

**ANTI-SMOKING ADVICE IN
GENERAL PRACTICE CONSULTATIONS:**

**A description of the factors influencing provision of advice
and the development of a method for describing
smokers' responses**

by

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with the requirements for Degree of Doctor of Medicine, 1998.

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To Sara, Thomas and Naomi

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Abstract

Anti-Smoking Advice In General Practice Consultations

Dr Tim Coleman

Background: Two out of 50 smokers will stop within one year of being advised by their GP but it is impossible to predict which will respond in this way. GPs utilise few opportunities to discuss smoking and fail to achieve their maximum possible effect with smokers.

Methods: A random sample of GPs stratified by their attitudes towards discussing smoking with patients, each had one surgery session video-recorded. Attending patients completed questionnaires, which identified smokers and recorded their likelihood of attempting to quit smoking. The characteristics of patients and GPs who agreed and refused to be video-recorded were noted. GPs were shown video-recordings before semi-structured interviews explored their reasons for discussing or not discussing smoking during consultations. In a separate study, smokers' consulting behaviours were described.

Results

- GPs view advice-giving as a challenging task that they prefer to approach in a problem-based manner to preserve good doctor: patient relationships.
- Behaviours, which may indicate smokers who are more likely to make quit attempts, are reliably and validly described.
- Younger patients and those presenting with overt mental health problems are less likely to consent to video recording of consultations.
- Younger GPs and those working in teaching and training practices are more likely to agree to video recording of consultations.

Conclusions

- Strategies to increase the provision of anti-smoking advice given by GPs should take into account GPs' preferences for giving advice in a problem-based manner.
- Further research could produce methods of identifying, at the time of their consultations, smokers likely to respond positively to advice.
- Researchers who use video-recorded consultations must consider how this technique could influence their study findings.

SUMMARY

Stage One

The aim of this stage of the project was to design a questionnaire which is valid and reliable for measuring general practitioners' (GPs') attitudes towards discussing smoking with patients during routine consultations. This instrument was to be used to select GPs to participate in stage two. A postal questionnaire sent to all GPs on the Leicestershire FHSA list was shown to have these properties.

Stage Two

Recruitment of GPs to Stage Two: A random sample of GPs stratified by their attitudes towards discussing smoking with patients (measured by the postal questionnaire above) was selected. The characteristics of those declining and agreeing to participate were obtained from external sources and compared.

Methods: Participating GPs each had one surgery video-recorded, with all attending patients being asked to consent to video-recording. Attending patients completed a pre-consultation questionnaire which sought details of smoking status, smoking behaviour and attitudes towards smoking. After each patient, GPs completed an encounter sheet, recording clinical details and after leaving the consultation, patients completed a second questionnaire which determined whether smoking had been discussed. At the end of the complete surgery further information about patients was obtained from the medical record. Three months after consulting, smokers were sent a third questionnaire which asked details of their smoking behaviour since attending the GP.

Data collected was used in four studies:

(i) Comparison of Video-Recorded Consultations With Those Where Consent is Withheld

Aim: To determine the factors which influence patients' consent to video-recording of their consultations for research purposes. *Method:* Clinical data (recorded by GPs on encounter sheets) and demographic data (from medical records) were compared for patients consenting and withholding consent to video-recording.

(ii) Factors Influencing Whether GPs Discuss Smoking With Patients

Aim: To determine why GPs discuss smoking with some patients and not others.

Method: GPs were shown a video-recording of themselves consulting with a smoker. Afterwards GPs participated in a semi-structured interview to determine what had influenced them to discuss or not discuss smoking with the patient in the recording. Semi-structured interviews were transcribed and analysed qualitatively.

(iii) Development of a Method to Describe Smokers' Consulting Behaviours When Discussing Smoking With GPs

Aim: To develop a reliable method for describing smokers' consulting behaviours during discussions about smoking with GPs and to assess the validity of this. *Method:* Videotapes and transcriptions of smokers' consultations, where smoking was mentioned, were studied. Smokers' speech and behaviours during discussions about smoking were coded as displaying "resistance" or "readiness to quit" and inter-observer reliability of the coding schedule was demonstrated. Validity of coding was assessed by seeking expected associations with smokers' attitudes and behaviours reported on pre-consultation questionnaires.

(iv) Smokers' Views on General Practitioners' Advice Against Smoking

Aim: To document smokers' views, after consulting, on GPs' advice against smoking.

Method: Questions assessing smokers' attitudes to GPs' advice against smoking (where given) were included on the post-consultation questionnaire.

Principal Results

The principal findings of Stage One and Two studies were:

- Younger GPs and those working in teaching or training practices were more likely to agree to allow video-recording of one surgery session for research purposes.
- Younger patients and those presenting with mental health problems were more likely to withhold consent to video-recording.
- GPs' perceived that consultations where patients withheld consent to video-recording, were more likely to involve psychological problems or involve patients who were embarrassed or distressed.
- GPs feel that giving advice against smoking is a complex task and perceive this to be influenced by many factors. GPs generally approach discussions about smoking in a problem-orientated manner. GPs' fears of upsetting doctor: patient relationships constitute a major impediment to their advice-giving activity and explain why smoking is most frequently discussed in the presence of smoking-related medical problems.
- Factors which influence whether GPs enter into detailed discussion with smokers and attempt to persuade them to quit are generally distinct from those which merely influence whether or not GPs become aware of patients' smoking status.
- The two researchers who developed descriptions of smokers' consulting behaviours could code these reliably ($Kappa > 0.7$) for both '*readiness*' and '*resistance*'.

- An assessment of the construct validity of consulting behaviours supports the notion that they may be valid for describing smokers' propensity to make attempts at quitting smoking.
- Where smokers recalled receiving advice against smoking, they were overwhelmingly positive about this. Where advice against smoking was not recalled, however, smokers reported little desire to receive any.

Conclusions

These are summarised in Discussion, section 5.

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INTRODUCTION

1 The Efficacy Of UK General Practitioners' Advice Against Smoking

(a) Smoking: A Major Public Health Problem

Since Doll and Hill (1950) first established the link between smoking and lung cancer, smoking tobacco has been implicated as a contributory factor in many other diseases. Knowledge concerning the excess mortality caused by smoking (Doll and Peto, 1976) has contributed towards a decline in population smoking prevalence but, unfortunately, smoking remains a common habit with 29% of men and 27% of women in the UK smoking in 1992 (Office of Population Censuses and Surveys, 1994). Apart from the cost in morbidity and mortality, there is a substantial financial toll arising from nicotine addiction and it has been estimated that smoking costs the NHS over £611 million each year (Health Education Authority, 1991). Clearly, smoking remains an enormous public health problem which still demands attention.

(b) Systematic Reviews and Meta-analyses of the Efficacy of GPs' Brief Advice Against Smoking

Since the first reported controlled study into the efficacy of General Practitioners' (GPs) brief advice against smoking, (Porter and McCullough, 1972) substantial evidence has accrued demonstrating that physicians' advice against smoking is effective in promoting smoking cessation amongst patients. In recent years this research evidence has been summarised by a number of systematic reviews employing meta-analytic techniques and this section will review these articles. Articles were identified by a MEDLINE search of English-language review articles on the subject of smoking cessation. The Cochrane Database of Systematic Reviews was also searched. Only articles using explicit, systematic search strategy and meta-analytic techniques are described here.

(i) *Study One: Kottke, Batista, De Friese et al (1988)*

It had been noted that smoking cessation intervention studies gave highly variable results

and one aim of this review was to '*identify characteristics of the study design and intervention protocol which could account for this*'. To address these aims, reports of controlled studies investigating the efficacy of advice against smoking given in a range of different settings by a variety of therapists and using an assortment of adjuncts were sought. The reviewers then established which facets of controlled trials were associated with positive outcome. The only characteristics associated with smoking cessation at twelve months were that advice was given by a range of therapists (i.e. doctors and others rather than just by doctors or others alone) and that advice was repeatedly given. The authors state:

"Success was not associated with novel or unusual interventions. It was the product of personalised smoking cessation advice and assistance, repeated in different forms by several sources over the longest possible period".

Although this study provides some useful information about the attributes of effective smoking cessation programmes, this is of limited use when attempting to assess the efficacy of UK GPs' brief advice against smoking. It is impossible to judge the context of studies which provide the data for this analysis. Studies investigating the efficacy of primary care physicians' advice are not summarised separately from studies of other doctors' advice and no estimate of their efficacy is possible. In the broadest sense, this analysis suggests that if all members of the Primary Health Care Team (PHCT) advise regularly against smoking, then they will have more effect than if they don't, but from this study one cannot draw conclusions about what actually constitutes effective anti-smoking advice.

(ii) *Study Two: Law and Tang (1995)*

This review again investigated the effectiveness of different interventions in helping people to stop smoking. One hundred and eighty-eight randomised controlled trials were identified and were classified according to the nature of intervention used into five main

categories. One category of intervention was physicians' advice against smoking defined as advice given by *any* physician with a *typical duration of less than 5 minutes*. The effects of re-inforcing this advice were also assessed. This study estimated that "*2% of all smokers who received advice stopped smoking as a direct consequence of it*" and that "*further encouragement and support do convey additional benefit, on average*". Again, as the efficacy of primary care physicians' advice is not assessed separately it is unclear exactly how effective their advice is. Additionally, using this study, one cannot draw conclusions about what constitutes effective advice-giving as interventions are only described briefly.

(iii) *Study Three: Silagy and Ketteridge (1996)*

This study was restricted to investigating only the effects of physicians' advice against smoking. A comprehensive literature search strategy was used and only studies with at least two treatment groups using formal randomisation to allocate smokers were included. Studies using historical controls were not utilised. Most of the studies actually took place within a primary care setting and '*minimal advice*' was defined as occurring within one consultation (up to 20 minutes), possibly being re-enforced by a leaflet and up to one follow-up visit. This level of intervention is commensurate with that which could possibly be provided in UK primary care. '*Intensive advice*' was defined as any intervention involving greater input of time and resources than that described as minimal.

Brief advice against smoking produced an absolute increase in continuous abstinence from smoking of around 2% at one year. It should be noted, however, that the effect of UK GPs' advice against smoking given during routine consultations is likely to be less than this because the intervention (i.e. advice given) by UK GPs is likely to be of shorter duration (Lennox and Taylor, 1995). A direct comparison of minimal and intensive advice giving suggested that intensive advice increased success rates further. Caution is needed when interpreting this finding, however, because it is possible that smokers who will comply with follow-up (for intensive advice) are more motivated towards quitting

than others. This could explain their success at quitting, rather than the contact they have with doctors. It was concluded that physicians' advice was possibly more effective when given to patients with established smoking-related disease. Studies of physicians' smoking advice given to smokers with smoking-related disease, however, were conducted in hospital settings so their relevance to smokers attending general practitioners is uncertain.

(iv) *Study Four: Ashenden, Silagy and Weller (1997)*

This study specifically investigated the efficacy of advice against smoking delivered in primary care settings. This review used a similar systematic search strategy to the one above (Silagy and Ketteridge, 1996) but had an explicit remit to investigate the effectiveness of lifestyle interventions in primary care, given by PHCT members. '*Brief advice*' was defined as being given within one consultation and advice was '*intensive*' wherever it was given at more than one occasion. Silagy and Ketteridge's (1996) definition of smoking cessation was used so direct comparison of these two analyses is possible. This study reported similar results to Silagy and Ketteridge (1996), but found advice given in the primary care setting slightly lower in efficacy. The odds of quitting when brief advice (i.e. the most similar to the UK context) is given are quoted as (OR: 1.27) or put another way, approximately 50 patients need to receive brief advice (25 for intensive advice) to encourage one smoker to quit.

The slight differences in the efficacy of advice against smoking as reported by these two reviews, can be explained by the slightly different questions which each addresses. The earlier review (Silagy and Ketteridge, 1996) investigated the efficacy of physicians' advice only and hence studies based in hospital settings are included. Some of these studies registered larger treatment effects than others, possibly because smokers were suffering from smoking-related disease (e.g. MI). The more recent review (Ashenden, Silagy and Weller, 1997), however, measured the effectiveness of all members of the primary health care team and included three trials in which advice was given by a nurse or

health visitor. All three of these trials showed no effect of advice and hence will have reduced the overall estimate of the efficacy of advice-giving reported. The actual odds of quitting following advice from a UK general practitioner probably lies somewhere between those quoted for brief (minimal) advice by these two systematic reviews (Silagy and Ketteridge, 1996, Ashenden, Silagy and Weller, 1997), that is between (OR: 1.59, 95% confidence interval 1.37 to 1.85) and (OR: 1.27, 95% confidence interval 1.18 to 1.48).

(v) *Summary: Systematic Reviews and Meta-Analyses*

In conclusion, there appears to be overwhelming and consistent evidence that GPs' brief advice against smoking, given at the time of consultation is effective in promoting smoking cessation. This effect is small but increases if advice is given repeatedly or reinforced by follow-up. Referring to these review articles, however, it is impossible to say exactly *what* constitutes effective advice. In an attempt to determine what exactly does constitute effective advice against smoking, the next section will examine controlled trials of GPs' advice against smoking which have taken place in the UK. This focussed, descriptive review will assess the nature of advice given and methodological shortcomings of studies in order to find whether firm conclusions on the best way to give advice against smoking can be made.

(c) Controlled Trials of UK GPs' Advice Against Smoking

Studies described in this section were identified in the most recent systematic review which used an exhaustive search strategy to find the highest quality primary care studies from the international literature (Ashenden, Silagy and Weller, 1997). Studies involving nicotine replacement therapy, an effective treatment for smoking cessation, (Ling, Law and Wald, 1994) are not included.

(i) *Study One: Porter and McCullough (1972)*

This study failed to demonstrate the effectiveness of GPs' advice against smoking. GPs'

brief advice was described as being delivered with '*vigour and conviction*' and where possible '*related to the presenting problem*'. Smokers with families also had an '*appeal made to their sense of responsibility*'. The giving of advice took about five minutes and was re-enforced by an anti-smoking leaflet. An effort was made to avoid giving further advice at later consultations, though it is not specified how this was achieved.

Unfortunately, the sample size of this study may have been inadequate. One hundred and ninety-one smokers were enrolled in the study, with 101 in the advice and 90 in the control groups respectively. This is less than the recommended 100 smokers per treatment group suggested as necessary to attribute cessation rates to an intervention (Lando, 1990). Consequently, it is possible that a type 2 error occurred with a false negative result. The internal validity of this trial was also flawed as bias was introduced at the point of entry to the study. The trial GP did not seek the smoking status of all attending patients before randomising them to treatment and control groups, but was allowed discretion. Patients were only admitted to the trial '*when circumstances were appropriate for counselling*'. Only after smokers had been identified were they then randomised. The ascertainment of patients' smoking status was, therefore, influenced by the personal rationale of the participating GP and no details of excluded patients were given. It is possible that the GP's rationale for smoker identification resulted in the selection of a particularly recidivist group of smokers, thus biasing the result towards one of no effect. Additionally, smokers were only included in the trial if they smoked more than four cigarettes daily, biasing the sample towards the more nicotine-dependent who have greater difficulty quitting (Lennox 1992). Finally, the external validity of this study was limited by the fact that only one GP participated and the result may not be generalisable to other GPs.

(ii) *Study Two: Russell, Wilson, Taylor et al (1979)*

This second UK study of GPs' brief advice, simultaneously investigating the reinforcing effect of issuing anti-smoking leaflets accompanied by a promise to discuss smoking

again at a later date. The advice given to patients was described as '*simple but firm*' and was given '*in the doctor's own style over one or two minutes during the routine consultation*'. The authors do not state whether participating GPs were requested not to give advice on subsequent occasions during the follow-up period and no assessment of how far GPs adhered to the study protocol is reported. This study did, however, recruit a number of GPs to give advice against smoking and attempted to identify all smokers attending their GPs' surgeries, before randomising them to treatment groups. Accordingly, the study appears to have greater external and internal validity than Porter and McCullough's (1972).

This study found a strongly positive effect of GPs' advice, with 5.1 % of smokers receiving brief advice plus a leaflet and warning of follow-up stopping smoking during the first month afterwards and remaining stopped at one year (i.e. a 5.1 % continuous abstinence rate). At final follow-up no significant difference could be detected between the 'advice only' and 'advice plus leaflet' groups; both appeared to be equally effective. No other study into the efficacy of primary care physicians' brief advice has shown a treatment effect of this magnitude. This has been explained by the unusually low rate of smoking cessation in the control group of this study compared with subsequent ones (Ashenden, Silagy and Weller, 1997), the explanation for which is uncertain.

This study also provided information on how GPs' brief advice can influence smokers' attitudes towards their habit and in turn how these attitudes are related to future smoking behaviour. Smokers' attitudes to their habit were measured by pre and post-consultation questionnaires. After consulting, attitudinal changes were calculated for all four treatment groups. The most encouraging changes were found in the 'advice-plus leaflet' group who were significantly more likely to report '*wanting to give up*', that they would '*stop if they could do so easily*' and that they '*intended to give up smoking in the next three weeks*'. A higher proportion of smokers in this group subsequently attempted quitting than in other treatment groups, suggesting that GPs' advice promoted changes in

smokers' attitudes and intentions, which resulted in smokers trying to quit. GPs' advice did not make smokers any more successful in their quit attempts: the effect on patients' smoking habits was exerted because more smokers attempted to give up after receiving advice.

(iii) *Study Three: Russell, Merriman, Stapleton et al (1983)*

This study into the efficacy of nicotine-containing chewing gum included a treatment group which were given GPs' brief advice against smoking only. Outcome was measured as smokers' self-reported smoking cessation at four months and one year after advice had been given. Continuous abstinence was defined as smokers' reporting abstinence at both four months and one year, with one third of quitters having this validated by the measurement of expired air carbon monoxide concentrations. Brief advice alone had no significant effect on continuous abstinence at one year, when compared to no advice (6.4% vs 6.0%) but smokers given advice were significantly more likely to report trying to give up within four months afterwards. Again, for this study GPs were allowed to give brief advice in their own style, used a leaflet and warned smokers that they could be followed up. To check that GPs followed the study protocol, each smoker attending a study surgery was given a slip of paper to hand to their GP who would later record on this whether or not the correct procedure had been followed. Unfortunately, no details of how well GPs' complied with trial procedures is provided, rendering it impossible to judge what proportion of smokers in the 'advice-only' group actually received any. Russell's earlier study (Russell, Wilson, Taylor et al 1979) used a different definition of continuous abstinence (self-reported abstinence at one month and one year versus four months and one year in 1983). In both studies around 26% of smokers in each treatment group were lost to follow-up and assumed to have continued smoking. The different results in these two trials could, therefore, be explained by different proportions of smokers who had stopped being present in the 'lost to follow-up' group of each study. Alternatively, however, it is possible that study procedures were more consistently followed by GPs in the earlier study with advice against smoking being

more consistently given to the treatment group.

(iv) *Study Four: Jamrozik, Vessey, Fowler et al (1984)*

This most recent study into the efficacy of GPs' advice against smoking was conducted in one Oxfordshire practice. All smokers attending the study practice, were identified and randomised to a number of treatment groups, including one in which brief advice only was given to smokers. This is the only UK study which has attempted to standardise advice. GPs were told to advise *in their own style*, but were also given brief suggestions about the best way to do this. These suggestions consisted of short written guidelines exhorting GPs to emphasise to smokers the health and financial consequences of their habit. Additionally, it was suggested that smokers should be advised about 'safer smoking' if they found it impossible to quit. After consulting, smokers indicated on a post-consultation questionnaire whether or not advice had been given but, as in earlier studies, no details are provided to illustrate how far the study protocol was adhered to.

The point prevalence of smoking at one year was measured in preference to continuous abstinence, so only limited comparisons can be made with the two other major trials of smoking advice (Russell, Wilson, Taylor et al 1979 and Russell, Merriman, Stapleton et al 1983). GPs' brief advice against smoking was shown to have a significant effect on point prevalence smoking rates at one year (15.0% reported not smoking versus 10.6% of controls). The authors note, however, that the randomisation procedure resulted in an excess of smokers from social classes I and II in the 'advice-only' group and that these smokers appeared to respond most positively to advice (differences in responses were non-significant). Also, as this study was based entirely in one practice the external validity of study findings may not be great.

In contrast with the findings of Russell, Wilson, Taylor et al, (1979), this study found that GPs' advice increased the success rate amongst those who attempted quitting, rather than merely increasing the number of smokers who make quit attempts. This is

surprising, given the rather basic anti-smoking advice which participating GPs were asked to give and could be explained by the differing definitions of '*attempting to stop*' used in the two studies. The authors defined this very loosely by asking if smokers had made '*any effort made to stop or reduce smoking*' with around 70% of respondents answering positively. Russell, Wilson, Taylor et al (1979), however, used two separate questions: one asking whether smokers had '*attempted to stop*' and another asking whether smokers had *reduced their smoking*. 10% to 18% of smokers answered positively to the former question (with least smokers in the control group reporting this) whereas 28% to 33% reported making a reduction in their smoking (again the lowest proportion, 28% was in the control group). This suggests that only a minority of smokers classified as having 'made an attempt to stop' in the 1984 study would have been defined as doing so by the earlier study, rendering it difficult to compare the two studies.

(d) Summary: Systematic Reviews, Meta-Analyses and UK Controlled Trials of Anti-Smoking Advice

The reviews summarised in this section indicate that GPs wishing to take an evidence-based approach towards giving anti-smoking advice need to discuss smoking with all smokers to ensure that those likely to respond are given the 'stop smoking' message. Additionally, GPs wishing to maximise their efforts also need to repeat advice, where possible.

Close scrutiny of individual UK trials of anti-smoking advice reveals that although trialists have given participating GPs brief guidelines on how to give advice, *none* have actually monitored or observed the type of advice given. Consequently, it is impossible to determine from these studies what actually constitutes effective advice. These studies do suggest, however, that GPs' anti-smoking advice encourages some smokers who would not otherwise do so to make quit attempts and that some of these are successful.

Unfortunately, though, we have no way of predicting *which* smokers will respond positively.

Taken together, all of the studies summarised indicate that GPs' brief advice against smoking has a small but significant effect. Clearly, it would be desirable to know how this effect could be maximised, but because we have only a limited understanding of *how* anti-smoking advice works this is not possible. The next section will, therefore, review studies of primary care physicians' advice against smoking which have been conducted in other countries in order to raise hypotheses about *what* constitutes effective advice and *which* smokers are likely to respond to this.

2 Effective General Practitioner Interventions Against Smoking : International Studies

In the previous section UK studies of GPs' opportunistic smoking cessation interventions and meta-analyses of the effectiveness of anti-smoking advice given by GPs were appraised. This section will describe the attributes of primary care based smoking cessation interventions which controlled trials have been shown to be effective. Studies from primary health care settings outside of the UK will be utilised. The interventions (i.e. types of anti-smoking advice) employed by these trials will be assessed to determine whether they could be used by UK GPs. Additionally, this review will consider whether any conclusions can be drawn about *what* constitutes effective anti-smoking advice and the characteristics of smokers who are likely to respond to this. Any hypotheses about how anti-smoking advice exerts an effect are, therefore, raised using descriptions of interventions which had been proven to be effective.

Controlled trials of this subject have already been identified by two teams of researchers, one using the Cochrane Collaboration search strategy (Silagy and Ketteridge, 1996) and the other a slightly modified version of this (Ashenden, Silagy and Weller 1997). Studies identified in these reviews were examined and included for further scrutiny if smoking advice was given by GPs, smokers were recruited opportunistically and the trial had a positive result. Where odds ratios are quoted, these have been calculated by Ashenden, Silagy and Weller (1997).

(i) Study One: Richmond, Austin and Webster (1986)

This Australian study reported very high odds of quitting after receiving GPs' advice against smoking, (OR: 6.76, CI: 2.93 to 15.59) with a follow-up period of three years. Unfortunately, this study used a very intensive protocol for providing smoking advice.

Once recruited, smokers in the treatment group were required to attend the GP five more times to discuss smoking cessation. At the initial consultation smokers had both liver and lung function tests performed, with results being fed back at a later appointment. GPs practising in the UK would be unlikely to provide this level of medical input without extra resources so, although this intervention package provided very encouraging results, it is unlikely this could be repeated in UK general practice.

(ii) *Study Two: Demers, Neale, Adams et al (1990)*

The authors demonstrated that brief advice given by family physicians in the USA was effective against smoking. The original trial report described differences between control and intervention groups as non-significant but Ashenden, Silagy and Weller (1997) report this as a trial with a positive result. Close inspection of trial data supports this notion. Physicians participating in this study (Demers, Neale Adams et al, 1990) '*developed their own intervention approaches rather than using a standardised intervention*' and were reported to have spent three to five minutes counselling patients against smoking. This level of intervention was similar to that employed in UK studies of GPs' smoking advice. It is uncertain, however, whether this intensity of intervention would be acceptable for use in routine clinical practice by UK GPs as a majority of Scottish GPs stated they were unlikely to use an anti-smoking intervention unless it took less than three minutes to administer (Lennox and Taylor, 1995).

(iii) *Study Three: Wilson, Wakefield, Steven et al (1990)*

This study gave a detailed description of the training package for Australian GPs who participated in the "Sick of Smoking" intervention evaluation. This intervention was compared to 'routine care' in which practitioners were permitted to give advice against smoking to patients where they felt this was appropriate. All participating GPs attended a two hour seminar and were exhorted, where possible, to relate smoking advice to smoking-related problems. Where this was not possible, GPs were asked to relate their advice to the likely cardiac effects of continued smoking. GPs were issued with

condition-specific visual aids to demonstrate the risks of smoking and condition-specific leaflets to give to patients to reinforce this. GPs emphasised to smokers that they wanted them to quit and this would be noted in their medical records to be brought up at a later date. Finally, smokers were given a booklet containing guidelines explaining how they should quit. If applied as intended, this intervention had the potential to both change patients' attitudes towards their smoking and also promote action against their habit. Most of the facets of this intervention could immediately be utilised by motivated UK GPs. It is uncertain, however, whether time constraints are an issue as no estimate or measurement of GPs' time involved in delivering this intervention is given.

Wilson, Wakefield, Steven et al (1990) were one of the few groups of trialists to report the characteristics of smokers which were associated with quitting. In a multiple logistic regression analysis they found that receiving the intervention, (i.e. being advised) presenting with a smoking-related illness, increasing age and lighter smoking were all independently associated with quitting.

(iv) *Study Four: Haug, Fugelli, Aaro et al (1994)*

This study tested the hypothesis that Norwegian GPs' advice against smoking is more effective when given to pregnant than non-pregnant women. The intervention employed was intensive. Smokers were recruited during either routine or ante-natal consultations and at first contact discussion about smoking usually took 5 minutes but could take up to 15. Women were provided with two kinds of written material to reinforce GPs' messages and were asked to re-attend for further advice against smoking four times in the subsequent 18 months. It is perhaps surprising that more than 60% of women (pregnant or not) fully complied with this protocol, suggesting this group of women had great motivation to quit. As with the earlier Australian study (Richmond, Austin and Webster, 1986), it is unlikely that GPs practising in the UK could undertake this kind of intervention on a large scale without the provision of extra resources. Consequently, it is

again improbable that this intervention could be incorporated into routine general practice at present.

(v) *Study Five: Slama, Karsenty and Hirsch (1995)*

This French trial of GPs' advice against smoking tested a very brief intervention which could be widely applied in UK general practice. This study recruited 18,760 patients to the intervention group (with 2,199 smokers followed up) and 9,455 to the control group (with 979 smokers followed up). The authors deliberately set out to produce this ratio of intervention to control patients because they felt that it was necessary for "*doctors to feel they were frequently intervening*". A large sample size was needed to determine whether the most minimal of anti-smoking interventions could have any effect on smoking behaviour. 372 GPs participated in the trial and patients randomised to receive the intervention were asked "*Do you smoke?*". Those responding positively were then asked if they wanted to stop smoking. No further discussion took place but smokers who answered that they wanted to stop were given a booklet containing an explanation of physical and psychological withdrawal symptoms and written advice about the various smoking cessation techniques which could be used to overcome these. Where smokers replied that they did not wish to stop, no booklet was given. All smokers in the intervention group (motivated to quit or not) were then asked if they would allow themselves to be interviewed in a survey about smoking at a later date. Control patients' smoking status was not sought, but they were also asked if they would allow themselves to be questioned about smoking at a later date.

As seen above, this study was unusual because patients' consent for follow-up was only sought after randomisation had taken place and intervention or control procedures had been followed. This resulted in only 61% of intervention group smokers and 52% in the control group agreeing to be followed up. Intervention group smokers who agreed to follow-up were more likely to state that they wished to stop smoking. Control group patients' smoking status was not ascertained until telephone follow-up one month after

their consultations so one cannot compare the levels of motivation to quit within both groups at the times of their consultations. It is possible, however, that the selection of more motivated smokers in the intervention group will have led to an over-estimation of the efficacy of this intervention which, expressed as an odds ratio, was (OR: 1.30, 1.00 to 1.69).

In addition to demonstrating that this minimal intervention was probably effective, the study provided information on the characteristics of smokers from both treatment groups who were most likely to quit. Previous quit attempts (the exact definition of which was unclear), increasing age and lighter smoking were all associated with successful smoking cessation. Previous quit attempts were associated with shorter-term smoking cessation (i.e. smokers who had quit after the first month of follow-up) rather than longer-term cessation (those reporting cessation for the complete 12 month follow-up period). This analysis needs to be treated with caution, however, because all data about smoking behaviour was collected retrospectively at one month follow-up and may be subject to recall bias.

This controlled trial differs in emphasis from earlier primary care studies of GPs' smoking advice because an attempt was made to select out more motivated smokers (i.e. those expressing desire to stop) for minimal intervention. The estimate of the efficacy of this approach (although perhaps a slight over-estimate) is similar to the efficacy of UK GPs' brief opportunistic advice against smoking (as discussed in the previous section). Furthermore, 372 GPs enrolled an average of 23 patients per week to the study for the 3 week study period, suggesting that it could be possible to incorporate this effective approach into GPs' routine consultations on a large scale.

(vi) *Summary*

As with studies of UK GPs' anti-smoking advice, none of these trials of effective interventions from abroad observed practitioners to monitor what actually occurs when

smoking advice is given. Where attempts at standardising GPs' advice have been made, approaches emphasising the health risks of smoking have generally been urged. On the basis of research conducted to date one cannot reach conclusions about the best way to give anti-smoking advice. The greater effects of the more intensive interventions, however, emphasises the value of reinforcing advice whenever smokers are seen.

Secondary analyses from two studies suggest the characteristics of smokers who are most likely to quit. In particular, smokers presenting with smoking-related illness and smokers having previously attempted cessation could be easily identified at the time of consultation. No controlled trials have specifically investigated the hypotheses that advice given to these smokers is more effective, however, so changes in clinical practice should not be urged as a result of these observations.

The French trial (Slama, Karsenty and Hirsch, 1995) is the only study which adds information about effective intervention strategies to that obtained from UK studies of GPs' smoking advice and suggests that anti-smoking leaflets given only to smokers who desire to quit may be effective. Given the bias which was introduced to the study sample after randomisation it would be premature to alter the recommendations for evidence-based practice made for UK GPs at the close of the previous section. Further trials investigating the efficacy of smoking cessation advice given to motivated patients are required to fully investigate the efficacy of the selective approach (Slama, Karsenty and Hirsch, 1995). Additionally, studies to determine accurate methods of identifying smokers who are 'motivated' would be useful to help focus advice-giving in future minimal intervention studies.

3 Studies Describing GPs' Opportunistic Smoking Advice

Russell, Wilson, Taylor et al (1979) made one of the first calls for GPs to give advice against smoking to the greatest number of smokers possible. They argued that the small effect which GPs had could be magnified by repeated contacts with smokers implying that advice should be given opportunistically, (i.e. when patients consult for other reasons). This call has been echoed by other researchers including those who have recently reviewed the efficacy of GPs' advice (Silagy and Ketteridge, 1996, Ashenden, Silagy and Weller, 1997). In this section studies which describe UK GPs' practice in giving anti-smoking advice will be reviewed to assess how close GPs' actual practice comes to that recommended by researchers.

(a) Studies Using Medical Records Review

The earliest studies used manual (Fleming and Lawrence, 1981, Fleming and Lawrence, 1983) or electronic methods (Lawrence, Coulter and Jones, 1990) to access medical records and measure the proportion of patients on practice lists who had their smoking status recorded. No attempt was made to ascertain whether advice against smoking had been given and it was merely noted whether smoking habit at any time had been recorded. It was perceived that recording of smoking status by GPs was important because this ensured that clinicians could identify smokers during consultations.

Recording of this data was viewed as a proxy for the giving of advice against smoking and these studies did not measure rates of anti-smoking advice-giving by GPs. Direct comparison of the three studies above is not possible as very different age groups are surveyed. Lawrence, Coulter and Jones (1990), however, noted great variation amongst 45 practices in their recording of smoking status. A median of 37% of patients (on practice lists) had their smoking status recorded but the range for individual practices was large (0% to 94.5%), with significantly greater recording in the more computerised practices.

Pill, Jones-Elwyn and Stott (1989) reported a retrospective review of medical records from one practice which differentiated between the recording of smoking status and advice-giving. Of those who had smoking status recorded, only around 30% had a note that advice had also been given, demonstrating that in this practice, recording of smoking status was not an appropriate proxy for advice-giving. Details about the number of cigarettes smoked daily and smokers' recall of advice were obtained by interviewing the smokers, who were all mothers in social classes IV and V. Forty-nine percent of smokers recalled receiving advice against smoking in the five years, but only 39% of these had a clinical record of advice being given during this period suggesting that medical records review underestimates the level of advice-giving. Finally, heavier smokers were more likely to have a record of receiving smoking advice than others, suggesting that GPs in this practice were more likely to discuss smoking with these smokers.

As part of a controlled study investigating the effects of increasing consultation times, Wilson, McDonald, Hayes et al (1992) prospectively-measured opportunistic smoking advice-giving recorded in the medical record. Records were examined immediately after 4,721 consultations and a note that smoking had been discussed appeared in approximately 5% (with more frequent discussions in longer consultations). In this study advice was defined as '*any mention of smoking*' and discussion did not have to include a message to stop smoking. Using audio-tapes of consultations as a 'gold standard' for detecting health promotion activity, Wilson and McDonald (1994) demonstrated that, in their study, less than 30% of smoking advice was recorded in the medical record. Wilson, McDonald, Hayes et al (1992) conducted their study in ten practices and involved 16 GPs, so it appears that under-recording of smoking advice is a widespread phenomenon.

(b) Studies Using Patient Recall

A number of studies have investigated smokers' recall of GPs' advice against smoking with patient-completed questionnaires. In a postal survey of more than 20,000 patients

registered with practices which belonged to a Medical Research Council research network, Wallace, Brennan and Haines (1987) found that 40% of respondents who smoked recalled receiving GPs' advice against smoking. Coulter (1987) conducted a postal survey of 8107 patients registered with practices in the Oxford region and 36% of current smokers reported having received advice against smoking in the previous year. This study also investigated how experience of lifestyle advice varied with social class, but found no difference in recall of smoking advice by smokers of different social classes. Silagy, Muir, Coulter et al (1992) provided more detailed information in their postal survey of 4941 people who had consulted their GP in the year prior to attending a health check. People aged 35-64 were asked whether they had been advised against smoking by their GP in the previous year and 27% responded positively. Additionally, smokers suffering from diabetes, hypertension and cardiovascular disease were significantly more likely to report receiving advice suggesting that either these smokers are more likely to recall advice or perhaps GPs' advice is targeted towards those perceived to be at most risk from their habit.

In their trial of increasing consultation length, Wilson, McDonald, Hayes et al (1992) used questionnaires completed by patients immediately after consulting, in addition to medical records review, to measure GPs' advice-giving behaviour. Twenty-four percent of current smokers attending GPs' surgeries reported being advised against smoking (again with more frequent reporting of advice occurring after longer consultations). Smokers' recall of advice given was subsequently proven to be more accurate than medical records review for measuring the quantity of smoking advice given (Wilson and McDonald 1994). Post-consultation questionnaires recorded advice on smoking in 74% of cases where it also could be detected on audio-tape and in roughly 10% of consultations where it could not (Wilson and McDonald, 1994).

(c) Studies Using GPs' Self-Report

Postal surveys have provided information about GPs' practice in giving smoking cessation advice to patients. Catford and Nutbeam (1984) surveyed a random sample of

214 GPs from the Wessex region, with a 90% response rate. Seventy-seven percent of respondents estimated that they had recorded smoking status in more than half of patients and 13% estimated they had recorded this information for more than 90% of their practice populations. Wessex GPs, therefore, reported more complete recording of smoking status amongst their patients in 1984 than was found in 1990 by electronic medical records review in computerised practices (Lawrence, Coulter and Jones, 1990) which seems unlikely. It is possible that surveyed GPs have over-estimated the completeness of their smoking status recording.

Coulter and Schofield surveyed all 1291 GPs in the Oxford region and received replies from 79%. Sixty-four percent of respondents stated that they routinely asked about smoking in all adult consultations and 96% stated they would ask about this when smokers presented with '*relevant symptoms*'. Respondents in this study also answered questions about how they would give advice to smokers, with the vast majority (95%) stating they would offer simple advice. Other popular approaches were: offering leaflets (71%), offering NRT (80% - at the time of survey this could be prescribed) and offering a follow-up consultation (54%). The validity of GPs' questionnaire responses about advice-giving can again be questioned. If 64% of Oxford GPs actually did raise the topic of smoking in '*most adult consultations*', perhaps more than 37% of Oxfordshire smokers (Coulter 1987) could be expected to recall having received advice against smoking.

A survey of Scottish GPs, using a national sample (Lennox and Taylor, 1995) obtained a 64% response rate. Only 49% of respondents reported that they raised the topic of smoking in most adults' consultations, but again more GPs (92%) stated they would discuss smoking in the presence of '*relevant symptoms*'. GPs answered questions about how they would discuss smoking with patients, reporting that simple advice, leaflets and advising the use of nicotine replacement therapy were popular approaches. GPs appeared to favour emphasising the health risk which smoking poses with 92% of respondents favouring a discussion about this.

(d) Studies Using Observation of GPs

The description of studies above demonstrates the shortcomings of much research into GPs' advice against smoking. None of the research methods described so far provide any information about what GPs actually do when advising patients against smoking. Only one UK study has used observation of GPs to describe how GPs approach the process of giving advice against smoking (Boulton and Williams, 1983).

As part of a larger investigation of doctor:patient communication, Boulton and Williams (1983) audio-taped the consultations of 16 GPs working in the South-East of England. Consultations were transcribed and listened to by researchers before being divided into those where 'problem-related' and 'non problem-related health education' could potentially be undertaken by GPs. According to the researchers' categorisation, 26% of consultations contained an opportunity for problem-related anti-smoking education, with the issue being raised in 19% of these. A distinction was made between giving advice to stop and merely asking patients about their smoking habit. GPs were observed giving advice in only 12% of consultations where smoking-related problems were presented. GPs were rarely observed to raise the topic of smoking in the absence of a smoking-related problem, doing so in only 2% of these consultations. These levels of advice-giving are much lower than those suggested by GPs responding to the postal questionnaires described above, perhaps because respondents over-estimated their levels of advice-giving.

Boulton and Williams (1983) note that GPs in their study usually emphasised the health risks posed by smoking but rarely explored patients' reasons for smoking. No objective method of describing the quality of advice is used, however, and there is no attempt to quantify this phenomenon. Additionally, this study focussed almost entirely on GPs' advice, the analysis of patients' communication is limited to noting that patients appeared less likely to initiate conversations about smoking than diet or alcohol.

(e) Implications for Future Research

From the work described above it appears that giving advice against smoking by GPs is poorly correlated with the recording of smoking status in the medical record. Studies which attempt to quantify the amount of smoking-advice giving by GPs should not use medical records review, as post-consultation questionnaires are more accurate.

Additionally, GPs' self-report of their advice-giving rates may not accurately reflect their actual clinical practice.

It also appears that smokers who suffer from smoking-related disease(s) are more likely to be advised against smoking by their GP. This finding has arisen from studies using medical record review, patients' recall of advice, GPs' self-report and observation of GPs. GPs appear to raise the topic of smoking in only one fifth to one quarter of smokers' consultations and even then do not always proceed to advise smokers to stop. The next section will assess the research which explains why GPs practice in this way.

Unfortunately, we know little about the process of advice-giving as no researchers have produced a method of objectively describing GPs' anti-smoking advice. We know even less about how patients' are likely to respond to this advice because no attempt has ever been made to describe the behaviour of smokers in consultations where smoking is discussed. As the efficacy of GPs' brief advice against smoking is proven, it should be worthwhile to investigate ways of maximising its efficacy by identifying those smokers who are most likely to respond positively and targeting advice at them or determining the optimal manner in which advice should be given. Before this can be done, however, objective methods of describing both patients' and doctors' communication behaviours during consultations where smoking is discussed are needed. Once objective descriptors are available researchers will be able to raise and test hypotheses concerning how advice should be given and which smokers are most likely to respond positively to advice. Further studies involving observation of consultations are, therefore, needed to provide the required descriptions of the communication behaviours of both smokers and GPs whilst they discuss smoking.

4 GPs' Opportunistic Advice Against Smoking: Studies Explaining GPs' Practice

So far it has been shown that although GPs' brief advice against smoking is effective in reducing patients' smoking rates, GPs fail to exploit many opportunities to discuss smoking with patients. Consequently, GPs don't have as great an effect on the health of patients as they could. Before suggesting strategies for increasing the provision of GPs' 'stop smoking' advice it is, therefore, sensible to attempt to understand why GPs practice in this manner. This section summarises the evidence which helps explain why GPs give opportunistic anti-smoking advice to only a minority of smokers. Studies exploring this issue from the perspectives of both participants in consultations where advice is given (i.e. GPs and patients) will be utilised as it is probable that the GPs' advice-giving behaviour is modified by the characteristics of the smoker who is consulting.

(a) GPs' Opportunistic Anti-Smoking Advice: General Practitioners' Views

(i) *Studies Using Postal Questionnaires*

As described earlier, postal questionnaires have been used to assess GPs' perceptions of how they give advice against smoking to patients. A number of these studies also help explain why GPs practise as they do. As only one study (Lennox and Taylor, 1995) dealing solely with GPs' attitudes towards discussing smoking with patients was identified, surveys exploring attitudes to preventive medicine are reported here. As GPs view giving brief advice against smoking as one of their most important preventive activities (Calnan, Cant and Williams, 1994) this is appropriate.

Catford and Nutbeam's survey (1984) demonstrated that GPs in the Wessex region acknowledged it was their responsibility to advise smokers against their habit. Many GPs, however, felt that this responsibility should be shared with other health professionals (e.g. health visitors) and agencies (e.g. the media and schools). Further

evidence on this subject appears in a survey of Avon GPs' attitudes towards preventive medicine, which had an 81 % response rate (Williams, Bucks and Whitfield, 1989).

Respondents generally demonstrated positive attitudes towards practising preventive medicine, though the questionnaire design, using simple Likert scales may have encouraged 'positive skew' (Steiner and Norman 1989b). Ninety-six percent of respondents rejected the notion that '*GPs should not interfere with peoples' lives by telling them to stop smoking*', replicating the Catford and Nutbeam's (1984) finding that GPs perceive it appropriate to advise patients against smoking. In the Avon survey, however, almost 20% of GPs agreed that '*patients quickly lose interest when [GPs] start talking about healthy lifestyles*'. Additionally, nearly 15 % agreed that '*patients do get upset when asked about smoking if it is not directly related to the presenting problem*'. These responses hint that part of the reason behind GPs' failure to utilise opportunities to discuss smoking may lie in GPs' fears of upsetting patients.

Coulter and Schofield (1990) identified that Oxford GPs believed smoking to be an important risk factor for morbidity and in common with respondents above, perceived it their responsibility to advise smokers against their habit. Additionally, over 94% of respondents stated that they thought GPs' advice against smoking to be effective in reducing morbidity and mortality from both cancer and coronary heart disease. GPs again reported broadly positive attitudes towards practising preventive medicine. Once more, though, sizable minorities of GPs revealed that they felt patients viewed prevention negatively, with around 30% agreeing that '*patients find health education boring*' and '*patients take little notice of what a GP says about lifestyle*'. Additionally, some Oxford GPs indicated concerns about their abilities in the field of preventive medicine, with 35% admitting they believed '*GPs can do little to change peoples' lifestyles*' apparently contradicting their statements on the efficacy of GPs' advice against smoking. Sixty-eight percent of respondents accepted that '*GPs do not have enough training in health promotion*', again indicating some doubt about their abilities in this

clinical field. Finally, respondents to this questionnaire gave their opinions on the difficulties which they had encountered whilst attempting to practise preventive medicine. A lack of time was cited by almost 50% of GPs as the most commonly encountered problem, but again a significant minority of GPs (around 17%) felt that patients weren't really interested in lifestyle advice.

Lennox and Taylor (1995) used a national sample of Scottish GPs and PHCT members for a survey concerned with health professionals' views on smoking cessation activity undertaken by primary health care teams. GPs again stated their belief that addressing smoking was a professional responsibility with 89% of respondents agreeing that *'smoking prevention should be an important part of my work'*. Once again, however, conflicting evidence about GPs' belief in the efficacy of their advice emerges: 97% of GPs agreed that *'my profession can be effective in helping people to stop smoking'*, yet 78% admitted to feeling ineffective with smokers and 73% to requiring training. One interpretation of these responses is that respondents believed that some (i.e. others) GPs could be effective with smokers, but that they did not rate their own personal effectiveness highly. Superficially, this appears incongruous with the views reported by Oxfordshire GPs (Coulter and Schofield, 1990), but closer examination suggests otherwise. Oxfordshire GPs were asked *'which activities'* could be effective against cancer or cardiovascular disease and were, therefore, not rating their own personal effectiveness. This question will probably have elicited GPs' views about the effectiveness of their profession against smoking, rather than their own personal effectiveness, so the respondents to each survey may actually hold similar views. Time constraints were again reported as an impediment to the provision of GPs' anti-smoking advice with only a minority of GPs stating that they would consider the routine use of a smoking cessation intervention which took longer than three minutes to administer.

In summary, GPs responding to postal questionnaires have consistently acknowledged that they believe advising patients against smoking is part of their job. There is

evidence, however, that some GPs perceive themselves as ineffective in producing the desired behaviour change amongst smokers. This perceived ineffectiveness may contribute to GPs reporting that they feel in need of training in smoking cessation techniques. Lack of time is a consistently-reported impediment to the provision of GPs' anti-smoking advice and also there is evidence that some GPs have experienced disinterested or perhaps hostile reactions when discussing smoking with patients. Postal questionnaires can provide only limited information on GPs' attitudes to a subject. Consequently, the surveys described above cannot fully explain GPs' behaviour when discussing smoking with patients and many questions are left unanswered.

(ii) *Studies Using Interviews With GPs*

Qualitative research methods can provide more detailed explanations for attitudes which are held by individuals, providing insight into their behaviour. The few qualitative studies which have investigated GPs' anti-smoking advice-giving behaviour are reviewed here with other non-qualitative studies in which data has been collected by interviewing GPs. Again studies concerned with GPs' attitudes towards preventive medicine and health promotion are utilised as no studies dealing specifically with smoking advice could be identified.

Williams and Boulton (1988) interviewed 34 senior GPs from the Oxford and South East Thames Regions. All interviewees were heavily involved in either post graduate or continuing medical education. Interviewees' views on their understanding of the term '*prevention*' and the approaches to preventive medicine which they considered important were sought using qualitative semi-structured interviews. Many interviewees indicated that they followed a problem-based approach to preventive medicine, raising preventive issues in the context of problems which were influenced by patients' lifestyles. A common definition of preventive medicine appeared to be the giving of lifestyle advice (including against smoking), where relevant, in routine consultations. The belief that preventive medicine was relevant to all presenting problems was a minority view. GPs seemed to

differ in the level of interest they demonstrated towards preventive medicine with those indicating less interest appearing more ready to suggest difficulties in its practice. A common view was that delegation of health education to other health professionals was an appropriate use of time.

The ways in which GPs view their professional role also appeared to influence how they approached preventive medicine. For example, a number of GPs felt they should be responsive to the patients' presenting and ongoing problems, which led them to view prevention almost entirely in terms of relevance to patients' presenting complaints. In contrast, a minority of study participants viewed prevention as a new service they could offer patients to help improve their knowledge and understanding. GPs expressing this latter opinion also often reflected their enthusiasm for prevention by suggesting that many of the difficulties experienced when practising prevention could be overcome by better communication skills.

Williams and Boulton (1988) do not report in detail on the constraints to practising preventive medicine but lack of time is reported by interviewees. Feelings of ineffectiveness are obliquely referred by some interviewees who acknowledge that they alone cannot change people's habits without considering patients' social contexts. This work provides some insight into how one group of GPs view and practice preventive medicine, but the restricted sample of GPs interviewed means that the breadth of all GPs' views on this matter, including those not involved in post-graduate education, may not have been described. Additionally, GPs have been asked about their views and beliefs in abstract, so any interactions between stated views and clinical practice can only be hypothesised.

Tapper-Jones, Smail, Pill et al (1990) interviewed a more diverse group of Welsh GPs to determine their views on giving health education advice to patients during consultations. The research technique was a semi-structured questionnaire administered by a GP,

although one open-ended question explored the problems experienced by GPs when communicating health education messages. Audio-taping of GPs' responses was undertaken to ensure that interviewees' concerns were accurately identified. Participating GPs were randomly selected from those in three Welsh health authority areas, with 45% of those invited taking part. Respondents demonstrated positive attitudes towards advice-giving in response to closed questions on this topic and rated the influence of GPs' advice on health education issues highly, echoing findings from postal surveys.

In common with other studies, the Welsh interviewees frequently identified a lack of time for giving health education advice as an important constraint on this activity.

