. We asked respondents to select the one statement of five that best represented their readiness to change.

Perceived barriers to the provision of smoking cessation advice. Next, we asked respondents to rate the importance of each of 14 potential barriers to giving opportunistic smoking cessation advice29 listed in random order, using a four-point scale (‘very important’, ‘somewhat important’, ‘slightly important’ and ‘not a problem’). The items listed included five patient-based barriers, six practitioner-based barriers and three structural barriers.33,34

Personal and professional details. Lastly, we asked respondents their age and sex, whether they were in full-time or part-time practice, solo or group practice, and their professional affiliations. They also were asked if they had completed vocational training in family practice and whether they were current smokers.

GP sample and survey administration
We selected a random sample of 550 GPs in New South Wales from a commercial mailing list. Of these, 428 were in active clinical practice. To maximize the response rate,35 an advance telephone prompt preceded mailout of an introductory letter, questionnaire and reply-paid envelope. Standard follow-up procedures were used with any non-responders at days 18, 28 and 40. The survey was conducted in September 1997.

Data analysis
We first compared characteristics of respondents with those of GPs in New South Wales.1

We tested associations between variables using chi-squared analysis for categorical responses and Wilcoxon signed rank and rank sum tests for those measured using visual analogue scales. We assessed univariate associations between responses on the scale to measure readiness to increase opportunistic cessation advice and age (analysis of variance) and vocational training for general practice (Mantel-Haenszel chi-squared test for trend in ordinal data).

For the question about approaches used to help patients stop smoking, we collapsed the ‘always’ and ‘frequently’ categories together and ranked them in decreasing order. We used chi-squared analysis to assess associations between practitioner gender and self-reported use of each smoking cessation technique. We used McNemar’s chi-squared test to make comparisons between use of specific techniques of a priori interest, e.g. a recommendation for smokers to quit completely (‘cold turkey’) or gradually cut down (nicotine fading).

We categorized items representing potential barriers into patient-based, practitioner-based and structural factors. We collapsed responses of ‘very important’ and ‘moderately important’ together and ranked them in decreasing order within each group. We conducted all analyses using SAS for Windows version 6.11.36

Results
We received completed questionnaires from 311 GPs (73% response rate). While the response rate for females (80%) was significantly higher than for males (70%) (chi-squared, 1df, = 4.5, P = 0.03), the sample was representative of New South Wales GPs.1 Respondents ranged in age from 24 to 72 years (mean 45 years), 31% were female, 76% worked full time, 65% were in group practice, 45% were members of the RACGP, 35% were members of the Australian Medical Association (AMA) and 78% belonged to a Division of General Practice. One-third of respondents (34%) had completed vocational training in family practice. Only 10 respondents (3%) indicated that they were current smokers.

Opportunistic smoking cessation advice
The majority (81%) [95% confidence interval (CI) 76–85%] of respondents ‘strongly agreed’ or ‘agreed’ that their anti-smoking advice was more effective when linked to the patient’s presenting problem (Table 1). Significantly fewer (42%) (95% CI 37–48%) indicated that anti-smoking advice could still have a worthwhile effect for patients who continue to smoke despite repeated advice to stop (McNemar’s chi-squared, 1df, = 106.1, P < 0.001). Just over half of respondents (57%, 95% CI 51–62%) agreed that, in ideal circumstances, smoking
should be discussed during every routine consultation with a smoker.

**Self-reported smoking cessation practices**

When asked how frequently they provided smoking cessation advice, the majority (63%) (95% CI 58–68%) indicated ‘at intervals or when symptomatic’. Only one-third (34%) (95% CI 29–39%) reported providing advice ‘almost every visit’ in accordance with national guidelines. Respondents who ‘always’ used an office reminder system were significantly more likely than those who did not to report providing this level of advice (40.9% versus 23.8%) (chi-squared, 1df, = 9.8, \(P = 0.002\)).

Given the constraints of everyday practice, respondents estimated that it was feasible to discuss smoking, on average, in 57% of routine consultations with smokers. Their estimation that smoking was discussed ‘in reality’ in only 46% of consultations was significantly lower (Wilcoxon’s signed rank test: \(z = –9.46, P < 0.001\)).

**Table 2 Approach used ‘always’ or ‘frequently’ by Australian GPs to help patients stop smoking (n = 311)**

<table>
<thead>
<tr>
<th>Approach</th>
<th>Approach used ‘always’ or ‘frequently’ (%)</th>
<th>95% CI (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personalize advice, e.g. link advice to patient’s presenting problem</td>
<td>92</td>
<td>88–95</td>
</tr>
<tr>
<td>Recommend nicotine replacement therapy</td>
<td>75</td>
<td>69–79</td>
</tr>
<tr>
<td>Assess patient’s stage of change</td>
<td>72</td>
<td>66–77</td>
</tr>
<tr>
<td>Advise about withdrawal symptoms</td>
<td>66</td>
<td>60–71</td>
</tr>
<tr>
<td>Discuss effect of passive smoking on other family members</td>
<td>65</td>
<td>59–70</td>
</tr>
<tr>
<td>Give behavioural advice about quitting</td>
<td>57</td>
<td>51–62</td>
</tr>
<tr>
<td>Arrange a follow-up appointment</td>
<td>54</td>
<td>48–59</td>
</tr>
<tr>
<td>Assess nicotine dependence</td>
<td>52</td>
<td>46–58</td>
</tr>
<tr>
<td>Advise patient to cut down</td>
<td>34</td>
<td>29–40</td>
</tr>
<tr>
<td>Advise patient to quit completely (‘cold turkey’)</td>
<td>32</td>
<td>26–36</td>
</tr>
<tr>
<td>Give written anti-smoking advice, e.g. pamphlet</td>
<td>32</td>
<td>27–37</td>
</tr>
<tr>
<td>Negotiate a ‘quit date’</td>
<td>28</td>
<td>23–33</td>
</tr>
<tr>
<td>Recommend audio or videotapes about quitting</td>
<td>21</td>
<td>17–26</td>
</tr>
<tr>
<td>Refer to a smoking cessation group or clinic</td>
<td>9</td>
<td>6–12</td>
</tr>
<tr>
<td>Recommend hypnosis</td>
<td>4</td>
<td>2–7</td>
</tr>
<tr>
<td>Recommend acupuncture</td>
<td>3</td>
<td>1–6</td>
</tr>
<tr>
<td>Recommend clonidine</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Strategies highlighted in bold are those recommended in national guidelines.11

