Smoking cessation activities by general practitioners and practice nurses

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OBJECTIVES—To assess general practitioners' and practice nurses' self reported behaviour, attitudes, and knowledge in relation to smoking cessation.

DESIGN AND SETTING—Two postal surveys of random national samples of 303 GPs (survey 1) and 459 practice nurses (survey 2) covering England and Wales; effective response rates were 75% and 96%, respectively.

RESULTS—Survey 1 found that 96% of GPs accepted that intervening against smoking was part of their role and almost all (99%) said that they recorded smoking status when patients registered; 57% reported that they routinely updated their records on smoking status, 50% said they advised smokers to stop during most or all consultations, and 76% said they advised smokers to cut down if they cannot stop. A large majority (83%) said they either recommended or prescribed nicotine replacement therapy (NRT). Although most GPs (86%) thought that NRTs were effective, only a minority thought they were worth the cost (47%) or should be on National Health Service (NHS) prescription (32%). There was little evidence that previous training in smoking cessation was associated with more activity, more positive attitudes, or greater knowledge. Survey 2 found that almost all practice nurses (99%) agreed that intervening against smoking was part of their role and 95% said they advised patients to stop at least occasionally; 71% said they advised smokers to stop at most or all consultations. A majority (74%) said that they recommended NRT to their patients. As with the GPs most practice nurses thought that nicotine replacement was effective
(79%), but fewer (42%) thought the cost was justified, and only about half (53%) thought it should be available on NHS prescription. Nurses who said they had been trained in smoking cessation engaged in more activity relating to smoking cessation, had more positive attitudes, and were more knowledgeable.

**CONCLUSION**—GPs and practice nurses accepted that intervening with smoking was an important part of their role and a large majority reported that they intervened at least with some smokers. This represents a promising baseline from which to proceed in terms of implementation of the new smoking cessation guidelines, but it is hoped that improvements can be made in terms of the frequency of updating records and intervening, and acceptance of the cost-effectiveness of NRT as a life preserving intervention.

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**Keywords:** cessation interventions; general practitioners; practice nurses

### Introduction

Previous studies have indicated that interventions that are known to be cost-effective as a means of promoting smoking cessation are not being routinely implemented.¹⁻³ New smoking cessation guidelines for health professionals aim to change this situation in the UK.⁴ These guidelines have been endorsed by key professional bodies including the British Medical Association and the Royal College of General Practitioners. They have also formed the basis for a new set of measures announced in the UK government white paper on tobacco: "Smoking Kills".⁵ The objectives of the white paper are to reduce by 2010: the smoking rates among children from 13% to 9%; the proportion of adults who smoke from 28% to 24%; and the proportion of women who smoke during pregnancy from 23% to 15%. The measures described in the white paper include banning of tobacco advertising, taxation, discouraging sale of tobacco to young people, promoting smoke-free working and public areas, and provision of National Health Service (NHS) smoking cessation services. The white paper also makes provision for one week's free supply of nicotine replacement therapy (NRT) to those individuals on low incomes. There is debate as to whether this is sufficient, and the merits of the licensing of nicotine gum for general sale. Hence there is currently considerable interest in smoking cessation and NRT in the UK.

However, merely publishing guidelines are, of course, no guarantee that general practitioners (GPs) will become more active in promoting smoking cessation. Up-to-date information on what activities GPs undertake and their attitudes and knowledge relating to key issues is needed as a basis for determining the extent of the task required to achieve widespread implementation of the guideline recommendations. Practice nurses (who work in general practice and have a role focused on health promotion) are also at the forefront of initiatives to combat smoking, and little is known about their activities, knowledge, and attitudes.

This paper describes two surveys, conducted just after publication of the new smoking cessation guidelines (January-March 1999), which examined the level and type of smoking cessation activity in general practice, and GPs' and practice nurses' knowledge of, and attitude towards, smoking cessation interventions including NRT.
General practice is considered to be a cornerstone of the NHS smoking cessation strategy; 99% of the population are registered with a GP\(^6\) and about 80% of people consult with their GP at least once a year\(^7\), the figure being even higher for smokers\(^8\). The evidence indicates that brief firm advice to stop smoking given by a GP to all known smokers, whether or not they want to stop, can lead to an increase in long term (at least six month) cessation rates of about 1-2%\(^9\).