Respondents also reported experiencing communication difficulties when advising patients on lifestyle issues. Some GPs admitted to finding the delivery of health education messages problematic and others blamed patients for their inability to comprehend lifestyle advice messages. Interviewees also reported that patients differed greatly in their '*motivation*' to change unhealthy behaviour with some being unwilling to accept GPs' advice. GPs reported that dealing with poorly motivated patients was a problem, indicating that they were most comfortable when giving advice to those patients who had already decided to change their behaviour. Unfortunately, the researchers did not explore what GPs meant by '*motivated*' and how they judged this, so one is left unsure of the exact nature of this reported problem.

Williams and Calnan (1994) conducted a qualitative study in which 40 GPs drawn from a national survey sample were interviewed to determine their views and attitudes towards prevention. GPs were selected from a variety of geographical areas in the hope that this would result in a study sample with a wide variety of views. GPs, once again, were enthusiastic about the principle of prevention but their own personal involvement appeared limited to giving lifestyle advice in their consultations. Time constraints were again reported and, in particular, interviewees indicated that practising preventive medicine could detract from the time available for their curative workload, which they

saw as a priority. Ambivalence towards the effectiveness of lifestyle advice emerged as an important theme from interviews, with GPs again indicating the difficulties they encountered with patients who did not wish to change their lifestyles. The frequent disparity between doctors' and patients' views on prevention were cited as creating difficulties for the practice of preventive medicine. Additionally, GPs cited difficulty in persuading patients suffering from stressful circumstances to change their unhealthy behaviours.

Interview studies (both qualitative and survey based) of GPs' views on prevention add small amounts of information to the postal surveys described earlier. In all studies GPs have accepted in principle that preventive medicine is part of their role. They tend to view prevention in terms of giving lifestyle advice to patients during consultations and so their views on giving smoking advice in routine consultations are likely to be similar to their thoughts about practising preventive medicine. There is some evidence that GPs prefer a problem based approach to prevention, but there is no evidence to explain *why* this is the case. Lack of time to practise prevention is cited most commonly as a barrier to preventive activity and patients' lack of motivation is another frequently cited difficulty. Unfortunately, the problems identified are discussed by interviewees in abstract and one cannot assess how GPs' advice-giving behaviour could be influenced by these views. Additionally, these studies have reported the barriers which GPs perceive hinder their practice of preventive medicine, at face value. For example, no attempt has been made to explore GPs concept of what constitutes *motivation*. Consequently, we know little more than the names which have been given to these barriers. We cannot understand what they actually constitute and so cannot raise hypotheses about the best ways to overcome these impediments towards the provision of 'stop smoking' advice by GPs.

(b) GPs' Opportunistic Anti-Smoking Advice: Patients' Views

Studies of General Practitioners' views suggest that the way patients react to advice

against smoking can influence GPs' advice-giving behaviour. GPs' perceive some patients as not motivated to quit smoking or likely to be upset if they receive unwanted advice against their habit. It is important, therefore to assess the literature that explores patients' views on GPs' advice against smoking to examine patients' perspectives on this.

Wallace and Haines (1984) surveyed 3997 adult patients registered with two London practices to determine their views towards health promotion from GPs. Approximately 80% of respondents thought that GPs should be interested in '*smoking problems*' and about 60% of the smokers who responded perceived they had a '*smoking problem*'. Those reporting smoking problems were more likely to feel that their GP should be interested in their smoking. This suggests that although the majority of smokers may agree with their GP about their smoking habit, the remaining 40% of smokers don't perceive their habit to be a problem. This 40% are also less likely than others to desire the GP to be interested in their smoking: perhaps these smokers have a greater chance of appearing '*unmotivated*' if stop smoking advice is given.

A much larger survey (sample size of 40,000 plus) was subsequently conducted using similar questions (Wallace, Brennan and Haines, 1987). Approximately 60% of respondents stated that GPs should be interested in their '*smoking habits*', noticeably less than agreed GPs should be interested in '*smoking problems*' in the earlier survey (Wallace and Haines, 1984). Also around 50% of smokers surveyed considered they had a smoking problem, with heavier smokers being more likely to agree to this. Taken together the two studies suggest that patients believe GPs should be interested in smoking, especially when it is causing problems for an individual. As only rudimentary information on attitudes were collected by these two questionnaires, the reasons for the observed differences remain unexplained.

Stott and Pill (1990) provide evidence to help explain the reasoning behind patients' views reported in the two surveys above. They conducted a survey of Welsh working

class mothers using the same questions as in earlier surveys (Wallace and Haines, 1984; Wallace, Brennan and Haines, 1987), but subsequently asked women to clarify their responses with open-ended questions. Respondents' replies were audiotaped and transcribed to ensure their true meaning was recorded. Similar proportions of Welsh women agreed GPs should be interested in their smoking as in the earlier surveys. Responses to the qualitative, follow-up questions suggested that doctors' interest in patients' lifestyles was most acceptable, however, if the lifestyle advised about was likely to cause patients ill health in the future or was linked to their current problem. Women also reiterated that although they perceived GPs were entitled to advise patients, the actual decision and action needed to change lifestyle needed to be taken by the individual. Women appeared to believe that GPs should respect their autonomy.

The majority of Welsh mothers considered that GPs should give lifestyle advice accepting this as part of the doctor's role. Even these patients, however, stressed that the message had to be delivered sensitively, identifying that advice from a respected GP with whom they had a good relationship was most likely to be listened to. A minority of women rejected the notion that GPs should give lifestyle advice to patients. These women were less likely to have received further education and to practise beneficial health-related behaviours than others. They were also more likely to emphasise the need for patients' autonomy in decision-making on lifestyle issues.

Although the literature concerned with patients' views towards receiving health promotion advice is scanty it does illustrate some important points. Patient surveys suggest that a large minority of smokers do not consider their smoking a problem. It can be hypothesised that these smokers would react less favourably to stop smoking advice than those who perceived their habit was a problem. Additionally, there is a suggestion that patients prefer advice to be given in the context of a related problem. Some working class women have echoed their preference for discussion about smoking to be problem-related and also their desire for GPs to respect their autonomy to make

behaviour change when they want. Finally, the same sample of working class women also indicated that the mode in which advice is given and the strength of their relationship with the advice-giver are important determinants of whether advice is followed. It is unclear, however, how generalisable the views of these women are.

(c) Implications For Further Research

A number of important questions remain unexplored by research summarised above. Although some of the impediments GPs perceive towards the discussion of smoking with patients have been described, no research could be identified which explains, '*what influences GPs to discuss smoking with some patients and not others?*'. If one is serious about increasing the amount of advice against smoking given by GPs, an understanding of their current advice-giving behaviour is required. It would also be valuable to determine the exact nature of the problems which GPs have described encountering when attempting to discuss smoking with patients. At present we have little understanding of what these problems are and how they influence everyday practice. Consequently, it is difficult to suggest ways of overcoming these problems or assess whether GPs' perceptions that these problems constitute impediments to their advice-giving are actually correct.

Another useful area of research would be to find methods of identifying, at the time of their consultation, whether or not patients viewed their smoking as a problem or whether they were likely to make a quit attempt. If a reliable method of identifying these patients could be developed, this could lead to the development of a variety of different approaches for GPs to use when advising smokers who differ in their motivational levels. This could result in GPs viewing discussions about smoking with patients who have low motivation as less of a problem and more of a challenge.

Finally, it may be useful to further explore smokers' views about receiving GPs' anti-smoking advice at the time of their consultation. Previous work (Wallace and Haines,

1984; Wallace, Brennan and Haines, 1987) suggests that a large proportion of smokers in the general population did not consider their smoking habit worthy of GPs' attention. This question has never been asked of smokers attending their GP, however. If these smokers hold similarly negative views about receiving advice against their habit, then this could have implications for the ways in which GPs approach this topic within the consultation.

5 Observational Studies of GPs' Opportunistic Health Promotion

Earlier sections have indicated that observational studies of GPs' opportunistic anti-smoking advice giving could help advance research into effective advice-giving. The one observational UK-based study has been described earlier (Boulton and Williams, 1983), so this section will summarise studies from health care settings in other countries to help determine the most appropriate methodology for describing communication in consultations where smoking is discussed. No studies dealing solely with discussions about smoking could be identified, so where authors' definitions of health promotion or preventive medicine included the giving of advice against smoking, reports dealing with communication about these topics were utilised.

Larsson, Saljo and Aronson (1987) audiotaped Swedish hospital doctors' consultations to analyse their conversations with patients about smoking or drinking. Transcriptions of relevant discussions were examined from a linguistic perspective and communication strategies employed by doctors for introducing these topics into consultations were described. The Swedish doctors were noted to introduce discussion about smoking and alcohol into the consultation in similar ways. The authors suggested that doctors attempted to introduce these topics in ways which minimised the potential for conflict with patients, for example, by raising them in relation to specific medical complaints. Swedish hospital doctors, as English GPs, (Boulton and Williams, 1983) were also noted to accept vague responses from patients when quantification of smoking habit was sought and also to avoid consistently giving specific advice against smoking. From their study report it is unclear how the authors reached these conclusions and no easily-repeatable methodology is described.

Freeman (1987) used direct observation and audiotaping of Californian family physicians' consultations to analyse their communication about health promotion, again

from a linguistic perspective. She concludes that '*the communication task of health promotion talk is substantively different from those consultation tasks which make up the more conventional consultation*'. Freeman observed that, linguistically-speaking, health promotion talk which is least disruptive to consultations and less likely to provoke negative patients' reactions is linked to patients' presenting complaints. Again, however, although interesting in its interpretation of the data, the methodology used in this study is unclear and the results need to be viewed with caution.

Russell and Roter (1993) produced a description of health promotion counselling undertaken by primary care physicians in North America. Audiotapes of consultations from physicians based throughout the USA and Canada with mainly elderly patients were examined. The perspective of this study was primarily to determine the frequency with which discussions about health promotion issues took place and also to provide basic information about the nature of physicians' health promotion interventions. No attempt was made to make detailed descriptions of physicians' intervention strategies and researchers merely rated whether certain activities had occurred or not. Additionally, no judgments concerning the quality or efficacy of interventions were made.

The above studies concentrated almost exclusively on describing the behaviour of physicians when delivering health promotion or lifestyle advice. As no consistent, theoretical framework has been employed in these projects, the utility of descriptions produced is indeterminate. These studies provide a collection of seemingly disparate findings and no methodology which could be used to advance research into GPs' advice against smoking is reported. The role of patients in health promotion/preventive medicine interactions is almost totally ignored, so one can only speculate about their behaviours when receiving advice. Additionally, no researchers have attempted to formulate descriptions of health promotion communication behaviour of doctors or patients which are objective and can be easily used by others. The value of simple, objective descriptors of communication behaviour for raising hypotheses about effective

communication can be assessed by considering the literature on '*interaction analysis*' (Carter, Inui, Kukull et al, 1982). Interaction analysis is a method of studying doctor:patient communication which involves dividing speech and other communication behaviour into defined components in order to raise and test hypotheses about effective communication. The relevance of this methodology to researching discussions about smoking between GPs and smokers is assessed in the next section.

6 Using Interaction Analysis For Studying Communication in Consultations: Methodological Issues

Research into doctor:patient communication has employed interaction analysis (IA) to provide systematic descriptions of communication behaviours in medical consultations. Bales (1950) developed one of the first interaction analysis system (IAS) for describing communication between small groups of people and subsequently a plethora of IASs have been constructed. This section provides an appraisal of the methodology of interaction analysis (IA) and an assessment of how this methodology could be used to research consultations where GPs and patients discuss smoking. It is not an exhaustive review of the doctor:patient communication literature.

(a) What Is Interaction Analysis?

Communication between doctors and patients is complex and can be described from numerous perspectives. Consequently, the IASs in existence today attempt to describe a variety of different areas of communication behaviour. Ong, De Haes, Hoos et al (1995) provide an overview of interaction analysis systems (IASs) which have been used to date in the research of clinical encounters between doctors and patients, detailing the aspects of communication which individual IASs attempt to describe. Although IASs differ considerably from one another, they also have some generic similarities. All IASs employ some form of *observational strategy* for observing consultations (e.g. direct observation, videotaping or audiotaping) and all place *emphasis on a specific process or quality of interest* (e.g. verbal or non-verbal behaviour, the exchange of information or the communication of affect). Additionally, IASs all have a taxonomy for categorising communication behaviours and a clear approach towards measuring these. In practice there will usually be exhaustive definitions of communication behaviour categories and methods of measuring these (e.g. rating scales).

To utilise an interaction analysis system (IAS), consultations between doctors and patients are observed by researchers who judge whether participants' communication behaviours can be allocated to the IASs categories. Usually some consultations are coded by more than one rater/observer to enable an assessment of inter-observer/rater reliability to be made. At the end of this exercise, profiles of clinicians' and patients' communication behaviours in terms IAS categories are produced. Researchers have used these profiles to explore whether associations exist between doctor and patient communication behaviours and patient outcomes (e.g. patient satisfaction and compliance) in order to generate hypotheses about effective communication.

It can be seen that for interaction analysis (IA) to generate meaningful hypotheses about doctor: patient communication, the component categories of an IAS must themselves be meaningful, describing aspects of communication behaviour which are related to the patient outcome of interest. Unfortunately, few interaction analysis systems (IASs) have been designed with reference to any theory and the validity of component communication behaviour categories has only been demonstrated for a small number of IASs (Ong, De Haes, Hoos et al, 1995). This renders the results of many studies of doctor:patient communication using IA methodology difficult to interpret, a problem which will be revisited later. The next section will, however, provide examples of how one IAS and modified versions of this have been used to successfully describe communication patterns and raise hypotheses about effective medical communication, despite some of the inherent difficulties of IA.

(b) Successful Use of Interaction Analysis: Examples Using One Interaction Analysis System (IAS)

Bales's IAS (1950) has been very widely-used in the study of medical communication (Inui and Carter, 1985), but was developed to assist research into small group discussions, rather than clinical encounters. Additionally, Bales' original IAS was concerned chiefly with the communication of '*positive and negative affect*' by

conversation participants and some aspects of communication relevant to medical settings could not be described using it. Roter (1977) realised the limitations of Bales' IAS and modified it, producing her own IAS which was tailored to both the analysis of doctor: patient consultations (as opposed to small group communication) and her own research questions.

Roter reduced the number of categories related to communication of affect in Bales' IAS and defined the content of communication categories for her IAS in terms more salient to medical communication. Roter's refinements ensured, for example, that doctors' statements of information-giving could be differentiated from those where they gave specific instructions or directions to patients about treatments (the latter being a communication behaviour which could be of importance where patient compliance was an outcome of interest). Also Roter (1977) defined two types of patients' questions: one a '*bid for clarification*' where patients asked about a doctors' prior statement, indicating that they had not understood and '*direct questions*', where patients asked questions which were not responses to doctors' previous statements. As Roter was researching the effects of encouraging patients to ask questions and participate in their care, these modifications to Bales' IAS were vital to ensure that patients' question-asking could be accurately measured.

Roter subsequently conducted a controlled trial of an intervention which aimed to increase patients' question-asking behaviour and assess the effects of this on a number of outcomes. The modified version of Bales' IAS was used to measure doctor:patient communication in audiotaped consultations, demonstrating that the intervention had actually caused intervention group patients to increase their question-asking. The controlled trial assessed the effect of Roter's intervention on the outcomes of interest and interaction analysis provided information about how the nature of doctor:patient communication was altered by the intervention. In this study, therefore, interaction

analysis allowed hypotheses to be raised about *how* the intervention had exerted its effects.

Bales' IAS was altered and used effectively by others who explored whether greater participation by patients in their medical care influenced outcome (Greenfield, Kaplan, Ware et al 1988. Kaplan, Greenfield and Ware 1989). These researchers hypothesised that increasing patients' negotiation with physicians to produce treatment plans orientated towards their own individual circumstances would improve physiological outcomes. In three controlled trials, patients suffering from diabetes, hypertension and ulcer disease were coached to improve their information-seeking skills immediately before consulting with physicians. This coaching aimed to enable patients to interact with physicians in a more participatory fashion. Bales' IAS was altered to ensure that aspects of doctor: patient communication salient to the research hypothesis could be described with communication coding categories being changed to enable speech in which '*controlling behaviour*' (either by doctor or patient) occurred. Controlling behaviour was defined as behaviour which enabled the participant to re-direct conversation towards a subject of their choice. A higher degree of patient control of consultations was expected to occur in intervention groups, with this being an indicator of increased patient participation in health care. Other modifications enabled the identification of the communication of affect and also speech in which neither affect was communicated nor controlling occurred.

In each study, the intervention produced changes in patients' communication patterns, with those in the intervention groups demonstrating more controlling and information-seeking behaviour (Kaplan, Greenfield and Ware, 1989). Additionally, intervention group patients showed better control of diabetes (measured by HbA1c) and diastolic hypertension, demonstrating that pre-consultation coaching of patients in information-seeking skills can positively-influence the outcome of medical care. Greater patient control of consultations, and less physician control were both associated with better

physiological outcomes supporting the principal hypothesis of the investigations. As in Roter's study (1977) the use of interaction analysis allowed hypotheses to be raised about *how* the intervention had exerted its effects.

(c) Overcoming Problems With Interaction Analysis

It was noted earlier that few interaction analysis systems (IASs) have any theoretical basis. This is one of the principal problems affecting research into doctor: patient communication using interaction analysis (IA). In the examples above, IA was employed in the context of controlled trials, necessitating the alteration of existing IASs to ensure that data relevant to study hypotheses could be collected. Bales' IAS could be considered to have an inappropriate theoretical basis which needed altering to answer the research questions posed in these studies. IA could not have been successfully employed without these alterations which made the theoretical basis of the IAS relevant to the trials' needs. In the trial setting, the existence of a research hypothesis (or theory) enabled researchers to judge the suitability of Bales' IAS for providing data to either reject or prove this. The alterations made to the IAS were theory-driven, enabling the successful use of interaction analysis.

Unfortunately, it is unusual for IA to be used in the context of a controlled trial. There have, however, been many 'hypothesis-generating' observational studies of doctor-patient communication which have employed IASs to describe communication patterns. In many cases, relationships (i.e. associations) between IAS communication behaviour categories and outcomes have been explored in the absence of hypotheses (Inui and Carter, 1985). As most IASs divide doctors' and patients' communication behaviour into a number of categories, a non-theoretical approach to analysis can result in multiple hypothesis tests, increasing the likelihood of incorrect chance positive results (Type I errors). To avoid this potential pitfall, theory should be used to assist development of IAS communication behaviour categories to make these as relevant as possible to the patient outcome of interest. Also hypothesis testing using the communication behaviour categories of an

IAS should also have a theoretical underpinning, to prevent the reporting of chance associations which defy rational explanation. In short, *theory should guide hypothesis generation and testing rather than being developed as a consequence of this.*

Interaction analysis (IA) can be used to objectively and reliably describe communication in medical consultations. Importantly, if the component communication behaviours of an IAS are relevant to the outcome of interest, the description obtained can be used to raise and test hypotheses about how communication should be changed to positively influence that outcome. IA could, therefore, advance research into GPs' advice against smoking if an IAS for describing doctor: patient communication about smoking included component communication behaviours which are associated with increased likelihood of patients' smoking cessation (or attempts at this). GPs' advice against smoking and patients' responses to this could then be systematically investigated to enable hypotheses about advice-giving to be raised and tested. The next section will assess the feasibility of describing the features of doctors' brief, opportunistic advice against smoking and patients' responses to this which are relevant to patients' smoking cessation.

7 Identifying Relevant Features Of Smokers' and GPs' Consultation Behaviours

The previous section illustrates how describing GPs' and smokers' communication behaviours which are associated with smokers' propensity to make quit attempts, or their future smoking cessation could help to advance research into anti-smoking interventions. General practice consultations are complex and many consultation behaviours could be described, so it is important to review the existing research evidence to help focus efforts on the most salient features. This section will determine the feasibility of describing the relevant consultation behaviours of GPs and patients. Additionally, an assessment of how the validity of descriptions could be investigated will be made.

(a) Smokers' Consultation Behaviours

No research which attempts to describe smokers' behaviours during GPs' consultations could be identified so, where appropriate, research from other disciplines was utilised. Work which involved observing and describing patients' consulting behaviours in consultations where health professionals attempted to promote patients' behaviour change was considered relevant. A search of the Medline and Psychlit databases revealed that little research of this type had been conducted.

(i) *Work describing patients' 'Resistant' consulting behaviours*

Chamberlain, Patterson, Reid et al (1984) developed the Client Resistance Code (CRC) to describe patients' behaviours which they perceived demonstrated '*client resistance*'. Their definition of resistance was any '*behaviour that exhibits a reluctance to participate in the tasks of therapy or reluctance on the part of the patient to participate in the tasks of therapy as set forward by the therapist*'. The CRC is a checklist of mutually-exclusive definitions of behaviours which can be used during observation of consultations to code patients' responses to therapists' suggestions about therapy. The CRC contains

five categories of resistant behaviour and two cooperative' (the opposite of resistant) ones. The validity of the CRC has been explored in a number of studies.

Evidence for construct validity of the CRC was provided by Chamberlain, Patterson, Reid et al (1984) who measured the resistance of parents at family therapy sessions. They collapsed the seven behaviour categories into two (resistant and cooperative) because some occurred infrequently. Parents who had self-referred demonstrated less resistance to the therapy than those referred by social services and parents dropping out of therapy demonstrated more resistance during the sessions they attended. Additionally, resistant behaviours were more apparent in earlier therapy sessions (as expected) and increasing resistance was related to therapists' perceptions of poorer therapy outcome.

Patterson and Fortgatch (1985) showed that the amount of resistance (coded by CRC) demonstrated by patients was influenced by therapists behaviour. Relationships between 'directive' and 'non-directive' therapist behaviour (measured by the Therapist Behaviour Code, see next section) and the seven categories of behaviour in the CRC were explored. Resistant patient behaviour was more likely to follow directive therapist behaviour, whilst less resistant patient behaviours occurred after non-directive therapist behaviours. These findings were replicated in another study using similar methods (Bischoff and Tracey, 1995). Both of these studies provide some evidence of construct validity for the CRC. Client resistance is basically defined as patients' blocking behaviour in response to therapists' suggestions. The two studies above suggest that more confrontational styles of therapy promote greater resistance, which is not counter-intuitive. Bischoff and Tracey (1995) also explored the *face* and *content validity* of the behaviour categories contained in the CRC. 16 expert psychologists agreed that the CRC categories were appropriate for classifying resistant and non-resistant behaviour, covering an adequate number of domains, being clear, representative and mutually-exclusive.

Evidence for the *predictive validity* (i.e. ability to predict behaviour change amongst patients) of the CRC came from post-hoc analyses of a trial comparing the effects on alcohol intake of a directive style of alcohol counselling with a less directive approach (Miller, Benefield and Tonigan, 1993). The overall result of this study was negative, with both counselling styles producing the same reductions in alcohol consumption. Patient behaviour had been coded using a coding schedule based on the CRC and therapist behaviour using the Therapist Behaviour Code (see later). Analyses of the relationships between individual behaviour categories demonstrated that, as in earlier studies, patients' resistant behaviour was more likely to follow directive therapist behaviour. Resistant behaviour observed during therapy sessions was also strongly related to poorer long-term outcome: patients demonstrating greater resistance drank significantly more alcohol at one year. Interestingly, immediate changes in alcohol consumption (i.e. reductions at seven weeks) were related to outcome at one year much less strongly than resistance demonstrated during counselling, suggesting that resistance measured by CRC is a better predictor of long-term behaviour change than short-term behaviour change.

A modified, version of the CRC for use in describing the resistant behaviour of addicts (especially alcoholics) was produced by Miller and Rollnick (1991). This gave expanded definitions of resistant behaviours which Miller and Rollnick (1991) felt were most pertinent to the clinical area of alcohol addiction counselling.

(ii) *Work describing indicators of 'Readiness to Change'*

Whilst research describing patients' consultation behaviours which were thought to be indicative of their 'resistance' was available, little investigating behaviours which were perceived to indicate motivation to change ('readiness to change') could be identified. Potentially, the most relevant research was that based on 'Transtheoretical theory' as described by Prochaska and Di Clemente (1986). Essentially, Prochaska and Di Clemente (1986) suggest that addicts differ greatly in their motivation to end their

addictions and this is reflected in their different likelihoods of taking action towards becoming addiction-free (or their different levels of 'readiness to change'). The implication of this is that people with substance addiction problems are a non-homogeneous group: those who are more motivated to become non-addicted are more likely to attempt behaviour change and vice-versa. Transtheoretical theory also states that when addicts attempt becoming non-addicted, this is a continuous, cyclical process with frequent attempts at behaviour change and frequent relapses back into addictive behaviour prior to the final goal of continuous abstinence.

One large survey of British smokers' attitudes and smoking behaviour (Marsh and Matheson 1983), however, illustrated that some of the behaviour of British smokers could be explained by the Transtheoretical model. In this study, smokers who had reported previous quit attempts were more likely to report future quit activity, changes in smokers' attitudes towards smoking appeared to ante-date quit attempts and smoking cessation was demonstrated to be a dynamic process with frequent relapse. All three of these observations would be expected using Prochaska and Di Clemente's model. Although there was no behaviour coding schedule to use in the identification and definition of behaviour indicating readiness to change, some salient work was available to assist this process.

Miller and Rollnick (1991) had applied Transtheoretical theory when developing 'Motivational Interviewing', a technique of counselling for generic use in the treatment of addictions. One key aspect of Motivational Interviewing is that the therapist responds appropriately to each patient's level of readiness to change. For example, where patients indicate they are unlikely to attempt to end their addiction, the therapist should aim to promote attitudinal changes rather than urging attempts at behaviour change. In their manual of how to undertake Motivational Interviewing, Miller and Rollnick (1991) define the behaviours which addicts are likely to display when they are more ready to change their addictive behaviour. As these definitions were derived by experts in

addiction therapy and based around a theory of behaviour change which had relevance to the study population, they could be used as a foundation to expand CRC definitions of cooperative behaviours and to begin analysis of smokers' consultation behaviours.

(iii) *Research indicating characteristics of smokers who are more likely to quit*

A number of trials of anti-smoking interventions have examined the characteristics of smokers who successfully quit, providing further information to help identify consultation behaviours which indicate readiness to attempt quitting smoking. Smokers' reported intentions to quit are associated with their future cessation (Russell, Wilson, Taylor et al 1979; Marsh and Matherson 1983; Sanders, Peveler, Mant et al 1993). The Transtheoretical model of behaviour change uses smokers' intentions (to quit or not) to categorise smokers into different 'stages of change' (Prochaska and Di Clemente 1983). Using this model smokers' intentions (to quit) have been demonstrated as being associated with making smoking cessation attempts (Di Clemente, Prochaska, Fairhurst et al 1991). Also smokers motivation or desire to quit smoking is an attribute associated with future smoking cessation (Marsh and Matherson 1983; Jackson, Stapleton, Russell et al 1986; Gourlay, Forbes, Marriner et al 1994). Consequently, smokers who make statements indicating an intention or desire to quit smoking may be more 'ready to change' than others.

(b) General Practitioners' Consultation Behaviours

As with smokers, no research could be identified which described GPs' consultation behaviours when talking to patients about smoking. The most relevant work which could be identified from other disciplines was that using the Therapist Behaviour Code (TBC), mentioned in the previous section. Unfortunately, researchers using this instrument reported only scanty details about it. Behaviour categories were named but definitions were absent and authors referenced an unpublished manuscript which described the TBC.

As mentioned in the previous section, the TBC has been used to demonstrate that directive therapist behaviours engender greater resistance amongst patients. Also in the trial of different styles of alcohol counselling mentioned above, (Miller, Benefield and Tonigan, 1993) one of the component behaviour categories of the TBC, *confronting*, was associated with increased drinking at one year. Consequently, it is possible that the TBC has utility for describing at least some of the relevant consulting behaviours of general practitioners, but without further details of the behaviours which are described by this instrument, it is impossible to know whether this is actually so.

(c) Validity of Consultation Behaviour Descriptors

An earlier section has stressed that descriptions of consulting behaviours for use in smoking research will be of most value to researchers if behaviours are shown to be associated with future smoking cessation. Behaviours which are related to smokers' propensity to attempt quitting may also be of use to researchers. Demonstrating that behaviours have these qualities would establish that the descriptors have some validity, in other words, that there is evidence to support the notion that they describe what they are intended to. Two approaches towards establishing the validity of consulting behaviours in this context are to assess *construct validity* and *predictive validity* (Striener and Norman, 1989a).

Construct validity is used to produce evidence for the validity of a measuring instrument where abstract variables which are not readily observable are being measured.

Measurements from the new instrument are compared with other observations or measurements which are thought to tap into the same underlying factor (or construct).

Where expected associations between measurements exist these can be cited as evidence of construct validity. Predictive validity is a more simple concept. Where a quality measured by an instrument is shown to be associated with a future outcome, the instrument has predictive validity for that outcome.

Where smoking cessation is the outcome of interest, providing evidence for the validity of descriptors of smokers' behaviours will be easier than doing so for doctors' behaviours. Construct validity could be investigated by assessing whether smokers' observed consultation behaviours are associated with other smokers' qualities which have been shown to be associated with quitting or attempting to quit. Predictive validity could be explored by investigating whether smokers' consultation behaviours are related to future smoking cessation or attempts at quitting. Demonstrating evidence to support the validity of descriptors of doctors' behaviours is more problematic as this entails showing that doctors' behaviours are associated with smokers either quitting or becoming more likely to quit. If descriptors of doctors' behaviours were valid then they would have an influence of smokers' activity in attempting to quit or on smokers' qualities associated with future smoking cessation. Detecting this would require a much larger sample size than merely detecting associations between smokers' behaviours and their future quitting behaviour or other qualities associated with quitting.

(d) Variables Which Could Be Used For Demonstration of Construct Validity

There are a number of studies which have described the characteristics (or qualities) of smokers who have successfully quit smoking. Generally, these have been trials, cohort studies or surveys in which the characteristics of smokers have been measured by questionnaire at the outset and associations between these characteristics and quitting have been reported. The characteristics/variables are described below with evidence to support their inclusion.

Addiction to Nicotine

Many studies have found that heavier smoking is associated with either difficulty in achieving complete abstinence from smoking or making lower numbers of attempts to quit. Lennox (1992) has summarised this evidence and the studies described are prospective, measuring heaviness of smoking prior to measuring quitting activity. The subjects in most of these studies, were motivated volunteers and could be expected to

have different factors influencing their quitting behaviour compared with smokers attending their GPs. The one study which did not use motivated volunteers (Pederson, Baskerville and Wanklin, 1982) assessed the link between heaviness of smoking and quitting activity amongst the patients of respiratory physicians. Again, this group of smokers could be expected to differ from smokers attending their GPs.

Only one UK study has prospectively assessed the link between heaviness of smoking and quitting in smokers attending their GPs (Jackson, Stapleton, Russell et al 1986). This report used data gathered during a controlled trial of the effectiveness of nicotine chewing gum prescribed by GPs during routine consultations. Multiple logistic regression indicated that smoking more cigarettes per day and having higher subjective levels of nicotine dependence (measured by non-standardised questions) were both associated with a decreased likelihood of smokers quitting smoking for a four month period. The only other UK study to investigate this topic (Lennox and Taylor, 1994) was a questionnaire study of smokers, using a community-based sample reported slightly contradictory results. Smokers who had never made a quit attempt were found to be heavier smokers than those that had (a consistent finding), but amongst those who had tried to quit smoking, more success was reported by 'heavy' and 'light' than 'moderate' smokers (an inconsistent result). This latter finding could be explained by the retrospective study design. Data were collected by a postal questionnaire which sought details of respondents' successful and unsuccessful quit attempts over the previous five years. Recall bias was likely as 'successful quitters' responding to the survey could be reporting details of their smoking history from up to five years earlier. The above results were also reported in a univariate analysis comparing successful and unsuccessful quitters. A multivariate analysis is more appropriate, given the multifactorial nature of smoking cessation. In the same study, Lennox and Taylor (1994) also reported a multiple logistic regression analysis which revealed that less craving for cigarettes and a longer time before smoking the first cigarette in the morning were both associated with

successful quitting. Both of these qualities are associated with heaviness of smoking and this finding casts doubt on the results of their univariate analysis.

Past Quitting Activity

Higher numbers of past quit attempts are associated with future smoking cessation activity.

A number of prospective studies have found that smokers reporting previous quit attempts are more likely to report future attempts (Marsh and Matheson 1982); Marlatt, Curry and Gordon 1988; Curry, Thompson, Sexton et al 1989; Di Clemente, Prochaska, Fairhurst et al 1991). Furthermore, some reports suggest that previous quitting activity may be related to future smoking cessation. Marsh and Matheson's survey (1982) found that 30% of all smokers reported having made three or more previous quit attempts, but of smokers who subsequently gave up during the next three months and remained abstinent until six months later, 49% had made three or more quit attempts.

Unfortunately, no statistical analysis of these proportions was undertaken. Similarly, Di Clemente, Prochaska, Fairhurst et al (1991) found that smokers who reported at least one quit attempt (of 24 hours or longer duration) in the past year were significantly more likely than others to report not having smoked any cigarettes for seven or more days at both one and six months follow-up. Additionally, Russell, Stapleton, Feyerabend et al (1993) found that amongst heavy smokers using nicotine replacement therapy, the number of previous attempts at quitting was associated with achieving continuous abstinence from smoking. Again, Lennox and Taylor (1994) had contradictory findings and noted that smokers who reported higher numbers of past quit attempts were less likely to report successful cessation attempts. This unexpected result could also be explained by recall bias as 'successful quitters' in this study were reporting details of their smoking history from up to five years previously. Generally, longer periods of abstinence in previous quit attempts are associated with increased chances of success in subsequent ones. Jackson, Stapleton, Russell et al (1986) demonstrated that the longest previous period of continuous abstinence amongst smokers attending their GPs was

positively associated with future smoking cessation. Lennox (1992) has summarised this remaining evidence for this.

Smokers' Self Efficacy

Smokers' self-confidence (or self-efficacy) about quitting is an attribute associated with successful cessation (Marsh and Matheson 1983; Lennox 1992; Sanders, Peveler, Mant et al 1993). Strecher, McEvoy, Becker et al (1986) summarise the evidence that higher levels of self-efficacy are associated with smokers who are more active at trying to quit smoking.

Smokers' Attitudes Toward Smoking

Marsh and Matheson's prospective survey (1983) suggested that developing negative attitudes towards smoking pre-empts quit attempts. Lennox and Taylor (1994), however, did not confirm this notion. In their retrospective survey, successful quitting was associated with being less likely to believe smoking harmful, but those who had never made a quit attempt were less likely to acknowledge the health risks that smoking poses. No real consensus on the link between smokers' attitudes and behaviours exists and Lennox (1992) outlines the evidence on this subject.

As mentioned earlier smokers' reported intentions to quit (or not) and their motivation (or desire) to quit have also been shown to be associated with smoking cessation. These qualities could also be measured for use in establishing the construct validity of described behaviours.

(e) Variables Which could Be Used To Assess Predictive Validity

The most important outcome against which to assess the predictive validity of described behaviours is that of smoking cessation, a rare outcome. As mentioned in the section above, smokers' previous unsuccessful quit attempts are associated with making future quit attempts and possibly with future smoking cessation. Also the longer the duration of

a failed quit attempt, the more likely it is that a smoker will become a non-smoker in the future. Consequently, predictive validity of consultation behaviours could be investigated by seeking associations between described behaviours and these indicators of smokers' behaviour change. Measuring a number of different outcomes in this way has been recommended (Velicer, Prochaska, Rossi et al 1992) because it acknowledges the cyclical, dynamic nature of the cessation process.

(f) Summary

It appears that attempting to describe smokers' consulting behaviours during consultations where smoking is discussed is likely to be easier than starting with doctors' consulting behaviours. A schedule for coding patients' behaviours exists which could be adapted for describing smokers' consulting behaviours. Additionally, there is a substantial body research which could be utilised to provide evidence for the validity of smokers' behaviours. Less research has been conducted which could facilitate the description of doctors' behaviours and producing evidence to support the validity of doctors' behaviours is likely to be more difficult.

8 The Use Of Video-Recorded Consultations in Research

Previous sections have suggested that the development of objective descriptions of GPs' and smokers' consulting behaviours during discussions about smoking could help advance research into effective anti-smoking interventions. This would require audio or video-recording of smokers' consultations and systematically describing the principal features of smokers' and GPs' behaviour. Video-recording is probably the best recording method as it captures all modalities of interaction between participants in a consultation (Inui and Carter, 1985). Also, video-recording has been used in a number of primary care research projects to answer a wide variety of research questions. Despite this, little is known about how the use of video-recording affects the internal and external validity of studies.

(a) Internal Validity

A study with high internal validity is one in which the observed results are true and have not been influenced by bias, confounding or chance. In research into GPs' and patients' consulting behaviours, video-recording could diminish internal validity by causing consultation participants to behave in an 'atypical' manner. Researchers will never be able to directly investigate whether or not patients who are aware of being video-recorded behave 'normally' because this would involve comparison with patients being video-recorded whilst unaware of this. Obtaining informed consent from the 'unaware' patients would be impossible, rendering the research unethical. Pringle and Stewart-Evans (1990), however, investigated whether or not awareness of being video-recorded influenced GPs' consulting behaviour. GPs' consulting behaviours were objectively-described using a coding schedule which divided these into 27 components. GPs' behaviour was consistent whether GPs were aware of video-recording or not.

The internal validity of studies could also be compromised by selection bias as patients withhold consent to videorecording. Patients' withheld consent rates seem to vary with the amount of information and number of opportunities to 'opt out' which are given to patients. In early studies using video-recording, where GPs sought patients' consent verbally and immediately prior to their consultation, low rates of withheld consent have been reported (2-11%) (Pringle, Robins and Brown 1984; Herzmark, 1985; Campbell, Campbell, 1982). Where GPs have reported using written consent forms and giving patients more time to consider their consent decision, withheld consent rates have been higher (12-29%) however (Martin and Martin, 1984; Tylee, Freeling and Kerry, 1995; Howe, 1996). As recently-produced, authoritative guidelines (Southgate, 1993; GMC, 1994) demand that researchers obtain written consent and give patients adequate time for consent decisions, the latter range of percentages may be more representative of the withheld consent rates which would be encountered in research projects today.

Systematic, qualitative differences between patients who were video-recorded and non-recorded could limit the internal validity of studies using videorecording. Unfortunately, little is known about the characteristics of patients who withhold consent to be video-recorded or the clinical content of their consultations. Only one study has investigated this topic (Martin and Martin, 1984). This suggested that patients presenting with anxiety, depression and gynaecological conditions are more likely to withhold consent to video-recording, but unfortunately no statistical evidence was provided in support of this assertion. Patients withholding consent, however, did report concerns with confidentiality and having embarrassing problems, suggesting that differences may indeed exist.

b) External Validity (Generalisability)

The degree of external validity (generalizability) which a study possesses determines the extent to which research findings can be applied. For example, where a study population is representative of a larger population, the results of the project hold for the whole of

that larger population. In studies which use video-recorded consultations, external validity can be compromised if participating GPs are not representative of the populations from which they come. Unfortunately, it is not known how much the use of video-recording can influence the characteristics of GPs who participate in research. Previous researchers using video-recordings of consultations have generally given scanty details about participating GPs and even less information about GPs declining to participate (Campion, Butler and Cox, 1992; Tylee, Freeling and Kerry, 1993; Tylee, Freeling and Kerry, 1995; Pringle, Robins and Brown, 1985; Herzmark, 1985; Pringle and Stewart-Evans, 1990). Some studies have taken part in the researchers' own practice (Pringle, Robins and Brown, 1985; Herzmark, 1985; Pringle and Stewart-Evans, 1990) suggesting that participating GPs were selected because it was perceived they were more likely to take part (a 'convenience sample'). Unfortunately, single-practice research into doctor:patient communication where a series of observations are made on a small number of doctors, is not as generalizeable as multi-practice research. No UK studies have investigated the characteristics of GPs who agreed and refused to be video-recorded for research purposes. An Australian study, however, found that those agreeing to video-recording were no older, no more qualified and working in no bigger practices than those who refused (Cockburn, Campbell, Gordon et al, 1988).

In summary, little is known about how video-recording of consultations can influence the patient or GP samples recruited for participation in research. Those using video-recording as an observational strategy for research purposes need to attempt to answer these questions to help assess the internal and external validity of study findings.

A I M S

Aims

The aims of the thesis can be divided into those primarily concerned with research into smoking cessation and those concerned with the methodology used in researching this topic.

Principal Aims

1. To develop a reliable schedule for describing smokers' consulting behaviours during discussions about smoking with GPs.
2. To assess the validity of smokers' behaviours described using the above schedule.
3. To assess the feasibility of developing a valid and reliable schedule for describing GPs' advice against smoking.
4. To document smokers' views, after consulting, on GPs' advice against smoking.
5. To determine why GPs discuss smoking with some patients and not others.

Methodological Aims

1. To compare the characteristics of GPs who agree to video-recording of consultations for research purposes with those who do not.

2. To determine the factors which influence patients' consent to video-recording of their consultations for research purposes.
3. To document a new method of purposive sampling of GPs for a qualitative interview study (further details given in Aims of Stage One).

SUMMARY OF METHODS

1 Overall Design of Studies

The study occurred in two stages:

Stage 1

Initially a postal survey was sent to a district (Leicestershire) sample of general practitioners (GPs). The survey instrument was demonstrated to have some validity for measuring GPs' attitudes towards discussing smoking with patients. Questionnaire respondents with a variety of reported attitudes towards discussing smoking with patients were selected and asked to participate in Stage 2 of the study.

Stage 2

Participating GPs each had one surgery consultation session video-recorded. Consent for video-recording was sought from all patients (or their guardians) attending these surgery sessions. Attending patients were also asked to complete pre-consultation questionnaires which sought details of smoking status, smoking behaviour and attitudes towards smoking. After consulting, smokers completed a second questionnaire which determined whether smoking had been discussed, smokers' attitudes towards this and repeated relevant questions from the pre-consultation questionnaire. Three months after consulting, smokers were posted a final questionnaire which asked details of their smoking behaviour since attending their GP.

Video-recording of smokers' consultations were used in two discrete exploratory studies, one using qualitative and the other using quantitative methodology:

(i) Semi-structured interviews with GPs

As soon as possible after the video-recorded surgery sessions, recorded GPs and the researcher participated in semi-structured interviews. Prior to this both watched a videotape of a smoker consulting with the recorded GP. Where possible this process took place twice, once for a consultation where smoking was mentioned and once where it was not. The video-recordings were, therefore, used as aide-memoires to focus interviews on specific consultations and facilitate effective exploration of the factors which determined whether or not GPs discussed smoking with patients.

(ii) Describing smokers' consulting behaviours when discussing smoking with GPs

Videotapes and transcripts of smokers' consultations, where smoking was mentioned, were studied. Smokers' speech and behaviours during discussions about smoking were coded as displaying "resistance" or "readiness to quit" and inter-observer reliability of the coding schedule was demonstrated. Validity of coding was assessed by seeking expected associations between smokers' consulting behaviours and attitudes reported on questionnaires.

2 Sampling Issues

(a) Desired Characteristics of Sample

The aims of the Stage 2 studies necessitated the selection of a sample (GPs and smokers) with the greatest possible heterogeneity. Adequately describing interactions between smokers and GPs where smoking was discussed required the observation of the widest possible range of consulting behaviours. Similarly, using semi-structured interviews to determine what factors influence GPs in their decisions to discuss smoking with patients necessitated selecting GPs with a great variety of attitudes towards discussing smoking with patients. As individual GPs have fairly inflexible consulting styles (Byrne and Long 1984), a range of GPs' consulting behaviours could best be observed by collecting data from a reasonably large number of GPs. To ensure that GPs selected had an appropriately diverse range of attitudes, GPs' reported attitudes towards discussing smoking with patients were measured by a postal survey instrument and GPs reporting differing attitudes were asked to participate (full details later).

(b) Sample Size

As both Stage 2 studies were exploratory it was impossible to specify an optimum sample size in advance. Resource constraints dictated that the researcher could data collect (i.e. video-record a surgery and administer questionnaires) on one day per week for one year (approximately 45 surgery sessions). It was prudent, therefore, to determine how much usable data could be obtained for the Stage 2 studies from 45 surgery sessions:

(i) Data collected for description of smokers' consulting behaviours

Roughly 10% of consultations can be expected to contain a reference to smoking by one of the participants (Boulton and Williams 1983; Wilson, McDonald, Hayes et al 1992), so on average a surgery of 15 consultations can be expected to contain one or two in which smoking is discussed. Forty-five surgery

sessions could be expected to produce 45-90 consultations in which smoking is discussed. Studies using video-recorded consultations have shown, however, that 2%-17% of patients withhold consent to video-recording (Pringle, Robins and Brown 1984; Herzmark 1985; Pringle and Stewart-Evans 1991), so assuming that 20% of smokers withhold consent to video-recording would leave 36 to 72 consultations where smoking is discussed.

(ii) *Data collected for semi-structured interviews*

This study could utilise any consultation between a smoker and GP whether smoking was discussed or not. As around 30% of surgery consulters were likely to be smokers (Wilson and McDonald 1994), 45 surgery sessions (average 15 patients) would produce around 200 smokers of whom around 160 would consent to video-recording.

It was considered that recruiting 45 GPs to allow recording of one surgery session each for Stage 2 of the study would probably produce enough data to satisfy the Stage 2 aims.

STAGE ONE

Introduction to Stage One

Studies which employ qualitative research methods are often concerned with classifying or describing different behaviours or attitudes of research subjects (Mays and Pope, 1995). Sampling for qualitative studies is, therefore, not necessarily driven by statistical methods and is usually non-probabilistic. Random samples are not usually required and subjects are chosen in the hope they will facilitate comprehensive investigation of all aspects of attitudes or behaviours which are under scrutiny.

There are no concrete guidelines to inform researchers of appropriate sampling strategies for qualitative studies. Researchers must decide for themselves which is/are most appropriate to answer their particular research question(s) and should describe this/these in full (Britten, Jones, Murphy et al 1995). When selecting GPs for qualitative interview studies, researchers have used a variety of sampling approaches including random samples (Tapper-Jones, Smail, Pill et al, 1990) and choosing GPs who work in practices which have a spectrum of characteristics, for example, different geographical locations (Williams and Calnan, 1994; Skelton, Murphy and Murphy, 1995). The former approach is likely to be wasteful of resources as it makes no effort to seek out research subjects who could be expected to differ in their attitudes or behaviours. Consequently, a bigger sample of GPs is likely to be required to adequately research the phenomenon of interest. The latter approach assumes that variation in GPs' attitudes or behaviours depends chiefly on the type of practice in which they work. Many factors, however, influence GPs' choice of practice, (Beardow, Cheung and Styles, 1993) suggesting that this premise should not be accepted without question.

An alternative approach to sampling would be to select GPs because of differences in their beliefs or attitudes towards the subject of research. This method was used to select a sample of GPs to participate in stage two of this thesis and is described below.

Aims of Stage One

1. To describe the process of designing a valid and reliable questionnaire to determine GPs' attitudes towards giving advice on smoking cessation.
2. To discuss the potential use of this instrument as an aid to sampling GPs for participation in stage two.

Methods: Stage One

A copy of the questionnaire appears in Appendix to Methods 1 where piloting is also described. Full details of GPs' responses to this have been published elsewhere (Coleman and Wilson 1996).

(a) Contents of questionnaire

Questions 1-3: Data on GPs' gender was required to compare respondents and non-respondents as it was perceived this could influence response rates. GPs' surgery booking rates, the existence of practice-based stop-smoking groups and GPs' recalling having received training in methods of persuading smokers to quit were all thought to have the potential of either influencing or being influenced by GPs' attitudes towards discussing smoking with patients. Consequently, these data were requested to investigate the construct validity of the questionnaire (Streiner and Norman, 1989a) for measuring GPs' attitudes towards discussing smoking with patients. The quantity of anti-smoking advice GPs reported giving in their last surgery was asked as this was also considered likely to be related to GPs' attitudes towards giving advice. Again, this information was used in construct validity checks (see later). Asking whether the surgery was typical allowed the exclusion of surgeries reported as atypical from data analysis.

Questions 4-16: These 13 questions were designed to be used in one or more "attitude scales" (Oppenheim 1966a) which could be used to measure respondents' attitudes towards discussing smoking with patients.

The first stage of designing these questions was the generation of a limited number of dimensions exploring GPs' attitudes towards giving anti-smoking advice. Literature search of the databases MEDLINE and ASSIA looking for articles concerned with GPs' attitudes towards health promotion and promoting smoking cessation were combined with

reference searching of retrieved articles. This produced only one study dealing with UK GPs' attitudes towards smoking cessation (Lennox and Taylor, 1995), so articles concerned with attitudes towards preventive medicine were also utilised. Four potentially important dimensions were identified. These dimensions were named: *perceived effectiveness, time constraints, propensity towards advice-giving and enthusiasm towards advice-giving*. Thirteen attitude statements (Edwards 1957) examining GPs' attitudes to these were devised and figure 1 shows the statements relating to each dimension.

(b) Explanation of Dimensions and Attitude Statements

(i) *Perceived Effectiveness*

The literature search provided conflicting evidence of whether GPs feel they are effective with smokers. A Scottish survey suggested that lack of perceived effectiveness was an important constraint to GPs' anti-smoking activity (Lennox and Taylor 1995). An earlier survey (Coulter and Schofield 1990), however, suggested that the vast majority of GPs felt they were "probably effective" when giving anti-smoking advice. Similarly, an interview study investigating GPs' attitudes towards preventive medicine (Tapper-Jones, Smail, Pill et al 1990) concluded that GPs generally believed they were effective at promoting lifestyle change, whereas two others (Bruce and Burnett 1991; Williams and Boulton 1988) reported GPs as having concerns about their efficacy. Referring back to Figure 1, we can see that of the 13 attitude statements, five (nos. 1. to 5.) deal with a range of GPs' perceived efficacies with smokers, taking findings from the literature search into account.