should be discussed during every routine consultation with a smoker.

**Barriers to smoking cessation advice**

Respondents’ ratings of the importance of each of 14 potential barriers to giving anti-smoking advice during
routine consultations are shown in Table 4. Five of the top six barriers were patient based. The other, lack of time, is structural. Lack of skills and lack of remuneration were not perceived as major barriers (Table 3).

**Discussion**

Advocates for an evidence-based approach to guidelines implementation have advised “Before choosing one or more interventions . . . decision-makers need a good understanding of the target group and setting and potential facilitators and barriers to change.”25 Our results provide heuristic insights into current opinions, self-reported practices, readiness to change and barriers to smoking cessation advice among a representative sample of Australian GPs. While further qualitative research may afford additional perspectives, our study provides a quantitative needs assessment to inform planning of an implementation trial.

Respondents to our survey expressed pessimistic views of an opportunistic approach to smoking cessation advice. Only about half agreed that ‘ideally’, a discussion about smoking should take place during every routine consultation with a smoker. Further, respondents believed it was feasible to raise the topic of smoking in only about half of all routine consultations with smokers under the constraints of everyday practice. Of most concern, it appears that GPs’ views have become more negative since 1986. At that time, GPs in an urban region of New...
South Wales reported that their provision of cessation advice was feasible in 80% of routine consultations. Respondents in our study reported that it was feasible in only 57% of routine consultations with smokers. Their rates of actual provision were even lower than this.

Our results suggest variable uptake to date of guidelines recommendations for effective cessation strategies. Given the accumulation of evidence for the effectiveness of nicotine replacement therapy and its increased availability, it is unsurprising that its reported use in this study was higher than previously observed in Australian general practice. However, other effective techniques remain under-utilized. Just over half of respondents ‘always’ or ‘frequently’ gave specific behavioural advice about how to quit or arranged follow-up, whereas less than one-third ‘always’ or ‘frequently’ negotiated a ‘quit date’ or provided written materials. Respondents were no more likely to recommend smokers to quit completely than the less effective method of gradually cutting down.

Assessment of readiness to change holds promise to tailor guidelines implementation strategies. Those GPs who perceive that they only ‘sometimes’ give opportunistic smoking cessation advice but intend to increase this behaviour represent a ready group for targeted interventions. By their very nature, multicomponent interventions are expensive. Therefore, using them only where they are most likely to be successful may represent the best use of resources. More than one in four respondents to our survey indicated readiness to change their behaviour. However, the predictive validity of this measure and the effectiveness of a targeted implementation strategy are yet to be determined.

Low self-efficacy remains an important barrier to implementation of guidelines in smoking cessation advice. In our study, only 58% of respondents ‘strongly agreed’ or ‘agreed’ that they could be very effective in helping smokers to quit. Although this is an improvement since a 1989 survey of South Australian GPs (n = 699) found that only 48% believed that their efforts were likely to succeed, it suggests that further efforts to disseminate evidence for the effectiveness of brief smoking cessation interventions are required. Our finding of widespread belief that smoking cessation advice is more effective if linked to the patients’ presenting complaint is consistent with findings elsewhere and may help to explain why rates of advice to smokers have not improved.

Finally, our findings suggest that GPs’ perceptions of their patients’ lack of motivation and uninterest now may be the greatest disincentive to the provision of cessation advice in practice. Strategies to overcome these negative GP perceptions are needed. Surprisingly perhaps, most respondents in our survey did not rate practitioner-based barriers as problematic. Lack of knowledge or skills in smoking cessation has been proposed as a major barrier to cessation advice; however, qualitative research has suggested that this may be relatively unimportant and remains unrecognized by physicians. Uncertainty about effective smoking cessation strategies was perceived as an important barrier by only 20% of respondents in this study. Perhaps contradictory to prevailing perceptions of economic ‘drivers’ in Australian general practice, lack of reimbursement for smoking cessation advice was not endorsed as a major barrier by survey respondents.

Conclusion

Development and rigorous evaluation of a multi-component intervention to address low self-efficacy and perceived patient barriers as revealed by this survey hold considerable potential to promote guideline implementation. GPs’ low self-reported use of effective techniques invites continuing education and skills training, while the use of readiness to change as a tool to ‘individualize’ strategies for guideline implementation should be explored.

Acknowledgements

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References