A survey conducted in 1993 found that only 29% of smokers who had seen their GP in the previous 12 months said they had been given advice on smoking\(^1\). Research with GPs has indicated that their confidence in their ability to effect change remains low\(^10\). Yet, if GPs were to advise an additional 50% of smokers to quit, using established protocols and advocating use of NRT, it is estimated that there could be an additional 75 000 extra ex-smokers a year in the UK\(^4\).

The UK guidelines for the primary care team\(^4\) recommend that the primary care team should: assess the smoking status of patients at every opportunity; advise all smokers to stop; assist those interested in doing so; offer follow up; refer to a specialist cessation service if necessary; and recommend smokers who want to stop to use NRT and provide accurate information and advice on NRT.

The 1990 health promotion contract offered GPs incentives to introduce basic smoking cessation interventions into their work. It was replaced in 1996 with a structure that no longer defined smoking cessation as a required activity and it is unclear what level of smoking cessation interventions are now being offered in general practice.

Brief advice from the GP need only consist of asking patients about smoking at every reasonable opportunity, advising known smokers to stop, assisting those smokers who wish to stop, including recommending the use of NRT, and arranging a follow up appointment\(^4\). Studies investigating enhanced brief advice from a GP such as long term follow up visits\(^11\) and tailoring the advice to the patients' motivation to change\(^12\) show no clear evidence of improvement in cessation rates over brief advice alone. However, there is evidence in general that increasing the time spent counselling and assisting can lead to increased effectiveness\(^4\).

It has been argued that, if clinically effective, brief smoking cessation advice from practice nurses would prove even more cost effective than GP advice\(^13\). Unfortunately there is little evidence as yet to support the effectiveness of nurse delivered advice. For example, a recent study showed no increase in cessation rates when GP advice was supplemented by extended counselling from a practice nurse over brief advice alone from a GP\(^14\). At present very little is known about the smoking cessation activities undertaken by practice nurses and whether or not the advice is effective. It is important to know what practice nurses are doing and about their attitudes and knowledge.

This paper describes two surveys aimed at examining GPs' and practice nurses' self reported behaviour, attitudes, and knowledge relating to smoking cessation. Both surveys addressed a specific set of questions arising from the above.

The specific questions were:

- To what extent do GPs and practice nurses see it as part of their role to monitor smoking in their patients and to advise and assist on stopping smoking?
- To what extent do GPs and practice nurses recommend and/or prescribe NRT and which forms are most popular?
To what extent do GPs and practice nurses believe that NRT is effective and cost-effective and what are their views concerning improving its availability?

To what extent do GPs and practice nurses provide assistance to patients in the form of counselling, referral, leaflets or other aids? Also, what are GPs' and practice nurses' beliefs about the effectiveness of their advice.

To what extent is training in smoking cessation, smoking status, sex, and age related to the above issues?

Methods

SURVEY 1: GP SURVEY OF SMOKING CESSATION ACTIVITIES, ATTITUDES, AND KNOWLEDGE RELATING TO SMOKING CESSATION

Sample, procedure, and measures
This was a postal survey of a random sample of GPs in England and Wales conducted between January and March 1999. The National Department of Health GP database was used to generate the sample. This database is updated every three months. Random numbers were used to generate 500 names and addresses from the total population. There were 495 usable names and addresses of individual GPs. Questionnaires were sent to this sample and 200 were completed and returned. In 14 further cases the questionnaire was returned uncompleted because the GP had moved away. A second mailing was sent to the non-responders four weeks later which yielded a further 103 responses. Of the non-responders to the second mailing 50 were followed up by telephone. In 21 cases the questionnaire had not reached its destination; 10 GPs had retired, three had moved, seven had incorrect contact details, and one was on sabbatical. Thus the 303 respondents represented an absolute response rate of 61% and the effective response rate based on those who actually received the questionnaire was 75%.