(ii) *Time constraints*

These were reported as a problem in many studies (Williams and Boulton 1988; Coulter and Schofield 1990; Bruce and Burnett 1991; Lennox and Taylor 1995) so statements 6. and 7. (Figure 1) covered GPs' attitudes towards broaching the topic of smoking with all presenting smokers.

(iii) *Propensity Towards Advice-giving*

There was evidence that GPs' advice-giving is influenced by the clinical situation (Lennox and Taylor 1995), with GPs reporting themselves as being more likely to give anti-smoking advice to people with symptomatic illness caused by smoking. Accordingly, statements 8. to 10. investigated respondents' propensity to give anti-smoking advice.

(iv) *Enthusiasm Towards Advice-giving*

Finally, GPs appeared to differ in their orientation towards preventive medicine (Williams and Boulton 1988) and statements 11. to 13. dealt with some of the beliefs articulated by them (Williams and Boulton 1988; Coulter and Schofield 1990; Bruce and Burnett 1991; Lennox and Taylor 1995).

To minimise "acquiescence bias" and "positive skew", (Streiner and Norman 1989b) attitude statements were placed in a random order and neutrally worded. Respondents were asked to choose one response from strongly agree to strongly disagree on a six point Likert-type scale placed alongside each statement. The reliability of attitude scales becomes near-maximal with more than five points of measurement (Streiner and Norman, 1989c) so six points was a reasonable choice. Whether or not to include a neutral point on a measurement scale is a decision taken by individual researchers: there is no universally correct approach. As the scale was intended to measure differences in attitudes and respondents are capable of making fine judgments (Streiner and Norman, 1989c), it was felt appropriate to force a choice of their level of agreement or disagreement with each statement. The scoring of GPs' responses to these attitude statements and an explanation of how "attitude scales" (Oppenheim 1966a) were constructed and used follows later in this section.

(c) Administration

A list of GPs who had Leicestershire Family Health Service Authority as their responsible FHSA (updated April 1994) was obtained from the FHSA. In May 1994

questionnaires and reply-paid envelopes were sent to all listed GPs. All envelopes and covering letters (copy in Appendix to Methods 1) were addressed to individuals.

Six weeks after the initial mailing, non-respondents were sent a second, individually-addressed questionnaire and a shorter accompanying letter (copy in Appendix to Methods 1). A second reminder was sent out 10 weeks after the first mailing. This time the envelopes were individually addressed, hand-written and marked "PRIVATE". The covering letter was again altered (copy in Appendix to Methods 1), kept short and signed by hand. The hand-written and "PRIVATE"-marked envelopes were an attempt to ensure that the letter and questionnaire were opened by the GP and thus increase the chances of a response. In one postal questionnaire study of GPs, a second reminder, using similar methods, increased the total response rate by 11 % (Myerson 1993).

FIGURE 1 QUESTIONNAIRE ITEMS RELATING TO EACH DIMENSION

EFFECTIVENESS

1. My anti-smoking advice is more effective than any other anti-smoking education that my patients receive.
2. When patients continue to smoke despite repeated advice to stop, my anti-smoking advice can still have a worthwhile effect.
3. My anti-smoking advice is more effective when it is linked to an individual's presenting problem.
4. I can be very effective in persuading some of my patients to stop smoking.
5. My anti-smoking advice is equally effective whether the smoker is ill with a smoking-related problem or well.

TIME

6. Discussing smoking with all presenting smokers is not an appropriate use of my time.
7. Discussing smoking with all presenting smokers is likely to do more harm than good.

PROPENSITY TOWARDS ADVICE-GIVING

8. I prefer not to discuss smoking unless the patient is ill with a smoking-related problem.
9. I don't discuss smoking with all smokers, but prefer to select out those smokers who I feel will respond to my advice.
10. I prefer not to discuss smoking with my patients unless they raise the subject.

ENTHUSIASM TOWARDS ANTI-SMOKING ADVICE

11. I dislike discussing smoking in my routine consultation.
12. Giving anti-smoking advice during routine consultations should not be part of my job.
13. Discussing smoking with my patients can be very rewarding for me.

(d) Scoring and principal components analysis of GPs' responses to attitude statements

(i) *Scoring of attitude statements*

Points were awarded to GPs' attitude statement responses on a scale of one to six, with one representing a strongly negative attitude towards giving anti-smoking advice and six strongly positive. Below are two examples of attitude statement response scoring:

key

SA = strongly agree TTA = tend to agree D = disagree
A = agree TTD = tend to disagree SD = strongly disagree

4. Discussing smoking with all presenting SA A TTA TTD D SD
smokers is not an appropriate use of
my time.

11. I can be very effective in persuading SA A TTA TTD D SD
some of my patients to stop smoking.

Responses to individual questions on each scale scored up to six points. A high score was intended to measure strongly positive attitudes towards giving anti-smoking advice and a low score the opposite. Question 4. above would be awarded 1 point for a response of SA, up to 6 for SD. This would be reversed for question 11, with SA scoring 6 points through to SD scoring 1.

(ii) *Principal Components Analysis*

Decisions concerning how to best amalgamate respondents' attitude scale scores were guided by the findings of principal components analysis, making use of oblique rotation (Manley, 1986). Principal components analysis can be used to identify the underlying relationships within a dataset composed of a large number of variables. The technique

works best where the original variables are highly correlated and the data can be adequately represented by a small number of dimensions (principal components) which are not directly measured (Manley 1986). With respondents' attitude statement scores, this analysis identified groups of attitude statements which appeared to be related to the same issue.

Principal components analysis is a two stage process and initially correlations between variables are calculated in a correlation matrix from which underlying components are identified. At the end of the first stage of a principal components analysis, a number of principal components which 'explain' a large amount of the variance in the data should have been derived. In this analysis, principal components with an Eigen value of greater than one were initially extracted. The Eigen value is a measure of how much of the variation in the overall dataset can be explained by a component. Where an Eigen value is less than one, the component identified explains less variation in the dataset than one of the original variables (here attitude statements) (Manley 1986). The original variables (here the attitude statements) will be correlated to each principal component identified, the correlations being known as factor "loadings", with a high (positive or negative) factor loading indicating that a variable is strongly associated with the underlying component.

The aim of the second stage of the analysis is to find a way of using principal components to represent the original variables in as simple a manner as possible. This stage is best considered graphically with the components being used as axes and variable (attitude statement) loadings as co-ordinates describing the position of each original variable in relation to the underlying components. Where two components are identified, the second stage can be visualised in two dimensions with two axes. With three components, three axes can be visualised in three dimensions, but with more than three components this becomes difficult to imagine. In the second stage (called "rotation") the axes are moved or re-drawn in a way that ensures the maximum number of variables

(attitude statements) are as close as possible to one of the axes. Principal component analysis should, therefore, be viewed as a descriptive statistical technique which summarises data. Ideally, any final description should be simple and reveal components which make sense theoretically.

In addition to helping to determine which attitude statement responses should be grouped together, principal component analysis was used to identify any attitude statement(s) (question(s)) which did not load to the extracted principal components. These attitude statements could then be examined for wording and/or comprehension problems and either be altered or discarded.

(e) Reliability of attitude scales

Assuming no variation in the quality measured, a questionnaire with high reliability (Striener and Norman, 1989a) will give very similar results upon repeated administration. As respondents completed the attitude scales only once, scale reliability was assessed using a test of internal consistency, Cronbach's alpha (McKennell 1979), rather than a test-retest method. Cronbach's alpha is a split-half method of estimating reliability that can be performed after one administration of a questionnaire. In split-half tests, the group of questions (here those attitude statements on each attitude scale) is divided into two halves. A measure of the internal consistency or homogeneity of the whole group of questions (attitude scale) is provided by calculating the correlation between scores on the two half-tests. The group of questions is divided into halves in as many ways as possible with the final alpha being a mean of all possible split-half co-efficients. A high alpha co-efficient indicates that a group of questions (attitude scale) is concerned with only one underlying issue.

The optimal level of co-efficient alpha depends on the use to which test results will be put. Where a test is used to categorise or make decisions about one individual (e.g. intelligence tests), a level of alpha of 0.9 or over is required (McKennell, 1979). Where

a test needs to differentiate between groups of people, the acceptable level of alpha is 0.6 to 0.7 (McKennell, 1979). The attitude scales produced from GPs' postal questionnaire responses were intended for use in the selection of groups of GPs with variety in their attitudes towards discussing smoking with patients, so ideally alpha values of 0.6 and above were required.

(f) Validity of attitude scales

An attitude scale with high validity actually measures the quality it is intended to measure (Striener and Norman 1989a). The two attitude scales, derived by principal components analysis, had face validity for the measurement of GPs' perceived effectiveness when giving advice against smokers and also the measurement of GPs' enthusiasm for discussing smoking with patients (full details in next section). In the absence of a "gold standard" for the measurement of these dimensions, construct validity (Striener and Norman 1989a) of attitude scales was explored by seeking differences in the attitude scale scores of groups of GPs who reported differences in characteristics thought to be potentially-related to their attitudes towards giving anti-smoking advice (see above (a) Contents).

Results: Stage One

(a) Characteristics of GP Respondents to Postal Questionnaire

Of the 468 questionnaires sent 327 (69.9%) were returned after two reminders. Women, members of the Royal College of General Practitioners and those who had recently qualified were more likely to respond (*NB: sources of data for the following comparisons are described on P. 89*). One hundred and nineteen respondents (36.6%) were current members of the RCGP compared with 36 (25.5%) non-respondents (chi-square = 5.7, 1 degree of freedom (df), $p < 0.05$; data missing for two respondents). Seventy-four respondents (23.1%) qualified less than ten years ago compared with 14 (10.1%) of non-respondents (chi-square = 10.8, 1 df, $p < 0.01$; data missing for six respondents and two non-respondents). Finally, 81 (24.8%) of respondents were women compared with 18 (12.8%) of non-respondents (chi-square = 8.4, 1 df, $p < 0.01$). All 327 respondents answered the question about stop smoking sessions, with 150 (45.9%) reporting that their practice regularly held. The distribution of respondents' reported consultation rates is shown in Table 1.

(b) Data Obtained to Explore Construct Validity of Attitude Scales

Of the 325 respondents who replied to the question about anti-smoking training, 111 (34.2%) GPs replied that they had received some. Three hundred and seven GPs gave an estimate of the number of smokers advised to quit during their last surgery and 288 (88.6%) reported this surgery as being typical of their usual practice. The number of patients who were reported to have been advised to stop smoking in respondents' last 'typical' surgeries were: six or more, by 2.8% of the 288 GPs, five by 5.2%; four, by 7.6%; three, by 18.1%; two, by 34.4%; one by 21.5%; and none by 10.4%. The modal number of patients who were advised to stop smoking was two.

**TABLE 1 REPORTED CONSULTATION RATES OF POSTAL
QUESTIONNAIRE RESPONDENTS (GPs)**

<u>No. of patients seen each hour</u>	<u>No. of GPs</u>	<u>(%)</u>
< 6	7	(2.2)
6-7	82	(25.4)
8-9	130	(40.2)
10-11	73	(22.6)
> 12 ^a	31	(9.6)
	<hr/> 323 ^b <hr/>	<hr/> (100) <hr/>

^a The questionnaire contained an error which did not allow respondents to mark
12 patients per hour exactly.

^b 4 respondents failed to answer this question.

(c) Principal Components Analysis of Attitude Statement Responses

This section is concerned with providing results of the principal components analysis (PCA) (Manley, 1986), which was run on attitude statement responses to indicate which statements could be grouped together on subscales. For brevity, and because their reporting here is not crucial to understanding the thesis, GPs' responses to individual attitude statements are not reproduced. These and other information obtained by the questionnaire survey have been reported in detail elsewhere (Coleman and Wilson 1996). An initial principal components analysis on all 13 attitude statements suggested that a three factor structure could best represent the data. The third factor extracted, however, explained only 10% of the variance (having an Eigen value of only slightly more than one). Also only one statement (statement number 5, Figure 1, in Methods: Stage One) loaded strongly and exclusively on it. This statement had factor loadings of below 0.35 on both other factors. Closer inspection of this attitude statement suggested it was ambiguous. Consequently, this item was discarded from the analysis and the remaining 12 items were analysed with a second PCA.

Initially a correlation matrix was calculated (see Appendix to Results 1) which showed that most variables within the dataset had a correlation coefficient of 0.4 or more with at least one other variable. This suggested that a PCA was appropriate, a fact re-affirmed by examining the anti-image correlation matrix (see Appendix to Results 1). For a factor analysis to be appropriate the diagonals of this matrix should be high in value (i.e. approach 1.0) and the off diagonals should be low in value (i.e. approach zero). This pattern was followed by the anti-image correlation matrix for attitude statement responses.

Principal components extraction identified two principal components (referred to as factors for simplicity) with Eigen values of 4.05 and 2.00 respectively which explained over 50% of the variation in the dataset. As it was perceived likely that these factors could be correlated, an oblique rotation was used to produce a factor solution (Manley,

1986). In this solution each attitude statement had a high factor loading on to one factor but not the other, so it was obvious which attitude statements should be grouped together in attitude scales.

(d) The Derived Attitude Scales

The attitude scales were named "enthusiasm" and "perceived efficacy" based on the nature of the statements loading on each one. The enthusiasm subscale explained 33.8% of the variance in GPs' responses to attitude statements and the perceived efficacy subscale 16.6%. The sum of points awarded to all attitude statements which loaded on each attitude scale formed one attitude score. The scoring method ensured that a high perceived efficacy score represented a strong personal belief in the effectiveness of the respondents' anti-smoking advice and a high enthusiasm score represented a positive orientation of the respondent towards giving anti-smoking advice during routine consultations. Table 2 shows the seven statements loaded to the enthusiasm subscale and Table 3 the five statements loaded to the perceived efficacy subscale. Table 4 shows the distribution of respondents' scores, that a large proportion of which respondents' scores were concentrated around the median.

(e) Internal Reliability and Validity of Attitude Scales

Cronbach's alpha coefficients for the scales were: enthusiasm 0.83 and perceived efficacy 0.72, demonstrating adequate internal consistency for the purpose to which they would be put.

Construct validity of subscales was investigated by comparing attitude scores of GPs who reported giving different amounts of anti-smoking advice in their last surgery (where stated to be typical). *GPs' reported practice was, therefore, being compared with their reported attitudes.* GPs who recalled discussing smoking with more than the modal number of smokers (two) had higher enthusiasm scores (median score = 32 (range 18 to 39) based on 101 GPs versus 30 (range 14 to 40) based on 186 GPs. Mann-Whitney U

test, $p=0.002$). These GPs also had significantly higher perceived efficacy scores (median score 22 (range 12 to 28) based on 95 GPs versus 20 (range 10 to 29) based on 182 GPs. MWU, $p=0.0002$).

A further test of construct validity was a comparison of the attitude scores of GPs who reported having received anti-smoking training with those of GPs who did not. GPs who reported having received anti-smoking training had significantly higher perceived efficacy scores (median = 22 (range 15 to 28) based on 104 GPs versus 21 (range 9 to 39) based on 201 GPs. MWU, $p=0.007$). No difference was found in the enthusiasm scores of these two groups of GPs.

The other two GP characteristics which had been hypothesised as either influencing or being influenced by GPs' attitudes towards discussing smoking (consultation rates and practice 'stop smoking' sessions) showed no association with GPs' attitude scores.

**TABLE 2 THE 7 ENTHUSIASM STATEMENTS SHOWING MEAN SCORES,
STANDARD DEVIATIONS (SD) AND FACTOR LOADING VALUES**

Attitude Statement	Mean Score (SD)	Factor Loading Value
Discussing smoking with all smokers not an appropriate use of time	3.87 (1.51)	0.650
Prefer not to discuss smoking unless patient is ill with a smoking-related problem	4.50 (1.13)	0.740
Dislike discussing smoking in routine consultations	4.64 (1.08)	0.714
Giving anti-smoking advice during routine consultations is not my job	4.64 (1.13)	0.733
Prefer not to discuss smoking with patients unless they raise the subject	4.86 (0.90)	0.703
Discussing smoking with all patients is likely to do more harm than good	4.62 (1.15)	0.764
Don't discuss smoking with all smokers but select out those I feel will respond to my advice	3.42 (1.21)	0.683

TABLE 3 THE 5 PERCEIVED EFFICACY STATEMENTS SHOWING MEAN SCORES, STANDARD DEVIATIONS (SD) AND FACTOR LOADING VALUES

Attitude Statement	Mean Score (SD)	Factor Loading Value
My anti-smoking advice is more effective than any other anti-smoking education my patients receive	3.78 (1.12)	0.664
Anti-smoking advice still has a worthwhile effect in patients who continue to smoke despite having had repeated advice to stop	3.74 (1.19)	0.611
Anti-smoking advice is more effective when linked to an individual's presenting problem	5.03 (0.86)	0.669
Can be effective in persuading some patients to stop smoking	4.50 (1.01)	0.775
Discussing smoking with patients can be rewarding	3.80 (1.15)	0.668

TABLE 4 DISTRIBUTION OF ENTHUSIASM AND PERCEIVED EFFICACY SCORES

Score	No. of respondents for whom score calculated	Range of possible scores	Median score	Interquartile range (25% to 75%)	10th percentile	90th percentile
Efficacy	305	5 - 30	21	18 - 23	16	26
Attitude	316	7 - 42	31	27 - 35	25	37

Discussion of Stage One

Twelve of the original thirteen attitude statements on the postal questionnaire are grouped on two subscales. Both of these appear to be able to differentiate between groups of GPs who report different levels of advice-giving during their last surgery (where reported as 'typical'). The perceived efficacy subscale also appears to differentiate between groups of GPs who report having received anti-smoking training and those who have not.

(a) Construct Validity

GPs have reported that a lack of belief in their personal effectiveness with smokers inhibits their advice-giving (Lennox and Taylor, 1995), so one would expect greater perceived effectiveness to be associated with more reported advice-giving. This has been demonstrated here, showing concordance with a similar American study (Thompson, Schwankovsky and Pitts, 1993) and thus providing construct validity for the perceived efficacy subscale. Additionally, GPs holding positive attitudes to health promotion are more likely to become involved in practice-based health promotion efforts (Calnan and Williams, 1993). It seems logical, therefore, to expect GPs registering greater enthusiasm for discussing smoking with patients to report doing so more frequently. This was also noted here, supporting the notion that the enthusiasm subscale also has some construct validity.

Further evidence to support the validity of the perceived efficacy subscale comes from the finding that GPs who report having received anti-smoking training also have greater perceived effectiveness. GPs who have a greater belief in their effectiveness may have selected themselves for training in this area or alternatively, receiving training may have enhanced GPs' belief in their effectiveness with smokers.

It should be noted that the construct validity assessment has only investigated the link between subscale scores and GPs' *reported* advice-giving activity. No data has been

collected on GPs' *actual* advice-giving. Additionally, it is possible that the content validity of questionnaire items (Striener and Norman, 1989a) has not been completely addressed. There could be factors which influence GPs' advice-giving that are not covered by the attitude statements. Rigorous qualitative exploration of these issues during questionnaire design would have minimised the chances of this but, unfortunately, resource limitations dictated the approach described.

(b) Reliability

Reliability is usually enhanced by starting with a large bank of attitude statements and rejecting some after repeated administration of prototype questionnaires and analysis of responses. Due to resource limitations this approach was not used in the derivation of the subscales. Both subscale alpha co-efficients are higher than the desired level of 0.6, however, suggesting that this omission did not have a detrimental effect on reliability. The internal consistency of the subscales indicates they have enough reliability to be used to differentiate between groups of GPs. As only one mailing of the questionnaire occurred no assessment of test re-test reliability was conducted. This means that we are uncertain whether individual GPs who had not changed their attitudes would achieve similar subscale scores if given the questionnaire at a later date.

There is evidence to support the notion that the subscales are valid and reliable for measuring GPs' attitudes towards discussing smoking, so they have potential for use in selecting GPs who hold varied attitudes on this subject. As it was a requirement for stage two GPs, it appeared appropriate to use subscale scores to choose a sample of GPs to participate in stage two. Given the clustering of scores on both subscales around median values, it was logical to select groups of GPs from the tails and central portions of each distribution.

To the author's knowledge, selecting GPs for qualitative research by variation in their reported attitudes towards the issue under study is a previously unused sampling strategy.

In using this approach to sampling, the assumption is being made that *GPs' consulting behaviours will vary more with their reported attitudes than any other of their characteristics by which they could be selected*. Other researchers may wish to consider using this technique as a starting point for qualitative enquiry but need to bear in mind that a persons' behaviour is a function of 'inner determinants' (including attitudes) and their external environment (Oppenheim 1966a). In other words, people may hold attitudes which their behaviour does not reflect because there are other external influences which have a greater effect on their behaviour. This means that behaviour can never be predicted completely by a questionnaire.

**METHODS RELEVANT TO BOTH
STAGE TWO STUDIES**

1 Recruitment of Stage 2 GPs

(a) Selecting a Random Sample of Questionnaire Respondents Stratified By Attitudes Towards Discussing Smoking

GPs with diverse reported attitudes towards discussing smoking with patients were systematically selected using scores calculated for each GP on the perceived efficacy and enthusiasm scales. GPs' scores on each scale were clustered around the median, so to select GPs with a broad range of reported views, the distributions were divided using tertiles before selecting random samples from each of the thirds created by this. Figure 2 summarises the recruitment process (copies of literature sent to GPs are found in Appendix to Methods 2). Only one attempt was made to recruit each GP, so where GPs who had already been selected from one scale score were selected again, substitution occurred.

(b) Procedure at GP recruitment interview

At these meetings GPs were made aware of the potential difficulties and ethical implications of their involvement in the project and were given copies of patient information sheets and consent forms (found in Appendix to Methods 2). This approach of ensuring potential research participants were aware of all possible problems followed recommendations made by Murphy, Spiegel and Kinmonth (1991) about how researchers should gain access to primary care settings. This ensured that GPs consent was of a high quality and withdrawal at a later date unlikely. As the project was observational it was important that GPs who agreed to participate did not greatly change their consulting behaviour with smokers. It was considered that GP recruitment would be difficult if GPs had no idea about the objectives and potential uses of the study, so a compromise had to be reached. All materials which had been sent to GPs stressed that the study wished to observe how they practised preventive medicine (and not just discussions about smoking). At the recruitment interview this theme was reiterated.

Figure 2 Recruitment of GPs

- 18 GPs selected randomly each week
(3 from each of the 6 thirds on the 2 attitude scales)

- 5 stage process:
 - (i) Short "populist" letter to all 18 explaining details of the study. Subject of study is described as "preventive medicine"

 - (ii) Follow-up telephone call to the 18 two weeks later

 - (iii) Further details sent to GPs who expressed an interest in participating

 - (iv) Follow-up telephone call to interested GPs a further two weeks later

 - (v) Face-to-face interview arranged to discuss participation

- Recruitment ends when 7 or 8 GPs from each third agree

To minimise any changes in GPs' consulting behaviours during recording, the researcher stressed that the project was interested in **how** GPs practised preventive medicine **when** they had made their own decision that a preventive intervention was warranted. It

was emphasised that the project was not interested in counting or measuring the amount of preventive medicine GPs undertook and no judgments would be made on the quality of GPs' consultations. The researcher also made clear that it was of no consequence if a whole surgery which was video-recorded contained no preventive interventions because the study was interested in 'normal' practice. GPs were referred to the second study objective on the second letter they had been sent about the project (see Appendix to Methods 2). This stated that the project was interested in discovering what "barriers" prevented GPs from practising preventive medicine.

2 Information about GPs obtained from other sources

The FHSA gave information about GP's gender, number of partners in GPs' practices and number of hours worked by GP. Current membership of The Royal College of General Practitioners was obtained from the College. This data was accurately matched to the FHSA data because both included GMC number. The time that had elapsed since the GP had qualified was found in the Medical Register. This was categorised as greater or less than 10 years ago at 1st January 1994. It was hypothesised that GPs who had qualified as doctor later than 1st January 1984 were more likely to have been exposed to video-recording and this could influence whether or not they would agree to be filmed for a research project. The training status of GPs' practices was supplied by the Leicestershire, Nottingham and Derby Vocational Training Schemes. The Departments of General Practice of the Universities of Leicester and Nottingham enabled undergraduate teaching practices to be identified. Any brief meeting between the researcher and a GP resulted in the GP being classed as "known to researcher".

3 Data Collection at Video-recorded Surgery Sessions

(a) Selection of GPs' surgeries

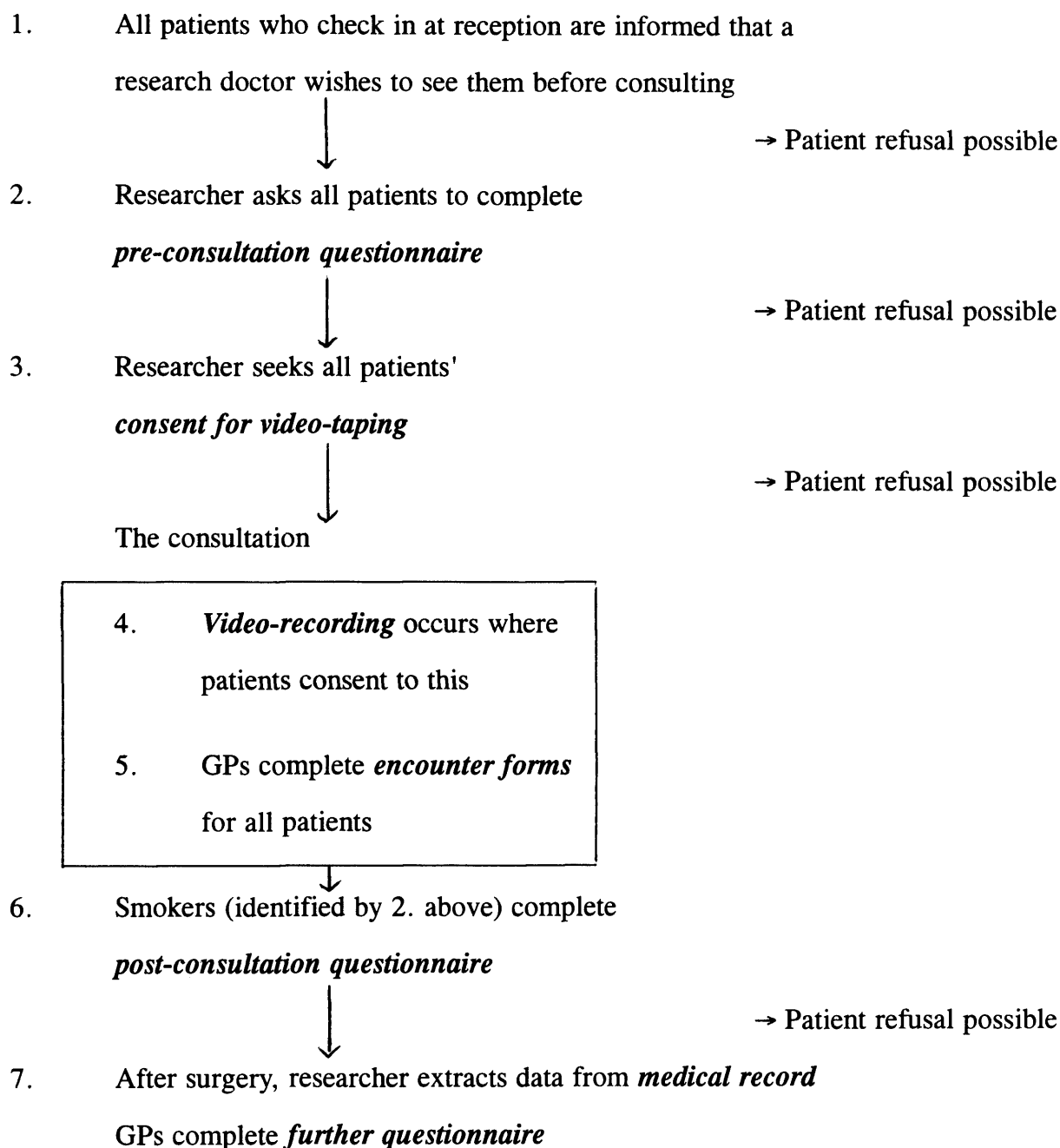
GPs' surgeries were not randomly selected. GPs who had agreed to participate in the study, but who worked in the researcher's department were not approached for data collection. This ensured that GPs familiar with the study aims were excluded from participation. Also, as the researcher collected all data, data collection occurred when he had dedicated time to do this. One data collection surgery took place each week between April 1995 and April 1996 and all but four were morning surgeries. This excess of morning surgeries may have introduced systematic bias into the patient sample for the study. For example, fewer employed people and more women might be expected to attend morning surgeries than those held in afternoons.

A number of different types of data were collected during data collection surgeries and these are described briefly below. Figure 3 provides an overview of the process, demonstrating where patient attrition was possible. Detailed descriptions of questionnaires and forms used follows in later sections.

(b) Administration of pre-consultation questionnaire

All patients or their guardians attending data collection surgeries were asked to take part in the study. Patients were first informed of the study when checking in at practices' reception areas. Receptionists were asked to inform patients that a research doctor wished to speak to them whilst they waited for their consultation. Patients who agreed to talk to the researcher were given details about the study (copies of literature used are in Appendix to Methods 3). Where possible this took place in a private room. Those refusing were noted and excluded from further involvement in the study. It was desirable that patients should not change the ways they discussed smoking with GPs. To minimise the effects that data collection had on this, patients were not routinely informed

Figure 3 Data Collection During GPs' Surgeries



that discussion of smoking was the specific focus of research. Instead the study was described as being interested in investigating the "way doctors talk with patients" and smoking was not specifically mentioned unless patients requested further information. When this happened, patients were informed that the project was interested in observing how GPs discuss smoking with patients and helping to improve this aspect of doctor : patient communication. It was emphasised that patients need not alter their behaviour. If patients agreed to participate in the study, they were asked to complete the pre-consultation questionnaire. At this stage no mention of the use of video-recording had been made. Those who were illiterate or had poor English and could not complete the questionnaire were noted and excluded from further participation.

(c) Obtaining consent for video-recording of consultations

Once the pre-consultation questionnaire was completed it was explained to patients that the study required the video-recording of consultations and patients' consent was sought for this. A consent form and further patient information sheet, (also in Appendix to Methods 3) which had been based on recent guidelines (Southgate 1993), were used to ensure that informed consent was obtained from those who participated. Again this usually occurred in a private room. Patients were excluded if they could not give consent (e.g. demented adults with care staff or the under 16s without parents or guardians). Patients who refused to talk to the researcher were classified as withholding consent to recording.

(d) Video-recording of consultations

Where patients consented their consultations were video-recorded. This occurred for all consenting patients, whether they reported on the pre-consultation questionnaire that they were smokers or not. Video-recording equipment was assembled by the researcher and left running prior to the start of the data collection surgery. Where patients withheld consent to video-recording, the researcher was responsible for turning the camcorder off before their consultation and re-starting it afterwards. The filmed GP was asked not to

operate video-recording equipment. GPs were not blinded to whether or not consultations were recorded.

(e) GP encounter form

GPs were asked to complete encounter forms (copy in Appendix to Methods 3) on all patients, whether or not they were being video-recorded. Encounter forms were used to assess the factors which influenced whether or not patients consented to video-recording (see later sections).

(f) Administration of post-consultation questionnaire

Current smokers had been identified from the pre-consultation questionnaire. Once smokers had finished seeing the GP they were asked by the researcher to complete a post-consultation questionnaire. Smokers who refused were asked to complete the questionnaire at home and were given a reply-paid envelope to return it. Non-smokers (those who reported not having smoked any cigarettes in the previous year) did not complete this second questionnaire.

(g) Information obtained after data collection surgery

Once the data collection surgery was finished, the researcher extracted from the medical records smokers' addresses and data on all patients' ages, gender and numbers of consultations with a GP in the previous year. Where GPs had failed to record data on encounter forms, information concerning patients' problems/diagnoses were extracted from the medical record by the researcher. Finally, participating GPs were asked to provide information about the frequency with which video-recording of consultations occurred in their practices, by answering a short questionnaire (copy in Appendix to Methods 3). Again this information was collected to allow exploration of the factors which influence whether patients consent to video-recording of their consultations or not.

During each data collection surgery the researcher carefully noted which patients attending the surgery participated in each part of the data collection process. A copy of the form used by the researcher during surgeries is found in Appendix to Methods 3. This record was essential to enable the matching of video-recordings of consultations and GP encounter forms with patients' completed questionnaires.

4 Patients' Pre-consultation Questionnaire : Aims, Contents and Administration

(a) Aims

The aims of this instrument were to:

- (i) Identify smokers
- (ii) Record smokers' attitudes, behaviours and intentions which are associated with making future quit attempts and smoking cessation (*to help test construct validity of smokers' consulting behaviours*)
- (iii) Record smokers' attitudes and intentions which are associated with future quit attempts or smoking cessation and could be expected to change following GPs' advice against smoking (*to help test construct validity of descriptions of GPs' advice against smoking*).

A copy of this questionnaire appears in Appendix to Methods 3 and its piloting is described here.

(b) Contents

Further details of the relevance of qualities measured by questionnaire items is found in Section 7, Introduction.

Questions 1-3: This basic demographic information was requested to allow description of research subjects and comparison with previous work.

Questions 4 and 5: These questions allowed regular and occasional smokers to be identified as well as those who had quit within the last year. Only those smoking on "most" or "every" day were defined as smokers and required to complete the whole

questionnaire, a definition used by others (Lennox and Taylor 1994). Additionally, noting those who had quit within the previous year enabled their consultations to be identified, watched and used in the qualitative interview study, if required.

Questions 6 and 7: These questions are part of the Fagerström Test for Nicotine Dependence (Heatherton, Kozlowski, Frecker et al 1991) and provide a validated measure of heaviness of smoking as measured by biochemical indices. The use of these two questions alone (rather than the complete test) has been recommended when time or resources are limited (Heatherton, Kozlowski, Frecker et al 1991). These questions were used to address aim (ii), above.

Questions 8, 8a and 8b: Data concerning smokers' past quit attempts were obtained because prospective studies have found higher numbers of past quit attempts are associated with future smoking cessation activity. These questions were used to address aim (ii), above.

Question 9: This measured smokers' reported intentions to quit smoking which are associated with their future smoking cessation (Russell, Wilson, Taylor et al 1979; Marsh and Matheson 1983; Sanders, Peveler, Mant et al 1993). This question was used to address aim (ii), above.

Question 10: This measures smokers' self-confidence (or self-efficacy) about quitting. This question was designed to address aims (ii) and (iii) above.

Question 11: This question recorded the smokers' level of motivation (or desire) to quit (or not). This question was designed to address aims (ii) and (iii) above.

Question 12: This was designed to differentiate between smokers with little intention to quit smoking. This question is a revision of one produced by Biener and Abrams (1991),

which distinguishes between smokers who have low levels of 'readiness to quit smoking'. The wording of their version has been Anglicised. Scores derived from this question have been shown to be associated with smokers' reported intentions to quit smoking (Biener and Abrams 1991). This question was designed to address aims (ii) and (iii) above.

Questions 13 and 14: These questions intended to record patients' smoking-related health concerns. No real consensus on the link between smokers' attitudes and behaviours exists and Lennox (1992) outlines the evidence on this subject.

Question 15: This is included because several studies have demonstrated that the chances of success in any cessation attempt decrease with the length of time spent as a smoker (Lennox 1992).

Question 16: This allows consultations about children and proxy consultations to be identified.

Question 17: This allows problems which patients identify as "new" to be identified. It was hypothesised that patients and their doctors may behave differently when new problems, rather than familiar ones, are presented.

Question 18: Recording whether smokers consider their problem to be smoking-related or not allows an analysis of whether this variable influences how smokers perceive GPs' anti-smoking advice.

Questions 19-21: These allow children's consultations to be identified and record parents' perceptions of their children's problems as Questions 17 and 18 do for adults.

5 GP Encounter Form

A copy of this is in Appendix to Methods 3.

(a) Aim

The aim of this recording form was to collect data on all patients to facilitate comparison of clinical problems and demographic characteristics of patients who agreed to videotaping of consultations with those who withheld consent and to investigate the factors which influence patients' consent to video-recording.

(b) Contents

Question 1: The design of this question was based on that used by a previous general practice workload study (Carney 1988). The data collected here allowed comparison of the number and type of clinical problems presented to GPs by patients. Martin and Martin (1984) had suggested that patients with 'sensitive' problems were less likely to consent to video-recording of consultations.

Question 2: It was hypothesised that problems discussed with the GP would not always be classed as 'presenting problems' by him/her. This was an attempt to ensure that all consultations in which a psychological problem was discussed were noted. Martin and Martin (1984) had observed a non-significant excess of consultations which dealt with depression or anxiety amongst those where consent to recording was withheld.

Questions 3 and 4: It was postulated that patients' distress or embarrassment about their problems could promote the likelihood that they withheld consent to video-recording. These questions allowed the recording of GPs' subjective opinions of whether these emotions were present in their patients.

The remaining data, questions 5 to 8 were collected by the researcher once the data collection surgery had ended.

Questions 5 and 6: Obtaining this data ensured that comparison of the two groups' demographic details was possible.

Question 7: Surgery consultations with a GP in the previous year were recorded. It was considered possible that consultation rates could be associated with consent to video-recording.

Question 8: It was important for the researcher to record whether the consultation was videotaped or not with the data above on each form to minimise errors in data entry. This data was recorded after the data collection surgery with reference to the notes kept by the researcher whilst the surgery was in progress.

(c) Analysis of Encounter Form Data

Each encounter sheet was examined by TC and clinical data (contained in Q1) was allocated an appropriate Read Code. This process was assisted by the use of a computer software programme ('Read It'). Read Codes divide general practice morbidity data into a large number of diagnostic groups, some of which contain only a small proportion of problems presented in general practice consultations. To simplify data analysis and reduce the number of statistical significance tests performed, clinical presentations from infrequent diagnostic groups, (i.e. those represented on less than 10% of encounter sheets) were collapsed together in the 'other' category (see results).

Some clinical problems could not be Read Coded and were collected together in a 'not codeable' category. Other data on the encounter sheet was coded by Ms T Manku-Scott (TMS), Research Associate, and smoking status of patients was obtained from pre-consultation questionnaires. Clinical (i.e. Read Coded) data, other coded data from encounter sheets

and patients' smoking status were all entered into one database and verified by TMS. The principal analysis of this data was a comparison of the clinical presentations, self-reported smoking status and demographic characteristics of adult patients who consented or withheld consent to video-recording of their consultations.

Chi-square, Mann-Whitney and t-tests were used as appropriate for categorical, ordinal and continuous data. Forward stepwise logistic regression (Norusis 1990) was used to determine which patient characteristics were independently associated with withheld consent to video-recording (dependent variable). Variables with a p value of <0.1 in the univariate analysis were entered into the model as explanatory variables. GPs' perceptions of consultations (questions 2, 3 and 4) were not eligible for inclusion in the model as these variables represented GPs' opinions formed *after* patients had decided whether or not to consent to recording. This secondary analysis allowed the researcher to judge which variables (including smoking status) were independently associated with patients' withheld consent to video-recording.

**METHODS: DESCRIBING SMOKERS'
CONSULTING BEHAVIOURS**

1 Patients' Post-Consultation Questionnaire

(a) Aims

This questionnaire and a description of its piloting appear in Appendix to Methods 4.

The aims of this instrument were:

- (i) To record whether smokers recalled receiving advice against smoking
- (ii) To record smokers' attitudes towards anti-smoking advice they recalled
- (iii) Where advice against smoking was not recalled, to record smokers' perceptions of how they would have felt to have been advised
- (iv) To measure changes in pre-consultation variables associated with future quit attempts or smoking cessation

(b) Contents

Question 1: This was used to indicate when the researcher had inadvertently given questionnaires to non-smokers.

Question 2: This recorded smokers' recall of whether smoking had been discussed.

Question 3: This quantified instances where smokers reported having had smoking discussed with them, but perceived the GP had not definitely advised them to quit. A qualitative study, involving interviews with smokers, revealed that patients often interpret GPs' anti-smoking advice as not specifically suggesting they stop smoking (Cooperstock and Thom 1982).

Questions 5, 8, 11 and 15: These are taken from the "professional care" subscale of the Consultation Satisfaction Questionnaire (Baker 1990), which is a valid and reliable

measure of patients' satisfaction with GPs' consultations. These four questions were included as a measure of patient satisfaction with care because higher levels of patient satisfaction with consultations are associated with future compliance (Roter 1989). If GPs' anti-smoking advice were objectively-described, these questions could measure patient satisfaction with different styles of advice.

Questions 7, 10, 13, 16 and 18: These questions are taken from the "depth of relationship" subscale of the Consultation Satisfaction Questionnaire (Baker 1990) and were included to allow an exploration of the influence of the doctor:patient relationship on smokers' attitudes towards GPs' advice. A qualitative study had suggested some patients found lifestyle modification advice more acceptable when given in the context of a strong doctor:patient relationship (Stott and Pill 1990).

Questions 4, 6, 9, 12, 14 and 17: These were devised to record smokers' attitudes towards the discussion about smoking they had with their GP. The researcher could identify no, previously-used, questions on this topic and accordingly the question stems were designed for this study. These were intended to allow smokers to report a range of opinions concerning GPs' anti-smoking advice. If it were possible to objectively describe and categorise GPs' anti-smoking advice, these questions could be used to explore smokers' attitudes to different styles of GPs' advice.

Questions 19 to 25: These questions were only answered by those smokers who did not report that a discussion concerning smoking had taken place with their GP. The aim of these questions was to record smokers' perceptions of how they would have felt to be advised against smoking on this occasion.

Questions 26 to 30: These questions were identical to corresponding ones on the pre-consultation questionnaire to enable post-consultation changes in variables associated with smoking cessation to be calculated. If GPs' advice could be objectively-described

and categorised, relationships between changes in these variables and different categories of advice could be explored to raise hypotheses about the most effective advice-giving styles.

2 Patients' Postal Follow-up Questionnaire

A copy of this questionnaire and a description of piloting are in Appendix to Methods 4.

(a) Aims

The aims of this questionnaire were to determine whether or not smokers had changed their smoking behaviour or attitudes towards their habit and to measure their activity in attempting to quit smoking (if any) since their surgery visit.

(b) Contents

Question 1: Smokers recorded whether they had used nicotine replacement therapy (NRT) products in the last three months. The use of nicotine replacement has been shown to enhance smokers' success during quit attempts (Silagy, Mant, Fowler et al 1994) and its use is one action which smokers can take against their habit.

Question 2: This enabled smokers who had not smoked for a three month period to be identified.

Question 3: This allowed verification that respondents still smoked on "most" or "every" day(s).

Questions 4 and 5: These questions provide a validated measure of the heaviness of a person's smoking habit (their strength of nicotine addiction). Questions 6 and 7 on the pre-consultation questionnaire recorded this information originally.

Question 6: This is identical to question 12 on the pre-consultation questionnaire. It is intended to measure smokers' readiness to quit smoking. Other questions measuring smokers' intentions to quit (or not) were excluded for brevity.

Questions 7 and 8: These questions record smokers' activity in quitting. The responses to question 7 can be validated by comparing the answers to questions 4 and 5 on this questionnaire with those to questions 6 and 7 on the pre-consultation questionnaire. Respondents who had successfully cut down their smoking would be expected to record decreases in the heaviness of their smoking as measured by these questions. Similar questions were used by Marsh and Matheson (1983).

Questions 8a - c: Making an unsuccessful quit attempt is associated with making future quit attempts and possibly with future continuous abstinence from smoking. Additionally, increasing length of previous quit attempts is associated with future successful quitting (evidence for these points is summarised in Introduction, section 7). Measuring a number of different outcomes in this way has been recommended (Velicer, Prochaska, Rossi et al 1992) because it acknowledges the dynamic, cyclical nature of the cessation process.

Question 9: This is a validity check for question 2.

(c) Administration

Three months following their visit to the GP, smokers were sent the postal follow-up questionnaire with a covering letter (see Appendix to Methods 4) and a reply-paid envelope. It was difficult to decide upon an appropriate period of time which should elapse before follow-up. Using a postal survey Marsh and Matheson (1983) documented the fact that at any one time there appears to be a large amount of cessation activity (attempts at giving up) amongst smokers. Their survey demonstrated that 35% of smokers would report an attempt of quitting within the previous six months and a small minority (7%) would report more than three attempts. It seemed reasonable to expect patients to report attempts at quitting or changes in their smoking habits within three months. Additionally, recall over a three month period was likely to be superior to

that over a six month one. Smokers who did not reply to the first mailing were sent a second postal questionnaire two weeks after the first had been dispatched. A modified covering letter was used for the reminder (see Appendix to Methods 4).

3 Initial Examination of Video-recordings

(a) Preparation of Video Recordings

To ensure that no discussions about smoking were omitted from the analysis, the researcher identified and viewed all consultations between GPs and patients who reported (on pre-consultation questionnaire) that they had smoked at all during the previous year. These individual consultations were found within the video-recordings of whole surgeries by reference to the careful records kept during data collection surgeries. Once identified, relevant consultations were watched and indexed (i.e. a note was made of the video-tape time of the start and finish) to ensure they could subsequently be accessed with ease. If either a doctor or patient mentioned smoking during these consultations, this was noted and the start and finish of this discourse was also indexed.

Discussions between doctors and patients about smoking were usually brief, so to ensure that no speech was missed by researchers attempting to describe these discussions, transcriptions of the relevant segments of consultations were made. The limitations of patients' consent meant that the researcher had to do this so he observed the tapes repeatedly, wrote longhand and then dictated verbatim the words of the GP and smoker for transcription by a clerical worker.

(b) Achieving Familiarity with Participants' Communication Behaviours

N.B. In this and subsequent sections patients' and doctors' speech, and communication behaviours are mentioned. Speech, consultation behaviours and communication in the whole consultation are not being referred to, but only that which occurs in the segments of consultations where smoking is discussed.

Before deciding how discussions concerning smoking could be split up into discrete variables, the researcher had to become familiar with the ways in which patients and

doctors behaved when discussing smoking. This was achieved by repeatedly viewing the segments of consultations where smoking was discussed. In reality this process began whilst the researcher viewed the tapes for the production of transcripts. The researcher first concentrated on the communication of the doctors' consulting behaviours and then viewed tapes and read transcripts whilst studying patients' behaviours.

(i) *GPs' Consulting Behaviours*

This process revealed that GPs within our sample displayed little variation in the way they discussed smoking with the patients in video-recordings. Table 5 summarises how the researcher categorised the approaches which GPs used when discussing smoking with patients. Two thirds of GPs' consulting behaviours when discussing smoking appeared to be either simple questions or very brief advice. At this stage it was considered that the lack of variety of GPs consulting behaviours could hinder the objective description of GPs' consulting behaviours difficult to achieve. This would be especially problematic in the absence of relevant literature (see Introduction, section 7) which could present difficulties in providing any evidence for the described behaviours.

It was decided, therefore, not to undertake a detailed description of GPs' consulting behaviours, (i.e. the ways in which GPs talk about smoking) but to concentrate on describing smokers' consulting behaviours and returning to GPs' behaviours at a later date.

(c) Deciding on the Focus of Description of Smokers' Consulting Behaviours

The repeated viewing of the videotapes combined with reading of conversation transcripts revealed that smokers' communication could probably be divided into readiness and resistant categories (see Introduction, section 7). Some consulting behaviours appeared to suggest that the smoker was not likely to reduce or end their habit (e.g. lack of eye contact during discussion, contradicting the GP and demonstrating unwillingness to make a quit attempt). Other behaviours indicated the possibility that the

TABLE 5 **GPs' Approaches Towards Discussing Smoking**

$$\begin{aligned} \text{No. of consultations where smoking mentioned} &= 47 \\ \text{Total no. of GPs' approaches towards discussing smoking} &= 116 \end{aligned}$$

GPs' Approach	No. of times observed, n Proportion of all approaches observed (%)
Questions to quantify habit	36 (31)
States/implies smoking causes harm or that patient should quit/cut down	41 (35)
Asks smoker about past smoking behaviour, motivation to quit or past quit attempts	16 (14)
Encourages smokers' action against smoking	6 (5)
Agreeing with smokers' pessimism about quitting	6 (5)
Other	11 (10)

smoker was more likely to consider decreasing their smoking or making attempts to quit (e.g. talking about the harm smoking was doing them and indicating a desire or intention to quit). Smokers could exhibit communication behaviours from either or both categories within a single consultation.

The researcher hypothesised that patients' who differed in their readiness to change would be likely to have different consultation behaviours when discussing smoking with their GP. It was possible that smokers' within-consultation communication behaviour, as observed on the video-tapes, could be an indicator of their "readiness to change" (i.e. propensity to indulge in quit attempts) or their resistance against this. It seemed logical, therefore, to use the previous work (described in section 7, Introduction) to inform descriptions of smokers' consulting behaviours.

The following sections describe how smokers' communication behaviours which suggested smokers' readiness to stop smoking or their resistance against this change were identified and defined.

4 Defining Smokers' 'Resistant' Consulting Behaviours

This section explains the identification and definition of smokers' consulting behaviours which were hypothesised to indicate that smokers were unlikely to decrease or attempt to end their smoking. These behaviours are named '**resistant behaviours**'.

(a) Use of Previous Work

Previous research of relevance is summarised in the Introduction, section 7. The version of the Client Resistance Code (CRC) adapted by Miller and Rollnick (1991) appears in Figure 4. This was used to begin describing smokers' resistant behaviours.

(b) Modifying the Client Resistance Coding Schedule

To explore the utility of the client resistance coding schedule (Miller and Rollnick, 1991), the researcher again watched the consultations where smoking had been discussed whilst studying transcripts. The researcher judged whether any smokers' consulting behaviours matched those defined in the coding schedule, noting where this was so. Once all consultations had been coded in this way, frequencies of observed behaviours were calculated and inspected. Many of the consultations had at least one behaviour recorded and the researcher formed the subjective impression that, with modification, the coding schedule would be appropriate for describing smokers' resistant consulting behaviours.

Some consulting behaviours included in the CRC did not occur or occurred very rarely in the whole of the sample. Patients' consultation behaviour was generally passive and open disagreement or argument with GPs rare. CRC categories of behaviour which were not observed included those describing assertive modes of communication. For example, 'Hostility' and 'Cutting Off' (see Figure 4) were never recorded during this exploratory coding process. Behaviours which had not been recorded amongst smokers in the sample

were removed from the coding schedule and where possible infrequently-represented behaviour categories were collapsed together for simplicity.

(c) Further Development of Resistant Consulting Behaviour Descriptions

At this stage a second researcher (KS*) was involved in the analysis to discuss areas of potential coding difficulty. A small number of consultations were watched by KS and TC whilst both simultaneously attempted to code smokers' consultation behaviours using the prototype coding schedule. Inevitably, there were some disagreements about how some aspects of speech and behaviour should be coded and discussion of these guided decisions about how best to define resistant consulting behaviours. Also, as some coding decisions were made about very short doctor:patient interactions, it was necessary to specify which forms of words should be treated as resistant behaviour. To facilitate this all transcripts were inspected by TC to identify the commonest forms of words used by patients when replying to GPs' questions about smoking. An explanation of how some frequently-used phrases were categorised appears in Appendix to Methods 5. The reasons underpinning the coding of phrases are also documented here. The final version of our Smokers' Resistant Consulting Behaviour Coding schedule has four mutually-exclusive categories of consulting behaviours '*minimising*', '*avoiding*', '*arguing / interrupting*' and '*interrupting*'. Full details appear in the results section.

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FIGURE 4 MODIFIED VERSION OF CLIENT RESISTANCE CODE (CRC)

1. **ARGUING.** The client contests the accuracy, expertise, or integrity of the therapist.
 - 1a. *Challenging.* The client directly challenges the accuracy of what the therapist has said.
 - 1b. *Discounting.* The client questions the therapist's personal authority and expertise.
 - 1c. *Hostility.* The client expresses direct hostility toward the therapist.
2. **INTERRUPTING.** The client breaks in and interrupts the therapist in a defensive manner.
 - 2a. *Talking over.* The client speaks while the therapist is still talking, without waiting for an appropriate pause or silence.
 - 2b. *Cutting off.* The client breaks in with words obviously intended to cut the therapist off (e.g. "Now wait a minute, I've heard about enough").
3. **DENYING.** The client expresses an unwillingness to recognise problems, co-operate, accept responsibility, or take advice.
 - 3a. *Blaming.* The client blames other people for problems.
 - 3b. *Disagreeing.* The client disagrees with a suggestion that the therapist has made, offering no constructive alternative. This includes the familiar "Yes, but", which explains what is wrong with suggestions that are made.
 - 3c. *Excusing.* The client makes excuses for his or her own behaviour.
 - 3d. *Claiming impunity.* The client claims that he or she is not in any danger (e.g. from drinking).
 - 3e. *Minimising.* The client suggests that the therapist is exaggerating risks or dangers, and that it "really isn't so bad".
 - 3f. *Pessimism.* The client makes general statements about self or others that are pessimistic, defeatist, or negativistic in tone.
 - 3g. *Reluctance.* The client expresses reservations and reluctance about information or advice given.

FIGURE 4 - CONTINUED

- 3h. *Unwillingness to change.* The client expresses a lack of desire or an unwillingness to change, or an intention not to change.
- 4. **IGNORING.** The client shows evidence of not following or ignoring the therapist.
 - 4a. *Inattention.* The client's response indicates that he or she has not been following or attending to the therapist.
 - 4b. *Nonanswer.* In answering a therapist's query, the client gives a response that is not an answer to the question.
 - 4c. *No response.* The client gives no audible or nonverbal reply to a therapist's query.
 - 4d. *Sidetracking.* The client changes the direction of the conversation that the therapist has been pursuing.

(From Miller and Rollnick (1991) and adapted from Chamberlain, Patterson, Reid et al (1984).)

5 Defining Smokers' 'Readiness' Consulting Behaviours

In this section the identification and definition of smokers' consulting behaviours which were hypothesised to indicate that they were likely to decrease or attempt to end their smoking are described. These behaviours are termed '**readiness behaviours**'.

(a) Use of Previous Work

Previous relevant research was summarised in Introduction, section 7. Figure 5 contains the definitions of behaviours which Miller and Rollnick (1991) perceive indicate addicts' 'readiness to change'. Some of these behaviours would encompass smokers' stating their intention or desire to quit, which are also hypothesised to indicate 'readiness to change' (see Introduction, section 7). These descriptors were used to initiate the description of smokers' readiness consulting behaviours.

(b) Initial Development of Smokers' Readiness Behaviour Definitions

The methods used in this process are similar to those used when modifying the CRC. Initially, TC studied the video-recordings and transcripts of consultations where smoking was discussed, whilst focussing on smokers' communication behaviours. On first viewing, TC merely noted whether behaviours described in Figure 5 were present with an explanation of why he thought this. Additionally, smokers expressing an intention to quit and those who stated a desire to stop smoking were noted.

Once all consultations had been viewed, the frequencies of observed consulting behaviours were calculated and used to determine which occurred most often. Notes made (by TC) during viewing and the frequency of observed behaviours were used to produce a prototype consulting behaviour coding schedule. This included four categories of smokers' consulting behaviours which were based those in Figure 5 and on smokers' observed intentions and wishes (i.e. to quit).

FIGURE 5 ADDICTS' SIGNS OF READINESS FOR CHANGE

1. *Decreased resistance.* The client stops arguing, interrupting, denying, or objecting.
2. *Decreased questions about the problem.* The client seems to have enough information about his or her problem, and stops asking questions. There is a sense of being finished.
3. *Resolve.* The client appears to have reached a resolution, and may seem more peaceful, relaxed, calm, unburdened, or settled. Sometimes this happens after the client has passed through a period of anguish or tearfulness.
4. *Self-motivational statements.* The client makes direct self-motivational statements reflecting recognition of a problem ("I guess this is serious"), concern ("This worries me"), openness to change ("I need to do something"), or optimism ("I'm going to beat this").
5. *Increased questions about change.* The client asks what he or she could do about the problem, how people change if they decide to, or the like.
6. *Envisioning.* The client begins to talk about how life might be after a change, to anticipate difficulties if a change were made or to discuss the advantages of change.
7. *Experimenting.* If the client has had time between sessions, he or she may have begun experimenting with possible change approaches (e.g. going to an Alcoholics Anonymous meeting, going without drinking for a few days, reading a self-help book).

From Miller and Rollnick (1991).

(c) Further Development of Readiness Consulting behaviour Descriptions

Again, at this stage KS became involved watching a small number of consultations with TC and attempting to code them. Mutual discussions of coding difficulties and systematic examination of consultation transcripts by TC were again used to help finalise definitions of smokers' readiness consulting behaviours. The final Smokers' Readiness Consulting Behaviour Coding Schedule appears includes four mutually-exclusive categories of behaviour: '*action / experimenting*', '*resolve*', '*concern / agreement*' and '*desire*'. Full details are in the Results section.

6 Reliability and Validity of Smokers' Consulting Behaviours

(a) Inter-Observer Reliability

To assess the inter-observer reliability of coding, the two researchers (TC and KS) first independently coded all of the video-recorded consultations. This involved watching the recordings whilst judging whether smokers' communication behaviours could be allocated to any of the resistant or readiness behaviour categories. Transcriptions of consultations were also available during this process to ensure that all relevant conversation could be taken into account when making coding decisions. Observers' coding decisions were entered on to a different recording sheet for each consultation. Details of instructions given to both coders and a copy of the recording sheet appear in Appendix to Methods 5. The final coding took place two months after the development of the final coding schedules.

Once all consultations had been coded by both observers, details of behaviours coded, smoker and observer were all entered into one database. The Kappa statistic (Altman 1991) was used to assess the adequacy of agreement between observers. This statistic has a value of between 0 and 1, with 1 indicating perfect agreement and 0 suggesting that the level of agreement is no higher than expected by chance. The levels of agreement tested in this analysis were:

- (i) Whether or not observers agreed that **any resistant behaviour** was present in coded consultations (i.e. presence or absence of any one of the following: '*minimising*', '*avoiding*', '*arguing/interrupting*' or '*ignoring*').
- (ii) Whether or not observers agreed that **any readiness behaviour** was present in coded consultations (i.e. presence or absence of any one of the following: '*action or experimenting*', '*resolve*', '*concern/agreement*' or '*desire*').

The inter-observer reliability of the coding of the two principal types of behaviour were thus assessed. Inter-observer reliability of individual consultation categories was not attempted because the frequency of some categories was very low.

(b) Validity

An important feature of any measurement instrument is that its measurements are valid and the instrument actually does measure what it is intended to. Consequently, it was important to have some method of checking the validity of the behaviour coding schedules which had been derived. To explore the hypotheses that the derived communication behaviour coding schedules actually measured what we intended, a series of tests of construct validity were employed (Striener and Norman 1989c). One series of these tests involved comparing smokers' behaviours during video-recorded consultations with their attitudes towards smoking, their previous quitting behaviour and their future intentions concerning their habit as recorded on pre-consultation questionnaires (a copy is in Appendix to Methods 3). The Introduction, section 7 explains how smokers' attitudes, behaviour and smoking history are associated with future quitting activity and eventual smoking cessation. We hypothesised that readiness behaviours indicated that smokers had a greater likelihood of attempting to quit and resistance behaviours indicated the opposite. Consequently, we expected readiness and resistance behaviours to have relationships with pre-consultation questionnaire variables as illustrated by Table 6.

The other check was of the predictive validity of smokers' described consulting behaviours. We expected readiness behaviours to be associated with higher levels of quitting activity, as reported on the follow-up questionnaire. The opposite was hypothesised for observed resistant behaviours. As a follow-up questionnaire (copy in Appendix to Methods 4) was distributed three months after the consultation, it was realistic to expect any associations between variables recorded on this instrument and smokers' consulting behaviours to be weaker than with smoking variables recorded on the day of surgery attendance. The assessment of construct validity employed Mann-

Whitney and Chi-square tests as appropriate for ordinal and categorical data.

(c) Redundant Questionnaire Items

Some of the items on the post-consultation questionnaire became redundant as a consequence of the decision not to describe GPs' consulting behaviours. In particular, questions intended to measure change in variables associated with smoking cessation could not be used to assess the validity of descriptors of GPs' advice-giving.

**Table 6 Expected Associations Between Pre-Consultation Questionnaire
Variables and Consulting Behaviours**

Question number and construct explored	Readiness	Resistance
Higher levels of nicotine addiction, Q6 and Q7	Less ^a	More ^b
Higher levels of past quitting activity, Q8(a)-(c)	More	Less
Greater intention of quitting, Q9	More	Less
More confidence of being able to quit, Q10	More	Less
More desire to quit, Q11	More	Less
Higher levels of readiness to change Q12	More	Less
Greater belief that smoking damages health, Q13	More	Less
Greater belief that stopping smoking will improve health, Q14	More	Less

^a i.e. less likely to be observed

^b i.e. more likely to be observed

**METHODS: DESCRIBING FACTORS
WHICH INFLUENCE PROVISION OF ADVICE**

1 **Semi-Structured Interviews**

(a) Objectives

The overall aim of the qualitative, semi-structured interview study was to explain the process of anti-smoking advice-giving from the perspective of the GPs who had been video-recorded. The reasons for selecting the qualitative approach are explained in Introduction, Section 4. By focussing semi-structured interviews, as defined by Britten (1995), on video-recorded consultations, GPs were encouraged to give their opinion of actual events. The specific objectives of the interviews were:-

- (i) To discover the factors which GPs perceive hinder their discussing smoking with patients.
- (ii) To determine the factors which GPs perceive increase the likelihood of them discussing smoking with patients.

(b) Contents

The Four Interview Schedules

To completely identify all factors for objectives (i) and (ii), GPs were shown at least one of their own video-recorded consultations where smoking had been discussed and where possible, one where smoking had not prior to interview. Also GPs were shown video-recordings of consultations where they perceived the presenting problem was smoking-related and non-smoking related prior to being interviewed. This was done because surveys of GPs (Coulter and Schofield 1991, Lennox and Taylor 1995) and an observational study Boulton and Williams 1983) suggest that GPs are more likely to discuss smoking with patients whom they perceive have smoking-related symptoms. GPs' perceptions of whether or not patients' presenting complaints are smoking related, therefore, appear to influence their advice-giving behaviour. Four slightly different interview schedules were developed to be used when asking GPs about the four different

kinds of consultations. Figure 6 shows which interviews were used after viewing each type of consultation.

Figure 6 Consultations with which qualitative interviews were used

INTERVIEW A

Consultation in which smoking is discussed in the context of a complaint which the interviewee perceives is smoking-related.

INTERVIEW B

Consultation in which smoking is not discussed and the patient presents with a complaint which the interviewee perceives is smoking-related.

INTERVIEW C

Consultation in which smoking is not discussed and there is no smoking-related complaint (as perceived by interviewee).

INTERVIEW D

Consultation in which smoking is discussed and the patient presents with no smoking-related problems (as perceived by interviewee).

N.B 'Smoking advice' is defined as any mention of smoking by doctor or patient.

Copies of a schedule for interview A and a description of piloting appear in Appendix to Methods 6. The schedule indicates the broad areas of questioning with an explanation of the rationale behind each. Although specific questions appear in the interview protocol these are suggestions and no standardised questions were used for all interview respondents. The order in which questions were asked was occasionally varied, following the lead of the interviewee, where necessary. Every possible attempt was made to clarify the meaning of what interviewees said rather than relying on the researcher's assumptions. An attempt was made to cover all of the topic areas in the protocol, but where interviewees revealed unique or different opinions on any one topic, this was explored in greater detail. Piloting of the interviews is also described in Appendix to Methods 6.

(c) Selection of video-recorded consultations

The semi-structured interviews were designed to be conducted after the interviewee (GP) had watched a video-recording of a consultation between themselves and a smoker. The following factors were taken into account when selecting consultations from video-recorded surgeries:

- (i) All consultations with smokers (identified by pre-consultation questionnaire) were observed by the researcher. Consultations were categorised into one of the four groups shown in Figure 6, using the researcher's perception of whether the presenting problems were smoking-related or not. At interview the researcher checked whether the interviewee also perceived the presenting problem to be smoking-related (see (d) below).
- (ii) The researcher aimed to interview each GP about one consultation where smoking was discussed and one consultation where smoking was not discussed.
- (iii) Where possible consultations were not selected from the initial portion of the videotape because it was considered that GPs' behaviours were more likely to be altered by video-recording and data collection at the beginning of surgeries.
- (iv) A tally was kept of the numbers of interviews (A-D) conducted. The researcher used this information to help select consultations, aiming to administer as near to equal numbers of interviews A to D as possible. For example, consultations in which anti-smoking advice was given outside of the context of a smoking-related problem (interview D) were rare and where possible were chosen. Consultations between GPs and the under 16s (passive smokers) could be used if minors were accompanied by a parent or guardian who reported they were a smoker.

(d) Administration of semi-structured interviews

Where possible interviews were conducted within one week of the video-recorded surgery. Interviews took place in a private room and were audio-taped. Thirty-eight interviews took place at the GPs' surgery, one took place in the GP's home and the remaining interview was conducted in the researcher's department. Interviewees were reassured that all transcription data would be confidential and that the interview process would last a maximum of 60 minutes. At this stage interviewees were informed that the focus of investigation was "*to understand GPs' reasons for discussing or not discussing smoking with patients who smoke*". Interviewees were reassured that the interviewer had no strong beliefs about "*correct*" practice in this area and the study hoped to gain insight from listening to GPs' accounts of how and why they behave as they do.

Interviewees were asked the first question (see interview schedules in Appendix to Methods 6) before watching one of the video-recorded consultations. Once the video-recorded consultation had finished the remainder of the interview was conducted. Audio-taping did not occur whilst the video-recording was being watched. The interview schedules were used as a guide to the topics which needed to be covered in each interview and issues raised by interviewees were explored using the interviewees' language and non-leading questions.

Two points mentioned in the interview schedules need emphasising:

- (i) Although the researcher used his perception of whether a smoking-related problem was presented when *selecting consultations* (see previous section), the interviewees' opinion on this was always sought. Where the researcher and interviewee disagreed about the relevance of smoking to a presenting problem, the interviewee's view determined *which interview (i.e. A to D) was administered*.

- (ii) After watching one video-recorded consultation, some interviewees reported they had been unaware of a patient's smoking status at the time of the consultation. When this occurred, another video-recorded consultation was substituted (if available). If no other consultation between a smoker and the interviewee had been recorded the focus of the interview altered subtly. Instead of being asked why they had not mentioned that the smoker should quit, the wording of questions was changed slightly to determine why interviewees perceived that the topic of smoking had not been raised by them. *The interviews, therefore, explored the influences on GPs' discussing smoking with known smokers and also the factors which determined whether GPs raised the topic of smoking with patients whose smoking status was uncertain.*

(e) Preparation of Data for Analysis

Each audio-cassette was transcribed verbatim by a clerical worker. The researcher then read through each transcript to ensure the transcription was accurate. Where the transcription was unclear, the researcher listened to the tape to clarify the actual words used by the interviewee and corrections were made. This process allowed meaningful transcriptions to be produced. Reading transcriptions throughout the data collection period allowed the researcher to become familiar with emergent themes which could be explored in subsequent interviews (Britten 1995). The researcher was also able to monitor his interviewing technique and modify this where appropriate.

The transcriptions were then numbered using "Ethnograph" software (Qualis Research Associates 1988) which facilitated coding, retrieval and storage of data during the process of analysing transcripts line by line.

2 Qualitative Data Analysis

Section (a), below describes the theoretical approaches used in qualitative data analysis.

(a) Theoretical Issues

An *iterative relationship* between data collection and analysis is an important part of the qualitative research process. Data collection in qualitative research projects should be informed and influenced by data analysis as much as possible to ensure that the phenomenon of interest is completely described (Britten, Jones, Murphy et al, 1995).

The iterative relationship was facilitated here by the following actions:

- (i) Immediately after each interview was transcribed, TC read the transcription. Where clarity was uncertain, TC listened to the audiotape of the interview to ensure that transcription was accurate. This ensured that after each interview TC was aware of any new issues which arose from the data. Future questioning was modified to explore these in greater depth.
- (ii) Once 13 interviews had been completed and transcribed, these data were intensively analysed by considering each line of text. The results of this analysis formed the foundation for the analysis of the subsequent interviews. Also this period of data analysis enabled the researchers to decide where interview schedules should be altered to ensure that all salient issues were fully explored in future interviews.

The study findings reported were thoroughly *grounded from the data* (i.e. GPs' opinions as transcribed from interviews). *Grounding* means that research findings (here the factors which are described) have been derived from the data rather than imposed by those carrying out the data analysis, ensuring that the research has validity (Fitzpatrick

and Boulton, 1996). Grounding was ensured by analysing interviews on a line by line basis, giving careful consideration to interviewees' meanings. Interviewees' views were thus broken down into components and those which addressed similar issues were given descriptive names to help conceptualise them. *In this analysis the views addressing similar issues are termed 'categories'*. This process has been described as '*open coding*' (Strauss and Corbin, 1990a). During open coding, careful thought was given to interviewees' views and each piece of data thought to be important to the analysis was compared to similar pieces of data to assess whether they belonged to the same category. This process required constant thought: during open coding the researcher continually referred back to the data to ensure that new named categories arising from analysis of the data were different from others. Whenever a new category was created, a written definition was produced and where an existing category was expanded the existing definition was altered accordingly. During open-coding data was also compared with these written descriptors to enhance the reliability of this process (Miles and Huberman, 1984). This method of grounding research findings in data has been called the '*constant comparative method of analysis*' (Glaser and Strauss, 1967).

Whilst open coding was being undertaken *memos* were written, as appropriate. A memo is a "*written record of analysis related to formulation of theory*" (Strauss and Corbin, 1990b) and in this analysis contained ideas about relationships between categories and themes. Memos were stored separately from transcripts and their conceptual nature assisted the writing-up process.

The analysis of data did not seek to develop a typology of GPs' views which categorised interviewees into mutually-exclusive groups (Fitzpatrick and Boulton, 1995). It did, however, aim to identify the principal factors which GPs' perceive influence whether or not they give advice against smoking to smokers (*called 'themes' in this analysis*) and to describe in detail the variety of GPs' opinions on these themes (*based on the categories derived in the manner described above*). As interview questions were focussed on the

process of giving advice against smoking, GPs' views given in response were similarly focussed. Consequently, where GPs described issues which they perceived influenced their advice-giving behaviour, GPs were explicit about *how* they perceived this was affected. Intensive analysis of interview data was, therefore, not required to determine how the principal themes identified were related to the research question (i.e. *how the themes were perceived to influence advice-giving*), as this was readily apparent from the data.

(b) Process of Data Analysis

This section describes the temporal relationship between data analysis and data collection and Figure 7 summarises this. Examples of how analysis of themes progressed during this process are given in sections (c) and (d) below.

Data analysis was undertaken by researchers from two different disciplines; general practice (TC) and social science (EM)*.

(c) Preliminary Data Analysis

The aims of this period of data analysis were to:

- (i) Undertake detailed analysis of a subset of interview transcriptions, to produce detailed descriptions of the principal themes and categories within the data.
- (ii) To identify salient issues for detailed investigation in subsequent interviews.

Initially, both researchers individually read repeatedly the 13 transcripts and attempted to identify what GPs perceived to be the most important issues influencing their decision to discuss smoking with smokers. These 'important issues' were the principal *themes*

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Figure 7 Process of Qualitative Data Analysis

May 1995	Interviewing begins.
September 1995	Independent reading of first 13 transcripts by TC and EM to identify themes around which analysis will be organised.
9th October 1995 <i>Data Analysis Meeting 1</i>	Researchers discuss themes and develop broad definitions of these.
Period before next meeting	TC re-reads 13 transcripts and indexes (codes) them for themes. TC develops definitions of categories within themes. EM is sent details of analysis.
11th December 1995 <i>Data Analysis Meeting 2</i>	Researchers discuss and refine definitions of themes and categories. Changes in the emphasis of subsequent interviews decided upon.
Period after second meeting	TC re-reads and re-codes all interviews using revised themes and category definitions.
April 1996	Interviewing ends.
Period after April 1996	Coding continues with memos being written and, where necessary, definitions of themes and categories are refined further.

which TC and EM individually identified as potentially being relevant to the analysis. TC and EM then met (data analysis meeting one, Fig. 7) and discussed the principal themes that each had identified, focussing on areas of disagreement about the meaning of transcripts. All disagreements about transcript meaning were resolved with discussion. At the resolution of this meeting broad descriptions of the major themes which were perceived to be contained in the data were produced. Below is an example of how the broad definition of one theme was agreed:

Theme: The 'Wrong Time' to Discuss Smoking

In the 13 transcripts, interviewees made many references to contexts in which they would actively avoid discussion of smoking. TC gave each of these contexts individual codes, whereas EM considered them all as indicating GPs' perceptions of inappropriate occasions to discuss smoking. It was agreed that GPs' perceptions of when it was inappropriate to give advice against smoking could have great influence on GPs' advice-giving behaviour so the 'wrong time to discuss smoking' was considered a theme and defined as:

"Characteristics of the patient or consultation which contribute to GPs' active decisions to avoid the smoking issue or contribute towards the GP feeling their advice would be ineffective."

A working document containing broad definitions of this and all other themes was written and agreed upon by both researchers. A copy of this working document (called 'Coding 1') appears in Appendix to Methods 7.

TC then re-read transcripts and coded them to indicate where data relating to each theme occurred. Ethnograph software was used to retrieve all segments of data relating to each theme from individual interview transcripts and these segments were assembled together.

TC repeatedly read segments of data which had been coded as relating to each theme and used the technique of open coding to identify variations in interviewees' thinking within themes (or *categories* as described earlier). TC also produced and continually refined definitions to categories during this process.

TC sent EM details of the new category and revised theme definitions with some data (i.e. quotes from interviewees) relating to each one. This ensured that wherever alterations to the definition of a theme were proposed, both researchers considered this carefully with reference to transcript data. Also, this process enabled both researchers to participate in defining the new categories, with reference to transcripts. At the second data analysis meeting TC and EM discussed theme and category definitions, again focussing on areas of disagreement and resolving these.

The definition of categories within the theme '*wrong time to discuss smoking*' are explained below for illustration. The overall definition of the theme remained unchanged:

Categories: The 'Wrong Time' to Discuss Smoking

1. *Wrong patient:* *Features particular to a patient (e.g. personality) which suggest to GP that discussion about smoking is not a good idea or features which suggest to the GP that advice is not likely to be acted upon, making it difficult to discuss further.*

2. *Wrong consultation:* *Features particular to the consultation or problem presented which suggest to the GP that discussion about smoking is not a good idea.*

At the conclusion of this discussion a second working document re-defining this and all

other themes and categories was produced and agreed upon. A copy of this document (called 'Coding Schedule 2') is found in Appendix to Methods 7.

(d) Further Data Analysis

After the second data analysis meeting TC began coding the entire dataset, again using theme and category definitions in 'Coding Schedule 2' (see Appendix to Methods 7).

Open-coding of text using a line by line approach was used to judge whether any portions of text articulated attitudes or beliefs defined in one of the themes or categories or whether existing definitions needed altering. Some portions of text were judged to be related to one or more themes/categories but not all of the text could be coded. Although definitions of themes and categories were used to assist this process, grounding of the analysis continued throughout, as TC was constantly considering definitions of themes and categories in the context of the data.

At the close of data analysis the final definitions of all themes and categories were agreed. These were essentially the same as those contained in 'Coding Schedule 2' in Appendix to Methods 7. Example 1 demonstrates how the definition of one theme was developed and refined during the analysis process.

(e) Changes made to Semi-structured Interview Content in Response to Preliminary Data Analysis

The decision to alter the interview content was taken at the second data analysis meeting between TC and EM. The initial repeated reading of the 13 interviews suggested that GPs varied in their views on the following issues which should be explored in greater detail at subsequent interviews:

- (i) GPs' perceptions of "wrong" and "right" times to give anti-smoking advice to patients and, in particular, whether advice is thought to be more beneficial when a patient presents with a smoking-related problem.

EXAMPLE 1 INFLUENCE OF DOCTOR-PATIENT RELATIONSHIP ON ADVICE-GIVING

	Time Period		
	Data Analysis Meeting One	Data Analysis Meeting Two	End of Analysis
Development of theme definition	GPs' views on the effect of the doctor:patient relationship are not identified as an important theme	<ul style="list-style-type: none"> ● GPs' views describing how they perceive the doctor:patient relationship influences advice-giving are dispersed amongst other themes. For example under '<i>Barriers to advice-giving</i>', a <i>poor doctor:patient relationship is a category</i>. ● It is decided that GPs' perceptions of the doctor:patient relationship may constitute a theme and subsequent analysis should explore this. 	<ul style="list-style-type: none"> ● The influence of the doctor:patient relationship is defined as an important theme in explaining GPs' advice-giving behaviour. Three categories within the theme are: <ul style="list-style-type: none"> ● <u><i>Relation as barrier:</i></u> <i>GP perceives/indicates that the relationship hinders likelihood of advice-giving or decreases the quality of advice-giving.</i> ● <u><i>Relation as precipitant</i></u> <i>(to advice-giving): the opposite to the above</i> ● <u><i>Effect of/on relationship</i></u> <i>GPs' perception of how giving advice against smoking can affect the doctor:patient relationship.</i>
(ii)	Whether GPs can identify any groups of patients whom they feel are more likely to stop smoking than others.		
(iii)	Whether GPs lose enthusiasm for discussing smoking with people after giving repeated advice which has not been followed.		
(iv)	How GPs explain the ways in which they choose to give advice. In particular, we wished to discover in what circumstances GPs felt it appropriate to give advice in a "forceful" or "emphatic" mode as some interviewees had described.		

The final question in the interview schedules was removed and another substituted. The original question assessed GPs' views concerning the use of consultations to deliver a population-based anti-smoking strategy (i.e. advising the maximum number of smokers to quit). As all 13 GPs had expressed some reservations about this it was replaced with a statement exploring their views on participating in a problem-based stop smoking strategy (see Appendix to Methods 7 for new question) which we perceived would produce a greater variety of GPs' responses.

(f) Summarising Data for Reporting

As stated earlier, the researcher wished to determine the factors which GPs' perceived hindered or increased their likelihood of discussing smoking with smokers. Once coding was finished it became obvious that of the ten themes only seven of these contained data relevant to achieving these aims. These are numbered 1, 3, 4, 5, 6, 8 and 10 in 'Coding Schedule 2' found in Appendix to Methods 7. To ensure that these were adequately described, the researcher assembled together all text relating to individual categories and re-read this, together with memos to assist the final report writing.

**RESULTS RELEVANT TO ALL
STAGE TWO STUDIES**

1 Characteristics of Participating GPs

(a) Characteristics of GPs who agree to be video-recorded for Research Purposes

In total 125 GPs were selected and asked to be video-recorded for Stage Two of the project before the desired quota from each of the thirds (i.e. of attitude scores) agreed (see page 86 in Method)). At the end of the recruitment process, 53 GPs had agreed to participate as research subjects. Two of the 125 approached had retired since responding to the postal questionnaire, so the agreement rate was 43.1% (53/123). Table 7 demonstrates that GPs who agreed to be video-recorded were more likely to work in training or teaching practices, hold the MRCGP qualification and be younger than those who had declined to participate. This analysis does not show which (if any) of these descriptors of GPs are independently associated with agreement to be video-recorded and some correlation between descriptors is likely. GPs' reasons for declining to participate have been published elsewhere (Coleman 1996).

(b) Characteristics of Final GP Sample

Of the 53 GPs who agreed to take part in the project, five were excluded because they worked with the researcher, two subsequently refused to be video-recorded when their time for data collection arrived, two were unavailable (retired and maternity leave) and the researcher decided not to undertake data collection with two other GPs (one had non-English consultations and one had a surgery which was difficult to travel to). This resulted in 42 different GPs each contributing one video-recorded surgery session to the study. Table 8 compares the characteristics of participating GPs with those of all GPs on the Leicestershire FHSA list (study population to whom the initial postal questionnaire was sent). These details are given merely to describe the doctors who participated in the study. The sampling method employed did not aim to obtain a *representative* sample of GPs, but merely one with *a wide variety of views towards discussing smoking in consultations*. In this context one would expect participating GPs to differ from the study population, so performing significance tests on Table 8 data is meaningless.

**Table 7 Comparison of GPs Who Refused to Have Consultations Video-Recorded
with those Who Agreed**

GP Characteristic	No. (%) of GPs refusing to be video-recorded with characteristic Total = 70	No. (%) of GPs agreeing to be video-recorded with characteristic Total = 53	P Value (on chi-squared test of difference between proportions)
Works in training practice	13 (19)	26 (49)	0.003
Works in teaching practice	20 (29)	31 (58)	0.0009
MRCGP	17 (24)	28 (53)	0.0008
Qualified < 10 years ago	9 (13) ^a	19 (36) ^b	0.003
Known by researcher	5 (7)	11 (21)	0.03
Male sex	49 (70)	44 (83)	0.17
Full-time (versus not full time)	64 (91)	49 (92)	0.9

^a = data missing for three GPs

^b = data missing for one GP

**Table 8 Comparison of Participating GPs with the Study Population
(Leicestershire FHSA List)**

GP Characteristic	No. (%) of GPs on FHSA list with characteristic Total = 468	No. (%) of participating GPs with characteristic Total = 42
Works in training practice	147 (31)	21 (50)
Works in teaching practice	180 (39)	24 (57)
MRCGP	155 (33) ^c	21 (50)
Qualified < 10 years ago	88 (19) ^a	14 (33) ^b
Known by researcher	30 (6)	5 (12)
Male sex	370 (79)	37 (88)
Full-time (versus not full time)	434 (93)	40 (95)

^a = data missing for six GPs

^b = data missing for two GPs

^c = data missing for two GPs

2 Sources of Data

(a) Pre-Consultation Questionnaire

Of 622 adults attending the data collection surgeries, four were not included in the study because they could not read English. Of the remaining 618 surgery attenders, six refused to give their smoking status and 612 (99.0%) completed their pre-consultation questionnaires. Of the 612 respondents 396 (64.9%) were women.

Of the 612 respondents to the pre-consultation questionnaire, 144 (23.5%) reported that they smoked on '*every day*' or '*at least most days*'; **these smokers will be referred to as regular smokers**. Regular smokers had a mean age of 41.0 (SD = 16.6) years and 96 (66.7%) were women. Forty-seven (7.7%) respondents stated that they had smoked at least one cigarette in the previous year; **these smokers will be referred to as occasional smokers**. Only regular smokers were subsequently given follow up questionnaires but both occasional and regular smokers' video-recorded consultations were used in producing descriptors of smokers' consulting behaviours.

(b) Post-Consultation Questionnaire

All 144 regular smokers were given post-consultation questionnaires and 115 (79.9%) completed them. Respondents and non-respondents did not differ in age (mean age of respondents, 41.0 (SD = 16.9) years versus 41.0 (SD = 15.7) for non-respondents, $p = 0.99$, t-test, data missing for one non-respondent). Women smokers were more likely to respond to the post consultation questionnaire (71% (82/115) of respondents were women versus 48% (24/49) of non-respondents, chi-square = 5.53, 1df, $p=0.02$. No missing data).

A comparison of respondents and non-respondents smoking history, past quitting behaviour and attitudes towards their habit, as recorded on the pre-consultation

questionnaire, is found in Appendix to Results 2. The only difference demonstrated by this analysis was that non-respondents were significantly more likely to report having '*tried to give up smoking in the previous year*' (75.0% (21/29) versus 49.6% (57/115), $p = 0.015$). This did not remain significant at the 5% probability level after applying the Bonferroni correction (Altman, 1991a), suggesting that this difference may have arisen by chance.

(c) Video-Recorded Consultations

(i) *Data Relevant To Comparison of Recorded and Non-Recorded Consultations*

There were differences in the rates of consent to video-recording for adults and children's consultations. Ninety-five children aged less than 16 attended during the study period and 94.7% (90/95) were video-recorded. Five hundred and forty-one adults* attended the 42 surgeries, 0.6% (3) were excluded because they could not give consent and the 1.1% (6/538) of the remaining adults who refused to see the researcher were counted as withholding consent to video-recording. This resulted in 85.9% (462/538) of attending adults being video-recorded, of whom 61.7% (332/538) were women.

The difference in video-recording consent rates for adult and child patients suggested that different factors were influencing the consent decision for each group. Consequently, this meant that the data for children and adults should be analysed separately. As only five children were not video-recorded, further quantitative analysis of factors influencing whether or not children's consultations were video-recorded was futile. For brevity only the data collected which is relevant for comparing adults' consultations which were video-recorded with those where consent was withheld is reported later in this thesis.

* This is the number of adults who were patients. Pre-consultation questionnaires were given to the parents of patients aged under 16 and explains the difference when compared with the number of adult smokers recorded in section (a).

(ii) *Data Relevant To Derivation of Smokers' Communication Behaviour System*

Of the 144 **regular smokers** identified by pre-consultation questionnaires, 81.9% (118) were video-recorded as were 93.6% (44/47) **occasional smokers**, a non-significant difference ($p = 0.09$, chi-square with Yates correction). When all regular and occasional smokers' video-recordings were watched, three (2.5%) could not be used for technical reasons and 37 (32.3%) of the remaining 115 were noted to have a discussion about smoking as did 22.7% (10/44) of occasional smokers' consultations ($p = 0.61$, chi-square). This gave a total of 47 consultations with either a regular or occasional smoker in which a discussion about smoking was observed (24.6% of all regular and occasional smokers identified by pre-consultation questionnaire).

(d) Encounter Sheets

GPs completed 523 (97.8%) of encounter sheets on the 538 attending adult patients. For the remaining 15 (2.8%), the diagnosis was obtained from the medical record by TC.

(e) GP Questionnaire on Use of Video-Recording

All 42 GPs completed and returned the questionnaires which determined whether or not video-recording of consultations occurred within their practices. Fifty-seven percent (24/42) of GPs reported that either themselves or another doctor within their practice had video-recorded their consultations within the previous year.

(f) Postal Questionnaire to Regular Smokers

Of the 144 questionnaires posted, three were returned because the addressee had moved house, reducing the potential number of respondents to 141. The response rate after one reminder was 63.1% (89/141). There were no significant differences between the age or sex distribution of questionnaire respondents and non-respondents. 65.2% (58/89) of respondents were women and respondents had a mean age of 42.6 years (SD 17.2).

A comparison of respondents and non-respondents smoking history, past quitting behaviour and attitudes towards their habit (as recorded on the pre-consultation questionnaire) is found in Appendix to Results 4. This analysis demonstrates two significant differences between respondents and non-respondents. Respondents were more likely to have reported that they definitely or probably intended '*giving up smoking completely in the next three months*' (37.1% (33/89) versus 17.3% (9/52) for non-respondents, $p = 0.013$). Also respondents were less likely to have disagreed with the statement '*my health will improve if I stop smoking*' (25.0% (22/88) versus 42.3% (22/52) for non-respondents, $p = 0.033$). These differences do not remain significant after correction for the number of significance tests performed (Altman, 1991a), so there is no objective evidence that respondents and non-respondents differ. These differences suggest, however, that respondents may be more positive about attempting to quit.

(g) Semi-Structured Interviews

Although 42 GPs were video-recorded, one repeatedly declined to be interviewed. No smokers attended another GP's video-recorded surgery session, so there was no consultation around which to base an interview. This resulted in a total of 40 semi-structured interviews being conducted. Twenty-four interviews were conducted on the day of the video-recording. Of the remaining interviews, 14 were conducted within one week and the remaining two took place within 18 days of the data collection surgery.

Of the 191 regular and occasional smokers, 84.8% (162) were video-recorded (see section (c) above). Of these 162 consultations, 61.1% (99) were shown to GPs prior to their participation in their semi-structured interviews. GPs were unaware of patients' smoking status in 13 consultations and were interviewed about the remaining 86 recordings. Table 9 details how many times each of the four types of semi-structured interview were used.

Table 9 **Frequency of interview use**

	Interview Type	No. of times used
A	<i>Smoking discussed and smoking-related complaint</i>	25
B	<i>Smoking not discussed, but smoking-related complaint</i>	21
C	<i>Smoking not discussed and no smoking-related complaint</i>	32
D	<i>Smoking discussed and no smoking-related complaint</i>	8
	Total	<hr/> 86 <hr/>

3 Comparison of Video-Recorded Consultations With Those Where Patients Withhold Consent

(a) Demographic Details, Consulting Behaviour Smoking Status, and Video-Recording Within Practices

Patients withholding consent to video-recording were younger (mean age 'withholders' 43.0 yr (SD = 17.3) versus mean age 'consenters' 50.4 yr (SD = 19.6), $t = 3.12$, $df = 534$, 95% CI for difference between means = 2.5 to 12.0. Data missing for two patients, both consenters). Self-reported smokers were more likely to withhold consent to video-recording, with 32% (24/76) of 'withholders' smokers versus 21% (96/462) of 'consenters' ($p = 0.04$, chi-square test). There was no significant difference in gender distribution with 68% (52/72) of those withholding consent women compared with 60.6% (280/462) of those who consented ($p = 0.19$, chi-square). Similarly, there was no difference between consultation rates in the two groups (for 'withholders' median rate = 6 attendances in last year, interquartile range (IQR) = 8 and for 'consenters' median rate = 5, IQR = 7, Mann-Whitney U test, $p = 0.53$). Finally, attending a general practitioner who reported video-recording being used in his/her practice was not associated with patients' withholding of consent. 13.5% (38/281) of patients attending in practices which reported using video-recording withheld consent compared with 14.7% (38/257) in practices where the use of video-recording was not reported ($p = 0.68$, chi-square test).

(b) Clinical Data

Eight hundred and forty-eight diagnoses/problems were recorded for all attending adult patients giving a median of 1 (range 0 to 5) diagnosis per patient. There was no difference in the number of diagnoses recorded for patients who withheld or gave consent to video-recording. The median (range) numbers of new and old diagnoses respectively were 1 (0-4) and 1 (0-5). Again, there were no significant differences in the numbers of

'new' or 'old' problems presented by patients who withheld or gave consent to video-recording.

Table 10 compares the clinical problems presented by patients at video-recorded and non video-recorded consultations. The main finding is that 24% (18/76) of patients withholding consent to video-recording were noted by general practitioners to have a mental health problem compared with only 11% (51/460) of those who consented (Chi-square = 9.33, df = 1, p = 0.002). This remains significant at the 5% probability level after correcting for multiple significance tests (Altman, 1991a). No other significant differences were found between other categories in the clinical data.

(c) General Practitioners' Perceptions of Consultations

Responses to the forced-choice questions which measured general practitioners' perceptions of consultations are summarised in Table 11. When patients' consent to recording was withheld general practitioners were more likely to record that a psychological problem had been discussed, the patient was distressed or upset and the patient was embarrassed about a problem.

(d) Factors Which Independently Influence Patients' Consent to Video-Recording

Variables included in the final regression equation are shown in Table 12. Patients' smoking status had no significant influence on patients' consent to video-recording once age and presence of a mental health problem were controlled for. In logistic regression, for categorical variables, the exponential of the beta-coefficient is an odds ratio, so it can be seen that patients presenting with a mental health problem are approximately 2.5 times (95% CI 1.4 to 4.6) more likely to withhold consent to video-recording than others. Younger patients were also more likely to withhold consent.

Table 10 Comparison of Clinical Problems Presented at Recorded and Non-Recorded Consultations

Read Code category	Number (%) of video-recorded patients with one or more diagnoses in Read Code category^a n = 462	Number (%) of non-recorded patients with one or more diagnoses in Read Code category n = 76	p value (of chi-square test)^b
Musculo-skeletal	97 (20.9)	10 (13.2)	0.113
Cardio-vascular	70 (15.2)	14 (18.4)	0.480
Respiratory	61 (13.2)	9 (11.8)	0.740
Mental Health	51 (11.0)	18 (23.7)	0.0023
Genito urinary	52 (11.3)	13 (17.1)	0.150
Gastro intestinal	53 (11.5)	5 (6.6)	0.20
Prevention	49 (10.6)	11 (14.5)	0.320
CNS	50 (10.8)	4 (5.3)	0.135
Not codeable	55 (11.9)	7 (9.2)	0.500
Other	146 (31.6)	26 (34.2)	-

a This means that numbers represent the *presence* or *absence* of a diagnosis from a Read Code category in an individual patient. Multiple diagnoses from the same Read Code category are counted only once, so a patient recorded as presenting with "depression" and "schizophrenia" (i.e. 2 'mental health' diagnoses) is counted as one patient '*presenting with one or more mental health diagnoses*'.

b No data missing. Total number of diagnoses is 848, but summing the numbers in this figure produces a lower number (795) as some patients presented 2 diagnoses from one Read Code category. Percentages will add up to more than 100% because patients could present with problems in different Read Code categories.

Data obtained from medical record by TC is included as this does not alter final results.

Table 11 GPs' Perceptions of Video-recorded and Non-recorded Consultations

	Number (%) in recorded consultations (total = 462)	Number (%) in non-recorded consultations (total = 76)	p value
Psychological problem was discussed ^a	99 (21)	29 (38)	0.0016
Patient appeared distressed or upset ^b	34 (7)	14 (18)	0.0016
Patient appeared embarrassed ^c	46 (10)	22 (29)	0.0000

^a data missing for 3 refusers and 22 consenters

^b data missing for 2 refusers and 25 consenters

^c data missing for 2 refusers and 24 consenters

TABLE 12 Results of multiple logistic regression analysis with "withheld consent to video-recording" as dependent variable

Variable	B-Coefficient (Standard Error)	p value ^a	Exponential of B-Coefficient (95% CI)
Mental health problem presented	0.9098 (0.3128)	0.0036	2.48 (1.35 to 4.59)
Age	-0.219 (0.0068)	0.0012	0.98 (0.97 to 0.99)

^a calculated by chi-square

RESULTS: SMOKERS' CONSULTING BEHAVIOURS

1 Characteristics of Smokers With Whom GPs Discussed Smoking

This section compares smokers with whom smoking was discussed and those with whom it was not. Knowing the salient behavioural characteristics of smokers whom GPs' advised against smoking helps assess the external validity of the descriptors of smokers' consulting behaviours.

The sources of data used to facilitate this comparison are the pre- and post-consultation questionnaires and the observation of discussion about smoking noted by TC during the cataloguing and transcribing of video-tapes. In total 42 (29.2%) of the 144 regular smokers had a discussion about smoking with the GP which was identified using the above methods. The 42 consultations where smoking had occurred were identified in the following ways:

- (i) Thirty-seven consultations observed to contain talk about smoking (this includes 29 consultations where the smoker reported smoking advice, three where they did not and five where no post-consultation questionnaires were completed).
- (ii) Five consultations which were not video-recorded but smokers recorded discussion about smoking had occurred. As no false positive reports of smoking advice were detected (see (i) above), these five consultations were included.

(a) Demographic Details

There were no differences in the age and sex distribution of smokers where smoking was discussed compared to those where it was not. 31.3% (30/96) of male smokers discussed smoking with GPs compared with 25.0% (12/48) of females ($df=1$, chi-square = 0.61, $p = 0.43$, no missing data). The mean age of those who discussed smoking was 41.3 (SD 16.5) years compared with 40.9 (SD 16.7) years for those who did not

($p = 0.88$, t-test, data missing for 3 non-advised smokers).

(b) Strength of Habit

There were no differences between smokers who discussed smoking and those who did not in the number of cigarettes smoked daily, the time to first cigarette or the number of years spent as a smoker. Of those discussing smoking, 87.8% (36/42) reported smoking 20 or less cigarettes daily compared with 92.0% (92/99) who did not (chi-square = 0.582, $df=1$, $p = 0.45$. Data missing for one smoker where smoking discussed and two where it was not). 48.8% of smokers discussing smoking reported smoking their first cigarette within half an hour of waking compared with 53.0% who did not (chi-square = 0.21, $df=1$, $p = 0.65$. Missing data for one 'discusser' and two 'non-discussers'). The mean number of years spent as a smoker for those who discussed smoking was 22.3 (SD 15.3) years compared with 23.1 (SD 15.4) for those who did not ($p = 0.79$, t-test. Data missing for two 'non-discussers').

(c) Smokers' Attitudes and Reported Behaviour

Smokers with whom GPs discussed smoking appeared to differ in their attitudes and reported smoking behaviour (as assessed by pre-consultation questionnaire) when compared to those who did not have smoking discussed with them. A comparison of smokers' attitudes and reported behaviours is summarised in Table 13. Smokers who had their habit discussed in consultations were more likely to report having '*tried to quit in the previous year*' (69.1% vs 48.5%, $p = 0.025$), that they '*intended to give up smoking completely in the next four weeks*' (47.6% vs 22.2%, $p = 0.003$) and they were '*starting to think about smoking less*' or '*trying to stop smoking*' (71.4% vs 43.3%, $p = 0.002$). The latter two of these differences remain significant at the 5% probability level after correcting for multiple comparisons (Altman, 1991a). Additionally, these differences were even more extreme when only the 37 regular smokers who were video-recorded were considered. This suggests that where GPs and smokers discussed smoking, the smokers involved in these interactions may be more ready to consider

changing their habit than others.

(d) Other Comparisons

Discussions about smoking appear more likely to occur where the smoker is the patient, rather than an accompanying person (e.g. the smokers' child). In 95 % (40/42) consultations where smoking was discussed, the smoker was the patient, compared with only 82 % (82/100) where smoking was not discussed (chi-square = 4.3, df=1, p = 0.038. Data missing for two smokers who were not advised).

Finally, discussions about smoking also appear more likely when the patient perceives that their presenting problem is smoking-related. One hundred and twenty-two pre-consultation questionnaire respondents stated that they were also the patient (i.e. not accompanying someone else). Of these 122, 119 answered the question which determined whether or not they perceived their problem was smoking-related and 3 did not. Where smoking was discussed, 65 % (11/17) of smokers reported perceiving their problem as smoking-related compared with 27 % (21/79) where smoking was not discussed (chi-square = 9.15, df=1, p = 0.002; twenty smokers responded that they did not know whether or not their problem was smoking related).

Table 13 Comparison of Smokers With Whom Smoking is Discussed and Those With Whom It is Not: Smokers' Attitudes and Behaviour

N.B. Ordinal variables were dichotomised due to the small numbers found in some cells.

		Smoking Discussed (n = 42)	Smoking Not Discussed (n = 102)	'p' (by chi-square)
		n (%)	n (%)	
Tried to give up smoking in previous year:				
Yes	29 (69.1)	49 (48.5)	0.025	
No	13 (30.9)	52 (51.5)		
Missing	0	1		
Intends to give up smoking:				
Yes	20 (47.6)	22 (22.2)	0.003	
No/Don't Know	22 (52.4)	77 (77.8)		
Missing	0	3		
Confident that can give up smoking:				
Yes	14 (33.3)	32 (32.7)	0.937	
No	28 (66.7)	66 (67.3)		
Missing	0	4		
Desires to give up smoking:				
Yes	30 (71.4)	61 (62.8)	0.331	
No/Don't Know	12 (28.6)	36 (37.1)		
Missing	0	5		

Table 13 Comparison of Smokers With Whom Smoking is Discussed and Those With Whom It is Not: Smokers' Attitudes and Behaviour - continued

		Smoking Discussed (n = 42)		Smoking Not Discussed (n = 102)		'p' (by chi-square)
		n	(%)	n	(%)	
Stage of Change Q12, pre-consultation questionnaire:						
	No thoughts about stopping/ uncertain	12	(28.6)	55	(56.7)	0.002
	Thinking about stopping	30	(71.4)	42	(43.3)	
	Missing	0		5		
Smoking is damaging my health:						
	Agree	37	(88.1)	86	(86.0)	0.738
	Disagree/ Don't Know	5	(11.9)	14	(14.0)	
	Missing	0		2		
My health will improve if I stop smoking:						
	Agree	28	(66.7)	68	(69.4)	0.750
	Disagree/ Don't Know	14	(33.3)	30	(30.6)	
	Missing	0		4		

2 Smokers' Resistant Consulting Behaviours

Figure 8 contains definitions of smokers' resistant consulting behaviours. Further details are included in Appendix to Methods 5.