Sixty eight per cent of respondents were male, the same proportion as is found among GPs nationally. The age distribution of respondents closely resembled the national distribution (national figures are in brackets): < 30 years = 1.7% (1.2%); 30-39 = 29% (33%); 40-49 = 40% (36%); 50-59 = 22% (23%); and > 60 years = 7.3% (6.2%). National statistics reveal that 30% of GPs in England and Wales work in single handed practices and 70% in practices with more than one GP, compared with 9% and 91% respectively with our respondents; 51% of respondents in the sample worked in fund holding practices compared with 42% nationally.

A 41 item questionnaire was designed to identify: current smoking cessation activities, attitudes towards NRT, knowledge about the health effects of nicotine, and demographic characteristics. The questionnaire was extensively piloted with more than 200 GPs both locally and nationally and changes made in the light of their responses. The questionnaire was accompanied by a covering letter addressed to the doctor concerned and a Freepost envelope in which to return it.

SURVEY 2: PRACTICE NURSE SURVEY OF ACTIVITIES, ATTITUDES, AND KNOWLEDGE RELATING TO SMOKING CESSATION

Sample, procedure and measures
This was a postal survey of practice nurses from a random sample of practices in England and Wales conducted between January and March 1999. The National Department of Health GP database was used to generate the sample. Random numbers were used to generate 500 addresses from the total
population. There were 494 usable addresses. Questionnaires were sent to this sample and 275 were completed and returned. In 15 further cases the questionnaire was returned uncompleted because there was no surgery at the address or the practice did not have a practice nurse. A follow up mailing was sent four weeks later which yielded a further 184 responses. Thus the total number of respondents was 459 representing an absolute response rate of 93%; the effective response rate based on those practices which actually received the questionnaire was 96%.

A 33 item questionnaire was designed to identify: current smoking cessation activities, attitudes towards NRT, knowledge about the health effects of nicotine, and demographic characteristics. The questionnaire was accompanied by a covering letter addressed to the practice manager asking him or her to pass it to the practice nurse most involved in smoking interventions, and a Freepost envelope in which to return the completed questionnaire.

Where comparisons were made between responses provided by groups of GPs or practice nurses, these were assessed using $\chi^2$ tests.

### Results

No significant differences were found between responses from the first and second wave of respondents, suggesting that bias as a result of non-response was minimal.\(^{17}\)

Almost all GPs (96%) and practice nurses (99%) believed that it was part of their job to advise and assist smokers to stop. Table 1 shows that while recording smoking status at registration was almost universal, and recording advice given was also common, routine monitoring of smoking status was less so.

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Table 2 shows that most practice nurses and half of GPs reported that they advised smokers to stop at most or all consultations, although 98% of GPs did report advising smokers to stop at least every now and then. Advising smokers to cut down was commonplace.

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<th>Table 2</th>
<th>Percentage of GPs and nurses reporting carrying out various smoking cessation interventions</th>
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Table 2 also shows that providing assistance of various kinds was quite common among GPs; 41% said they provided counselling and 57% gave out leaflets. Referral to the practice nurse was the most frequent kind of referral and that was undertaken by 41% of GPs. Forty three per cent of nurses said they received referrals of smokers from their GPs. Nurses reported that assistance for smokers...
primarily involved handing out leaflets and individual counselling. Very few GPs or practice nurses ran stop smoking groups. The Quitline (the national telephone helpline run by the national charity, Quit) was recommended by a majority of nurses.

Table 2 shows that recommending patients to use NRT was common, with the patch being the most popular form. Prescribing was far less common. (In general this would have to be via private prescription.) On the other hand, 26% of practice nurses reported not recommending any form of NRT, and a significant minority of GPs (17%) reported that they neither recommended nor prescribed any form of NRT.

When asked about the sources of their smoking cessation materials (leaflets, videos and audio-cassettes): 44% of GPs said they obtained them from the Health Education Authority, 36% said from their local health promotion department, 14% said from commercial companies, and 9% said from Quit. Eight per cent of GPs and 15% of practice nurses said their practice owned a carbon monoxide monitor. Among nurses who used leaflets, 81% said they obtained them from their local health promotion department, 63% obtained them from the Health Education Authority, 30% from commercial companies, and 30% from Quit.