Figure 8 Coding Schedule for Smokers' Resistant Consulting Behaviours

1. MINIMISING

The smoker indicates verbally that he/she does not believe their habit is that serious (*e.g. "I am not a smoker I only smoke roll-ups"*).

2. AVOIDING

The smoker avoids accepting personal responsibility for their habit. He/she does not appear to accept they can do anything about their smoking.

- (a) **Disagreeing:** The smoker disagrees with a suggestion that the doctor has made and offers no constructive alternative (*e.g. smokers' comments beginning with the phrase "Yes, but". For example "Yes, but if I try and stop smoking I just put on weight".*)
- (b) **Excusing/Blaming:** The smoker has ready excuses for continuing to smoke or not even attempting to quit (*e.g. suggesting that quitting is impossible because of a partner who smokes*). Ready excuses are given for failure in past attempt at quitting/cutting down. Do not include smokers who discuss the difficulty they are currently having in attempting to quit (*e.g. discussion of withdrawal*), these comments should be coded as '**action**'.

- (c) ***Unwillingness to change/reluctance:*** The smoker states that they are reluctant or do not want to stop smoking. They may refuse an offer of help with stopping smoking.
- (d) ***Pessimism:*** The smoker makes statements suggesting that they feel it unlikely that they will quit.

3. **ARGUING/INTERRUPTING**

The smoker contests the accuracy or expertise of the GP. The smoker breaks in and interrupts the GP.

- (a) ***Challenging:*** The smoker directly contests the accuracy of what the therapist has said (e.g. *"But I don't think I would get any better if I stopped".*)
- (b) ***Discounting:*** The smoker questions whether the GP has the expertise to talk about smoking (e.g. *"Have you ever smoked ?". Well you don't know then do you?"*)
- (c) ***Talking over:*** The smoker breaks into the conversation while the GP is still talking, without waiting for an appropriate pause.

4. **IGNORING BEHAVIOUR**

The smoker shows signs of not following or ignoring the GP.

- (a) ***Non-response/Sidetracking:*** The smoker changes the subject of the conversation that the therapist has been pursuing (e.g. the GP may be talking about smoking, but the patient moves the conversation around the discussions about weight). The smoker gives no response to a GP's question about smoking or responds in

a way which does not answer question (e.g. Doctor: "*I want you to cut down*",
Patient: "*Is it damaging my health?*")

- (b) ***Inattention:*** The smoker's response suggests that he or she has not been listening to/understanding the GP. Obvious non-verbal behaviour can be included in this category, for example the patient may get up and put his/her coat on whilst the GP is talking about smoking.

3 Smokers' Readiness Consulting Behaviours

Figure 9 contains definitions of smokers' readiness behaviours. Further details are included in Appendix to Methods 5.

Figure 9 Coding Schedule for Smokers' Readiness Consulting Behaviours

1. TAKING ACTION OR EXPERIMENTING

The patient indicates that he or she is *currently* attempting to stop or cut down their smoking behaviour. Also include discussions where the patient indicates or describes that taking current action (e.g. quitting or cutting down) is extremely difficult.

2. RESOLVE FOR FUTURE ACTION

Code as this type of behaviour when the patient makes a definite resolution to try to take action against their smoking. The patient may resolve to stop altogether, to try and cut down, to enlist the help of a partner in giving up or to pass the message on to another person that they also need to change their behaviour (e.g. *"I will stop"*, *"I will tell him to stop"*, *"I will try/to stop/cut down"*.)

3. CONCERN ABOUT SMOKING/AGREEMENT WITH GP ABOUT SMOKING

Statements and actions indicating that the smoker is concerned or unhappy with their habit for any reason.

4. DESIRE

Smokers who express the desire to quit (e.g. *"I wish I could give up ..."*).

4 Reliability and Validity of Smokers' Consulting Behaviours

(a) Inter-Observer Reliability

Two observers (TC and KS) coded all 47 consultations between smokers (regular or occasional) and GPs where smoking was mentioned by either participant. Coding of all 47 consultations took approximately 6 hours. The analysis of inter-observer reliability is reported in Tables 14 (readiness behaviours) and 15 (resistant behaviours). The agreement measured is for the presence or absence of behaviours. 'Moderate' or 'good' agreement (Altman 1991) is demonstrated for individual categories of communication behaviours and 'good' agreement is demonstrated for the coding of overall resistant or readiness behaviour.

(b) Validity

(i) *Construct Validity*

Table 16 reports results of the tests of construct validity for readiness behaviours and Table 17 for resistant behaviours. The two questions assessing nicotine dependence are not included in these tables but were combined to form the 'Fagerstrom Test for Nicotine Dependence', a validated score representing nicotine dependence (Heatherton, Kozlowski Frecker et al, 1991). The Mann-Whitney test was used to compare these nicotine dependence scores in the two groups (resistance observed vs no resistance and readiness observed vs no readiness) but no significant differences were demonstrated.

Results in Tables 16 & 17 suggest some construct validity for the descriptions of consulting behaviours. Smokers displaying **readiness** behaviours were significantly more likely to report having '*tried to quit in the previous year*', currently '*thinking about*' or '*trying to stop*' and believing that '*stopping smoking would improve their health*'. The second of these differences remained after correction for the number of significant tests performed (Altman, 1991a). Additionally, more of these smokers

reported an intention to quit smoking and a desire to quit but these differences were non-significant.

There were no significant differences between smokers who displayed resistant behaviour and those that did not. Resistant smokers, however, were non-significantly less likely to report previous tries at quitting, intending to quit, being confident of quitting and currently thinking about or trying to stop smoking.

(ii) *Predictive Validity*

Employing the same approach towards testing for predictive validity produced no evidence that resistant or readiness behaviours possessed any. The postal questionnaire variables used were whether the smoker reported having "*tried to stop in the last 3 months*" and also "*tried to cut down in the last 3 months*". Similar significance tests performed for readiness and resistance behaviours produced negative results, so no further tests of predictive validity were performed, thus avoiding the possibility of chance differences being accepted as real.

Table 14 Inter-Observer Reliability For Readiness Behaviours

	Readiness	Observer 1 (KS) No Readiness	Nil to Code
Observer 2 (TC)			
Readiness	27	1	0
No readiness	5	9	0
Nil to code	0	1	4

No. of consultations = 47
Kappa = 0.71

Table 15 Inter-Observer Reliability for Resistant Behaviours

	Resistance	Observer 1 (KS) No Resistance	Nil to Code
Observer 2 (TC)			
Resistance	25	0	0
No resistance	6	11	0
Nil to code	1	0	4

No. of consultations = 47
Kappa = 0.73

**Table 16 Comparison of Smokers Who Exhibit Readiness Behaviour With
Those Who Do Not : Smokers' Attitudes and Behaviour**

N.B. Ordinal variables were dichotomised due to small numbers in cells. Two tailed Fisher's Exact test used where appropriate, otherwise chi-square test used. No data missing throughout.

		Readiness Observed (n = 22)		Readiness Not Observed (n = 11)		'p'
		n	(%)	n	(%)	
Tried to give up smoking in previous year:						0.027
	Yes	20	(91)	6	(55)	
	No	2	(9.1)	5	(46)	
Intends to give up smoking:						0.14
	Yes	15	(68)	4	(36)	
	No	7	(32)	7	(64)	
Confident that can give up smoking:						1.00
	Yes	8	(36)	4	(36)	
	No	14	(64)	7	(64)	
Desires to give up smoking:						0.34
	Yes	19	(86)	8	(73)	
	No	3	(14)	3	(27)	
Stage of Change Q12, pre-consultation questionnaire:						
	Thinking about/ trying to stop	22	(100)	5	(46)	0.0004
	No thoughts about stopping/uncertain	0	(0)	6	(55)	
Smoking is damaging my health:						1.00
	Agree	20	(91)	10	(91)	
	Disagree/ Don't Know	2	(9)	1	(9)	
My health will improve if I stop smoking:						0.049
	Agree	18	(82)	5	(46)	
	Disagree/ Don't Know	4	(18)	6	(55)	

Table 17 Comparison of Smokers Who Exhibit Resistant Behaviour With Those Who Do Not : Smokers' Attitudes and Behaviour

N.B. Ordinal variables were dichotomised due to small numbers in cells. Two tailed Fisher's Exact test used where appropriate, otherwise chi-square test used. No data missing throughout.

		Resistance Observed (n = 22)		Resistance Not Observed (n = 11)		'p'
		n	(%)	n	(%)	
Tried to give up smoking in previous year:						
	Yes	15	(71)	11	(92)	0.223
	No	6	(29)	1	(8)	
Intends to give up smoking:						
	Yes	10	(48)	9	(75)	0.13
	No	11	(52)	3	(25)	
Confident that can give up smoking:						
	Yes	6	(29)	6	(50)	0.27
	No	15	(71)	6	(50)	
Desires to give up smoking:						
	Yes	17	(81)	10	(83)	1.00
	No	4	(19)	2	(17)	
Stage of Change Q12, pre-consultation questionnaire:						
	Thinking about/ trying to stop	15	(75)	12	(100)	0.65
	No thoughts about stopping/uncertain	6	(25)	0	(0)	
Smoking is damaging my health:						
	Agree	20	(95)	10	(83)	0.53
	Disagree/ Don't Know	1	(5)	2	(17)	
My health will improve if I stop smoking:						
	Agree	15	(71)	8	(67)	1.00
	Disagree/ Don't Know	6	(29)	4	(33)	

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**RESULTS : FACTORS WHICH INFLUENCE
PROVISION OF ADVICE**

1 Preliminary Data Analysis

(a) Development of Theme and Category Definitions

During this period of data analysis, the researchers identified and revised their interpretation of the principal themes which GPs' articulated in their interviews. After the **first data analysis meeting**, the definition of eight themes was agreed by the two researchers (see Coding 1, Appendix to Methods 7).

During the process of coding all 13 interviews for the presence of themes defined in 'Coding 1', it became apparent that most GPs made comments on the doctor:patient relationship. These views appeared to be important in shaping interviewees' ideas about the 'correct' way in which to advise patients against smoking. Also, GPs often gave their views concerning the characteristics of smokers whom they felt were likely to make a quit attempt. GPs' views on these two topics seemed to influence the way they approached discussing smoking with patients, but neither could be coded using 'Coding 1'. At the **second data analysis meeting**, therefore, two new themes were defined (see 'Coding 2', Appendix to Methods 7). One dealt with the GPs' comments about the relevance of the doctor:patient relationship to their giving advice against smoking. The second new theme included GPs' comments on their perceptions of factors which increase or decrease the likelihood that smokers will attempt to quit smoking. In total the researchers agreed the definitions of ten themes divided into 21 categories which could be used to code the remaining interviews.

2 Factors Influencing GPs' Awareness of Patients' Smoking Status

(a) Introduction

This and the following section provide a summary of GPs' views recorded by semi-structured interviews. Salient points are illustrated using examples from interview transcripts. These are either direct quotes (in quotation marks and italics) or a précis of an individual GP's view on an issue of importance to the analysis. The GPs expressing views which are used in this way are identified by unique code numbers. The qualitative approach has obtained a wide range of GPs' views in order to understand the principal factors which GPs perceive influence whether or not they discuss smoking with patients. These factors are discussed in detail in the following sections.

(b) GP's Expectation of Consultation

Prior to the patient entering the consulting room, or shortly afterwards, GPs may already have a view on whether or not smoking could potentially be discussed in the consultation. GPs' views are influenced by their expectations about the nature of the consultation which they are about to conduct. Certain types of consultations were identified by GPs as ones where the patient's smoking status is more likely to be enquired about.

Categories of consultations where GPs indicated they were more likely to enquire about smoking were **new patient 'health checks', 'health promotion' and oral contraceptive pill prescribing consultations, chronic disease follow-up** (e.g. diabetes, hypertension or asthma) and **long term sickness certification consultations**. GPs felt they could predict the nature of these types of consultations from previous experience and reported using checklists of questions which could involve enquiry about smoking. For example, GPs' perceived that patients attending new patient checks were unlikely to have a medical problem, but they were likely to expect the GP to ask questions about lifestyle.

" ... we try and get new patients a longer appointment and check everything from rubella to tetanus and blood pressure they've [patients] not come with a problem, they've come to be checked over. " No. 7.

Some GPs clearly had a financial motive for performing health checks on newly-registered patients. When GPs in group practices retire or resign, their patients usually re-register with one of the remaining GPs who can then claim a fee for performing health checks on these patients who are new to their lists. One GP described his motivation for performing opportunistic health checks on the patients of two former partners was to claim 'registration fees'.

"If anybody retires you get a new registration fee ... There is a form to fill in which includes blood pressure, smoking, drinking and weight and height. " No. 323.

GPs differed in their reasons for defining consultations as being concerned with 'health promotion'. This variety of views was demonstrated when GPs discussed prescribing hormone replacement therapy (HRT). Women attending for HRT monitoring with no other problems were viewed by one GP (No. 50) as attending a '*health promotion consultation*'. GP No. 50 considered attempting the modification of cardiovascular risk factors as important in these consultations but because HRT possibly helps protect against ischaemic heart disease, the relative importance of smoking was diminished. Consequently, GP No. 50 reported that she did not always remember to introduce the topic of smoking into consultations where HRT was prescribed. Another GP (No. 309) was concerned about prescribing HRT to smokers and so focussed more on smoking as a problem behaviour for modification. A third GP (No. 361), however, saw smoking as irrelevant to HRT and felt it was less unlikely he would think of this issue whilst prescribing it.

Many GPs viewed consultations about 'the pill' as an opportunity to address preventive issues, including smoking, although the utility of regularly broaching the topic of smoking in this context with younger women was questioned by some. One GP explained why he felt he regularly forgot to mention smoking during prescriptions for the oral contraceptive pill.

"... my main reason for not doing so is that it's such an unusual event to have any symptom or problem at her age on the pill associated with smoking. It had simply gone out of my mind." No. 83.

Consultations used for the management of chronic disease were seen by some GPs as an opportunity to address lifestyle modification including smoking cessation. GP No. 252 noted that in consultations for chronic disease monitoring (e.g. asthma), patients were usually well and presented no acute problems, enabling him to discuss smoking with them. Finally, one GP utilised an annual consultation for medical certification with an infrequently-seen patient as an opportunity for enquiring and advising the patient against smoking in a consultation where the doctor had little else to do (No. 184).

It needs emphasising that GPs perceived that all of these consultations would be straightforward, not time consuming and possibly devoid of any patient agenda. These characteristics made it likely that adequate time would be available for addressing the topic of smoking.

"Often they [check up/pill consultations] involve no other agendas and they're often quick consultations. Blood pressure check, weight check, smear. So you've got the time and a patient who's quite relaxed and not coughing up blood." No. 403.

(c) Impediments To GPs' Awareness of Patients' Smoking Status

Where GPs failed to raise the topic of smoking in consultations, a number of factors were identified as hindering the GPs from becoming aware of patients' smoking status.

Lack of time was often identified as a major barrier to the GP becoming aware of the possibility of inquiring about patients' smoking habits or seeking this information from the medical record. GPs' perceived time constraints are explained by considering what they feel must be achieved in each consultation. Many GPs felt it crucial to **address patients' agendas** in all consultations.

"With eight and a half minutes, my main interest is getting the diagnosis right, making the patient feel at ease and explaining to them what's relevant about what they presented with." No. 165.

Addressing patients' agendas entailed responding to their presenting problem(s) and ensuring that patients feel their surgery attendance has a satisfactory outcome. GPs commonly perceived that raising the topic of smoking without adequately addressing patients' agendas was not desirable, as it represented an attempt by the GP to impose their potentially unwelcome agenda on the patient's consultation.

"The patient came in with an overriding problem which I think was her sole priority ... If I'd tried to raise anything else with her it would have been inappropriate and she may well have been offended." No. 114 (explaining why he had not asked a patient about smoking).

The patient's agenda had the potential to exhaust all available consultation time. Patients occasionally presented complex problems which required intense concentration from the GP. These encounters were often described in emotive language (e.g. "It was about my survival", "bogged down", "horribly messy"), suggesting a hint of desperation caused by

dealing with unusual problems. GPs indicated that they rarely thought about the topic of smoking during these complicated interactions. The implication is that **once difficulties are encountered in consultations, GPs focus on resolving the presenting problem** and are unlikely to involve other issues (including smoking).

"I was so bothered and bogged down by the diagnosis. I don't think I actually considered it [smoking] at all." No. 50.

The age of the patient influenced whether some GPs felt it appropriate to raise the topic of smoking. GPs' views on this helped to determine whether or not they gave any thought to smoking during a consultation. A number of GPs reported hesitation towards discussing parents' smoking habits during their children's consultations. This reluctance appeared to stem from the belief that as the child was the patient, the GP's attention should be focussed on him or her. This belief could be viewed as GPs attempting to address patients' agendas.

"The patient was a child so there's a little bit of a barrier there. She's [mother] come to talk about the child, so that limits you [GP] to a degree [when or if you enquire about smoking]." No. 114.

Focussing on the child caused one GP to always totally ignore consideration of parents' smoking habits. After watching a video-recording of himself consulting with a child whose mother smoked, this GP (No. 235) realised that he never discussed smoking with parents who brought their children to see him although, on reflection, he considered this approach could be entirely appropriate.

The financial agenda of the GP could also prevent consideration of smoking. As self-employed practitioners, GPs can claim an annual fee when women 'sign up' for contraceptive services. At the time of data collection most GPs obtained women's

signatures during consultations. Satisfying this financial agenda caused some GPs to forget or ignore the possibility of discussing smoking. One GP (No. 205) freely admitted to inspecting the computer record for evidence that a claim had been made, whilst ignoring the record of smoking status which he had seen.

Some GPs identified that discussing smoking was less likely in consultations where they were distracted a great deal. The distraction could be during the consultation, for example, by smokers' children (No. 403). One GP (No. 309) was distracted by media reports of poor air quality which she felt caused her to accept the worsening in a child's asthma without enquiring about smoking and other exacerbating factors. Occasionally, smoking status was recorded incorrectly in the medical records resulting in the GP wrongly assuming that the patient was a non/ex-smoker (No. 126).

(d) Factors Which Promote GPs' Awareness of Patients' Smoking Status (Prompts)

GPs identified a small number of factors which they perceived precipitated their raising the topic of smoking with patients. Although incorrect recording of smoking status in the medical records (computer or manual) was responsible for impeding discussions about smoking, **medical records** more commonly alerted GPs to patients' smoking habits. Another indicator of smoking habit cited by GPs was the **odour of smoke** which some smokers emit, suggesting that within consultations clinical cues are important.

"I could smell that he smokes when he walked into the room ... and that's the clue I tend to use." No. 122.

During the period of data collection, GPs received payments for recording the presence of risk factors for cardiovascular disease (including smoking status) amongst patients. These were effectively target payments, as in order to claim them GPs needed to ascertain risk factor status for an agreed percentage of their practice population. This

financial incentive stimulated some GPs to consider asking patients about their smoking habits even though they perceived it of little value.

"We're supposed to get a record [of smoking status] for health promotion purposes ... and so that's why we do it. Whether we act on it [smoking status record] of course is a different matter." No. 298, who clearly felt that collecting data about smoking status was a distinct activity from persuading smokers to quit.

"I mean it [cardiovascular risk factor status recording] keeps the money coming in from the health promotion point of view. I think that's the only value to it." No. 24.

A number of other GPs (like No. 207) used questionnaires to collect data on smoking status. This meant that No. 207 could claim payment without necessarily discussing smoking with patients.

(e) **Influence of Doctor : Patient Relationship**

All interviewees made some reference to their relationships with patients. GPs' views on this matter appeared to influence whether or not they gave thought to the topic of smoking whilst consulting.

(i) ***Relationship as an Impediment***

Some GPs felt they needed reasonable rapport with patients before they could attempt to deal with personal habits like smoking. In the absence of this, it was unlikely that smoking would even be considered by some GPs. GPs perceived that a **good doctor : patient relationship facilitated their raising of potentially-contentious issues** (like smoking). They also took the view that patients were more likely to give serious thought to advice against smoking from a doctor with whom they valued their relationship. These beliefs are illustrated by one GP who felt strongly that it was not appropriate to consider raising smoking, or indeed any issues other than the presenting problem, with a

patient who regularly saw one of his partners. This patient elicited particularly strong views from No. 205 because she was addicted to prescription drugs which the other GP usually prescribed. No. 205 wanted to avoid becoming unnecessarily involved in the management of this problem.

If she [patient] was one of mine [my patients] I would have given her time, but because she wasn't you know People (i.e. the other GP) muck their own stables out. " No. 205.

The influence of relationship is also demonstrated by another GP's view that it is totally inappropriate to address smoking with temporary residents (patients who consult a GP whilst remaining permanently registered with another).

"I see health promotion advice as a long-term thing I don't think a temporary resident should receive health promotion advice from a doctor because they are going to disappear and you've got no follow-up. " No. 412.

GPs' **knowledge of their patients** appeared to influence their opinion of whether or not smoking would be an appropriate topic within a consultation. Comments from a number of GPs indicated that they were unhappy to raise smoking in the absence of fairly detailed knowledge about patients. Doctors' need for information appeared most acute when their patients were smokers' children. One GP (No. 293) was reluctant to broach the issue of smoking with the parents of an asthmatic child unless he could be convinced by a home visit that a smoky atmosphere there was contributing to the condition. Another GP had similar difficulties when a child with an upper respiratory tract infection was brought by his grandmother.

"It would have been nice to know whether his mum smoked as well [as his grandmother] ... I would prefer to see him with his mum to get an idea of what time

he spends with mum ... and what the home circumstances are." No. 416.

GPs seemed to require less information about adult patients before mentioning smoking. Lack of knowledge about adult patients, however, could still contribute to GPs omitting to think about smoking. One GP (No. 381) assumed that a little-known patient was not a smoker because he displayed interest in discussing his health and so failed to fit the GP's personal image of a 'typical' smoker.

Detailed knowledge of patients did not always guarantee that GPs would be aware of patients' smoking status, or that doctors would wish to consider a discussion about smoking. GPs' past experience with some patients resulted in them abandoning future consideration of attempting to mention smoking. When consulting with patients who had responded unfavourably to previous attempts at advice-giving, some GPs would avoid further consideration of this topic. The nature of GPs' previous contacts with patients also determined the quality of information which GPs absorbed about them. This subsequently influenced GPs' views on whether patients' smoking habits could be enquired about. One patient had been unknown to the GP before a recent depressive illness. The GP (No. 207) had seen her frequently whilst treating this problem but he still felt that he had been "*concentrating on the job in hand*" because she was "*someone else's patient*". Dr 207 maintained he needed a different kind of relationship with this woman before he perceived he could mention her smoking and consequently he did not even consider this during the consultation.

(ii) *Relationship Promoting Consideration of Smoking*

In certain circumstances the doctor:patient relationship was perceived by GPs as a factor which encouraged them to consider discussing the topic of smoking. An agreeable doctor:patient relationship allowed the GP to be confident in predicting how patients would react to anti-smoking messages.

"Obviously, if you know the way they [patients] are going to take something [health promotion advice] I think you are less guarded about what you say, because you know how they are going to react to it." No. 182.

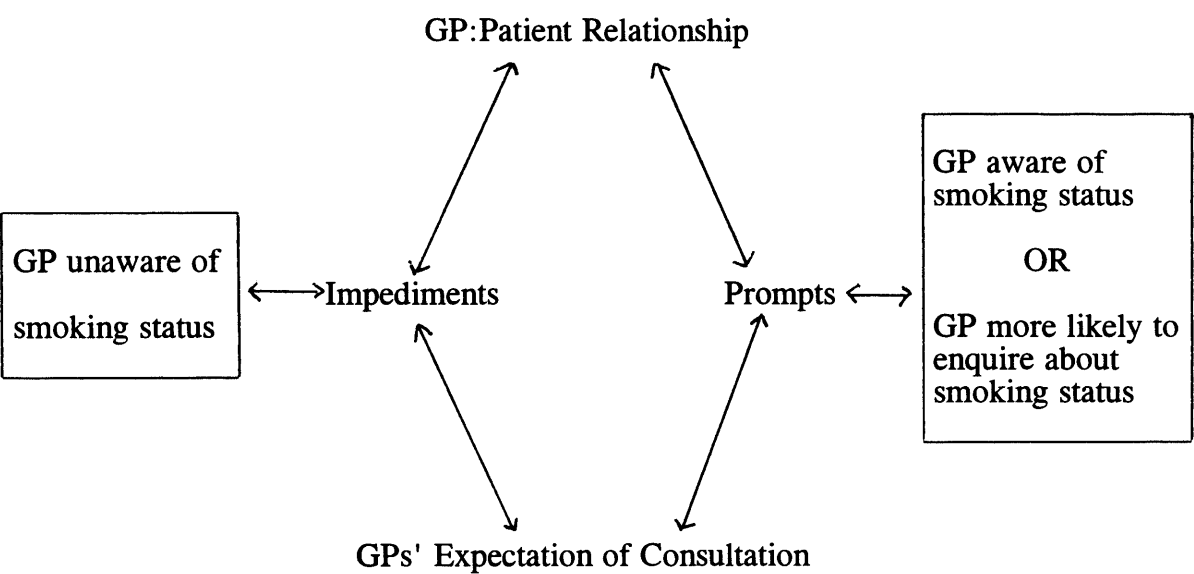
This confidence made some GPs more likely to consider patients' smoking as a potential topic for discussion. GPs did not wish to give unheeded advice. Information about patients obtained by GPs during repeated contacts enabled them to target their advice to patients who they perceive are more likely to respond favourably or follow it.

"The main thing is their motivation, you know which patients are going to respond to you. And take notice and listen." No. 218 (questioned about the use of prior knowledge about patients).

Where GPs feel they have a good relationship with patients and a perception that patients will probably respond positively, they appear more likely to feel it appropriate to consider smoking.

It can be seen from this section that there are a number of factors which influence whether or not GPs will become aware of patients' smoking status in any consultation. Only when GPs are aware of this are they then in a position to decide whether or not they will discuss smoking with patients or advise patients against their habit. Figure 10 illustrates the relationship between the factors which have been described and GPs' awareness of patients' smoking status.

Figure 10 Factors Influencing GPs' Awareness of Patients' Smoking Status



The next section describes the factors which determine whether or not GPs decide to discuss smoking in greater detail with patients whose smoking status has been ascertained.

3 Factors Which Influence GPs' Decisions to Discuss Smoking With Patients

(a) Introduction

Being aware of patients' smoking status will not necessarily result in GPs discussing the subject in detail and attempting to persuade smokers to stop. This requires an active decision by the GP. For example, after asking about a patients' smoking, some factors influence the GP to avoid taking the discussion further, whereas others actively promote this. This section describes the factors which influence the GPs' decision to discuss smoking in greater detail with smokers in an effort to promote their behaviour change.

(b) GPs' Views On The 'Appropriate' Time To Discuss Smoking

During consultations interviewees' beliefs on the appropriateness of discussing smoking with a given patient at a particular time seemed to have powerful effects on their decisions to give advice against smoking. The appropriateness of discussing smoking in detail could only be assessed by GPs once the consultation had started and was influenced by:

- (i) The problem presented by the patient and the characteristics of the consultation
- (ii) Characteristics of the patient
- (iii) GPs' rationales for advice-giving, and
- (iv) GPs' estimation of their skill in advice-giving

Judging 'appropriateness' was, therefore, heavily dependent on the context of the consultation. Once the consultation had started, a GP judging it an inappropriate context in which to discuss smoking would avoid the issue, irrespective of any prior notions about the likelihood of smoking being raised (*see previous section 2(b), 'GPs' Expectation of Consultation'*).

(i) *Characteristics of Presenting Problem/Consultation*

There was striking concordance amongst GPs about the situations in which they felt it appropriate to discuss smoking in greater detail. Where GPs observed themselves raising the topic of smoking with patients, their most common explanation for this was that they **considered smoking 'relevant', as the patient had presented with a smoking-related problem.**

".... I raise it [smoking] with people when it [smoking] seems appropriate. Like this girl with this problem." No. 201 speaking about a 15 year old with a chest infection.

Dr 209 explained that the presence of smoking-related problems gave him an *'excuse'* to talk about smoking. He perceived that a discussion in this context would result in the patient listening more because the smoking advice would relate more to their *'agenda'* (the problem they'd presented with).

In some cases the GP felt a discussion concerning smoking was needed more strongly because not only was the problem smoking-related, but it had failed to improve as expected.

"Perhaps they have a chest infection that is not getting better. There may be something more sinister underneath.... and if they smoke, it's a good time to say ... 'Don't you think it's a good time to start thinking about stopping?'" No. 412.

Conversely, where GPs had not discussed smoking, a commonly-cited reason was that the presenting problem bore no relation to smoking. Smoking was perceived not to be on the patient's agenda and therefore better avoided.

"... if there's no clinical indication for bringing it [smoking] up, then it is not part of the patient's agenda. It is not an appropriate time to try and make it part of the patient's agenda." No. 182.

The above quote illustrates that Dr. 182 requires a *clinical* indication (e.g. a smoking-related problem) to mention smoking with patients. This GP wanted a health-related issue as her 'excuse' to discuss smoking. She did not perceive it her role to discuss smoking outside of this context.

Consultations where **patients brought psychological problems** were particularly singled out by interviewees as inappropriate for any discussion about smoking. One GP (No. 207) actively encouraged conversation away from smoking to another topic, even though the patient had raised the issue. GP 207 felt that the patient could be psychologically harmed by any quit attempt. This and GPs' other expectations of the consequences of their advice-giving appeared to have a major influence on what GPs considered to be an appropriate context for discussing smoking. A later section gives further details of how GPs' expectations of the outcome of their advice helped determine advice-giving behaviour.

As well as the clinical problem presented to the GP, the **quality of the consultation** was a factor influencing GPs' decisions to discuss or avoid talking about smoking. Where GPs perceived that the consultation was progressing satisfactorily, they felt able to discuss smoking with patients. One GP explained that he avoided any discussion of smoking because the consultation was going badly and he feared conflict with the patient.

"We'd already had a little problem with the fact she had a requirement that I wasn't prepared to meet ... I wanted to avoid further trouble ..." No. 165 when asked why he had avoided discussion about smoking with a known smoker.

Finally, GPs identified that sometimes first consultations with patients could be very 'crowded' in which case they may ask about smoking but do little else (No. 235). Additionally, where patients presented to 'emergency' appointments GPs were unwilling to discuss smoking in any detail for fear of increasing patients' expectations of what should occur in these brief encounters (No. 294).

(ii) *Characteristics of the Patient*

GPs again reported great similarity about the characteristics of patients influencing their decisions to discuss or avoid talk about smoking. **Smokers' responses** to GPs' mentions of smoking appeared to be a crucial determinant of whether the doctors felt able to discuss smoking in further detail. Patients' current reactions or their responses on previous occasions could both influence GPs' behaviour, either causing the GP to avoid or initiate talk about smoking. Where patients seemed 'motivated' or interested in talking about their habit, GPs considered they were more likely to attempt to discuss smoking in detail. GPs, however, reported very individualistic approaches towards judging whether or not smokers were 'motivated' and therefore worthy of further attention.

"If they show motivation. If they say 'I've got to give this up', ... I've got to sense in them quite a substantial commitment ... it's not necessarily the words they use, it's the feeling they give you." No. 063.

"She's obviously motivated or she will be ... She is fairly comfortable and relaxed about bringing it [smoking] up. I mean, I mentioned it, she didn't appear threatened or defensive." No. 207.

Where GPs' perceived smokers' responses as 'not receptive' or uninterested they were less likely to indulge in further conversation about smoking. GPs' felt that to do so

would be counter-productive and preferred to give advice when they felt they had a greater chance of being listened to.

" ... if I got something a bit more positive back, I might have gone on and given him a leaflet or something, but I didn't feel that I got that much back ... I didn't feel it was the right time to offer him anti-smoking counselling ... I thought today probably the right thing to do was to try and link the two conditions [i.e. smoking and cough]." No. 252.

GPs' perceptions of the **psychological wellbeing of their patients** was another factor which influenced whether or not they considered more detailed discussion about smoking appropriate. Where patients presented to GPs with acute psychological problems (e.g. depression) an assessment of their mental state would be performed during the management of this. It has already been noted that where patients consulted for these types of problems, GPs would avoid discussion of smoking. GPs often, however, based their opinions of patients' mental states on prior knowledge gathered during previous consultations and for some patients, GPs felt it inappropriate to encourage smoking cessation, irrespective of the problem they presented with. GPs' often feared that this group of patients would have difficulty coping without their habit. This was illustrated by one GP who explained why he had agreed with one patient that his quit attempts were futile.

"I think I decided against it [advising in detail against smoking] on the basis that I thought I would open a can of worms that I didn't want to open ... because I foresaw the psychological consequences of him stopping smoking." No. 63.

Another GP explained how the 'difficult' personality of one patient made the doctor feel that discussion of smoking without provoking an unpleasant reaction was impossible.

"Basically, having brought it [smoking] up on previous occasions, he does not react very favourably to it ... He does have some sort of paranoid views as well, so I really don't want to provoke him too much." No. 293.

A number of doctors described how they perceived it inappropriate for patients experiencing addiction problems to be urged to quit smoking. One doctor (No. 294) had a minority of patients to whom he was prescribing methadone in reducing doses to help them overcome heroin addiction. Dr 294 considered that heroin abuse presented these smokers with far greater health risks than smoking, so he avoided involved discussion about smoking with them until they had recovered from this. Dr 294 also considered that until the problem of heroin addiction had been conquered, it was extremely unlikely that these patients would be able to make an effective quit attempt. This view was held by other GPs who had encountered smokers with addictions to butane gas (No. 25) and slimming tablets (No. 75). Also GPs perceived that some patients relied on or were 'addicted' to psychotropic drugs (e.g. anti-depressants). GPs avoided advising smoking cessation with these smokers as one GP explains:

"... knowing him to be somebody who suffers with psychological problems anyway, the thought of attempting to get him to stop smoking ... the psychological ramifications of that would be quite great." No. 141 (about a patient with a psychological addiction to anti-depressants).

(iii) GPs' Rationales For Advice-Giving

GPs described personally-constructed rationales which determined whether or not they considered smoking should be discussed with patients. After the characteristics described above, the **presence of chronic disease (e.g. diabetes) or risk factors for ischaemic heart disease** in smokers were often cited as reasons for discussing smoking in detail. GPs felt a greater imperative to prevent smokers with these problems from harming themselves further and often predicted poor future health for these patients

should they continue smoking. One GP explained what influenced him to discuss smoking:

"Whether they've got heart disease, whether they've got asthma, whether they are trying to get pregnant. Whether they are youngsters who are going to suffer if they start smoking and then go on long term." No. 313.

A number of GPs stated that they almost always mentioned smoking where the smoker harmed children by passive smoking (No. 309). GPs were idiosyncratic in how they viewed passive smoking. As mentioned earlier, one GP (Dr 235) stated that he had never before realised passive smoking could be raised as an issue when smokers' children attended surgery. In the interviews GPs were specifically asked whether they considered stop smoking advice was likely to be more successful with any one group of smokers. Responses to this questioning revealed that GPs are generally guided more by individual patients' reactions when smoking is mentioned than any other factor when deciding whether or not they consider further discussion about smoking is likely to be worthwhile. The **age of patients** was, however, one demographic factor which appeared important to GPs in determining whether or not they choose to address smoking with patients. All GPs except one (No. 2) perceived that raising the topic of smoking with teenagers in particular and younger people in general was usually not effective.

"It's a social thing for them [the young], they are not concerned with the longer term risks of say chronic bronchitis and emphysema. That to them is a lifetime away." No. 93.

It was noted by some GPs that in avoiding giving advice to younger patients the doctor lost an opportunity for primary prevention (i.e. prevention of illness before it develops).

The clinical scenario in which age seemed to have the greatest effect on GPs' propensity to advise against smoking was when women approaching their mid-thirties attended the GP for 'the pill'. In this situation GPs reported reluctance to continue prescribing the combined oral contraceptive pill and were more likely to discuss smoking with women.

"When people get slightly older ... when 30 [years] crops up we start thinking 'Is this woman a smoker?' and have another bash at them." No. 252.

Doctors expressed some ambivalence about whether or not they considered it worthwhile to advise elderly smokers to stop smoking. A number of GPs stated that they felt it was not worthwhile to pursue discussion of smoking habits with this group of smokers as the health benefits were likely to be marginal.

GPs consistently reported perceiving **pregnant women** were more likely to act upon any advice given. A small number of GPs also identified that **young men with relatively severe smoking-related symptoms like dyspepsia or bronchitis** (No. 122 and No. 207) could be receptive to advice against smoking. These beliefs explained why some doctors reported themselves more likely to give advice against smoking to these groups of patients.

(iv) GPs' Estimation of Skill in Advice-Giving

Doctors' views on their **ability to raise the topic of smoking sensitively** influenced whether or not they perceived they could raise the topic in a consultation. Some GPs avoided talking about smoking when patients had been advised against this recently. One reason advanced by GPs for avoiding discussion was that they felt they did not possess enough skill to raise the topic repeatedly without irritating patients (No. 361). Other GPs, however, did not find any difficulty with repeatedly mentioning smoking (No. 94) or reported varying the style of the message (No. 209) or using humour (No. 165) to

enable the stop smoking message to be given. Although the adequacy of GPs' skills in this area could not be assessed by the interviews, it was apparent that GPs' perceptions of their own skills could have an effect on their advice-giving behaviour.

Finally, some GPs identified that they had particular difficulty in giving specific advice which was effective in helping smokers to overcome withdrawal effects. In particular, doctors reported that where they thought patients might be afraid of gaining weight during smoking cessation attempts, they avoided discussion of smoking. This perceived lack of skill in dealing with patients' questions about coping with withdrawal inhibited some GPs from discussing smoking in detail with patients.

(c) Doctor : Patient Relationship

The relationship between patient and doctor was repeatedly mentioned by interviewees and was an important influence on whether or not they discussed smoking. GPs' opinions about the doctor:patient relationship and GPs' perceptions of the quality or nature of their relationships with patients both appeared to exert influence on the ways in which GPs reported discussing smoking with patients.

(i) *GPs' Opinions on the Doctor : Patient Relationship*

GPs' opinions on how relationships with patients should develop seemed to have a potent influence on whether or not smoking was discussed in consultations. A very common notion was that **repeated advice-giving could cause difficulties for the doctor : patient relationship**, as recipients of such advice would become disenchanted with the GP.

Interviewees stated that patients may feel their problems (agendas) were being ignored if GPs repeatedly mentioned smoking during consultations.

" ... if at the end of all this I started to ask her about her smoking, I wonder whether she would go away thinking 'Well, did the doctor hear anything of what I was talking about?'". No. 50.

GPs perceived that patients would not feel their problems were being given adequate attention if doctors attempted to discuss smoking when patients did not want to hear the message. Also giving repeated, unwanted advice against smoking was viewed as likely to lead to confrontation with patients and in some cases has led to a permanent breakdown of the doctor:patient relationship.

"I think [patient] would vote with her feet and not bother coming back ... in terms of her attitude to smoking I don't think it achieves one jot." No. 294.

"Apparently, I told her she was diabetic and told her the smoking must stop and she left [the practice]. She felt it [diabetes] was out of control and she had to make her own decisions." No. 265.

GPs felt that once the relationship was broken, then the doctor had lost the chance to influence the patient against their smoking. The loss to the doctor was not necessarily only an emotional one; GPs' feared that a breakdown in their relationship could also indicate clinical failure. This fear for the doctor:patient relationship was a major factor inhibiting GPs from having detailed discussions with some patients. This factor also helped explain GPs' strong reservations about pursuing a population-based approach to discussing smoking (i.e. raising the topic with the maximum possible number of smokers who attend surgery). Another important factor to emerge from the interviews was the importance with which GPs viewed **continuity of care**. One GP (No. 309) talked about '*packages of care*' or the importance of following-up advice on subsequent occasions. The importance of continuity of care is illustrated by considering the occasions where GPs discussed smoking with patients who, in the GPs' opinions, were not suffering from smoking-related diseases. GPs explained they felt able to discuss smoking during these consultations because it had been discussed between themselves and the patients on at least one previous occasion (No. 252). Another GP explained how she utilised her long term relationship with patients to address the issue of smoking.

"If you know the patient ... then you can link it [anti-smoking advice] with advice you have given in the past ... and I always write in the notes, the next time they come up ... and say something about smoking." No. 182.

(ii) *GPs' Perceptions of the Quality of the Doctor:Patient Relationship*

GPs' perceptions of the quality of their relationships with patients also appeared to influence whether GPs felt discussion about smoking would be worthwhile. The aspects of the doctor:patient relationship which appeared most important have already been described as factors impeding or promoting GPs awareness of patients' smoking status in the previous section. These factors also appear to impede or promote GPs to have detailed discussions about smoking with patients. Where GPs thought their relationship with a patient was strong then they felt advice against smoking was more likely to be listened to and perhaps acted upon. Additionally, GPs felt that good rapport with patients made it easier for the doctor to discuss issues like smoking, which could be construed as 'critical' by the patient. GPs felt more able to discuss smoking at length in the context of what they considered to be a good doctor:patient relationship. Conversely, where GPs considered their relationship with a patient poor, they reported making decisions to avoid discussing about smoking.

(d) Expectation of Outcome of Discussion

GPs' perceptions of the likely outcome of any discussion about smoking exerted an influence on whether they discussed or avoided the topic. GPs' propensity to give advice in the presence of what they perceived were smoking-related problems appeared to be explained by their belief that patients' were more attentive to advice given in this context. GPs reported that patients were more likely to be thinking about their smoking at these times and hence would more readily see the relevance of the GP mentioning it. GPs felt that this made patients more ready to listen to advice and perhaps more likely to take action as a result of it.

" ... if they come in with a bad chest, it gives more weight to your argument, if you use that opportunity ... and get your [anti-smoking] message across. Because you know it's going to sink in. " No. 218.

... if someone is ill and has got some smoking-related disorder then it can be useful to bring it [smoking] up and it [advice against smoking] may strike home more then. " No. 298.

This contrasted with many GPs' perception that advice given repeatedly and outside of the context of a smoking-related problem could irritate patients. GPs suggested that annoying patients in this way could make it difficult to raise the topic of smoking again in the future. Also it was suggested that once smokers were irritated by GPs' attempts to discuss smoking with them, they were less likely to follow any advice given.

" ... occasionally I've hammered the message about smoking too hard and antagonised the patient. We ought to be very careful not to do that ... I think if you push the message harder and harder, then if the patient's not prepared to change the habit, then they are going to take up a certain strong position. " No. 93.

Some GPs identified that **previous failure to persuade patients to quit smoking resulted in less enthusiastic attempts at advice-giving** in the future. Where GPs believed they were less likely to be effective (i.e. in promoting smoking cessation), then they recognised they were more likely to give cursory discussion about smoking.

"I was no longer enthusiastic to get her to stop smoking as she hadn't done it so far. I shouldn't have come across that way". No. 403 commenting on his dissatisfaction with the unenthusiastic way he perceived he had approached discussing smoking with one patient.

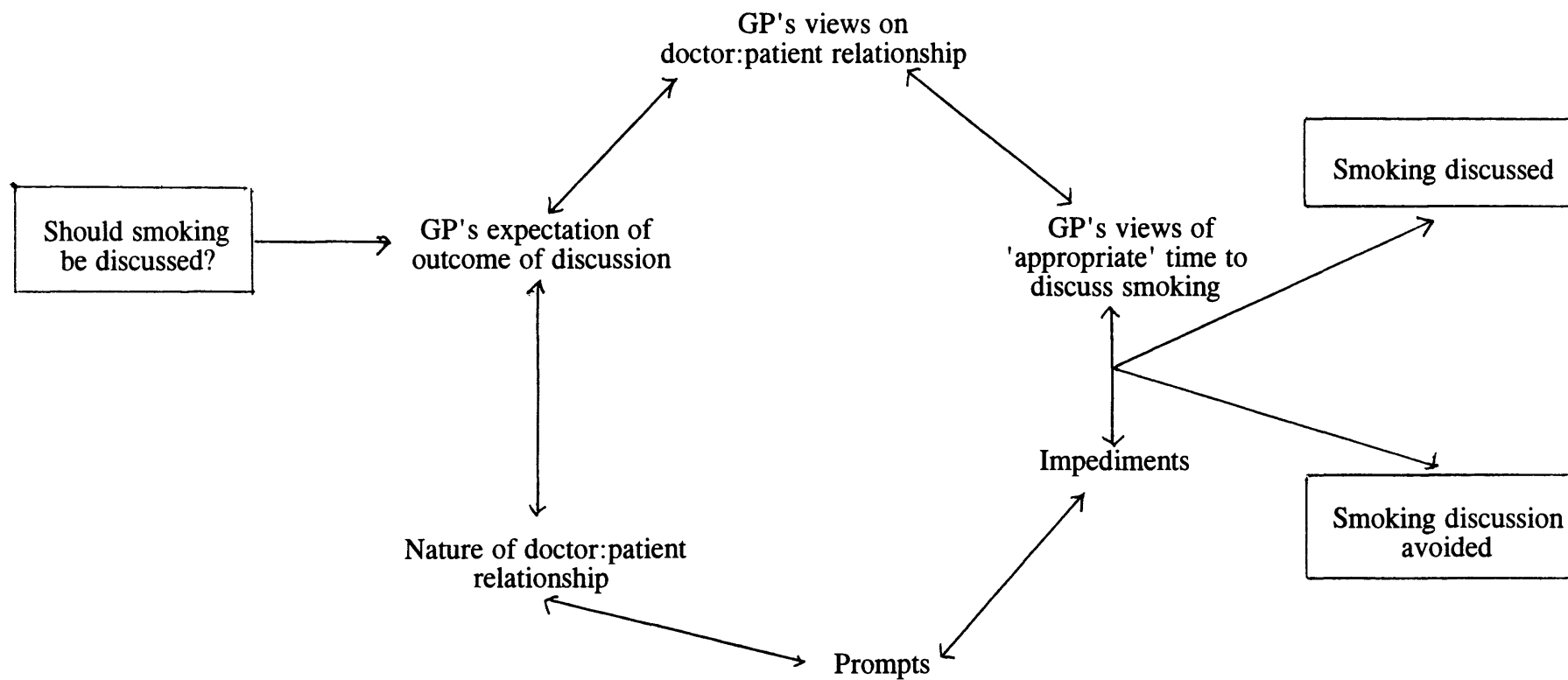
(e) Impediments

Finally, the distinction between factors which influenced GPs' awareness of patients' smoking status and those which influenced whether or not GPs chose to discuss smoking further was not entirely clear cut. Some of the impediments described in the previous section could make GPs decide not to discuss smoking in detail with patients whom they knew to be smokers. GPs reported that in the presence of **restricted time** they were often unable to **address patients' agendas** and discussion of smoking was curtailed. This was especially so when patients presented with **complicated problems requiring doctors' complete concentration**. These issues were described fully in earlier sections.

(f) Summary

The factors which influence whether GPs discuss smoking further with patients whom they know to be smokers are complex. Figure 11 illustrates the relationships between these and GPs' decisions to advise against smoking (or not). The issues raised by this section are discussed in detail in Discussion, Section 3.

Figure 11 Factors Which Influence GPs' Decisions to Discuss Smoking



**RESULTS: SMOKERS' VIEWS ON GENERAL
PRACTITIONERS' ADVICE**

1 **Validity of Smokers' Recall**

This section describes smokers' attitudes to general practitioners' discussing smoking with them during their consultations, as reported on post-consultation questionnaires. Also, where smoking was not discussed, smokers' views on how they would have felt to have smoking discussed are reported. It is crucial to the validity of reported views that smokers only comment on discussions about smoking which actually took place (i.e. smokers' recall is accurate). The use of video-recording allowed an assessment of the validity of smokers' reports. Observation of a discussion about smoking (by TC) during video cataloguing and transcribing was used as a 'gold standard' against which to judge the validity of smokers' reports.

In total, 34 respondents to the post-consultation questionnaire reported that "either they or the doctor had mentioned smoking". Of these 34, 29 were video-recorded and 5 were not. Observation of video-recordings revealed that all 29 recorded smokers correctly reported where discussions about smoking had occurred. In other words **there were no false positive reports of discussions about smoking** by smokers attending their GPs which could be identified. However, in three consultations where a discussion about smoking had occurred the smoker did not report this, suggesting that false negative reports were more common. Consequently, for the reporting of smokers' views of discussions about smoking, it was considered appropriate to use their recall recorded on post-consultation questionnaires. The three smokers who participated in but did not recall a discussion about smoking have their views reported with those who correctly did not recall discussion about smoking. As these three people did not perceive they had received any advice against smoking they could legitimately offer views on how they would have felt if the topic been raised.

2 Smokers' Views On Recalled Discussions About Smoking

The reported views of smokers towards GPs smoking advice is shown in Table 18.

Smokers' views on advice which they recall are predominantly positive, although for most questions 20% to 25% of responses are neutral, suggesting no great strength of feeling.

3 Smokers' Views Where Discussion About Smoking Was Not Recalled

Table 19 summarises the views of smokers following consultations where no discussion about smoking was recalled by them. Generally, it appears that these smokers are content with GPs' decisions not to raise the topic of smoking during their consultations and smokers again record neutral responses to many questions, suggesting that this topic does not engender strong views amongst smokers. It should be noted, however, that few smokers disagreed with the notions that (i) *the doctor was right not to mention smoking*, or (ii) *he/she was glad the doctor had not mentioned smoking*.

Additionally few smokers 'would have been happier if the doctor had mentioned smoking' suggesting some resistance to the introduction of discussions about smoking into these consultations.

Table 18 Smokers' Views on Recalled Discussions About Smoking (n = 34)

Attitude Statement	Strongly Agree (n)	Agree (n)	Neutral (n)	Disagree (n)	Strongly Disagree (n)	Missing (n)
I wish the doctor had not mentioned smoking today	1	1	15	8	9	0
The doctor's anti-smoking advice was helpful	6	15	9	2	-	2
It was OK for the doctor to mention smoking today	11	17	4	-	-	2
It was a waste of time for the doctor to talk about smoking today	2	1	8	15	6	2
The doctor was right to talk about smoking today	9	15	7	1	-	2
It was the doctor's job to talk about smoking today	7	16	7	3	-	1

Table 19 Smokers' Views Where Discussion About Smoking Was Not Recalled (n = 81)

Attitude Statement	Strongly Agree (n)	Agree (n)	Neutral (n)	Disagree (n)	Strongly Disagree (n)	Missing (n)
It would have been helpful if the doctor had advised me against smoking	-	7	25	30	10	9
The doctor was right not to mention smoking	7	38	20	7	1	8
I was annoyed that the doctor did not advise me against smoking	-	3	13	34	18	13
I was glad that the doctor did not give stop-smoking advice	8	22	32	5	2	12
The doctor should have advised me against smoking	1	4	16	34	14	12
I did not want the doctor to mention smoking	16	28	23	5	1	8
I would have been happier if the doctor had mentioned smoking	3	4	18	34	11	11

DISCUSSION

(a) Sampling of GPs

GPs invited to participate in these studies were a random sample of survey respondents, stratified by their attitudes towards discussing smoking with patients. This sampling approach was used in order to recruit GPs with the greatest possible variety of views on discussing smoking in their routine consultations. Additionally, it was hoped that recruited GPs would have a variety of different approaches towards discussing smoking with patients. To the author's knowledge, this type of sampling strategy has not previously been used in qualitative research. In theory, sampling by this method should select survey respondents with the greatest possible heterogeneity in their attitudes towards discussing smoking with patients, which was a requirement for the qualitative study in this thesis.

One drawback with this method of sampling is the exclusion of survey non-respondents. Non-respondents were older and less likely to be women or members of the Royal College of General Practitioners than respondents. It is possible that these GPs could hold different attitudes towards discussing preventive issues, like smoking, during routine consultations. Asking survey non-respondents to participate in stage two of the study might have resulted in some participating, perhaps ensuring that GPs with a broader range of views were represented in the study. One would expect, however, that many non-participants in the survey would also decline to participate in research which involved video-recording of their surgeries.

Although this method of sampling seems appropriate for qualitative research, its utility for describing the complete range of smokers' consulting behaviours needs further consideration. The study's original intention was to describe both doctors' and patients' consulting behaviours. It was anticipated that GPs' consulting behaviour would be more stereotypical than patients' (Byrne and Long, 1984) so it was considered most important

to select GPs with different consulting behaviours to obtain varied consultations for analysis. Consequently, the untested assumption of GPs' consulting behaviours reflecting their reported attitudes provided the theoretical basis for sampling. Subsequently, the principal analysis has been of predominantly female smokers' consulting behaviours. Although, the gender-mix of smokers who were video-recorded reflects the sex of surgery attenders this could limit how comprehensive the descriptions of smokers' behaviours are. If women and men discuss smoking differently with GPs, then some male smokers' behaviours may not have been captured within the sample.

Similarly, it is possible that other socio-demographic characteristics (e.g. ethnicity or social class) might influence the way smokers discuss their habit with GPs. A sampling strategy which recruited smokers with variety in other socio-demographic characteristics might have been preferable. This study did not take into account the socio-demographic characteristics of practice populations though. The factors which affect the nature of discussions about smoking remain unknown, however, so one can only speculate about an ideal method of sampling for describing smokers' consulting behaviours.

(b) Characteristics of Participating GPs

The population of GPs for these studies was all those on the 1994 Leicestershire FHSA list, but the final (i.e. stage two) sample differed in many aspects. As mentioned in the previous section, self-selection of GPs was first seen amongst respondents to the initial survey (i.e. stage one). When GPs were asked to participate in stage two of the study, however, further differences between study participants and non-participants became apparent (Table 7). Stage two participants were more likely to work in teaching and training practices, be younger and hold the MRCGP (Table 8). As data concerning GPs' professional and demographic characteristics for participants and non-participants were obtained from the same sources, these differences are likely to be genuine. These differences seem to indicate that previous exposure to video-recording may have made

some GPs more likely to participate in research using this technique. Video-recording is used in teaching and training, so study participants were more likely to have experienced video-recording for these purposes. Additionally, younger GPs and those having the MRCGP qualification may be more likely to have had their own consultations video-recorded for analysis during training. The professional and practice characteristics of non-participants, however, suggest that they are less likely to have had previous exposure to video-recording. This could explain why a large number of non-participants cited concern about this as a barrier towards taking part (Coleman, 1996). Irrespective of the reasons behind GPs' decisions to participate, however, it is important to describe GPs taking part to help assess the external validity of studies. This subject is addressed in following sections, where appropriate.

(c) Characteristics of Participating Patients

Patients could be enrolled in the studies if they attended a participating GP during a data collection surgery. Of those who could be enrolled, the vast majority (99%) recorded their smoking status on the pre-consultation questionnaire. As with GPs, however, the use of video-recording appeared to discourage some potential research subjects from participation. In particular, younger patients and those presenting with overt mental health problems were more likely to withhold consent to video-recording of their consultations (Table 12). These are new research findings and require scrutiny.

The rate of withheld consent to video-recording in this study (14%) is similar to that found in many other studies which employed video-recording. This suggests that our findings may be generalisable to other situations where video-recording is requested for research purposes. Generally, withheld consent rates vary with the amount of information and number of opportunities to 'opt out' which are given to patients. Where GPs have sought patients' consent verbally and immediately prior to consulting (Pringle, Robins and Brown, 1984; Herzmark, 1985; Campbell, 1982) withheld consent rates have been low (2-11%) but GPs using written consent forms (Martin and Martin, 1984) have

obtained similar rates (12-29%) to this study. Recent authoritative guidelines (Southgate, 1993; GMC, 1994), however, demand that written consent is sought and patients are fully informed of the reason(s) for video-recording (which was done in this study), so our withheld consent rate is probably more applicable to the present-day context.

It is possible that patients are less likely to consent to video-recording for research than other purposes, but the small number of patients refusing to see the researcher and the 99% response rate to the pre-consultation questionnaire do not indicate great resistance towards participation in research. Also patients who perceive themselves as 'under scrutiny' by researchers (in this study smokers) could be more reluctant to consent to video-recording. This does not seem to have happened, though, as the subject of research (smoking) was not associated with withheld consent once patients' age and presentation of a mental health problem were controlled for. Finally, patients' previous experiences of being video-recorded may influence consent rates, but as reported current use of video-recording in study practices was not associated with patients' withheld consent this does not appear to have been influential here. It seems likely, therefore, that the study findings are generalisable to situations where patients' consent to video-recording of consultations for research purposes is requested by a researcher in accordance with the latest guidelines (Southgate, 1993; GMC 1994).

A criticism is that general practitioners, who recorded clinical data, were not blinded to video-recording, introducing a potential source of bias. Pringle, however, found that awareness of video-recording did not influence general practitioners' consulting behaviour, consultation length or the numbers of problems they dealt with at each consultation (Pringle and Stewart-Evans, 1990), so it is unlikely that GPs being recorded would have altered their behaviour in a way which hindered patients from presenting mental health problems. Also, GPs' lack of blindness to video-recording is unlikely to have significantly altered their recording of mental health problems as GPs had been told that the researcher was interested in recording how they practised preventive medicine.

Another potential problem is that the association between withheld consent and presenting of mental health problems is an inaccurate false positive result obtained by chance because nine significance tests were performed on clinical data. This is unlikely because the univariate association holds after applying the conservative Bonferroni correction (Altman, 1991a) and logistic regression confirms the independent association between presenting with mental health problems and withheld consent. It is probable, therefore, that the observed difference is real and patients presented significantly less mental health problems in video-recorded consultations. There is little uncertainty, however, in accepting that younger patients more frequently likely withheld consent to video-recording as data on age was obtained from medical records, rendering bias or confounding unlikely.

GPs' perceived differences between recorded and non-recorded consultations need to be treated with caution. GPs recorded that patients presented more psychological problems, and were more likely to appear embarrassed or distressed in consultations which were not video-recorded. This information was ascertained by GPs' judgments made during consultations, which could have been influenced by GPs knowing whether or not video-recording was taking place. Patients in previous studies, however, have reported embarrassment as a reason for withholding consent to video-recording (Martin and Martin, 1984) and non-significant higher stress levels have been measured in patients who withhold consent (Pringle, Robins and Brown, 1984). This suggests concordance between GPs' perceptions during data collection surgeries and other research findings.

(d) Implications for Future Research

Researchers planning projects involving qualitative interviews with GPs may wish to consider using a sampling method similar to the one used for stage two of the study. Choosing GPs with variation in their reported attitudes could be more effective for selecting those with diverse views on the subject of research than other sampling methods. This could result in less time being expended on qualitative work as 'data

saturation' (Glaser and Strauss, 1967) might occur at an earlier stage. The effort of recruitment could be lessened if existing questionnaires which differentiate between doctors with differing attitudes like the depression attitude questionnaire (Kerr, Blizard and Mann, 1995) were appropriate and could be used.

Recruitment of GPs to the stage two studies was onerous, with nearly 60% of the survey respondents who were asked, refusing to participate. Researchers wishing to conduct research using video-recordings of consultations would be advised to consider their research questions carefully and if, appropriate, recruit entirely from teaching and training practices to minimise workload. Any attempt to recruit a study sample 'representative' of all GPs for research involving video-recording of consultations is unlikely to be successful. Researchers using video-recordings of consultations need also to give serious thought to how this self-selection of GPs could influence study findings.

Finally, researchers who plan to use video-recorded consultations need to consider how the use of this technique can alter the case mix of presenting patients. The greatest caution is required in the study of consultations where mental health problems are presented. Additionally, where researchers are interested in younger patients' consultations, care needs to be exercised. In these two situations the utility of video-recording as a data collection tool is likely to be compromised and other approaches may be more appropriate.

This study has not determined any of the reasons why more mental health problems are presented in the absence of video-recording, nor why younger patients are more likely to withhold consent. As video-recording of consultations is a valuable research technique, further research aimed at determining the reasons behind the observed differences would be helpful. This research could be used to find ways of making video-recording more acceptable to the sub-groups of patients who are more likely to withhold consent, thus preserving the utility of this valuable research technique.

G:\TIM\MDDOC.TXT\DISCUSS\MDDISC1.0

2 Study of Smokers' Consulting Behaviours

For the sample of smokers recorded on video, consulting behaviours which are hypothesised to indicate whether they are more or less likely to attempt quitting have been identified. Descriptors of these behaviours have been defined and there is evidence that smokers' behaviour can be reliably identified using these. There is also evidence to support the validity of the described behaviours.

(a) Reliability

Kappa values indicate good inter-observer reliability between the two researchers who developed the coding schedules Altman (1991). As Kappa values are highly dependent upon the prevalence of behaviours observed, these cannot be relied upon alone for the assessment of reliability. One must also inspect the accompanying contingency tables (Tables 14 and 15) which demonstrate that for both readiness and resistant behaviours, agreement about the presence of a behaviour appears highest. Presence of resistance or readiness is most-frequently noted by both observers with few cases of disagreement. There is a lower level of agreement about the absence of either behaviour. Absence (of resistance or readiness) is recorded less frequently by both observers and the proportion of disagreements is much higher. One observer (KS) was more likely to record the presence and less likely to record absence of either readiness or resistant behaviours. Finally, there is near-perfect agreement about the video-recordings where smoking is discussed but no consulting behaviours can be coded. It should be noted that the reliability of individual resistance or readiness behaviours has not been tested because of the small number of times that some of these were observed.

Although the reliability of the coding appears impressive, a high level could be expected as both coders participated in the development of behaviour descriptions. Both observers, therefore, should have been familiar with the theory behind descriptions of

smokers' consulting behaviours. Additionally, reliability was maximised by scrutinising all verbal utterances made by smokers and using the more frequent ones as examples to assist coding. Lower reliability would be expected from observers who were less familiar with the theory underpinning the coding schedule or using larger databases of consultations where smokers may use more varied forms of words to describe their habit.

(b) Construct Validity of Described Behaviours

The concepts of smokers' readiness and resistance cannot be directly measured, so the approach of demonstrating construct and predictive validity for described behaviours was employed.

The notion of construct validity was supported by the study. Smokers who were coded (by TC) as showing *any of the four readiness behaviours* were more likely than others to answer relevant pre-consultation questionnaire items in the manner of smokers who are more ready to attempt to quit smoking. Smokers *showing readiness* (versus those *showing none*) recorded more 'readiness' on five of these questionnaire items (Table 16). Three of these differences reached statistical significance in a univariate analysis, and one would have remained so after correcting for multiple significance testing (Altman, 1991a).

Similarly, smokers who were coded as displaying *no resistant behaviours* were also more likely to answer pre-consultation questionnaire items in the manner of smokers who are more ready to attempt to quit (Table 17). Smokers showing *no resistant behaviours* (versus those *showing some*) recorded more 'readiness' (as expected) on five of these items. Responses to the two questions assessing smokers' attitudes towards their habit (pre-consultation questionnaire Q13 and Q14), however, showed negative responses from smokers coded as showing no resistant behaviours (unexpected result). *None of these differences, however, reached statistical significance.*

There were no consistent differences in the reported smoking behaviour of those coded as *showing readiness* (versus *no readiness*) and *resistance* (versus *no resistance*) in the three months after consulting. This means that no evidence for the predictive validity of readiness and resistant consulting behaviours (i.e. ability to predict future changes in smoking behaviour) was produced by this study. Given the small numbers of smokers involved and the loss of data involved with the follow-up questionnaire (response rate 64%), this is not entirely surprising.

In assessing construct validity, readiness and resistance behaviours have been generally shown to vary in an expected manner with pre-consultation questionnaire variables. These questionnaire variables have previously been shown to be associated with positive changes in smoking behaviour and future smoking cessation. The assumption implicit in this approach to demonstrating validity is that consulting behaviours associated with relevant pre-consultation variables are also similarly associated with future changes in smoking behaviour (i.e. they also have predictive validity). Unfortunately, this study provides no direct evidence of predictive validity. It is worth pausing, therefore, to consider the potential for chance, bias or confounding influencing the results of the construct validity assessment (Hennekens and Buring, 1987).

(i) *Chance*

Applying the conservative Bonferroni correction (Altman, 1991a) and multiplying p values by 16 (the number of significance tests performed), one result remains significant at the 5% probability level. Smokers displaying readiness behaviour are significantly more likely than others to register that they are *thinking about or trying to stop smoking* (Q12). This pre-consultation questionnaire item (Q12) was designed to differentiate between smokers with low levels of readiness to change. It would be expected, therefore, to differentiate more readily between smokers attending GPs' surgeries than items measuring past quitting behaviour or more firmly stated intentions about quitting

(see Q8 & Q9) which indicate higher levels of readiness to change. One would, therefore, expect significant differences between Q12 responses before others.

Of the 16 comparisons made in the construct validity assessment, only two showed (non-significant) differences in smokers' responses which were unexpected (*Smokers not coded as showing any resistant behaviours registered more negative attitudes towards smoking compared to those showing resistance (on Q13 & Q14)*). The consistency of these results with those predicted helps support the notion of construct validity. It needs emphasising that the study was extremely small, being limited by the time consuming nature of data collection. Calculating the optimum sample size at the outset was impossible due to the exploratory nature of the study. One is left pondering whether use of a larger sample size might have resulted in more true and expected associations being demonstrated.

(ii) Bias

The findings could be explained by bias if smokers altered their consulting behaviour as a consequence of completing the pre-consultation questionnaire. For example, smokers making questionnaire responses indicating readiness to change might recall this whilst consulting and behave in a more co-operative fashion during discussions about smoking. There is no way that the possible effects of this phenomenon can be quantified. It should be noted, however, that patients generally have other concerns whilst consulting (Cromarty, 1996) and that no secondary gain was possible from altering consulting behaviour.

(c) Validity of Description of Smokers' Consulting Behaviours

The section above considers the validity of the statistical associations demonstrated during the assessment of construct validity. For the description of smokers' consulting behaviours to be valid, it is necessary that data collection and video-recording has not influenced the consulting behaviours of study participants in any other way. The

question which must be asked is "*Have patients or GPs changed the way they talk about smoking as a consequence of study participation?*".

(i) *Patients' Consulting Behaviour*

No studies have investigated whether patients' awareness of video-recording influences their consulting behaviour. Consequently, one cannot be entirely certain how typical their consulting behaviours on videotape are. Patients' views immediately after being recorded suggest that where they consent to this, the process is of little consequence to them (Martin and Martin, 1984). Around 70% of patients reported forgetting about the presence of the camera during the consultation and less than 5% perceived their GP had dealt with them in an '*unusual*' way. Also over 90% agreed that video-recording of consultations could be a valuable research tool in general practice studies (Martin and Martin, 1984).

(ii) *General Practitioners' Consulting Behaviours*

One study (Pringle and Stewart-Evans, 1991), has explored whether GPs' awareness of being video-recorded influences their consulting. This found no differences over a range of consulting behaviours, including the amount of time devoted to preventive medicine. In this study smoking was not discussed more frequently than could be expected, with 29% of regular smokers reporting this. This is comparable to the 24% of regular smokers (combining all three treatment group smokers) who reported discussions about smoking in a trial of increasing consultation length (Wilson, McDonald, Hayes et al, 1992). This trial was conducted in Nottinghamshire and involved the audio-taping of a minority of consultations so in both studies similar circumstances exist. Unfortunately, no other figures are available on the rate with which GPs and patients discuss smoking.

One cannot tell whether the content of GPs' discussions about smoking with patients was changed by data collection. It needs emphasising, though, that many GPs reported

forgetting that the study was interested in observing preventive medicine due to the time lapse between recruitment and data collection. It is unlikely that the way these GPs discussed smoking with patients was altered.

(d) External Validity (Generalisability) of Description of Smokers' Consulting Behaviours

The external validity of a study or generalisability of any study is the extent to which study findings can be applied to other populations (Hennekens and Buring, 1987). Ideally, findings would be valid for all smokers attending any GP in the UK but, this is compromised by the characteristics of patients and GPs in the final study sample. The effects of video-recording on the characteristics of participants have been described above. Consideration of this forces one to exercise caution when interpreting how completely smokers' consulting behaviours have been described. It is possible that the behaviours of younger smokers and those presenting with mental health problems may not have been exhaustively-described. Additionally, as GP trainers are more patient-centred than other GPs (Law and Britten, 1995), one would expect patient-centred interactions to be over-represented in the study sample, perhaps lessening the amount of smokers' resistant behaviour observed. Conducting the study in a reasonably compact geographical area may also limit generalisability. If smokers in other areas talked about their habit in different ways, then the validity of the behaviours might need determining for smokers living in these areas.

It should be noted that no socio-demographic data on the practice populations of participating GPs has been presented. One cannot speculate, therefore, about the patient population to whom the description of smokers' behaviours can be generalised. External validity is of lesser importance than internal validity in a hypothesis-raising study of this nature, however.

(e) Implications for Future Research

To the author's knowledge, this study is the first to attempt to research GPs' health promotion interactions from a behavioural perspective. Ideas from the behavioural sciences literature have been applied to the study of general practice consultations, providing a new method of describing discussions about smoking between GPs and smokers. In order to develop this field of study further it is vital to demonstrate further validity for smokers' consulting behaviours. Of particular importance is the need to demonstrate *predictive* validity. To attempt this a much larger cohort of smokers would need to have their consulting behaviour coded and their subsequent smoking behaviour recorded. If predictive validity were proven, then the descriptors of smokers' behaviours could have potential to be developed into an interaction analysis system (IAS) which had relevance to smoking cessation. This could be used as a research tool to investigate ways of promoting smoking cessation during GPs' consultations.

The reliability of the coding, although secondary in importance to the validity of descriptors, also needs to be addressed further. So far, the reliability demonstrated is that between the coding of the two researchers who developed the descriptions of smokers' behaviours. To have wider utility, the coding system needs to be easily and reliably-used by other researchers. Demonstrating further reliability could be done using video-recordings which have already been made. A first step would be for TC and KS to view consultations where they disagreed about the coding of smokers' behaviours and decide whether or not definitions of behaviours need making clearer and more obviously mutually-exclusive. Once the revised or clearer definitions of behaviours had been completed a third (or more) observer(s) would need to be code the consultations using these to investigate intra-observer reliability with the TC and KS. Finally, this third (and other) observer(s) could demonstrate intra-observer reliability by re-coding consultations one or two months later and comparing agreement with initial coding.

The work presented in this thesis describes only sketchily GPs' consulting behaviours whilst discussing smoking with patients. Any doctor:patient interaction is incompletely described if the role of the doctor is ignored. Further work using the database of video-recorded consultations will, therefore, be undertaken to develop descriptors of doctors' consulting behaviours. Using this database, it is unlikely that convincing evidence for the validity of described GPs' behaviours could be produced, however (see Introduction, Section 7).

SPECIAL NOTE

**ITEM SCANNED AS SUPPLIED
PAGINATION IS AS SEEN**

3 Qualitative Interview Study

(a) Use of Video-Recording

To the author's knowledge, this is the first time that video-recorded consultations have been used as an aide-memoir before semi-structured interviews with GPs which focus on one aspect of consulting behaviour. Arborelius and Timpka (1990), used a similar methodology, where patients and GPs individually observed video-recordings of their consultations and were subsequently asked their opinion on these. Interviewers did not attempt to focus interviewees on any one aspect of consulting behaviour, however, and merely sought to record GPs' and patients' opinions of what differentiated between 'good' and 'bad' consultations. Cromarty (1996) used an identical method to determine patients thoughts during their consultations. These less structured approaches would have been inappropriate in this study where GPs' views were sought on only one aspect of their consulting behaviour, rather than the whole consultation. It was necessary therefore to inform GPs of the subject of interest before watching video-recordings and for the researcher to ask open questions about relevant topics rather than the interview being led entirely by interviewees.

Another approach which could have been used to research this topic is the '*Critical Incident Method*' (Bradley, 1992). This technique requires interviewees to recall and relate to the interviewer real events "*in which the purposes and consequences of the behaviour are clear*" (Bradley, 1992). The interviewer then focuses the interview on the reasons behind the actions or events described. If video-recording had not been available, interviewees could have been asked to prospectively record details of consultations in which they had discussed and not discussed smoking with patients. Interviewees' recall of these could then have been used as a starting point for interviewing. It is likely, however, that interviewees would only be able to recall the more memorable of their consultations (i.e. the critical incidents). In this study, though,

interviewing usually occurred a few hours after the data collection surgery, maximising GPs' recall of consultations. This meant that consultations of interest were likely to be fresh in interviewees' minds and enabled interviews to be focussed on a wide variety of consultations, including those which were not likely to be easily remembered by GPs. Consequently, this approach may have facilitated a more comprehensive description of the factors which influence GPs' clinical behaviour when advising smokers against their habit. The study was probably less biased towards 'unusual' or atypical consultations than it would have been if the starting point for interview had been a consultation recalled by the interviewee.

This study has demonstrated the feasibility of video-recording consultations for use in interviews occurring soon afterwards. Where a morning surgery was recorded and the GP was available for interview on the same day, it was possible to scan the video-tape and select consultations whilst the GP was conducting home visits. This was done for the majority of interviews.

(b) Generalisability

Some qualitative researchers have preferred to use the term 'transferability' to describe this concept, emphasising that no statistical inference or proof is implied using the qualitative research paradigm (Hamberg, Johansson, Lindgren et al, 1994). The same underlying question which must be asked by qualitative or quantitative researchers, however, is "*How far can my research findings be applied to other populations?*". An understanding of basic research concepts is more important than dual research languages and the term generalisability has been adopted in recently-produced guidelines for qualitative research (Britten, Jones, Murphy et al, 1995a). In this study one must consider whether the views reported are particular to the interviewed GPs or whether other GPs may hold similar ones.

This study has sought to describe the GPs' views concerning their role in giving anti-smoking advice and determine GPs' perceptions of the factors which hinder or promote this. The characteristics of the research sample, suggest that the reported views are those of younger GPs working in predominantly teaching and training practices around Leicestershire (i.e. urban, sub-urban and rural). It probable that similar opinions will be held by GPs with similar characteristics working in other locations. It is possible, however, that the method of sampling GPs (a random sample stratified by their attitudes towards discussing smoking) will have lessened the importance of GPs' professional and demographic characteristics. The reported views may, therefore, be even more widely-held. This is particularly likely to be true for beliefs which are consistently-reported (e.g. fear of spoiling the doctor:patient relationship acting as a barrier to advice-giving). As in most research, qualitative decisions are required to assess the generalisability of this study.

(c) Trustworthiness

This concept is analogous to validity in quantitative studies. Instead of asking whether the study result is a true one, one must ask "*Is this description of these GPs' views complete, rigorous and trustworthy?*" (Britten, Jones, Murphy et al, 1995). Great effort was spent in obtaining a GP sample with heterogeneous attitudes towards discussing smoking in the expectation that these GPs would display variety in their consulting behaviours and hold a variety of views on discussing smoking with patients. Additionally, during planning of interviews, care was taken to identify factors which might influence GPs' advice-giving behaviour and this information was used to help select varied consultations to show before interviews.

Despite this, caution must be exercised due to the limitations of the patient sample. Younger patients and those presenting to GPs with mental health problems are relatively under-represented on video. Conversely, women, older patients and non-working patients are probably over-represented in data-collection surgeries. Some of the factors

which GPs' perceive influence whether or not they discuss smoking with younger, male patients and those presenting with mental health problems may, therefore, not have been adequately described.

The greatest influence on the trustworthiness of the description is likely to have been the use of video-recording. As discussed in sections above, one cannot be entirely sure that the use of this technique had no effect on the consulting behaviour of GPs and patients. As the frequency with which smoking was discussed does not seem to have been increased by the research project (see Discussion, section 1), most GPs may have remained unaware of the focus of research whilst being video-recorded. Certainly, at interview, the majority of GPs indicated that this was the case.

When assessing trustworthiness, the meaning of GPs' interview responses must be considered. Do these merely represent post-hoc explanations for interviewees' consulting behaviour which bear little or no relation to their actual reasons for behaving as observed? Alternatively, do the interview transcripts provide a unique insight into a hitherto little-explored area of GPs' consulting behaviour? The true value of the interview data probably lies somewhere between these two extremes, but hopefully closer to the latter. It is possible that some GPs may have deliberately mis-represented themselves to the interviewer, for example, after viewing a consultation where they perceived their performance to be sub-optimal. If this had been the norm rather than the exception, one would have expected much less consistency in the study findings as interviewees would probably have produced diverse, idiosyncratic reasons to explain their consulting behaviour.

(d) Principal Findings

This study illustrates that GPs' decisions to discuss smoking are complex and influenced by a wide variety of factors.

(i) *Doctor:Patient Relationship*

An important new finding is that the value GPs attach to their relationships with patients appears to pervade the way they approach giving advice against smoking. The most frequently-cited barrier which GPs' perceived hindered their advice-giving was their fear of harming the doctor: patient relationship by giving unwanted advice. GPs generally circumvented these fears by raising the topic in '*relevant*' circumstances: that is with smoking-related problems or smokers with whom they'd previously discussed the topic. GPs felt, that in these situations, patients could reasonably expect to consider a discussion of smoking to be appropriate, thus minimising the likelihood of confrontation. In these contexts, GPs were more confident that smokers would be prepared to listen to their advice and perhaps act on it. GPs also reported a consistent desire to address patients' concerns and reasons for consulting which often left little time for discussion of smoking. In the presence of a smoking-related complaint, however, it was perceived that addressing patients' concerns could be combined with discussion about smoking within the time constraints of a routine surgery.

GPs' perceptions of the quality of their relationships with patients also influenced whether or not they considered it appropriate to attempt to persuade smokers to quit. Even where smokers presented with smoking-related problems, GPs reported reluctance to attempt to modify their smoking if the doctor:patient relationship was perceived problematic. GPs' advice against smoking was viewed in the context of the long-term relationship between doctor and patient. A number of GPs talked about providing '*continuity*' or '*packages of care*' for patients involving the follow-up of advice which had been given and the need to vary the message if advice were to be repeatedly given.

(ii) *Awareness of Smoking Status Versus Discussion of Smoking*

Another important finding is that different factors appear to influence whether GPs merely become aware (or make themselves aware) of patients' smoking status (Fig. 10) and whether they indulge in discussions with the aim of changing patients' smoking

behaviour (Fig. 11). Consequently, one cannot assume, that interventions which increase GPs' awareness of patients' smoking status will necessarily cause an increase in GPs' advice aimed at persuading smokers to quit. This can be illustrated by considering the effects that health promotion payments appear to have had on GPs in the study.

At the time of data collection, GPs were paid for recording smoking status of their patients (NHS Management Executive, 1993). No GPs cited receiving financial payments as an explanation for their giving advice against smoking in consultations they were shown, however. Some GPs indicated that on other occasions payments had spurred them to enquire about patients' smoking habits, but that when this had occurred, it was done in a mechanistic, data-collecting manner and did not represent serious attempts to promote patients' smoking cessation. It appears, therefore, that health promotion payments in existence at the time did not consciously influence study GPs to attempt to persuade smokers to stop. A qualitative interview study cannot assess the effects of an intervention but this does suggest that payments may have primarily promoted the recording of smoking status rather than any deliberate activity aimed at influencing patients' smoking habits. This observation is consistent with the fact that, at the time of the interview study, 34% of GPs reported using questionnaires distributed outwith consultations to collect data for health promotion claims, precluding concomitant advice-giving (LeTouze and Calnan, 1995).

(iii) Importance of Patients' Responses

This study has demonstrated that GPs view the giving of advice against smoking as an interactive process and this influences the nature of the advice which they give. Patients' responses when GPs initiate discussion on the topic of smoking are crucial to whether the issue will be discussed in depth. GPs are more willing to attempt to influence the behaviour of patients who they judge are motivated, but individual GPs have idiosyncratic ways of assessing this. The study of smokers' consulting behaviours described in previous sections could be a first step towards finding more standardised

methods of determining the motivation (or readiness) of smokers to quit during their consultations. Where GPs expect advice to be poorly-received by smokers they are less likely to discuss smoking with them. A number of interviewees drew attention to the difficulty which they have experienced when attempting to give advice repeatedly to the same smoker over repeated consultations. Others described problems encountered in giving a negative message (stop smoking) in a positive fashion, which they felt smokers were more likely to take heed of. This could explain why GPs have reported a lack of skill as hindering their advice-giving (Lennox and Taylor, 1995). It suggests that further scrutiny of GPs' within-consultation negotiating skills could be valuable to determine whether these need to be improved.

(e) Implications For Further Research

A large number of intervention studies have aimed to increase the amount of advice against smoking which GPs give to patients (Fiore, Bailey, Cohen et al, 1996). These have generally dealt with one issue and have had limited success. For example, interventions which have provided physicians with training in smoking cessation counselling techniques have been shown to increase only slightly the rate with which physicians advise against smoking, but rates of smoking cessation amongst patients are not improved (Silagy, Lancaster, Gray et al, 1994). This qualitative study has clearly demonstrated the multi-factorial nature of GPs' decisions to advise smokers to quit, suggesting that interventions modifying only one of these factors are likely to have similarly modest effects.

The study findings could be employed by researchers planning intervention studies which aim to increase the rate with which GPs give "stop smoking" advice to their patients. Researchers would benefit by giving consideration to whether or not the interventions they propose are likely to influence GPs' decisions to actively attempt to persuade smokers to quit. Those which do will probably have the greatest effects whereas interventions which merely increase GPs awareness of patients' smoking status are likely

to have more modest effects on GPs' advice-giving behaviour.

Further research to confirm or refute the generalisability of the notion that GPs prefer to approach the giving of advice against smoking in a problem-based manner would be worthwhile. This feeling was consistently reported by GPs in the study and may have implications for those who seek to influence GPs' advice-giving behaviour. The Royal College of General Practitioners (RCGP, 1981) and Health Education Authority (HERA, 1991) have both urged that GPs give advice to the greatest possible number of smokers, thus maximising their influence on patients' smoking rates. Recently-produced American guidelines (Fiore, Bailey, Cohen et al, 1996) have emphasised, however, that primary care physicians should raise the topic of smoking every time smokers attend their physician. The introduction to this thesis has summarised the evidence which indicates that GPs don't approach advice-giving in this way (a population-based approach) and this study both demonstrates and explains GPs' preference for utilising problem-based opportunities to discuss smoking. The study findings imply that the recommendations made by the official bodies above ignore the context in which advice against smoking is given in British general practice.

A local survey (Coleman and Wilson, 1996) has also suggested that GPs prefer to give advice against smoking in a problem-based manner. If this view is held by a large majority of GPs, then those interested in increasing the amount of anti-smoking advice given by GPs will either need to work towards altering this perception or urge a problem-based advice-giving strategy. Exhorting GPs to utilise problem-orientated opportunities for discussing smoking more frequently is likely to be an acceptable strategy to GPs and perhaps would be more widely applied in practice. An alternative would be to attempt altering GPs' perceptions about the value the problem-based approach. This study suggests that to do this successfully would be challenging because GPs' explanations for utilising a problem-based approach towards discussing smoking seem to be entangled with how they view their role as a GP.

4 Smokers' Views on GPs' Advice Against Smoking

The striking feature of smokers' views were the lack of criticism of GPs' advice where it was recalled (Table 18) and the lack of desire for advice where it was not (Table 19).

The 80% response rate of the post-consultation questionnaire suggests that these findings have reasonable external validity. This is further supported by the fact that only one difference was demonstrated between respondents' and non-respondents' pre-consultation questionnaire variables (*having tried to quit in the past or not*) which would not remain significant after correction for the multiple significance tests performed (Altman, 1991a).

The non-random selection of data collection surgeries will, however, limit external validity as the views of patients attending morning surgeries (e.g. *non-working and retired patients*) in teaching and training practices predominate. The small sample size of this study ($n = 34$ for smokers recalling advice and $n = 81$ for those not recalling advice) makes confidence intervals on any proportions wide. It is sensible, therefore, to consider the overall pattern of smokers' views rather than comparing how smokers responded to individual items on the post-consultation questionnaire.

Where GPs' smoking advice was recalled, large majorities of smokers consistently reported positive or neutral attitudes towards this. The author could find no other studies investigating the views of smokers on GPs' opportunistic advice against smoking, so no normative data is available for comparison. Where advice was not recalled, however, the majority of smokers consistently reported negative or neutral attitudes when asked to indicate how they would feel if advice had been given. Both where smoking was recalled and not recalled, the greatest proportion of respondents dissenting from the majority view on any one questionnaire item was less than 10%.

Smokers' positive views towards recalled advice (table 18) may be a product of the care which GPs use when considering how and when the topic of smoking should be raised

with patients (see qualitative study results and discussion). Additionally, advised smokers were more likely to report *intending to quit, having tried to quit or thinking about quitting* on the pre-consultation questionnaire (Table 13). One would expect these smokers to receive anti-smoking advice more positively than others and report more favourable views about this.

Alternatively, study findings may merely reflect a crude research instrument which is unable to measure diverse views amongst respondents who are reluctant to criticise their GP. Patients' reluctance to criticise their GPs may be greater when they are asked to complete questionnaires immediately after consulting whilst they are still on surgery premises. It is impossible to determine the extent (if any) to which this phenomenon influenced respondents in the study. As smokers were informed that the questionnaire was confidential, however, this may have allowed them to express their true feelings, minimising 'positive skew'.

The views of smokers who attended the GP but received no advice against smoking (Table 19) suggest that, contrary to the suggestions of other researchers, (Wallace and Haines, 1984; Wallace, Brennan and Haines, 1987), smokers generally have little enthusiasm for receiving GPs' anti-smoking advice. Large majorities of respondents disagreed that advice '*would have been useful*', the doctor '*should have advised*' them or they would '*have been happier if their GP had mentioned smoking*'. A majority also reported that they '*did not want the GP to mention smoking*'. These smokers had nothing to gain from registering negative views, so those reported are probably genuine.

The research method employed (post-consultation questionnaire) was crude and has produced fairly crude information concerning smokers' views on GPs' advice against smoking (or the lack of it). Piloting of the questionnaire was difficult and involved GPs giving questionnaires to patients whom they knew were smokers, whether or not advice against smoking had been given. Few smokers in the pilot reported discussing smoking

with their GP, making assessment of the appropriateness of questionnaire items asking about advice received problematic. It is possible that differently-worded questionnaire items, phrased as a result of more extensive piloting might have elicited a wider range of findings than those reported.

(a) Implications For Future Research

Although the information on smokers' views is rudimentary, this is the first time (to the authors' knowledge) that patients' views have been sought on an aspect of opportunistic health promotion at the time of consulting. Researchers should attempt to find out why smokers hold their reported views on GPs' advice against smoking. Qualitative research methods are likely to be most appropriate. Previously, qualitative interviews (Stott and Pill, 1990) have demonstrated that patients hold more complex attitudes towards GPs' attempts at health promotion than surveys suggest (Wallace and Haines, 1984; Wallace, Brennan and Haines, 1987).

More detailed information about smokers' views on GPs' advice could be used to inform research aimed at discovering the most effective ways for GPs to discuss smoking with patients. It is feasible that smokers exhibiting resistant behaviours in response to advice are more likely to feel negative about this so information on smokers' views about advice could be used to develop hypotheses about ways in which smoking can be discussed by GPs without provoking resistant consulting behaviours by smokers.

Clearly, studying the process of giving advice aimed at persuading smokers to quit is a relatively new area of research. This questionnaire study is only the start of the process and raises the above questions which require further investigation. Crucially, the relationship between smokers' attitudes towards GPs' anti-smoking advice and the effectiveness of this should be explored further.

5 Conclusions and Recommendations

This thesis has described a number of studies involving a range of methodologies. The principal conclusions of these studies can be divided into methodological ones and those concerned with general practitioners' discussions about smoking.

1. *Conclusions Concerned With Research Methodology*

- It is feasible to design a questionnaire which measures GPs' attitudes towards the subject of research and to use this for recruiting a random sample of GPs stratified by these attitudes.

Recommendation: Other researchers may consider using this approach to recruit GPs for qualitative interview studies.

- GPs who agree to be video-recorded for research purposes are more likely to be younger, to be members of the Royal College of General Practitioners and to work in teaching or training practices.

Recommendation: Where video-recorded consultations are used in research, consideration of how this self-selection by GPs influences study findings is mandatory.

- Younger patients and those presenting with mental health problems are more likely to withhold consent to video-recording. GPs perceive that recorded and non video-recorded consultations are different.

Recommendation: Researchers using video-recorded consultations need to consider how this technique alters the case mix of patients recruited to a study. Further research is

needed to determine why younger patients and those presenting with mental health problems are more likely to withhold consent.

2. *Conclusions Concerned With Discussions About Smoking*

- Smokers' consulting behaviours indicating '*readiness*' or '*resistance*' towards the notion of quitting smoking have been reliably-described. There is also evidence that these descriptions may be valid.

Recommendation: Further work is required to determine whether other researchers can reliably code smokers' behaviours. The validity of consulting behaviour descriptors also requires further evaluation.

- GPs' fears for upsetting doctor : patient relationships are a major determinant of how they choose to broach the topic of smoking with patients. GPs prefer to discuss smoking with patients when they present with smoking-related problems as they believe this is less likely to result in conflict with patients.

Recommendation: Strategies which aim to increase the amount of advice which GPs give should take this into account.

- Smokers are generally uncritical of GPs' advice against smoking which they recall, but where they recall no advice, they report little enthusiasm for receiving any.

Recommendation: These findings question the previously-made assertion that smokers wish to receive advice against smoking during consultations. Further research into smokers' views is required.

APPENDIX TO METHODS

Appendix To Methods 1

- Piloting of stage one questionnaire
- Copy of stage one questionnaire
- Letters accompanying mailing of questionnaires

Piloting of Stage One Questionnaire

The first draft of the questionnaire was circulated to GPs who were members of the University of Leicester, Department of General Practice. This resulted in minor changes to the wording of some questions and a reminder to turn over the page after answering question 17. One question was removed from the group of questions which were intended to form the attitude scales as it was demonstrated to be open to misinterpretation. The stem of this question was *"Patients don't stop smoking because I've advised them to"*. Question 16 was added to the series of attitudinal questions as a result of this round of the piloting. Question 18 had 13 items before the pilot. Three items were removed from it after the pilot as none of the 15 respondents had selected them.

For the second round of piloting a random sample of 20 GPs were selected from the Nottinghamshire FHSA directory. Each GP was allocated a number and random number tables (Neave 1981) were used in their selection. Nottinghamshire was chosen for the pilot as it is similar to Leicestershire and also geographically close. The questionnaire was sent with a covering letter in a handwritten envelope to the sample of GPs. A stamped addressed envelope was provided for the response. The covering letter (included in this appendix) was addressed to individual GPs and signed by the researcher. 11 responses were received after one postal reminder and telephone follow-up of non-respondents increased this to 15 (out of 18, as two GPs had changed address).

Question 18 was often omitted by pilot respondents, so in the final version 'P.T.O.' was clearly marked at the foot of question 17. The telephone follow-up did not elicit any questionnaire-specific reasons for non-response. a copy of the questionnaire follows. It should be noted that Q.17 and Q.18 collected data which is not reported in the thesis but has been published elsewhere (Coleman and Wilson, 1996).

Thank you very much for helping me with my study. It will help me greatly if you could provide me with some details about yourself and your practice. All responses are strictly confidential.

☐ ☐ ☐ 1

Name.....

Please circle the following answers as appropriate:-

1. i) What is your sex: **male** **female**

☐ 2

ii) In an "average" surgery how many patients do you see each hour ?

<6, 6-7, 8-9, 10-11, >12

☐ 3

iii) Does your practice run any clinic or organised sessions to help patients stop smoking ?

yes no

☐ 4

2. i) Have you attended any educational courses which have included training in how to persuade smokers to stop smoking ?

yes no

☐ 5

ii) If the answer to i) above is "yes", how long ago did this training take place ?

less than one year one to five years > five years

☐ 6

3. i) In your last routine surgery, how many times did you discuss smoking with a patient ?

.....

☐ 7

Please circle the appropriate responses below:

ii) Did this surgery consist of booked appointments?

yes no

☐ 8

iii) Was this surgery typical of your usual practice?

yes no

☐ 9

I'm interested in how you feel about giving anti-smoking advice during your routine consultations. Below is a series of statements on this subject. I'd like you to circle the response which demonstrates your level of agreement or disagreement with each.

Key

SA = strongly agree

TTA = tend to agree

D = disagree

A = agree

TTD = tend to disagree

SD = strongly disagree

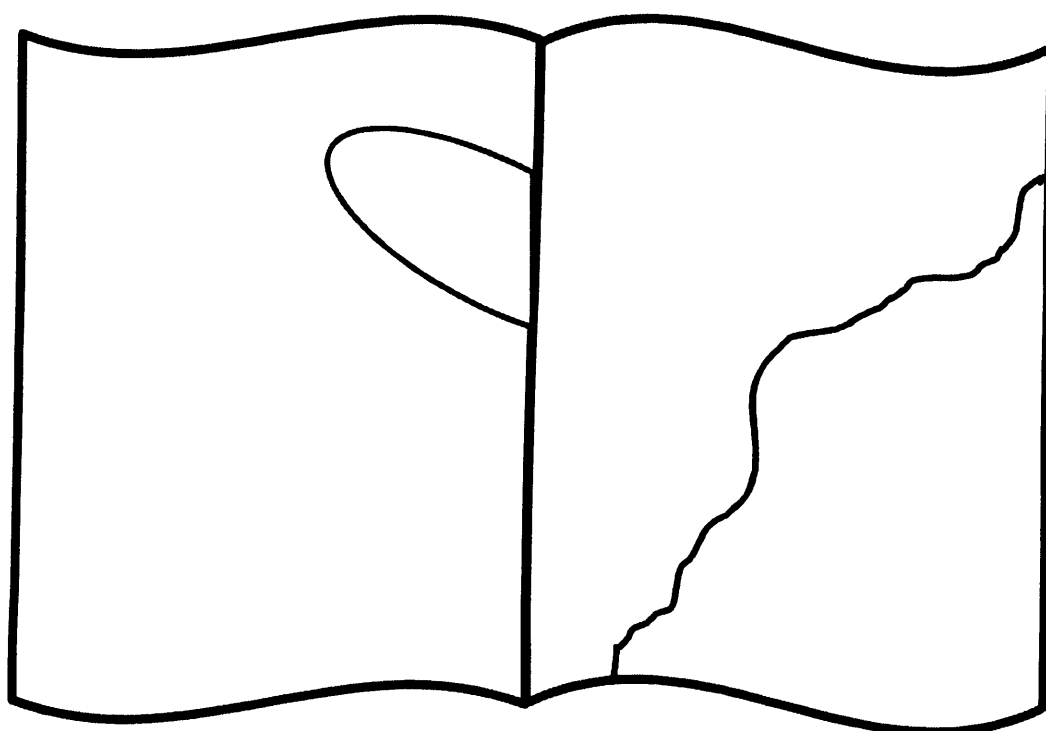
4. Discussing smoking with all presenting smokers is not an appropriate use of my time.

SA A TTA TTD D SD

☐ 10

- | | | | | | | | | |
|-----|---|----|---|-----|-----|---|----|-----------------------------|
| 5. | My anti-smoking advice is more effective than any other anti-smoking education that my patients receive. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 11 |
| 6. | I prefer not to discuss smoking unless the patient is ill with a smoking-related problem. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 12 |
| 7. | When patients continue to smoke despite repeated advice to stop, my anti-smoking advice can still have a worthwhile effect. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 13 |
| 8. | I dislike discussing smoking in my routine consultations. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 14 |
| 9. | My anti-smoking advice is more effective when it is linked to an individual's presenting problem. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 15 |
| 10. | Giving anti-smoking advice during routine consultations should not be part of my job. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 16 |
| 11. | I can be very effective in persuading some of my patients to stop smoking. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 17 |
| 12. | I prefer not to discuss smoking with my patients unless they raise the subject. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 18 |
| 13. | Discussing smoking with all presenting smokers is likely to do more harm than good. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 19 |
| 14. | Discussing smoking with my patients can be very rewarding for me. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 20 |
| 15. | My anti-smoking advice is equally effective whether the smoker is ill with a smoking-related problem or well. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 21 |
| 16. | I don't discuss smoking with all smokers, but prefer to select out those smokers who I feel will respond to my advice. | SA | A | TTA | TTD | D | SD | <input type="checkbox"/> 22 |

SPECIAL NOTICE



DAMAGED TEXT - INCOMPLETE IMAGE

I am interested in the approaches that you use when you are advising patients to stop smoking. There is no "correct" way to do this and a variety of approaches can be useful. The next question is an attempt to find out which method(s) you find the most useful.

☐ 23

☐ 24

17. Below is a list of some approaches that you might use during **routine consultations** when advising your patients to stop smoking. From this list select the **five approaches that you find the most useful** and number them as below.

Use numbers 1,2,3,4,5 (1 = most useful 5 = fifth most useful)

The approaches that you find most useful may not appear on the list. Please write these at the bottom of the page and give each one the number (1-5) you feel appropriate.

A maximum of five approaches (including the ones you have written) should be numbered but you may use less than five numbers if you feel there are not five useful approaches.

Number

1-5

- () Building-up patient's confidence in their ability to stop smoking (eg. by highlighting past success in giving up temporarily). ☐ 25
- () Referring to another primary health care team member/primary-care based smoking cessation group/clinic. ☐ 26
- () Suggesting that the smoker persuades family and/or friends to attempt stopping at the same time as themselves. ☐ 27
- () Highlighting the effect that passive smoking is having on other family members e.g. children or spouse. ☐ 28
- () Giving written anti-smoking advice (i.e. a leaflet). ☐ 29
- () Prescribing/advising nicotine replacement therapy (i.e. patches or gum). ☐ 30
- () Linking anti-smoking advice to the patient's smoking-related problem (i.e. personalising the advice). ☐ 31
- () Encouraging cutting down the number of cigarettes smoked before attempting to stop. ☐ 32
- () Offering a follow-up appointment (with yourself) to discuss smoking/monitor progress. ☐ 33
- () "Frightening" the patient by giving strong advice about future health risks. ☐ 34
- () Giving advice on how to cope with withdrawal feelings. ☐ 35
- () Exploring patients' motives for continued smoking/wanting to quit and attempting to influence these. ☐ 36

Other useful approaches ? (maximum of 5)

()

()

()

()

REMEMBER, A MAXIMUM OF 5 APPROACHES SHOULD BE NUMBERED

P.T.C

18. Below are a series of statements describing problems you may have had whilst discussing smoking with your patients during routine consultations. From this list select the five problems that you have encountered most frequently and number them as below.

Use numbers 1,2,3,4,5 (1 = most frequent, 5 = fifth most frequent)

The problems that you encounter may not be on the list. Please write these at the foot of the page in the spaces provided and give each one the number (1-5) you feel appropriate.

A maximum of five problems (including the ones you have written) should be numbered but you may use less than five numbers if you have encountered less than five problems.