Table 3 shows that most GPs believed that NRT was effective but only a minority thought it was sufficiently effective to justify its cost and even fewer thought it should be made available on NHS prescription. A minority similarly thought it should be made available on general sale. Table 3 also shows that while a large majority of nurses thought NRT was effective, fewer thought it justified the cost or should be made more available.

When asked what proportion of smokers typically stop smoking for good as a result of GP advice the average was 10.4% (SD 10.3) among the 253 GPs who offered an opinion. The modal value was 5% and the median was 8%. When asked a similar question about what proportion of smokers typically stop smoking for good as a result of advice from a practice nurse the average was 10.9% (SD 13.2) among the 294 nurses who responded. The modal and median values were both 5%.

Most GPs (70%) and practice nurses (74%) recognised that switching to a low nicotine cigarette would not significantly reduce smokers' risks of lung cancer; only 7% of GPs and 6% of nurses thought it would halve the risk but 23% and 19%, respectively, said they did not know.

A total of 28% of GPs said they had received training on the delivery of smoking cessation advice. There was no evidence of differences between trained and untrained GPs in terms of monitoring smoking, giving brief advice, giving assistance, recommending NRT or referring to other sources. Only 4% of GPs reported that they smoked and the numbers were too small to be able to make comparisons between the responses of the smokers and the non-smokers.

There was no evidence of associations between the age or sex of GP and practice nurse and monitoring smoking, giving advice, recommending NRT, and providing assistance or referring.
Sixty six per cent of practice nurses said they had received training on the delivery of smoking cessation advice. Practice nurses in group practices were more likely than those in single GP practices to report having received training in the giving of smoking cessation advice ($\chi^2 = 15.1$, $p < 0.001$).

Practice nurses who reported having received training in the giving of smoking cessation advice were more likely than those who had not to say that they provided assistance for smokers wanting to stop (counselling, leaflets, etc, $\chi^2 = 51.5$, $p < 0.001$). In particular they were more likely to say that they provided counselling for smokers wanting to stop ($\chi^2 = 73.7$, $p < 0.001$), handed out leaflets ($\chi^2 = 5.9$, $p < 0.05$), ran a stop smoking group ($\chi^2 = 9.9$, $p < 0.01$), and received referrals from GPs in the practice ($\chi^2 = 49.2$, $p < 0.001$). The practice nurses with training were also more likely to report that their practice owned a carbon monoxide monitor ($\chi^2 = 4.4$, $p < 0.05$). Practice nurses who had been trained in smoking cessation were more likely to advise patients to telephone the Quitline ($\chi^2 = 4.6$, $p < 0.04$), and less likely to refer smokers to an alternative therapist ($\chi^2 = 4.9$, $p < 0.05$). They were also more likely to believe that if a smoker changes from high to low nicotine cigarettes the risk of lung cancer stays the same ($\chi^2 = 8.5$, $p < 0.05$).

Practice nurses with training were more likely to report recommending NRT ($\chi^2 = 3.9$, $p < 0.05$), to believe that NRT is effective enough to justify its cost ($\chi^2 = 15.1$, $p < 0.001$), and to believe that NRT should be on general sale ($\chi^2 = 11.1$, $p < 0.01$).

### Discussion

Study 1 found almost universal acceptance that smoking cessation interventions are part of the GP's role. In line with this almost all GPs recorded smoking status when patients joined the register and reported that they advised patients to stop at least every now and then. However, providing routine advice to stop was not so common and neither was recording whether advice had been given nor regular updating of records on smoking status of patients. The regular updating of records as to patients' smoking status and advice given are considered to be important as a precursor of future interventions and as a prompt for GPs. Interestingly, a majority of GPs said that they advised cutting down as an alternative to stopping. GPs were quite likely to provide some form of assistance to smokers wanting to stop. There was general acceptance of the effectiveness of NRT and most GPs said they recommended patients to use it. However, a significant minority did not recommend or prescribe NRT and only a minority believed its cost could be justified. There was no evidence that training had any major impact on GPs' behaviour, attitudes or knowledge.

Study 2 found that almost all nurses accepted that intervening against smoking was part of their role and a majority said that they advised smokers to stop at most consultations. As with the GPs, advice to cut down was commonplace. There appeared to be quite a high rate of smoking cessation activity among practice nurses and most said that they recommended NRT. As with the GPs there was widespread acceptance of the effectiveness of NRT but less acceptance of the cost-effectiveness. There was a clear positive association between training and activity, attitudes, and knowledge.

The findings are promising in terms of establishing that GPs and practice nurses are undertaking smoking cessation activities to some degree, but bearing in mind that respondents may have felt
pressure to report a high level of activity, there is some way to go before the new guidelines on smoking cessation in general practice are implemented in full. There are many barriers to routinely advising smokers to stop, which requires up-to-date records of smoking status and past advice.¹⁸ GPs may feel more comfortable with providing assistance when smokers want it (for example, when patients are suffering from smoking related conditions¹⁸) because this fits rather better with expectations of the consultation. In this regard, recommendations about NRT seem to play a central role for most GPs. Practice nurses appear receptive to the role of smoking cessation facilitator and they are also generally aware of the possible benefits of NRT.

It has been previously thought that lack of time was a key factor in preventing GPs from routinely advising smokers to stop but there may be other factors. The treatment of disease is very much the dominant theme of undergraduate and postgraduate training and the NHS still operates very much in "response mode" with patients presenting with a complaint and the health service attempting to solve the patient's problem. This is a matter of ethos and the context within which GP consultations occur. Finding time to raise a topic that was not the reason for a consultation and developing the skills to do so in a way that does not interfere with the doctor-patient relationship is still a major challenge.

Anecdotal reports have suggested that GPs and nurses often advise smokers to cut down if they cannot stop but to our knowledge this is the first systematic survey addressing the issue. It is generally thought in the research community that cutting down is unlikely to be a useful option because smokers compensate for the reduced number of cigarettes by smoking each one more intensively and almost invariably resume their previous level of consumption quickly.¹⁹ There is also a danger that this advice is counterproductive by alleviating the pressure to stop. For this reason the smoking cessation guidelines focus exclusively on stopping rather than cutting down, and the US equivalent specifically recommends against advising to cut down.²⁰

It was interesting that a significant minority of GPs and practice nurses did not accept NRT as a suitable form of treatment. Further work is needed to explore why this might be. Also of interest is the fact that GPs and practice nurses had in many cases not accepted that NRT was cost-effective, nor that it should be provided as part of NHS treatment. This may be because of a perception that it is expensive considering what they believe it costs to produce or because of a perception that smokers have brought their problem on themselves. It would be interesting to examine this further by assessing their factual knowledge of the cost per life year gained from use of NRT and their beliefs about smokers' own responsibilities in causing their problems.

The lack of association of training and behaviour, attitudes and beliefs among GPs is noteworthy. It is not clear what undergraduate training GPs receive, if any, or what is currently being undertaken, although it is most likely to be short sessions such as study days. On the other hand, the association between behaviour, attitudes and knowledge and training in practice nurses suggests that training can have some effect. There are several training programmes in operation for this group apart from study days (for example, the Health Education Authority's Helping People Change programme). More evidence is needed on what kinds of training nurses and GPs receive and which forms are more effective than others. Of course, it is also possible that nurses who go on such courses are already more interested in smoking.

These studies are limited by the fact that they rely on self report and so self presentation bias cannot
be ruled out. Another factor may be the fact that the database used included a number of GPs who had moved or were no longer practising. There was an under representation of single handed practices in the GP survey, but since we found no difference between single handed and group practices we believe this is unlikely to have affected the results.

CONCLUSION
Many GPs are routinely advising smokers to stop and monitoring smoking status, but the level of activity is somewhat below what is recommended in the new national guidelines. On the other hand many GPs appear to be providing some assistance to smokers wanting to stop, and most are recommending NRT. Practice nurses are generally active in trying to help smokers wanting to stop and they too believe it appropriate to recommend NRT. This survey indicates that there is a considerable amount of activity already taking place in primary care and ways need to be found to increase it, bearing in mind the barriers that exist. The authors of the guidelines recognised that their publication represented the start of the process, and this survey has provided some information on the baseline from which one is operating.

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References


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