Number
1-5

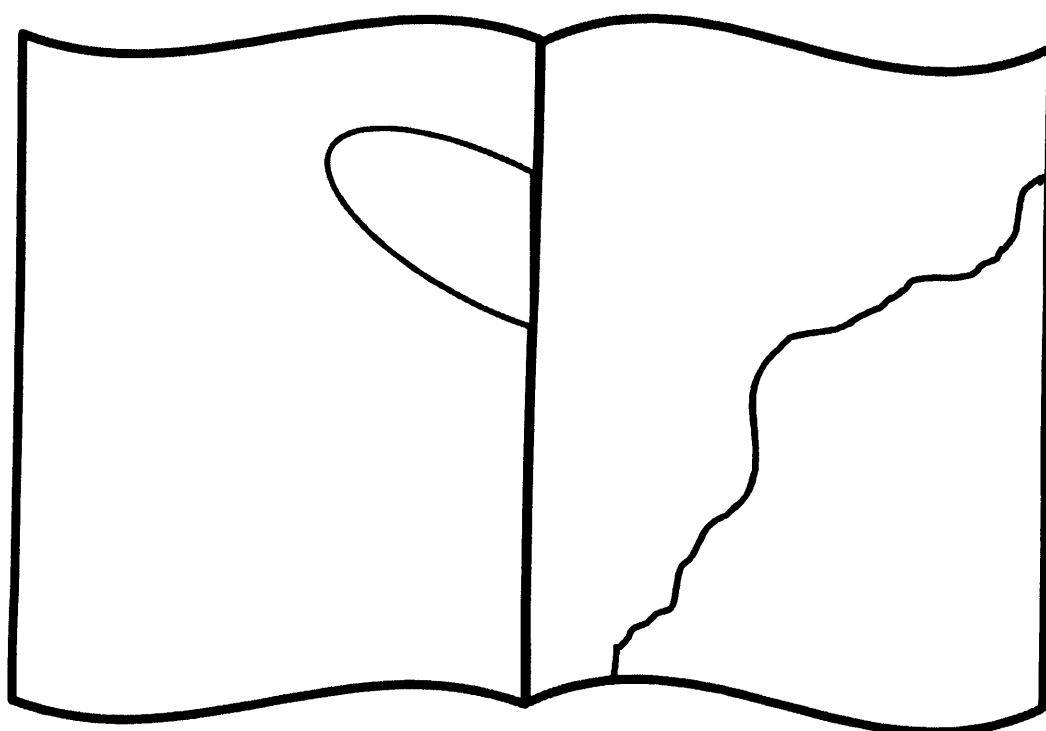
- | | |
|---|-----------------------------|
| () Many of my patients do not have enough motivation to stop smoking. | <input type="checkbox"/> 37 |
| () Lack of time prevents me from discussing smoking as often as I'd like to. | <input type="checkbox"/> 38 |
| () Many of my patients do not understand the importance of stopping smoking. | |
| () I am a smoker myself. | |
| () Smoking is not usually seen as an immediate concern by many of my patients | |
| () Many of my patients easily forget my advice to stop smoking. | |
| () Giving unwanted anti-smoking advice can upset the doctor-patient relationship. | |
| () Many of my patients don't listen to me when I talk with them about smoking. | |
| () I don't have enough skill to persuade my patients to stop smoking. | |
| () Lack of time prevents me from discussing smoking in as much detail as I'd like to. | |
| () Many of my patients state that smoking makes life easier to cope with or more pleasurable for them. | |

Other frequent problems? (maximum of five)

- ()
- ()
- ()
- ()
- ()

THANK YOU

SPECIAL NOTICE



DAMAGED TEXT - INCOMPLETE IMAGE



UNIVERSITY OF LEICESTER

FACULTY OF MEDICINE

LEICESTER GENERAL HOSPITAL · GWENDOLEN ROAD · LEICESTER LE5 4PW

DEPARTMENT OF
GENERAL
PRACTICE

Dear Doctor

HEAD OF
DEPARTMENT

Professor
N C FRASER
D FRCGP

TELEPHONE
053 584871

LECTURERS
MARK McKINLEY
RCP MRCGP
KEW WILSON
D MRCGP

TELEPHONE
053 584622

CLINICAL
TUTORIAL
CLINICAL AUDIT
CENTRE

DEPUTY
DIRECTOR
ARD BAKER
D FRCGP

TELEPHONE
053 584873

DEPARTMENTAL
SECRETARY
053 584982

Anti-Smoking Advice In The Consultation

I would be extremely grateful if you would consider completing the enclosed questionnaire which is included in this envelope. This seeks to discover the methods GPs use when discussing smoking with their patients, the problems they encounter, and their views on this.

You will be aware that the government is encouraging GPs to deliver health promotion advice within routine consultations. I am interested to hear how you feel this is best done for smoking and what problems (if any) you feel need overcoming. The questionnaire is the first in a series of studies examining the current practice of GPs in delivering anti-smoking advice. It is hoped this will result in the development of anti-smoking interventions which build on the existing practice, knowledge and experience of GPs.

I would appreciate it if you could return the questionnaire in the envelope provided by no later than Monday 14th March. A copy of the finished report will be sent to anyone who has completed the questionnaire and requests one.

Yours faithfully,

Dr. Tim Coleman
Honourary Clinical Research Fellow



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FACULTY OF MEDICINE

LEICESTER GENERAL HOSPITAL · GWENDOLEN ROAD · LEICESTER LE5 4PW

DEPARTMENT OF
GENERAL
PRACTICE

TC/MJW/020

6th June, 1994

HEAD OF
DEPARTMENT

Professor
J C FRASER
FRCGP

PHONE
584871

LECTURERS

K McKINLEY
CP MRCGP

W WILSON
MRCGP

PHONE
584622

NATIONAL
AL AUDIT
CENTRE

LECTOR
RD BAKER
FRCGP

PHONE
584873

LECTURER
(RSING)
E M CHEATER
GN PhD

PHONE
584873

MENTAL
SIMILE
584982

Dear

Anti-Smoking Advice in the Consultation

You should have recently received a questionnaire from me on the above subject. If you have completed and returned this within the last two days, then please ignore this letter. If you have not received a questionnaire or returned a completed one, I would be very grateful if you could fill in the enclosed one and return it in the pre-paid envelope as soon as possible. At most this should take ten minutes of your time.

Thank you very much for considering this matter. I look forward to hearing your views on this important subject.

Yours faithfully,

Dr. Tim Coleman, MRCGP
Honorary Clinical Research Fellow

Enc.



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053 584622

CLINICAL AUDIT
CENTRE

DEPARTMENT
OF BAKERY
FRCGP

TELEPHONE
053 584873

LECTURER
(RSING)
E M CHEATER
FRCGP PhD

TELEPHONE
053 584873

MENTAL
SIMILE
053 584982

Dear

I would be grateful if you could consider completing the enclosed form which seeks your views on discussing smoking with patients. 60% of Leicestershire GPs have already replied to this, but I am particularly keen to discover how you feel about the subject. It is equally important to record both positive and negative views to help our profession respond to the government's demands on us in this area.

I too am a GP and realise the demands that are frequently made on your time. The most important questions on the form appear at the beginning. To save your time I would appreciate it very much if you could begin answering the questions but leave out any that you feel are unclear or difficult to answer. A pre-paid envelope is included for your response.

Thank you for considering supporting this research project. If you request a copy of the final report I will be delighted to send you one.

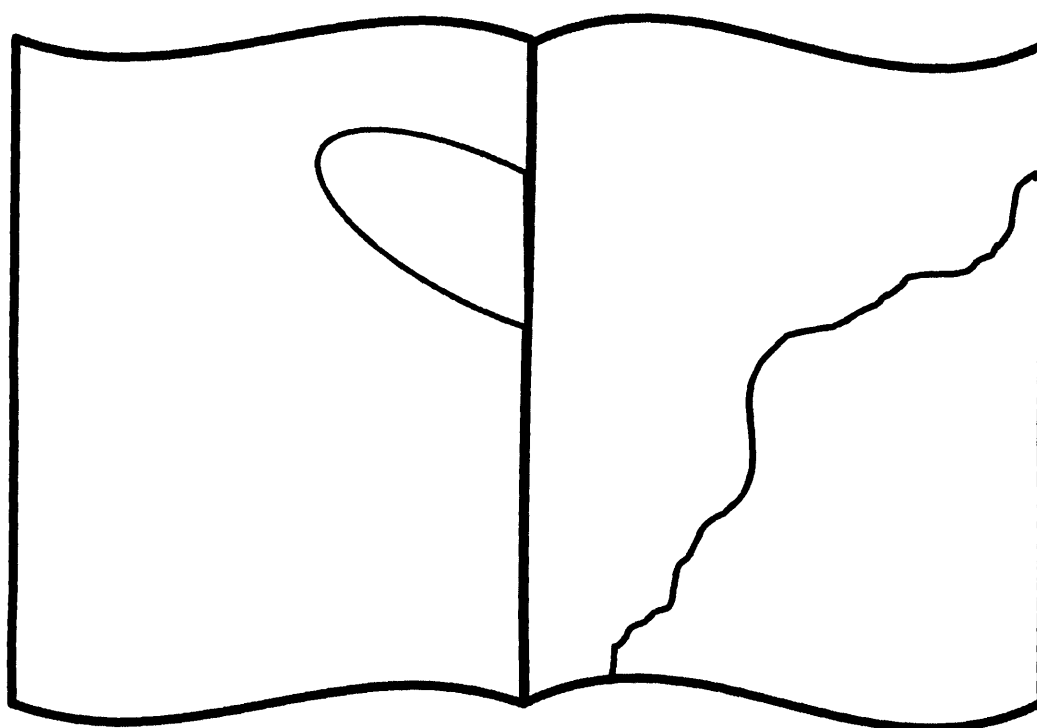
Yours faithfully,

Dr Tim Coleman, MRCGP
Honourary Clinical Research Fellow

Appendix To Methods 2

- Information sent to GPs who were selected to take part in stage two

SPECIAL NOTICE



DAMAGED TEXT - INCOMPLETE IMAGE



UNIVERSITY OF LEICESTER

FACULTY OF MEDICINE

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Dear Doctor

Persuading patients to lead healthier lives : prevention in general practice consultations

I am interested in how GPs practise preventive medicine in their consultations and the difficulties they encounter. You recently replied to a survey on the topic of GPs' anti-smoking advice. As a result of your response to this questionnaire, you are among the 15 GPs whom I am approaching to help me with the next phase of my study (as described on the enclosed sheet). If you agreed to join the project, I would require only a small amount of your valuable time for which payment would be made.

There is no need for you to reply to this letter. I will telephone you in about two weeks to answer any questions you might have and to seek your views about participation. Thank you very much for your time and consideration.

Yours sincerely,

Dr. Tim Coleman MRCP,
Honorary Clinical Research Fellow.

What would the study involve for you ?

- Video-recording of one surgery session
- Allowing questionnaires to be distributed to patients before and after the taped surgery
- Spending one hour, at a convenient time, reviewing the tape with me
- £50 payment for the time you have given

How will disruption to your work be minimised ?

I am a GP and am sensitive to the difficulties of running a busy surgery. The smooth running of the project will be helped by the following:

- I will carry out all video-recording myself
- I will request consent from all patients
- I will distribute all questionnaires
- No member of your staff will be asked to do any work for the project

Won't the patients object ?

- If approached correctly, around 80% of patients are happy to be video-recorded
- Patients will be given every opportunity to refuse consent before and after recording

What about confidentiality ?

- This is vital to patients and doctors
- It will be ensured by strict adherence to recent RCGP guidelines on video-recording

Is it worthwhile ?

Yes! It has already been proved that GPs are capable of persuading patients to change unhealthy habits, but there is virtually no research describing how they do this. By documenting the skills that GPs use the project will provide valuable insights for all GPs.

Background

GPs are expected to provide health promotion in their routine consultations yet little consideration has been given to how they practise this. By observing and describing the practice of health promotion, this study will represent an initial step towards the evaluation of the methods of persuasion that GPs use when attempting to change patients' behaviours.

Aim

To describe how GPs practice preventive medicine in their consultations.
To determine the barriers to the delivery of preventative medicine within the consultation.

Method

Participating GPs will have one complete surgery video-recorded. Patients will complete questionnaires before and after consulting. A third postal questionnaire will be sent to a selection of patients 3 months later. A selection of consultations will be analysed by the researcher(s) at the Department of General Practice. At a time convenient to the participating GP, he /she will be interviewed by the researcher. This interview will last for a maximum of 60 minutes and will concentrate on the difficulties that GPs have (if any) when attempting to persuade patients to change their behaviour. The participating GP will be shown video-recordings of his / her consultations with patients during this interview to focus attention on individual patients' consultations.

Payment

Participating GPs will be paid £50. This will be in recognition of the time that they give to the interview with the researcher and also for the small amount of disruption which video-recording a surgery session entails.

Special Considerations

Ethical committee approval for the project has already been obtained. Strict adherence to the recent RCGP guidelines on the use of video-recorded consultations for research will safeguard the interests of both GPs and patients who agree to participate.

Only a selection of video-recorded consultations from each GP participant will be viewed. Only a small number of people directly involved in the research project (probably three at most) will view the recordings during analysis within the Department of General Practice.

Informed consent will be obtained from all patients by myself. I will also be present to oversee the video-recording process and distribute questionnaires to patients.

All GP interviews will be conducted by myself.

The Researcher

I am a half-time GP working at Saffron Group Practice, Saffron Lane, Leicester. For the rest of my time I work as a research fellow within the Department of General Practice, Leicester. The project is being supervised by Dr. Andrew Wilson who works as a senior lecturer in general practice. Dr. Wilson has completed a substantial amount of research into the delivery of health promotion and his involvement in the project will help ensure that the data collected is put to the best possible use.

Application

This study will describe the clinical reality of health promotion as it is practised by GPs. Using this data it will be possible to design health promotional interventions for use in GPs consultations building upon the skills which are observed. The study will encourage GPs and general practice researchers and teachers to think about the practise of health promotion in the context of everyday consultations.

When will video-recording take place?

Video-recording will begin in March 95 and continue until March 96 at the rate of one surgery per week. You will be able to choose the timing of the recording to suit your needs.

Appendix To Methods 3

- Information given to patients at data collection surgeries:
 - 2 information sheets
 - consent form
- GP encounter form (headed '*consultation record*')
 - GP questionnaire re: video-recording (headed '*GP Questionnaire*')
 - Researchers' data collection form (headed '*Surgery Patient Flow Form*')

Doctor's Talking To Patients: A Research Project

Your doctor has agreed to take part in a research project which looks at how GPs talk with patients.

The study is aimed at helping GPs to improve the ways in which they talk with patients.

It has been shown that by improving the way doctors talk with patients, patients can benefit from improved care.

I'd be grateful if you could help this project by filling in the accompanying questionnaire.

Please hand this back to the researcher before you go in to see your GP.

VIDEO-RECORDED CONSULTATIONS

Doctorwould like to video-record your visit to him / her today.
Your permission is requested for this.

Doctoris taking part in research into the way that doctors talk with their patients. Video-recording your consultation and watching it later is very important to this. The recording will be watched by your doctor and a maximum of five researchers from Leicester University. The researchers will be GPs and a psychologist.

The recording will be treated with absolute confidentiality. It cannot be used for any other purpose without your agreement.

Intimate physical examinations will not be recorded.

If after your consultation you feel that you would like the tape to be wiped clean, then tell the person who gave you this form before you leave the surgery or follow the instructions on the next sheet.

Thank you very much for considering this. If you agree to having your consultation video-recorded then please sign below.

Signed..... Date.....

VIDEO-RECORDED CONSULTATIONS : FURTHER INFORMATION

Thank you for thinking about having your consultation with the doctor video-recorded. Here is some more information about this.

The video will be taken away from the surgery but will be treated with confidentiality by all who view it. It will be seen only by the people described on the form that you have signed. These health professionals need to see it to study your doctor's methods of talking with you. It cannot be shown to anyone else without your permission.

When the video-tape is of no further use to the research project it will be wiped clean. This is likely to be within five years.

If you wish to have the tape wiped clean then contact Dr. Tim Coleman at the address below:

Department of General Practice,
Leicester General Hospital,
Gwendolen Rd.
Leicester,
LE5 4PW

Please state your name, the name of the GP in the recording and the date of your video-recorded consultation (or an approximate date if the exact one is unknown).

Dr. Coleman will ensure that your wishes are carried out.

Consultation Record

This is a record of what is diagnosed / mentioned TODAY only

Diagnosis

Tick here if no diagnosis _____

(Please write in any
diagnoses made with
the presenting
diagnosis first)

(tick below to say
whether each problem
was diagnosed today
or in a previous
consultation)

1		Today	Previous
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

Please circle the correct answers below:

2	Has the consultation involved discussion of a psychological problem ?	Yes	No
---	---	-----	----

(eg: depression, anxiety, bereavement reaction)

3	Did the patient appear emotionally distressed during the consultation ?	Yes	No
---	---	-----	----

4	Do you think the patient was embarrassed / uncomfortable about any of their problems ?	Yes	No
---	--	-----	----

If "Yes" please put a cross at the left hand side of the problem(s) in section 1 above which you think may be causing the patient their unease.

Thank You. There is no need to write on the back of this sheet.

5 Age of patient

6 Sex

7 Attendance rate in past year

8	Video-recorded?	Yes	No
---	-----------------	-----	----

GP Questionnaire

Circle correct answers

1 Do you ever video-record your own consultations ? **Yes** **No**

If "**yes**" please answer the next question. If "**no**" omit next question.

How often do you video-record your own consultations ?

once a year or less

about twice a year

between twice a year and monthly

about monthly

more often than monthly

2 Do any other doctors in the practice video-record their consultations ? **Yes** **No**

(include GP trainees)

If "**Yes**" please answer next question, if "**no**" you are finished.

How often (approximately) do other doctors video-record their consultations ?

once a year or less

about twice a year

between twice a year and monthly

about monthly

more often than monthly

Surgery Patient-Flow Form

GP Surgery

.....

Date.....

[illegible]

Appendix To Methods 4

- Piloting of patients' questionnaires
- Patients' pre-consultation questionnaire
- Patients' post-consultation questionnaire
- Patients' postal follow-up questionnaire

Piloting of pre-consultation questionnaire

Fifty copies of the pre-consultation questionnaire were given to patients arriving at the author's practice for appointments with their GPs. Forty-one of these were returned. Responders occasionally had difficulty in answering questions in the correct order, but appeared to understand items reasonably well. Consequently, instructions on the questionnaire were made more prominent by putting them in italics with larger gaps above and below them.

Piloting of post-consultation questionnaire

The author and three other GPs (not involved in the study) piloted the post-consultation questionnaire. Fifty copies of this questionnaire were given out to patients by GPs at the end of their consultations. GPs were asked to give the questionnaire to patients who they either knew or strongly suspected were smokers. GPs were especially asked to distribute questionnaires to patients with whom they had discussed smoking. Patients were given reply-paid envelopes to return questionnaires to the author and 29 questionnaires came back. Again, the only changes that this process suggested was to make the instructions more easily distinguishable from questions on the instrument.

Piloting of postal follow-up questionnaire

This took place once data collection had begun. Twenty-five patients at the author's practice, who were recorded on their medical record as being smokers, were selected at random. These patients were then sent the postal questionnaire, together with a covering letter and a reply-paid envelope. Fourteen questionnaires were returned and no problems with questionnaire design were identified.

SURGERY QUESTIONNAIRE

Do not
write here

☐ ☐ ☐ 1

1. What is your name?

☐ ☐ 2

2. How old are you? years

3

**PLEASE TICK ONE BOX FOR EACH QUESTION. PLEASE ASK FOR
HELP IF YOU HAVE ANY DIFFICULTY.**

3. What is your sex?

female

☐ 1

male

☐ 2

4

4. Have you smoked any cigarettes
in the last year?

Yes

☐ 1

No

☐ 2

5

5. How often do you usually
smoke cigarettes?

(tick one box)

every day

☐ 1

most days

☐ 2

less than most days ...

☐ 3

never

☐ 4

6

If your answer to the last question was
"less than most days" or **"never"**, you have
finished and may hand the questionnaire back.
If not, please continue.

6. On average how many cigarettes
do you smoke each day?

(tick one box)

10 or less

☐ 1

11 to 20

☐ 2

21 to 30

☐ 3

31 or more

☐ 4

7

7. How soon after you wake up do you usually smoke your first cigarette? (tick one box)	Within 5 minutes	<input type="checkbox"/>	1	8
	Longer than 5 minutes but within half an hour	<input type="checkbox"/>	2	
	Longer than half an hour but within one hour	<input type="checkbox"/>	3	
	Longer than one hour	<input type="checkbox"/>	4	

8. In the last year have you tried to give up smoking?	Yes	<input type="checkbox"/>	1	9
	No	<input type="checkbox"/>	2	

If the answer above is "NO" go to **QUESTION 9**.

If "YES", please answer the next two questions before going to **QUESTION 9**.

8a. How many of these tries at giving up have lasted longer than one day/24 hours? (write in actual number) tries	<input type="text"/> <input type="text"/> 10
--	-------------	--

8b. In the last year what was the longest time you went without smoking a cigarette? (tick one box)	One week or less	<input type="checkbox"/>	1	11
	Up to one month and longer than one week	<input type="checkbox"/>	2	
	Up to three months and longer than one month	<input type="checkbox"/>	3	
	Longer than three months but less than six months	<input type="checkbox"/>	4	
	Six months or more	<input type="checkbox"/>	5	

9. Do you have any intention of giving up smoking completely in the next four weeks? (tick one box)	Yes, definitely	<input type="checkbox"/>	1	12
	Yes, probably	<input type="checkbox"/>	2	
	Don't know	<input type="checkbox"/>	3	
	Probably not	<input type="checkbox"/>	4	
	Definitely not	<input type="checkbox"/>	5	

10. How sure/confident are you that if you tried, you could give up smoking for good?

(tick one box)

- | | | |
|---------------------------------|--------------------------|---|
| Absolutely certain | <input type="checkbox"/> | 1 |
| Very certain | <input type="checkbox"/> | 2 |
| Fairly certain | <input type="checkbox"/> | 3 |
| Don't know | <input type="checkbox"/> | 4 |
| Fairly uncertain | <input type="checkbox"/> | 5 |
| Very uncertain | <input type="checkbox"/> | 6 |
| Will be unable to give up | <input type="checkbox"/> | 7 |

13

11. Which one of these statements do you most strongly agree with?

(tick one box)

- | | | |
|--|--------------------------|---|
| I very much want to keep on smoking | <input type="checkbox"/> | 1 |
| I would like to keep on smoking | <input type="checkbox"/> | 2 |
| I don't really want to stop smoking | <input type="checkbox"/> | 3 |
| I don't know whether I want to stop smoking or not | <input type="checkbox"/> | 4 |
| I don't really want to carry on smoking | <input type="checkbox"/> | 5 |
| I would like to stop smoking | <input type="checkbox"/> | 6 |
| I very much want to stop smoking | <input type="checkbox"/> | 7 |

14

12. Which one of these statements do you most strongly agree with?

(tick one box)

- | | | |
|---|--------------------------|---|
| I never think about stopping smoking | <input type="checkbox"/> | 1 |
| One day I will need to think about stopping smoking | <input type="checkbox"/> | 2 |
| I should stop smoking but I don't think I'm ready | <input type="checkbox"/> | 3 |
| I am starting to think about how I can smoke less... | <input type="checkbox"/> | 4 |
| I am trying to stop smoking | <input type="checkbox"/> | 5 |

15

13. How strongly do you agree or disagree with the statement:

"Smoking is damaging my health"

(tick one box)

Agree very strongly ...	<input type="checkbox"/>	1
Agree quite strongly ..	<input type="checkbox"/>	2
Agree	<input type="checkbox"/>	3
Don't know	<input type="checkbox"/>	4
Disagree	<input type="checkbox"/>	5
Disagree quite strongly	<input type="checkbox"/>	6
Disagree very strongly	<input type="checkbox"/>	7

16

14. How strongly do you agree or disagree with the statement:

"My health will improve if I stop smoking"

(tick one box)

Disagree very strongly	<input type="checkbox"/>	1
Disagree quite strongly	<input type="checkbox"/>	2
Disagree	<input type="checkbox"/>	3
Don't know	<input type="checkbox"/>	4
Agree	<input type="checkbox"/>	5
Agree quite strongly ..	<input type="checkbox"/>	6
Agree very strongly ...	<input type="checkbox"/>	7

17

15. How long have you been smoking?

(Please state the total time you have spent in your life as a smoker)

_____ years

18

16. Are you seeing the doctor about yourself?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

19

If you answered **"NO"** to the last question go to **QUESTION 19**.

If you answered **"YES"** to the last question please continue.

17. Have you ever been to a doctor with the same problem as you have come with today?

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2
Don't know	<input type="checkbox"/>	3

20

18. Do you think the problem you have today could be caused by smoking or made worse by it?

Yes

No

Don't know

	1
	2
	3

21

If you answered **"NO"** to **QUESTION 16** begin again below.

19. Have you brought your child to see the doctor?

Yes

No

	1
	2

22

If you answered **"NO"** to the last question you have finished.

If you answered **"YES"** to the last question **please continue.**

20. Have you ever brought your child to the doctor with the same problem that he/she has today?

Yes

No

Don't know

	1
	2
	3

23

21. Do you think that the problem your child has today could be caused by smoking or made worse by it?

Yes

No

Don't know

	1
	2
	3

24

YOU HAVE NOW FINISHED. PLEASE HAND IN THE COMPLETED QUESTIONNAIRE TO THE RESEARCHER.

THANK YOU FOR YOUR HELP.

UNIVERSITY OF LEICESTER
MEDICAL SCHOOL

This questionnaire will help research into how GPs talk with their patients.

This form asks what you think of your visit to the doctor **today**. Your answers are **confidential** and **will not** be shown to your doctor. There is no need to put your name on this form. Feel free to say what you wish.

SURGERY QUESTIONNAIRE 2

Do not
write here

			1
			2

PLEASE TICK ONE BOX FOR EACH QUESTION.
PLEASE ASK FOR HELP IF YOU HAVE ANY DIFFICULTY.

1. How often do you usually smoke cigarettes?

(tick one box)

every day	1
most days	2
less than most days ...	3
never	4

3

*If your answer to the last question was "**less than most days**" or "**never**"
you have finished and may hand the questionnaire back. If not, please continue.*

2. Did either you or the doctor talk
about smoking today?

Yes	1
No	2

4

*If your answer above is "**NO**" go to **QUESTION 19** on the third page.*

*If your answer above is "**YES**" please continue below.*

3. Did the doctor say that you must
stop smoking?

Yes	1
No	2

5

For the next set of questions **CIRCLE** the answer that is closest to what you think. "Neutral" means you have no feelings either way.

For example:

"This doctor was bored" Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

- | | | |
|---|---|-----------------------------|
| 4. I wish the doctor had not talked to me about smoking today | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 6 |
| 5. I thought this doctor took notice of me as a person | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 7 |
| 6. This doctor's advice about smoking was helpful to me | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 8 |
| 7. There are some things this doctor does not know about me | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 9 |
| 8. I will follow this doctor's advice because he/she is absolutely right | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 10 |
| 9. It was OK for the doctor to talk to me about smoking today | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 11 |
| 10. This doctor knows all about me | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 12 |
| 11. This doctor is interested in me as a person, and not just my illness | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 13 |
| 12. Talking to me about smoking today was a waste of the doctor's time | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 14 |
| 13. I felt this doctor really knew what I was thinking | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 15 |
| 14. The doctor was right to talk to me about smoking today | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 16 |
| 15. I understand my illness much better after seeing this doctor | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 17 |
| 16. I felt able to tell this doctor about very personal things | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 18 |
| 17. It was the doctor's job to talk to me about smoking today | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 19 |
| 18. I would find it difficult to tell this doctor about some private things | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree | <input type="checkbox"/> 20 |

Now go to **QUESTION 26** and finish the questionnaire.

If you answered **"NO"** TO **QUESTION 2**, BEGIN AGAIN BELOW.

For the next set of questions **CIRCLE** the answer that is closest to what you think. "Neutral" means you have no feelings either way.

For example:

"This doctor was bored" Strongly Agree Agree / Neutral / Disagree / Strongly Disagree

19. It would have been helpful if the doctor had given me advice on how to stop smoking today

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

☐ 21
20. The doctor was right not to mention my smoking today

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

☐ 22
21. I am annoyed that the doctor did not give me any advice on how to stop smoking today

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

☐ 23
22. I am glad that the doctor did not advise me to stop smoking today

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

☐ 24
23. The doctor should have spent some time telling me how I can give up smoking

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

☐ 25
24. I did not want the doctor to talk about smoking today

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

☐ 26
25. I would be happier if the doctor had given me some advice on how to stop smoking today

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

☐ 27

CONTINUE BELOW

NOW TICK ONE BOX FOR EACH QUESTION BELOW

26. Do you have any intention of giving up smoking completely in the next four weeks?

Yes, definitely

Yes, probably

Don't know

Probably not

Definitely not

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

28

27. How sure/confident are you that if you tried, you could give up smoking for good?

- | | | |
|---------------------------------|---|----|
| Absolutely certain | 1 | 29 |
| Very certain | 2 | |
| Fairly certain | 3 | |
| Don't know | 4 | |
| Fairly uncertain | 5 | |
| Very uncertain | 6 | |
| Will be unable to give up | 7 | |

28. Which one of these statements do you most strongly agree with?

- | | | |
|--|---|----|
| I very much want to keep on smoking | 1 | 30 |
| I would like to keep on smoking | 2 | |
| I don't really want to stop smoking | 3 | |
| I don't know whether I want to stop smoking or not | 4 | |
| I don't really want to carry on smoking | 5 | |
| I would like to stop smoking | 6 | |
| I very much want to stop smoking | 7 | |

29. How strongly do you agree or disagree with the statement:

"Smoking is damaging my health"

- | | | |
|-------------------------|---|----|
| Agree very strongly ... | 1 | 31 |
| Agree quite strongly .. | 2 | |
| Agree | 3 | |
| Don't know | 4 | |
| Disagree | 5 | |
| Disagree quite strongly | 6 | |
| Disagree very strongly | 7 | |

30. How strongly do you agree or disagree with the statement:

"My health will improve if I stop smoking"

Disagree very strongly	<input type="checkbox"/>	1
Disagree quite strongly	<input type="checkbox"/>	2
Disagree	<input type="checkbox"/>	3
Don't know	<input type="checkbox"/>	4
Agree	<input type="checkbox"/>	5
Agree quite strongly	<input type="checkbox"/>	6
Agree very strongly	<input type="checkbox"/>	7

32

YOU HAVE NOW FINISHED. PLEASE HAND THE COMPLETED QUESTIONNAIRE TO THE RESEARCHER.

THANK YOU FOR YOUR HELP.

UNIVERSITY OF LEICESTER
MEDICAL SCHOOL

Thank you for considering filling in this questionnaire.
Your answers to this questionnaire will help medical
research into how doctors can help their patients to
stop smoking.

There is no need to write your name on this form.
Your answers are **confidential** and **will not** be shown
to your doctor.

SMOKING SURVEY

Please do
not write
here

--	--	--

1. Have you used any of the following
in the last 3 MONTHS.

(Tick appropriate box(es))

Nicotine patches

Nicotine chewing gum

Nicotine nose spray

None of these

	1
	1
	1
	2

1

2

**PLEASE TICK ONE BOX FOR EACH QUESTION UNLESS YOU ARE ASKED
TO DO OTHERWISE.**

2. Have you smoked any cigarettes in
the last 3 MONTHS?

Yes.....

No

	1
	2

3

*If your answer to the last question was "**YES**" please continue*

*If you answered "**NO**" go to **QUESTION 9** on the last page.*

3. How often do you usually smoke
cigarettes?

(tick one box)

Every day

Most days

Less than most days

Never

	1
	2
	3
	4

4

4. On average how many cigarettes
do you smoke each day?

(tick one box)

10 or less

11 to 20

21 to 30

31 or more

	1
	2
	3
	4

5

5. How soon after you wake up do you usually smoke your first cigarette?

(tick one box)

Within 5 minutes

Longer than 5 minutes but within half an hour ...

Longer than half an hour but within one hour

Longer than one hour

<input type="checkbox"/>	1
<input type="checkbox"/>	2
<input type="checkbox"/>	3
<input type="checkbox"/>	4

6

6. Which one of these statements do you most strongly agree with?

(tick one box)

I never think about stopping smoking

One day I will need to think about stopping smoking

I should stop smoking but I don't think I'm ready

I am starting to think about how I can smoke less

I am trying to stop smoking

<input type="checkbox"/>	1
<input type="checkbox"/>	2
<input type="checkbox"/>	3
<input type="checkbox"/>	4
<input type="checkbox"/>	5

7

7. In the last 3 MONTHS have you tried to cut down the number of cigarettes you smoke?

Yes

No

<input type="checkbox"/>	1
<input type="checkbox"/>	2

8

8. In the last 3 MONTHS have you tried to give up smoking?

Yes

No

<input type="checkbox"/>	1
<input type="checkbox"/>	2

9

If the answer above is "NO" you have now finished.

If the answer above is "YES", please continue.

- 8.(a) How many of these tries at giving up have lasted longer than one day/24 hours?

(write in actual number)

_____ tries

<input type="text"/>	<input type="text"/>
----------------------	----------------------

10

8.(b) How many of these tries at giving up have lasted longer one week or longer?

(write in actual number) tries

--	--

11

8.(c) In the last 3 MONTHS what is the longest time you have gone without smoking a cigarette?

One day or less

--

1

Up to one week and longer than one day

--

2

Up to one month and longer than one week

--

3

Up to 2 months and longer than one month ...

--

4

Longer than 2 months

--

5

12

*If you answered "**YES**" to QUESTION 8, you have now finished.*

9. How long is it since you smoked your last cigarette?

One day or less

--

1

Up to one week and longer than one day

--

2

Up to one month and longer than one week

--

3

Up to 3 months and longer than one month ...

--

4

Longer than 3 months

--

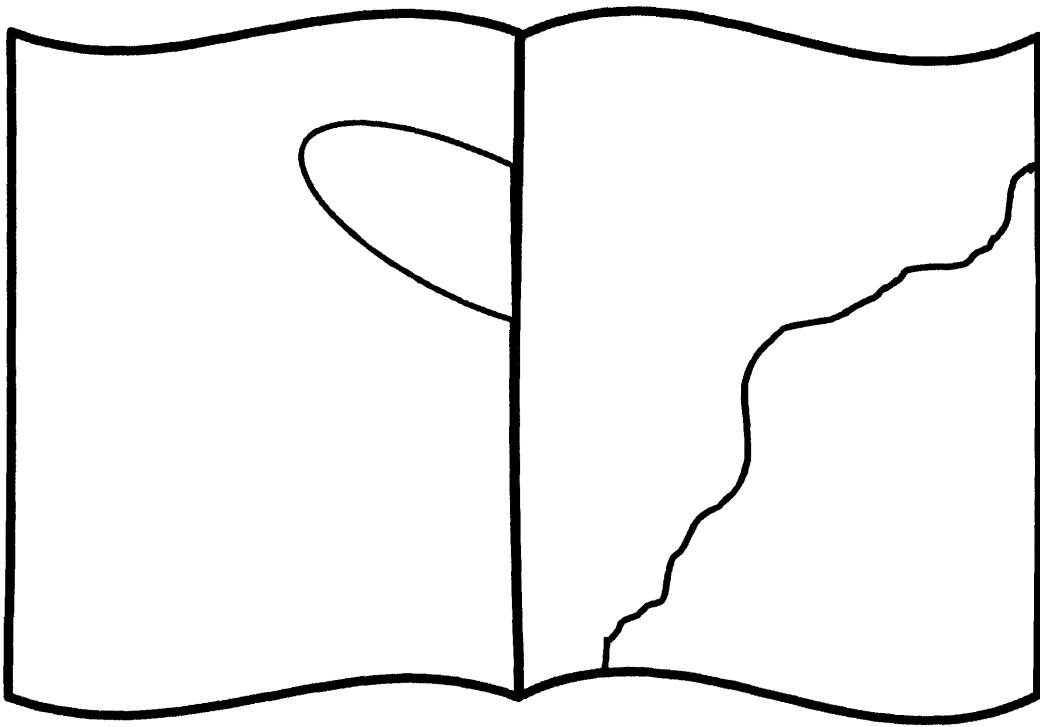
5

13

YOU ARE NOW FINISHED.

THANK YOU FOR YOUR HELP.

SPECIAL NOTICE



DAMAGED TEXT - INCOMPLETE IMAGE



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COSIMILE
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Date

Dear

I am writing to you with the permission of your doctor. I am a researcher from the Department of General Practice in Leicester.

I am involved in a research project which is looking at how doctors can help patients to stop smoking.

I would be very grateful if you could consider completing a short questionnaire which accompanies this letter. If you decide to complete the questionnaire please could you return it to me in the reply-paid envelope. Thank you very much for your help in this. I look forward to receiving your questionnaire.

Yours sincerely,

Dr. Tim Coleman,
Honorary Lecturer
Enc.



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Date

Dear

I am writing to you with the permission of your doctor. I am a researcher from the Department of General Practice in Leicester. I am involved in a research project which is looking at how doctors can help patients to stop smoking.

You should have received a questionnaire from myself already. If you have received one and have replied within the last two days, then please ignore this letter. If you have not yet replied I would be extremely grateful if you could fill in the accompanying questionnaire. Thank you very much for your help. I look forward to receiving your reply.

Yours sincerely,

Dr. Tim Coleman,
Honorary Lecturer

Enc.



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Appendix To Methods 5

- Coding of common smokers' phrases
- Notes explaining how to code smokers' consulting behaviours
- Recording form used during coding (headed '*Recording Form For Smokers' Communication*')
Smokers' Communication')

CODING DIFFICULTIES : HOW TO CODE COMMON SMOKERS' PHRASES

These following notes were issued to coders to illustrate how some common phrases should be coded. Text in block capitals indicate the codes allocated to the italicised quotes opposite.

TRY

<i>"I am trying to stop smoking".</i>	ACTION
<i>"I am trying to cut down".</i>	CONCERN
<i>"I am trying" (no details of what given)</i>	NO CODE

N.B. The final quote above can indicate CONCERN if it directly follows a GP statement like *"Try and stop smoking"* and the patient does nothing to contradict the implied action (i.e. the patient shows no "resistant" behaviour in the rest of the consultation).

<i>"I shall try to stop/cut down/get my husband to stop".</i>	RESOLVE
<i>"I will try" (no details of what given)</i>	NO CODE

N.B. The final statement above can indicate RESOLVE if it directly follows an unambiguous GP's statement like *"You must stop smoking"*. The whole consultation should be considered, though before a judgment is made about this. If any "resistant" behaviour is demonstrated in other parts of the consultation no code should be given.

<i>"I tried to stop but" (followed by reason for past failure)</i>	AVOIDING (excusing)
<i>"I have tried to stop and managed for two days")</i>	CONCERN

(i.e. a specific attempt)

"I am trying to stop, but it is difficult".

ACTION

CUTTING DOWN

"I have cut down" (no reason given)

NO CODE

"I have cut down" (reason given, e.g. since child
or hospital stay)

CONCERN

"I am cutting down".

ACTION

WANT/WISH/WOULD LIKE

"I want to/would like to/wish I could give up smoking".

DESIRE

*"I want to/would like to/wish I could give up smoking
but"* (followed by negative/pessimistic statement)

AVOIDING (pessimism)

N.B. Statements of DESIRE should not be immediately followed or preceded by pessimism, which changes their meaning.

DETAILED CODING NOTES

These notes were issued to coders to maximise the reliability of coding. All comments in italics are quotes used for illustrative purposes.

MINIMISING

Minimising behaviour is often first noted in response to GPs' questions "*Do you smoke?*" and "*How many?*".

Often comments describing smoking behaviour can be "minimising", e.g:

"I only smoke ten a day".

"..... just six or seven".

"It's only a habit I'm not addicted".

Comments without words which imply the amount smoked is minimal/not excessive should **NEVER** be coded as **Minimising** and considered as merely giving information.

CAUTION

Sometimes the words "just" or "only" may precede a description of a successful attempt at cutting down. Where there is doubt, consider the behaviour of patient in whole consultation to place the initial comments in context. Do not code as minimising if you are in any doubt.

CONCERN ABOUT SMOKING/AGREEMENT WITH GP ABOUT SMOKING

- Include statements which show smoker realises there is a problem (*e.g. "The smoking is making me breathless", or "I'm terrified of cancer"*). The smoker

may express dissatisfaction with what smoking is doing to their health, the health of their children, or unease with the financial or social cost of smoking. Do not include statements which refer to the concerns of others (e.g. spouse).

- Smoker demonstrates openness to change (e.g. *"I need to do something"*) or optimism (e.g. *"I can do it"*) or fails to offer excuses when asked why can't quit (e.g. *"There is no reason why I can't"*). Smoker does not openly disagree or offer excuses in response to GPs' comments about the smoker's need to quit or the harm smoking is doing the smoker. This is lack of smoker's observed 'denying' behaviour when the smoker is presented with an appropriate chance to do so (see 'resistant' behaviours schedule).
- Smoker mentions previous (i.e. past tense) specific quit attempts or current *"trying"* to cut down.
- Do not include vague past tense statements about having cut down the number of cigarettes, unless the smoker mentions their reason for doing so (e.g. *"I've cut down since having my child"* or *"I've cut down since I was in hospital"*).
- Smoker indicates they have discussed quitting with others e.g. partner/pharmacist or friend.

ACTION/EXPERIMENTING

- Code current attempts only (e.g. code *"I am cutting down"* and not *"I have cut down"*).
- Code as action (not 'denying') if smoker describes difficulties involved with a current quit attempt or current attempt at cutting down.

- Don't code vague statements (*e.g.* "*I'm trying*") where smoker gives no details of attempted behaviour change.
- Don't include changing brands, smoking less when ill or smoking less merely because of work place restrictions (i.e. enforced rather than voluntary action).

EXPLANATORY NOTES RE: CODING OF SMOKERS' CONSULTING BEHAVIOURS

The following points from coding schedules require emphasis:

- Generally, the coding schedules are an attempt to code smokers' communication behaviours which may give an indication of their *current* attitudes towards their habit. However, any mention of a specific past quit attempt is regarded as evidence of **CONCERN ABOUT SMOKING**. This is justifiable because past attempts at quitting are associated with making future quit attempts (see section on pre-consultation questionnaire contents) and as such are an indicator of "readiness to change".
- As avoiding behaviour was common when smokers answered questions about their habit it was decided to code 'lack of avoiding behaviour' as **CONCERN WITH SMOKING/AGREEMENT WITH GP ABOUT SMOKING**. This coding could only be made if smokers failed to indulge in avoiding behaviour when answering questions. In categorising, non-avoidance behaviour as readiness behaviour it was being hypothesised that patients who exhibited non-avoidance were more likely to indulge in attempts at quitting smoking. This approach was taken in the Client Resistance Code (CRC) (Chamberlain, Patterson, Reid et al, 1984).
- Smokers exhibiting readiness behaviours appeared to give more detailed answers in response to questions about smoking (subjective impression). For this reason uncompleted sentences including the verbs to try and to wish/want to/desire were not allocated codes unless the indisputably referred to previously mentioned action *and* the smoker showed no resistant behaviour in his/her consultation. This occurred whether or not smokers were interrupted by GPs.

- The verb 'to cut down' was given careful consideration. Because smokers with resistant behaviours commonly used this phrase in a vague manner, sentences containing it were only given a readiness code if completed (see sheet describing coding difficulties) with a reason for having cut down or an indication that this was current behaviour.

RECORDING FORM FOR SMOKERS' COMMUNICATION

READINESS	OBSERVED (tick)	EXPLANATION
Action/Experimenting		
Resolve		
Concern/Agreement		
Desire		

RESISTANT	OBSERVED (tick)	EXPLANATION
Minimising		
Avoiding		
Arguing/Interrupting		
Ignoring		

Overall impressions:

Appendix To Methods 6

- Piloting of semi-structured interviews
- An example of an interview schedule

Piloting of Semi-Structured Interviews

Two GPs who were not part of the study sample acted as interviewees for piloting. Each GP was asked to recall one consultation in which they had discussed smoking with a patient and then interview A or D was conducted depending on whether the GP perceived the presenting problem to be smoking-related or not. The GPs were also asked to recall a consultation with a known smoker with whom they had not discussed smoking and interview C or B was used (again depending on the GPs' perception of whether the presenting problem was smoking-related or not). Interviews were audio-taped and the researcher listened to the recordings to assess whether interview schedules needed amending.

The interview schedules appeared to generate GPs' answers which were likely to help achieve interview aims. Additionally, the researcher gained insight into the skills required for interviewing.

Interview Schedule A

As well as questions for topics which provide data for the thesis, this (and the other three interview schedules) also included topic areas to gather information for the following objectives:

- (i) To record GPs' perceptions of the different approaches they use when discussing smoking with patients and their rationales for using these.
- (ii) To determine GPs' views on using consultations to deliver a population-based anti-smoking strategy.

Interview schedules B - D all included slightly different topic areas (determined by the type of consultation being asked about). In interviews B and C the focus of questions was on why advice had not been given, rather than why it had.

INTERVIEW PROTOCOL A: CONSULTATION WHERE ANTI-SMOKING ADVICE IS GIVEN AND THE CONSULTATION INCLUDES A PROBLEM WHICH COULD BE CAUSED / EXACERBATED BY SMOKING.

START AUDIOTAPE

1 **Scene setting:** Aim to get some contextual information from GP about the surgery to be viewed. Use the information gained here later on in the interview.

Q. **You were video-recorded on afternoon / morning. Can you describe how you were feeling at that time?**

Prompts: Use if GP is not forthcoming with above approach.

Do you remember feeling busy? pressured? relaxed? happy? unwell? etc, etc

Make a note of response.

STOP AUDIOTAPE

2 **Aide-memoir:** Show video-recording of consultation with a smoker where smoking is discussed in the context of a presenting complaint which could possibly be smoking-related. Do not include consultations where GPs merely ask about smoking in the history taking phase of the consultation. This is to remind GP of what occurred in the consultation of interest and why they took the action they did.

DON'T INTERRUPT ALLOW GP TO TALK

RESTART AUDIOTAPE

3 Attempt to get GP to give their opinion of the consultation

that has just been viewed. Mention that the interview is primarily interested in the way the GP tackled the issue of smoking but concentrate on getting GP to talk rather than pushing this too much. At this stage the GP is being encouraged to give their opinion of their "performance".

Before asking one of the questions below state:

"I'm particularly interested in the way you tackled the subject of the patients' smoking. First of all, though, its important to find out how you feel about the consultation."

Q. **"How do you feel about the way this consultation went?"**

"Having watched the consultation / Using the benefit of hindsight, ... what do you feel you did well?"

"Having watched the recording are there any aspects of this consultation that you are less happy with?"

"Are there any aspects of the consultation which you feel would be better if they'd been done differently?"

4 This section is interested at finding what influenced the GP in deciding to discuss smoking with this patient.

Begin with the statement:

I'm interested to know what influences GPs to use their consultations to give out anti-smoking advice and what influences them not to."

Q. **You brought up / raised the topic of smoking with this patient. Can you think why you did this / what made you do this?**

You mentioned that this patient should stop smoking. Can you

think what caused you to do this? / What made you bring this up?

5 Attempt to get GP to describe their approach to smoking cessation with this patient. In describing their approach they may elaborate on why they feel this was appropriate. GPs may produce many rationalisations to explain why they have chosen a particular course of action or a particular style of delivering advice on this occasion. This line of questioning may touch upon aspects of the doctor-patient relationship, medical, social or any other reasons to explain their behaviour (like the camcorder changing their behaviour).

Q **"You discussed smoking with this patient, how would you describe your approach?"**

"You mentioned to this patient that she / he should stop smoking. How would you describe your the way you did this?"

"You mentioned to this patient that he/she should stop smoking. Can you describe the way you did this?"

MAKE A NOTE OF HOW THE GP DESCRIBES THE WAY THEY HAVE GIVEN ADVICE

6 This section aims to find the medical context of the anti-smoking advice as perceived by the GP. The preventive advice is likely to have been just one small part of the consultation. It will help explain clinical or psychosocial reasons why the GP used the observed approach. There may be some overlap with the above.

"What were your priorities with this patient?"

"When you were dealing with this patient, what issues did you

feel were the most important?"

"What were your main objectives with this patient?"

7 The aim of this section is to get the GP to elaborate further on their approach to this individual patient. It will aim to uncover the reasons behind the GP choosing to give advice at all or the reasons behind the observed style of advice-giving being adopted. It will also uncover whether the GP perceives that they have any flexibility in their approach.

" You described your approach to this patient as one of.....(use GPs own description). Is this an approach you would use with every smoker?"

"You described your approach as..... (use GPs own description). What made you choose this approach with this patient?"

8 This section is an attempt to get the GP to reflect on the context in which they were "performing". It could be used as a check to the validity of the research method. If the GP mentions that the camcorder has changed their behaviour it would be necessary to find out in what way the GP perceives his /her behaviour has altered.

"You told me that when you were recorded you felt...(use GPs description)... . Do you feel this consultation may have differed if you hadn't felt this way?

If the GP answers that they feel it would have been different then

"How do you think the consultation would have been different if you hadn't felt.....(GPs description) / if you had felt..... (use a descriptive word which means the opposite of how the GP described themselves feeling).....?"

9 This section aims to uncover what the GP feels about using consultations to deliver a population-based anti-smoking strategy.

"I'm going to read you a statement which was made by the Health Education Authority. I'd be interested to know what you think about it. This is the statement: "GPs should advise smokers to stop at every possible opportunity, ideally using every consultation with patients who smoke to pursue the issue."."

PROMPT (if necessary)..... **"What do you think of the statement?"**
etc etc.

Appendix to Methods 7

- Definitions of themes agreed at first data analysis meeting (headed '*CODING 1*')
- Definitions of themes agreed at second data analysis meeting (headed '*CODING SCHEDULE 2*')
- Definitions of categories agreed at second data analysis meeting (headed '*CATEGORIES FOR CODING SCHEDULE 2*')
- Altered Final Question in Interview Schedules

CODING 1

Agreed at first data analysis meeting between TC and EM after independent reading of 13 transcripts. **Sub-headings** are the names given to **themes** at this stage in the analysis.

ORIENTATION OF GP

- GPs' orientation towards giving anti-smoking advice, derived partly from responses to the statement which tests GPs' views on the value of using consultations to deliver a population-based anti-smoking strategy.
- GPs' belief that certain types of consultations are appropriate for discussions about smoking even before the patient has entered the consulting room.

LANGUAGE USED

- How GPs describe the *process* of advice giving (and not how they describe the style in which they have given advice).
- Can include words that GPs use about the task/responsibility of discussing smoking or words they use to describe patients' responses to GPs' efforts.

TRIGGERS

- Things not to do with the clinical condition which indicate to the GP that smoking could be raised (e.g. *computer record or health promotion questionnaire*).
- Triggers merely raise GPs' awareness towards the possibility of discussing smoking and are not part of the active thought process by which the GP decides to raise the subject.

BARRIERS

- Things which prevent the GP from raising the topic of smoking, or discussing it in as much detail as GP desires.
- Barriers prevent an active decision by a GP to raise or ignore the smoking issue and could be viewed as post-hoc rationalisations of the GPs' behaviours.

RIGHT TIME

- Characteristics of the patient or consultation which contribute to a GP's active decision to raise the smoking issue/make the GP feel it is a good time to discuss smoking.

WRONG TIME

- Characteristics of the patient or consultation which contribute to GPs' active decisions to avoid the smoking issue or contribute towards the GP feeling their advice would be ineffective.

STYLE OF ADVICE-GIVING

- GPs' descriptions of their *modes* of advice-giving (either observed or remembered).

CONSEQUENCES OF ADVICE-GIVING

- GPs' perceptions of the effects of their advice-giving on patients (positive and negative).
- GPs' perceptions of how the giving of anti-smoking advice affects themselves e.g. *saps their enthusiasm during future attempts to get the patient to quit.*

CODING SCHEDULE 2

Final definitions of **themes** for use in analysis.

1. GPs' Orientation Towards Discussing Smoking with Patients

- GPs' orientation towards giving anti-smoking advice, derived partly from responses to the final statement in interview schedule which tests GPs' views on the value of using consultations to deliver a population-based anti-smoking strategy.
- GPs' views/statements about their role (i.e. advice-giving) in the context of wider society, again mainly derived in response to final question in interview.
- GPs' belief that certain types of consultations are appropriate for smoking discussions even before the patient has entered the consulting room.

2. GPs' Language Used to Describe Advice-Giving Process

- Words used by GPs describe advice giving.
- Can include words that GPs use about the task/responsibility of discussing smoking.
- Language GPs use to describe themselves in the context of advice-giving.

3. Triggers to Discussing Smoking

- Something which is not related to the patient's clinical condition which indicate to the GP that smoking could be raised (e.g. *computer record or health promotion questionnaire*).
- Triggers merely raise GPs' awareness towards the possibility of discussing smoking. The GP will not cite a trigger as a reason to consider the context of the consultation

appropriate/inappropriate for discussing smoking.

4. Barriers to Discussing Smoking

- Impediments which prevent the GP from becoming aware the topic of smoking could be raised or hindering a GP from discussing it in as much detail as he/she desires. Include impediments which the GP feels prevent him from having as great an effect as he/she feels possible.
- Barriers prevent an active decision by a GP to raise or ignore the smoking issue and could be viewed as post-hoc rationalisations of the GPs' behaviours.

5. Right Time to Discuss Smoking

- Characteristics of the patient or consultation which contribute to a GP's active decision to raise the smoking issue or make the GP consider it a good time to discuss smoking.

6. Wrong Time to Discuss Smoking

- Characteristics of the patient or consultation which contribute to GPs' active decisions to avoid the smoking issue or contribute towards the GP feeling their advice (if given) would be ineffective.

7. Styles of Advice-Giving

- GPs' descriptions of their modes of advice-giving (either observed or remembered).
- GPs' explanations for their modes of advice-giving.

8. Consequences of Discussing Smoking

- GPs' perceptions of the effects of their advice-giving on patients (positive and negative).

- GPs' perceptions of how the giving of anti-smoking advice affects GPs (themselves) (e.g. *saps their enthusiasm during future attempts to get the patient to quit*).

- Include how GPs' perceive patients' influence GPs' feelings.

9. GPs' Perceptions of Factors Influencing Smoking Cessation by Patients

- See categories (in '*CATEGORIES FOR CODING SCHEDULE 2*').

10. Doctor-Patient Relationship

- Mentions of GP:patient relationship in context of advice-giving (see categories).
- How knowledge of patient/families affects giving of advice.
- General comments on GP:patient relationship
- Comments re continuity of care.

CATEGORIES FOR CODING SCHEDULE 2 (Updated February 1997)

ORIENTATION OF GP

- Consultation - Type of consultation which is appropriate for discussion about smoking (i.e. *general discussion about "types" of consultations*).
- Positive - Positive general statements about giving anti-smoking advice. Code under overall theme if uncertain.
- Negative - Negative general statements about giving anti-smoking advice. Err towards coding as "orient" if uncertain.

N.B. Positive and Negative represent general attitudes towards giving advice and are much less specific than the Consultation category.

LANGUAGE USED

- Negative Language - Negative references (i.e. GPs' language) to the advice-giving process. Err towards neutral parent category if unsure.
- Positive Language - Positive references (i.e. GPs' language) to the advice-giving process. Err towards neutral parent category if unsure.

RIGHT TIME

- Patient Characteristics - Features particular to the patient (excluding clinical problem) which GPs perceive promote likelihood of discussion re smoking.
- Can include clinical problem presented previously.

- Characteristics of patient which make GP believe that he/she is trying to stop smoking
- Consultation Characteristics - Features particular to the consultation/ problems presented at this consultation which GPs perceive make discussion re smoking less likely (i.e. *discussion about a specific consultation and not discussion re: types of consultations*).

N.B. Some overlap may occur in certain clinical conditions (e.g. depression).

WRONG TIME

- Patient Characteristics - Features particular to the patient (e.g. personality) which suggest to GP that discussion re: smoking is not a good idea, or features which suggest to GP that the advice given is not likely to be acted upon, making it difficult to discuss further.
- Consultation Characteristics - Features particular to the consultation or problem presented which suggest to GP that discussion re: smoking is not a good idea.

STYLE OF ADVICE-GIVING

- Emphatic - Where GP describes style as more "forceful" or "definitive" usual and reasons for using this approach. Also the context in which GPs believe that 'repeated' advice-giving is worthwhile and GPs' explanations.
- Health - GP describes deliberate linking of advice to a clinical problem the patient presents with and GPs' explanations for using this mode.

- Normal Style - "Usual" mode of GPs' advice-giving. Preferred (i.e. by GP) mode and explanations for this (i.e. general statements of how GP likes to give advice).
- Explanations for Style - GPs' explanations of why certain advice-giving styles are chosen.

CONSEQUENCES OF ADVICE-GIVING

- Positive Consequences - Positive consequence of advice-giving (e.g. *quitting*).
- Negative Consequences - Negative consequences of advice-giving.

FACTORS INFLUENCING CESSATION

- Quit - GPs' perceptions of factors which enhance likelihood of quitting. GPs' perceptions of the characteristics of patients who are more likely to give up smoking (e.g. *pregnant women*).

N.B. Exclude GPs' perceptions of why advice given is likely to be effective.

- No Quit - GPs' perceptions of factors which make quitting less likely. GPs' perceptions of the characteristics of patients who are less likely to give up smoking (e.g. *teenagers*).

DOCTOR:PATIENT RELATIONSHIP

- Relationship as Barrier - GP perceives/indicates that doctor:patient relationship hinders likelihood of advice-giving, or decreases the quality/intensity of advice-giving.

- GP states that advice can be given at a later consultation.
- Relationship as Trigger
 - GP perceives/indicates that doctor:patient relationship promotes likelihood of advice-giving or increases the quality/intensity of advice-giving.
- Effect of Relationship
 - Effects/perceived effects of advice-giving on doctor:patient relationship. How the doctor:patient relationship influences advice given.

Altered Final Question in Interview Schedules

This section aimed to uncover what the GPs' views about using consultations to deliver a problem-based anti-smoking strategy.

"I'm going to read you a statement which was made to me by a GP whom I interviewed earlier in the study. I'm interested to know your views on this. Here is the statement: 'I believe you should address the topic of smoking with patients only when it is clinically relevant to that individual, i.e. the patient has a smoking-related problem. Raising the topic at other times is not appropriate.'"

PROMPT (if needed) "What do you think?"

N.B. This question was relevant to the objective below: (see Appendix to Methods 6 and Interview Protocol A).

- (i) To determine GPs' views on using consultations to deliver a population-based smoking strategy.

Appendix To Results

- 1 **Correlation matrix for attitude statements**
Anti-image correlation matrix for attitude statements
- 2 **Comparison of respondents and non-respondents to post-consultation questionnaire**
- 3 **Comparison of respondents and non-respondents to postal follow-up questionnaire**

Correlation Matrix For Attitude Statements

	7	6	4	8	3	1	12
7	1.00000						
6	.42403	1.00000					
4	.03706	.10301	1.00000				
8	.42956	.42795	.16936	1.00000			
3	-.00688	.01798	.36445	-.06719	1.00000		
1	.04097	.07172	.39796	.01256	.22660	1.00000	
12	.48745	.37358	.14419	.44086	.05157	.10035	1.00000
13	.15619	.19430	.44451	.16885	.28387	.33566	.25170
2	.19446	.22857	.39478	.17916	.25304	.29422	.20749
9	.47498	.42563	.14945	.38180	-.10145	.18078	.35703
10	.46723	.29149	.24197	.43985	.13879	.15185	.53520
11	.38462	.34202	.22911	.46610	.10927	.14770	.51245
	13	2	9	10	11		
13	1.00000						
2	.39114	1.00000					
9	.27175	.20917	1.00000				
10	.20303	.17143	.36830	1.00000			
11	.22433	.18168	.43919	.60518	1.00000		

Numbers correspond to attitude statements in Figure 1, stage one

1 Anti-image Correlation Matrix For Attitude Statements

	7	6	4	8	3	1	12	
7	.85113							
6	-.15378	.88023						
4	.13141	.03829	.77354					
8	-.12340	-.21050	-.12344	.87514				
3	-.03156	-.04371	-.21790	.15895	.67041			
1	.04225	.01327	-.22886	.11559	-.05877	.81013		
12	-.20574	-.09828	.04777	-.11025	.02786	.00184	.88862	
13	.01612	-.02203	-.23643	-.00922	-.15092	-.12998	-.12103	
2	-.08502	-.09504	-.20119	-.03800	-.11306	-.11583	-.04243	
9	-.25603	-.19810	-.01878	-.04104	.23185	-.11915	.03063	
10	-.20904	.05594	-.10571	-.11903	-.09822	-.04481	-.22785	
11	.04729	-.04334	-.04172	-.17334	-.08314	-.01849	-.19357	
	13	2	9	10	11			
13	.83766							
2	-.17478	.85793						
9	-.15390	-.03036	.83083					
10	.04402	.05264	-.03142	.84440				
11	.00881	.02435	-.20319	-.35632	.85517			

Again numbers identify attitude statements as in Figure 1, stage one

2 Comparison of Respondents and Non-Respondents to Post-Consultation Questionnaire

N.B. Ordinal variables were dichotomised due to the small numbers found in some cells. Figures in brackets are percentages.

	Respondents (n = 115)	Non-Respondents (n = 29)	'p' chi-square
No. smoked per day:			
< 20	101 (90.2)	26 (92.9)	0.66
> 21	11 (9.8)	2 (7.1)	
Missing	3	1	
Time to first cigarette of day:			
< 30 mins	61 (53.5)	12 (44.4)	0.39
> 30 mins	53 (46.5)	15 (55.6)	
Missing	1	2	
Tried to give up smoking in previous year:			
Yes	57 (49.6)	21 (75.0)	0.015
No	58 (50.4)	7 (25.0)	
Missing	0	1	
Intends to give up smoking:			
Yes	35 (30.4)	7 (26.9)	0.72
No	80 (69.6)	19 (73.1)	
Missing	0	3	
Confident that can give up smoking:			
Yes	35 (30.4)	11 (44.0)	0.19
No	80 (69.6)	14 (56.0)	
Missing	0	4	

2 Comparison of Respondents and Non-Respondents to Post-Consultation Questionnaire - continued

		Respondents (n = 115)	Non-Respondents (n = 29)	'p'
Desires to give up smoking:	Yes	42 (36.8)	6 (24.0)	0.22
	No	72 (63.2)	19 (76.0)	
	Missing	1	4	
Stage of Change Q12, pre-consultation questionnaire:				
	No thoughts about stopping	55 (48.2)	12 (48.2)	0.98
	Thinking about stopping	59 (51.8)	13 (52.0)	
	Missing	1	4	
Smoking is damaging my health:	Agree	101 (82.1)	14 (73.7)	0.38
	Disagree/ Don't Know	22 (17.8)	5 (26.3)	
	Missing	2 2	10	
My health will improve if I stop smoking:	Agree	80 (70.2)	16 (61.5)	0.39
	Disagree/ Don't Know	34 (29.8)	10 (38.5)	
	Missing	1	3	
Mean number of years as a smoker:		23.1 (SD = 15.7)	21.8 (SD = 14.1)	0.614*
	Missing	0	2	

* this 'p' value by t-test

3 Comparison of Respondents and Non-Respondents to Postal Follow-up Questionnaire

N.B. Ordinal variables were dichotomised due to the small numbers found in some cells. Figures in brackets are percentages.

	Respondents (n = 89)	Non-Respondents (n = 55)	'p' chi-square
No. smoked per day:			
< 20	81 (93.1)	46 (86.8)	0.21
> 21	6 (6.9)	7 (13.2)	
Missing	2	2	
Time to first cigarette of day:			
< 30 mins	47 (53.4)	26 (49.1)	0.62
> 30 mins	41 (46.6)	27 (50.9)	
Missing	1	2	
Tried to give up smoking in previous year:			
Yes	46 (51.7)	32 (59.3)	0.38
No	43 (48.3)	22 (40.7)	
Missing	0	1	
Intends to give up smoking:			
Yes	33 (37.1)	9 (17.3)	0.013
No	56 (62.9)	43 (82.7)	
Missing	0	3	
Confident that can give up smoking:			
Yes	28 (31.5)	18 (35.3)	0.64
No	61 (68.5)	33 (64.7)	
Missing	0	4	

Comparison of Respondents and Non-Respondents to Postal Follow-up Questionnaire - continued

		Respondents (n = 89)	Non-Respondents (n = 55)	'p'
Desires to give up smoking:	Yes	29 (32.6)	19 (38.0)	0.52
	No	60 (67.4)	31 (62.0)	
	Missing	0	5	
	Stage of Change Q12, pre-consultation questionnaire:			
	No thoughts about stopping	40 (45.5)	27 (52.9)	0.39
	Thinking about stopping	48 (54.5)	24 (47.1)	
	Missing	1	4	
Smoking is damaging my health:	Agree	85 (95.5)	52 (98.1)	0.41
	Disagree/ Don't Know	4 (4.5)	1 (1.9)	
	Missing	0	2	
	My health will improve if I stop smoking:			
	Agree	66 (75.0)	22 (42.3)	0.033
	Disagree/ Don't Know	22 (25.0)	30 (57.7)	
	Missing	1	3	
Mean number of years as a smoker:		24.0 (SD = 16.4)	20.8 (SD = 13.4)	0.231*
	Missing	0	2	

* this 'p' value by t-test

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Anti-smoking advice in general practice consultations: general practitioners' attitudes, reported practice and perceived problems

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Keywords: smoking cessation; smoking treatment; health promotion; consultation process; doctors' attitudes

SUMMARY

Background. Anti-smoking advice from general practitioners has proven efficacy. However, general practitioners do not exploit a large proportion of opportunities to discuss smoking with patients.

Aim. A study aimed to explore general practitioners' attitudes towards discussing smoking with patients and to assess how these influence the quantity of anti-smoking advice that general practitioners report giving during routine consultations. It also aimed to determine the extent to which general practitioners report using evidence-based interventions against smoking and to discover the problems they experience when discussing smoking with patients.

Method. A postal survey of all 468 general practitioners on the Leicestershire Family Health Services Authority list was conducted. General practitioners' attitudes were assessed by scoring 13 attitude statements using a six-point Likert-type scale. They were also asked to rank (from a list of 12 items) the five approaches that they found most productive and (from a list of 11 items) the five problems that they most commonly encountered when giving anti-smoking advice to patients.

Results. A total of 327 questionnaires (70%) were returned. Most respondents (97%) thought that their advice was more effective when linked to patients' presenting problems and 65% reported that linking their anti-smoking advice to patients' presenting complaints was one of their three most preferred approaches to discussing smoking. Advising all presenting smokers to quit was considered by 40% of respondents to be an appropriate use of time but 76% reported that patients' lack of motivation was one of the three most commonly encountered problems. An analysis of the ratings of the 13 statements suggested that general practitioners who reported the greatest smoking cessation activity during routine consultations held more positive attitudes towards discussing smoking with patients.

Conclusion. This study suggests that general practitioners believe that their anti-smoking advice is more effective when linked to patients' presenting complaints, and this belief appears to be reflected in the way in which general practitioners approach smoking cessation with patients. The findings may indicate that general practitioners are unlikely to accept a role in a population-based anti-smoking strategy which demands that they discuss smoking with all presenting smokers.

Introduction

SMOKING remains a massive public health problem in the United Kingdom.¹ Brief anti-smoking advice given by general practitioners in routine consultations has been demonstrated to have a beneficial effect on patients' smoking cessation rates.² Recent reviews have recommended that general practitioners give brief anti-smoking advice to the greatest possible number of smokers as the small effect that general practitioners have is magnified by smokers' repeated contacts with them.³⁻⁵ It is estimated that 500 000 smokers would quit annually if all general practitioners in the UK adopted a population-based strategy of advising all presenting smokers to quit.² It has been suggested that the systematic application of this strategy should be a 'leading intervention' in a nationwide anti-smoking campaign,⁶ and a Health Education Authority publication has urged general practitioners to enquire about the smoking habits of all patients.¹ Changes in general practitioners' health promotion payments⁷ are likely to shift emphasis to the consultation as the setting where patients receive most anti-smoking advice in general practice. Consequently, the development of brief interventions against smoking for use by general practitioners has been identified as one of the priorities for health promotion in primary care.⁸ This seems to be a sensible recommendation as it has been found that a simple protocol that can easily be incorporated into daily practice increased the amount, quality and effectiveness of anti-smoking advice delivered by doctors in the United States of America.⁹ A call has been made to develop similar protocols for use in the UK.³

Unfortunately, it has been found that many general practitioners do not exploit every opportunity during consultations to discuss smoking.^{10,11} The reasons for this remain unclear. Lack of time and inadequate training have been suggested as possible constraints to general practitioners using interventions against smoking.¹² Research shows that general practitioners hold positive attitudes towards their role in promoting smoking cessation,¹²⁻¹⁴ but it is not known whether general practitioners' attitudes can influence their smoking cessation activity during routine consultations. A study was undertaken that aimed to explore this question. It also aimed to describe the extent to which general practitioners report using evidence-based interventions against smoking when attempting to persuade smokers to quit, and to discover the problems faced by general practitioners when discussing smoking with patients.

Method

Questionnaire and sample

A questionnaire was piloted in the Leicester University Department of General Practice. A revised pilot questionnaire was sent to 20 general practitioners selected randomly from the Nottinghamshire Family Health Services Authority list. The final

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version was posted to all 468 general practitioners on the Leicestershire Family Health Services Authority list in May 1994. Two reminders were sent to non-respondents. A regional sample was used because survey respondents were to be recruited to a follow-up study at a later date. Information on whether or not the general practitioners were members of the Royal College of General Practitioners was obtained from the RCGP membership list, and the number of years since each general practitioner qualified as a doctor was obtained from the medical register.

The questionnaire requested information on general practitioners' demographic details, whether any clinics or organized sessions to help patients stop smoking were run in the practice and whether the general practitioners had received any training in how to persuade patients to stop smoking. They were also asked to estimate the number of smokers that they had advised to stop smoking in their most recent surgery. The general practitioners stated whether this surgery was typical of their usual practice.

Attitude statements

General practitioners' attitudes towards discussing smoking during routine consultations were explored by 13 attitude statements¹⁵ using a six-point Likert-type scale. Respondents could choose one response from strongly agree (scoring one) to strongly disagree (scoring six). The scale had no neutral point, forcing a choice for each statement.

Five statements explored the extent to which general practitioners believed that they could be effective in promoting smoking cessation, as a lack of perceived effectiveness has been identified as a potential constraint to general practitioners' activity in promoting smoking cessation.¹² Another potential constraint, lack of time,¹² was explored in two statements. Another statement investigated whether general practitioners targeted their anti-smoking advice at selected patients. The other five statements were intended to measure general practitioners' enthusiasm for discussing smoking with patients, which the authors hypothesized may influence general practitioners' behaviour with regard to their provision of anti-smoking advice. The mean scores of general practitioners who reported advising more than two smokers (the modal value determined by this study) to quit during their most recent surgery (where reported as typical) were compared with the scores of general practitioners who reported advising two or fewer smokers to quit, using the Mann Whitney-U test.

Approaches to discussing smoking

General practitioners were presented with a randomly ordered list of 12 approaches to discussing smoking with patients and were asked to rank the five they found most productive, from most useful to fifth most useful. Some items were included because they have a proven effect on smoking cessation. Randomized controlled trials have shown that providing written anti-smoking advice^{2,3} and prescribing nicotine replacement therapy¹⁶ aid smoking cessation; follow up of smokers also has beneficial effects.^{3,17} A review published in 1992 summarized the evidence that suggests that providing advice on how to deal with withdrawal symptoms, simultaneous peer group or family cessation, patients' self-belief in their ability to quit and gradually cutting down the number of cigarettes smoked are all associated with successful smoking cessation.¹⁸ This review also summarized the evidence that attempts to give up smoking are more likely to succeed if the patient is motivated by health rather than financial considerations.¹⁸ Thus, an item about exploring patients' motives for smoking or wanting to give up was included in the list. An item was included to assess whether general practitioners link

their anti-smoking advice to patients' smoking-related problems because this has been shown to be a popular approach among general practitioners.¹² It should be noted, however, that the efficacy of this approach is untested in the UK. An item about smoking clinics was included because many practices run these. Frightening the patient and highlighting the dangers of passive smoking were both added after piloting revealed that these may be common approaches used by general practitioners. Adequate space was left for the respondents to add approaches to the list.

Problems when discussing smoking

From a randomly ordered list of 11 items, general practitioners were asked to rank the five problems that they most commonly encountered when discussing smoking with patients. Most of the items on the 'problems' list were obtained from a previous qualitative study¹⁹ and a recent survey.¹² An item concerning respondents' smoking habits was included because it has been suggested that general practitioners who smoke are less likely than those who do not smoke to give anti-smoking advice to their patients.²⁰ The chi square test was used to compare details of respondents with those of non-respondents. All questionnaires were coded by T C and statistical analyses were run on SPSSPC+ 4.0.

Results

In total, 327 questionnaires were returned from 468 general practitioners, giving a response rate of 69.9%. One hundred and nineteen respondents (36.6%) were current members of the RCGP compared with 36 of the 141 non-respondents (25.5%) ($\chi^2 = 5.7$, 1 degree of freedom (df), $P < 0.05$; data missing for two respondents) and 74 respondents (23.1%) qualified less than 10 years ago compared with 14 non-respondents (10.1%) ($\chi^2 = 10.8$, 1 df, $P < 0.01$; data missing for six respondents and two non-respondents).

Of the 327 respondents, 150 (45.9%) reported that their practices held regular sessions to help smokers quit and 111 (33.9%) had received training in smoking cessation.

An estimate of the number of smokers advised to quit during the most recent surgery was given by 307 general practitioners, of whom 288 reported this surgery as being typical of their usual practice. The number of patients who were reported to have been advised to stop smoking were: six or more, by 2.8% of the 288 general practitioners; five, by 5.2%; four, by 7.6%; three, by 18.1%; two, by 34.4%; one, by 21.5%; and none, by 10.4%. The modal number of patients who were advised to stop smoking was two.

Attitude statements

Table 1 shows how general practitioners responded to the attitude statements. Responses have been dichotomized for simplicity. Of 320 respondents, 97.2% agreed that their anti-smoking advice was more effective when linked to an individual's presenting complaint. However, 60.4% of 326 respondents did not agree that discussing smoking with all presenting smokers was an appropriate use of time.

Table 2 contains the analysis of attitude statement responses. Compared with general practitioners who reported lower anti-smoking activity, those who reported greater anti-smoking activity had significantly higher mean scores on statements assessing positive attitudes towards discussing smoking with patients.

Approaches to and problems when discussing smoking

Tables 3 and 4 contain general practitioners' rankings of their most popular approaches towards discussing smoking with

Table 1. General practitioners' responses to statements measuring attitudes towards discussing smoking during routine consultations.

Statement	% of respondents who	
	Agreed ^a	Disagreed ^b
Anti-smoking advice is more effective when linked to an individual's presenting problem (<i>n</i> = 320)	97.2	2.8
I can be effective in persuading some patients to stop smoking (<i>n</i> = 322)	84.8	15.2
Discussing smoking with patients can be rewarding (<i>n</i> = 321)	61.4	38.6
My anti-smoking advice is more effective than any other anti-smoking education my patients receive (<i>n</i> = 311)	60.8	39.2
Discussing smoking with all smokers is not an appropriate use of time (<i>n</i> = 326)	60.4	39.6
When patients continue to smoke despite repeated advice to stop, anti-smoking advice can still have a worthwhile effect (<i>n</i> = 326)	60.4	39.6
I do not discuss smoking with all smokers but with those whom I feel will respond to advice (<i>n</i> = 324)	48.8	51.2
Anti-smoking advice is equally effective whether the smoker is ill with a smoking-related problem or well (<i>n</i> = 324)	48.8	51.2
I prefer not to discuss smoking unless the patient is ill with a smoking-related problem (<i>n</i> = 324)	15.4	84.6
Discussing smoking with all smokers is likely to do more harm than good (<i>n</i> = 324)	14.2	85.8
I dislike discussing smoking in routine consultations (<i>n</i> = 324)	13.6	86.4
Giving anti-smoking advice during routine consultations should not be part of my job (<i>n</i> = 325)	13.2	86.8
I prefer not to discuss smoking with patients unless they raise the subject (<i>n</i> = 324)	4.3	95.7

n = number of respondents to statement. ^aResponses: strongly agree, agree or tend to agree. ^bResponses: strongly disagree, disagree or tend to disagree.

patients and the problems most commonly encountered when discussing smoking. Respondents' first three ranked choices are used to emphasize the approaches and problems that general practitioners feel most strongly about. Some general practitioners had difficulty deciding and ranked a number of items equally. This caused inflation of the possible number of first, second and third choices. Of 310 respondents, 64.9% reported that linking their anti-smoking advice to patients' presenting complaints was one of their three most preferred approaches to discussing smoking. Patients' lack of motivation was considered by 76.1% of 305 respondents to be one of the three problems most commonly encountered when discussing smoking.

Forty six general practitioners (14.1%) gave open responses to the question asking about their preferred approaches towards discussing smoking with patients. Many open comments were a restatement of closed responses, providing details about general practitioners' choice of words or written materials. Twenty eight responses could be amalgamated into four groups that were not represented in the list of closed responses: 10 general practitioners mentioned stressing a financial motive for the patient to quit, six reported using various types of complementary medicine (such as acupuncture), six mentioned approaches that helped

raise patients' motivation to quit; and six said that they gave advice about health risks in a neutral fashion.

Open responses about the problems encountered when giving anti-smoking advice were given by 47 general practitioners (14.4%). The most common responses were comments that many patients deny that smoking is harming them, even when they acknowledge the general health risks of smoking (mentioned by 13 general practitioners). Other problems mentioned were: difficulties in overcoming the addictive aspects of smoking (eight general practitioners); young smokers' perceptions of increased status in their peer groups (six); knowing the right time to give advice (six); patients' fear of weight gain (four); and the lack of a consistent governmental approach against smoking (four general practitioners). The remaining open responses to this question were mentioned by two or fewer general practitioners or were restated closed responses.

Discussion

This survey provides insight into general practitioners' attitudes towards giving anti-smoking advice during consultations. Although confined to one family health services authority area, responses show concordance with previous work,¹²⁻¹⁴ suggesting that the findings may be generalizable. As in previous surveys,^{12,14} general practitioners in this sample were found to be positive about discussing smoking with patients, but responses indicated that they do not follow a population-based anti-smoking strategy. Sixty six per cent of respondents recalled advising two or fewer smokers to quit in their most recent surgery. As about 30% of presenting patients may be smokers,²¹ it is likely that more than two smokers would attend most general practitioners' surgeries. Also, it is probable that non-respondents would have lower levels of smoking cessation activity.²² Consequently, it is probable that the amount of anti-smoking advice that respondents reported giving represents an overestimate of the anti-smoking activity of all general practitioners surveyed.

The results suggest that general practitioners reporting the most smoking cessation activity hold more positive attitudes towards discussing smoking with patients. Using a conservative Bonferroni correction²³ (multiplying each *P* value by 13, the number of hypothesis tests performed) to allow for multiple comparisons, the responses to the first three statements are significantly different at the 5% probability level. General practitioners who take a more active anti-smoking stance appear to be more enthusiastic about using a population-based approach, put greater value on giving repeated advice and are more likely to select patients whom they feel will respond to anti-smoking advice. Caution must be exercised in interpreting the practical significance of these data. It is possible that observed differences merely reflect variation in the ways in which general practitioners respond to questionnaires. Alternatively, the variation in attitudes may mirror differences in general practitioners' clinical behaviour.

General practitioners' reluctance to discuss smoking with all presenting smokers could be explained by their experience of patients' responses to unwanted advice. Many patients resent receiving anti-smoking advice that is not relevant to their reason for consulting,²⁴ and up to 50% of smokers do not consider their smoking habit to be a problem.²⁵ Additionally, most general practitioners' advice that is aimed at changing patients' behaviour probably consists of simple exhortations to stop.¹⁰ This combination of non-motivated smokers and inflexible general practitioner styles may explain general practitioners' reported difficulties in motivating smokers to quit. General practitioners

Table 2. Scores of attitude statements by general practitioners who reported advising more than two smokers to quit and those who reported advising two or fewer smokers to quit, during their most recent surgeries.

Statement	Mean score ^a (range) of GPs advising		
	≤ two patients	> two patients	Z
Anti-smoking advice is more effective when linked to an individual's presenting problem (n = 188/97)	2.0	1.9	1.78
I can be effective in persuading some patients to stop smoking (n = 190/95)	2.6	2.4	2.00*
Discussing smoking with patients can be rewarding (n = 188/97)	3.4	3.0	2.75**
My anti-smoking advice is more effective than any other anti-smoking education my patients receive (n = 187/92)	3.4	3.1	2.14*
Discussing smoking with all smokers is not an appropriate use of time (n = 188/97)	3.6	4.3	3.53***
When patients continue to smoke despite repeated advice to stop, anti-smoking advice can still have a worthwhile effect (n = 190/77)	3.5	3.0	3.32***
I do not discuss smoking with all smokers but with those whom I feel will respond to advice (n = 190/97)	3.6	3.2	3.05**
Anti-smoking advice is equally effective whether the smoker is ill with a smoking-related problem or well (n = 190/96)	4.0	3.7	2.18*
I prefer not to discuss smoking unless the patient is ill with a smoking-related problem (n = 190/97)	4.4	4.6	1.82
Discussing smoking with all smokers is likely to do more harm than good (n = 190/97)	4.5	4.7	2.01*
I dislike discussing smoking in routine consultations (n = 189/97)	4.5	4.8	2.45*
Giving anti-smoking advice during routine consultations is not part of my job (n = 190/97)	4.5	4.9	2.92**
I prefer not to discuss smoking with patients unless they raise the subject (n = 190/77)	4.8	5.0	2.46**

n = number of respondents in group advising two or fewer/more than two patients. ^aScore of 1 = strongly agree; score of 6 = strongly disagree. Comparison of scores between groups, Mann Whitney U-test: *P<0.05; **P<0.01; ***P<0.001.

Table 3. General practitioners' ranking^a of their preferred approaches to discussing smoking with patients.

Approach	% (95% CI) of 310 GPs ^b selecting approach as first, second or third choice
Linking advice to patient's smoking-related problem	64.9 (58.5 to 69.2)
Exploring and attempting to influence patient's motives for smoking	34.5 (29.2 to 40.4)
Highlighting the effects that passive smoking has on children or spouse	30.3 (25.2 to 35.4)
Increasing smoker's confidence in his or her ability to quit (by highlighting past successes)	26.5 (21.2 to 31.0)
Referring to primary-care based anti-smoking group	22.2 (17.6 to 26.9)
Prescribing,advising nicotine replacement therapy	21.3 (16.7 to 25.8)
Suggesting that the smoker persuades others in peer group/family to attempt quitting simultaneously	20.9 (16.4 to 25.8)
Giving advice on withdrawal symptoms	20.3 (15.8 to 24.8)
Frightening the patient with strong advice about consequences of smoking	19.4 (14.9 to 23.8)
Offering follow-up appointment	18.1 (13.8 to 22.3)
Giving written advice (leaflet)	15.8 (11.7 to 19.9)
Encouraging cutting down before attempting to stop	10.0 (6.7 to 13.3)

CI = confidence interval. ^aGPs were asked to rank the five approaches they found most productive when discussing smoking with patients. ^bA total of 310 respondents gave answers which could be used for analysis, 41 of whom ranked a number of items equally.

who report more smoking cessation activity may have developed flexible ways of dealing with the smokers' lack of motivation, helping them retain their belief that giving repeated anti-smoking advice is an appropriate use of time.

This survey reinforces the previous finding that general practitioners are more likely to discuss smoking in the presence of relevant symptoms.¹² An important finding in this study was the widespread belief that anti-smoking advice is more effective when linked to an individual's presenting problem: 97% of respondents held this conviction and it deserves careful attention. It has been proved that by advising all presenting smokers to stop smoking, general practitioners have a small beneficial effect on their patients' smoking habits.² It is possible, however, that the smokers who give up do so as a result of anti-smoking advice that is directly linked to their presenting complaint. Further research is needed to determine if this is so. If anti-smoking advice is more effective when linked to patients' presenting complaints, it would be sensible to encourage general practitioners' anti-smoking interventions in these situations rather than continuing to encourage a population-based strategy that general practitioners appear reluctant to apply.

The ranking of items regarding preferred approaches towards discussing smoking with patients represents a consensus of general practitioners' opinion that is validated by the small number of open comments. This consensus suggests that general practitioners do not use an evidence-based approach towards smoking cessation. The popularity of giving advice linked to patients' smoking-related problems is expected because general practitioners, in this study, reported to believe that advice given in this context is more effective. There is, however, no evidence to support this. It is worth noting that few general practitioners reported giving patients leaflets or asking patients to make follow-up appointments as being preferred approaches, despite the proven efficacy of both of these practices.^{2,17} The lack of leafleting could

Table 4. General practitioners' ranking^a of problems encountered when discussing smoking with patients.

Problem	% (95% CI) of 305 GPs ^b selecting problem as first, second or third choice
Patient's lack of motivation	76.1 (70.9 to 80.5)
Patients enjoy smoking or use it to help cope with stress	52.1 (46.2 to 57.4)
Smoking not usually an immediate concern of patients	45.2 (39.4 to 51.2)
Lack of time prevents discussion of smoking in detail	26.9 (21.9 to 31.8)
Lack of time prevents smoking being raised as often as desired	25.9 (21.3 to 29.8)
Patients do not understand importance of stopping smoking	25.9 (21.3 to 29.9)
Patients do not listen to advice	13.4 (9.9 to 17.4)
Patients easily forget advice	10.5 (9.1 to 14.2)
Unwanted advice upsets GP-patient relationship	9.8 (6.8 to 13.1)
Lack of GP skill	5.6 (2.7 to 7.8)
GP is a smoker	2.3 (0.9 to 3.8)

CI = confidence interval. ^aGPs were asked to rank the five problems they most commonly encountered when discussing smoking with patients. ^bA total of 305 respondents gave answers which could be used for analysis, 34 of whom ranked a number of items equally.

be remedied by audit. The reported time constraints probably make it unrealistic to expect general practitioners to encourage follow-up appointments solely to discuss smoking.

This study suggests that general practitioners' attitudes may influence their smoking cessation activity. In particular, it appears that general practitioners are unlikely to accept a leading role in a population-based anti-smoking strategy. The principal finding, however, is that general practitioners believe that their anti-smoking advice is most effective when linked to patients' presenting complaints. The way in which general practitioners approach the topic of smoking cessation seems to reflect this. This hypothesis needs to be tested as it has important implications for the future direction of general practice efforts to promote smoking cessation.

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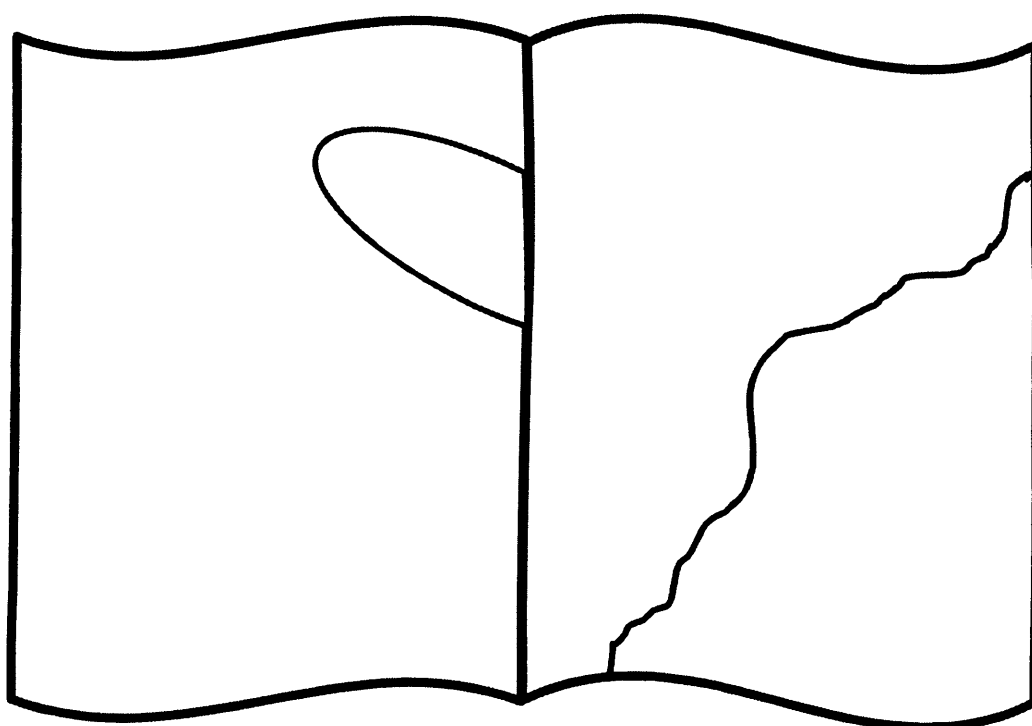
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Food for thought...

'The use of ultrasound in general practice enables general practitioners and midwives to reassure many women who have bleeding in early pregnancy, since these women have a good prognosis if fetal heart movement is detected and the fetus appears normal: approximately 19 in 20 women with a viable pregnancy will not have a miscarriage before the 20th week'

Everett CB, Preece E. Women with bleeding in the first 20 weeks of pregnancy: value of general practice ultrasound in detecting fetal heart movement. *January Journal*, p. 7.

SPECIAL NOTICE



DAMAGED TEXT - INCOMPLETE IMAGE

Sampling for qualitative research using quantitative methods. 1. Measuring GPs' attitudes towards discussing smoking with patients

Tom Coleman, Martin Williams and Andrew Wilson

Tom Coleman T, Williams M and Wilson A. *Family Practice* 1996; **13**: 526–530.

Background. Interview studies which employ qualitative methodology are often concerned with classifying behaviours or attitudes and an ideal sample of research subjects displays diversity in the attitudes or behaviours under scrutiny.

Objective. This paper describes the development of a questionnaire which measures GPs' attitudes towards discussing smoking with patients with the intention of using this instrument to select GPs with diverse views for a qualitative interview study.

Method. Thirteen attitude statements with an accompanying Likert-type scale were completed by 327 GPs in one FHSA area. Factor analysis of responses produced two subscales: 'perceived efficacy' and 'enthusiasm'. Reliability and validity of these were examined.

Results. Each subscale had good internal reliability and preliminary exploration of construct validity supported the notion that the subscales were valid.

Conclusion. The use of this type of instrument in sampling GPs for qualitative studies could be effective for selecting subjects with a diversity of views towards the research topic.

Keywords. GPs, health promotion, questionnaire construction, research methodology, smoking cessation.

Introduction

Studies which employ qualitative research methods are often concerned with classifying different behaviours and attempting to distinguish 'typical' and 'atypical' research subjects.¹ Sampling for qualitative studies is, therefore, not necessarily driven by statistical methods and is usually non-probabilistic. Random samples are not usually required and subjects are chosen on the hope that they will allow investigation of particular aspects of the attitudes or behaviours which are under scrutiny.

There are no concrete guidelines which state how sampling should be undertaken for qualitative studies. Researchers have to decide for themselves which method(s) is/are most appropriate to the questions they have to answer. When selecting GPs for interview studies, researchers have used a variety of sampling approaches including random samples,² choosing GPs to work in practices with varied characteristics³ and selecting GPs who work in practices with characteristics

reflecting the heterogeneity of all practices within a defined area.⁴ There are, however, many factors which influence where GPs work,⁵ so choosing GPs because of the characteristics of the practice to which they belong provides no guarantee that those selected will exhibit the required diversity. An alternative approach would be to select GPs for qualitative studies by differences in their beliefs or attitudes instead of choosing them because they work in a particular type of practice.

A qualitative interview study exploring the ways in which GPs discuss smoking with patients during routine consultations was planned. This required a sample of GPs with diverse attitudes towards giving advice on smoking, so a questionnaire measuring GPs' reported attitudes towards discussing smoking with patients was designed. It was intended to use this instrument to select GPs with diverse reported attitudes to participate in the study. This paper aims to:

- (i) describe the process of designing a valid and reliable questionnaire to determine GPs' attitudes towards giving advice on smoking cessation;
- (ii) discuss the potential use of this type of instrument as an aid to sampling GPs for qualitative studies.

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Methods

Generation of dimensions of GPs' attitudes towards giving anti-smoking advice

The first stage of questionnaire design was the generation of a limited number of dimensions exploring GPs' attitudes towards giving anti-smoking advice. A literature review revealed only one study dealing with GPs' attitudes towards smoking cessation,⁶ so articles concerned with attitudes towards preventive medicine were also utilized. Four potentially important dimensions were identified and 13 attitude statements⁷ examining GPs' attitudes to these were devised. Figure 1 shows the statements relating to each dimension.

Generation of attitude statements relating to each dimension

The literature search provided conflicting evidence of whether GPs feel they are effective with smokers. A recent Scottish survey suggested that lack of perceived effectiveness was an important constraint to GPs' anti-smoking activity.⁶ An earlier survey,⁸ however, suggested that the vast majority of GPs felt they were 'probably effective' when giving anti-smoking advice. Similarly, an interview study investigating GPs' attitudes towards preventive medicine² concluded that GPs' generally believed they were effective at promoting life-style change, whereas two others^{9,10} reported GPs having concerns about their efficacy. Consequently, statements 1–5 (Fig. 1) explored a range of GPs' perceived efficacies with smokers. Time constraints were reported as a problem in many studies,^{6,8–10} so statements 6 and 7 (Fig. 1) covered GPs' attitudes towards broaching the topic of smoking with all presenting smokers. There was evidence that GPs' advice giving is influenced by the clinical situation,⁶ with GPs reporting themselves as being more likely to give anti-smoking advice to people with symptomatic illness caused by smoking. Accordingly, statements 8–10 investigated respondents' propensity to give anti-smoking advice. Finally, GPs appeared to differ in their orientation towards preventive medicine⁹ and statements 11–13 dealt with some of the beliefs articulated by them.^{6,8–10}

To minimize 'acquiescence bias' and 'positive skew',¹¹ attitude statements were placed in a random order and neutrally worded. Respondents were asked to choose one response from strongly agree to strongly disagree on a six-point Likert-type scale placed alongside each statement. The scale had no neutral point, forcing respondents to make a tentative choice for each item. Points were awarded to responses to statements on the scale of 1–6 with 1 representing a strongly negative attitude towards giving anti-smoking advice and 6 strongly positive (see Appendix for fuller explanation).

Data requested to provide construct validity checks

Respondents were asked whether they had received any

EFFECTIVENESS

1. My anti-smoking advice is more effective than any other anti-smoking education that my patients receive.
2. When patients continue to smoke despite repeated advice to stop, my anti-smoking advice can still have a worthwhile effect.
3. My anti-smoking advice is more effective when it is linked to an individual's presenting problem.
4. I can be very effective in persuading some of my patients to stop smoking.
5. My anti-smoking advice is equally effective whether the smoker is ill with a smoking-related problem or well.

TIME

6. Discussing smoking with all presenting smokers is not an appropriate use of my time.
7. Discussing smoking with all presenting smokers is likely to do more harm than good.

PROPENSITY TOWARDS ADVICE-GIVING

8. I prefer not to discuss smoking unless the patient is ill with a smoking-related problem.
9. I don't discuss smoking with all smokers, but prefer to select out those smokers who I feel will respond to my advice.
10. I prefer not to discuss smoking with my patients unless they raise the subject.

ENTHUSIASM TOWARDS ANTI-SMOKING ADVICE

11. I dislike discussing smoking in my routine consultation.
12. Giving anti-smoking advice during routine consultations should not be part of my job.
13. Discussing smoking with my patients can be very rewarding for me.

FIGURE 1 *Questionnaire items relating to each dimension*

training in how to help patients stop smoking and to provide an estimate of the number of smokers advised to quit during their last surgery. These data were used to establish construct validity of attitude scores derived from responses to attitude statements (see Results section for full details).

Piloting and distribution of questionnaire

Initially the questionnaire was piloted within the Leicester University Department of General Practice. This was to check that attitude statements could easily be understood and resulted in minor wording alterations. The revised questionnaire was sent to 20 randomly-selected GPs from the Nottinghamshire Family Health Services Authority list. This confirmed that service GPs endorsed a variety of response categories. The final survey instrument was posted to all 468 GPs on the Leicestershire FHSA list.

Results

Of the 468 questionnaires sent 327 (69.9%) were returned after two reminders. Details of differences between respondents and non-respondents are described elsewhere.¹² Briefly, GPs holding the MRCGP qualification, younger GPs and women were more likely to respond. Of the 325 respondents who replied to the question about anti-smoking training, 111 (34.2%)

answered positively. Three hundred and seven GPs gave an estimate of the number of smokers advised to quit during their last surgery and 288 (88.6%) reported this surgery as being typical of their usual practice. Details of responses to attitude statements have been reported already.¹²

Factor analysis of attitude statement responses

A principal components analysis (PCA)¹³ was run on attitude statement responses to indicate which statements could be grouped together on subscales. This initially suggested that a three factor structure could best represent the data. The third factor extracted, however, explained only 10% of the variance and had only one statement (statement number 5, Fig. 1) loaded strongly on it. This statement had factor loadings of below 0.36 on both other factors. Consequently, this item was discarded from the analysis and the remaining 12 items were explored with a second PCA. A two factor solution best represented the responses to the remaining 12 attitude statements. The subscales were named 'enthusiasm' and 'perceived efficacy' based on the nature of the statements loading on each one. The enthusiasm subscale explained 33% of the variance in GPs' responses to attitude statements and the perceived efficacy subscale, 17%.

The sum of points awarded to all attitude statements which loaded on each subscale formed one attitude score. The scoring method ensured that a high perceived efficacy score represented a strong personal belief in the effectiveness of the respondents' anti-smoking advice and a high enthusiasm score represented a positive orientation of the respondent towards giving anti-smoking advice during routine consultations. Table 1 shows the seven statements loaded to the enthusiasm subscale and Table 2 the five statements loaded to the perceived efficacy subscale. Table 3 shows that a large proportion of respondents' scores are concentrated around the median.

Internal reliability and validity

Cronbach's alpha coefficients for the subscales were: enthusiasm 0.60 and perceived efficacy 0.72, demonstrating good internal consistency.

Construct validity of subscales was investigated by comparing attitude scores of GPs who reported giving different amounts of anti-smoking advice in their last surgery (where stated to be typical). GPs' reported practice was, therefore, being compared with their reported attitudes. GPs who recalled discussing smoking with more than the modal number of smokers (two) had higher enthusiasm scores [median score = 32 (range 18–39) based on 101 GPs versus 30 (range 14–40) based on 186 GPs. Mann-Whitney $U = 7285$, $P = 0.002$]. These GPs also had significantly higher perceived efficacy scores [median score 22 (range 12–28) based on 95 GPs versus 20 (range 10–29) based on 182 GPs. Mann-Whitney $U = 7187$, $P = 0.0002$].

TABLE 1 *The seven enthusiasm statements showing mean scores, standard deviations (SD) and factor loading values*

Attitude statement	Mean score (SD)	Factor loading value
Discussing smoking with all smokers not an appropriate use of time	3.87 (1.51)	0.652
Prefer not to discuss smoking unless patient is ill with a smoking-related problem	4.50 (1.13)	0.710
Dislike discussing smoking in routine consultations	4.64 (1.08)	0.742
Giving anti-smoking advice during routine consultations is not my job	4.64 (1.13)	0.729
Prefer not to discuss smoking with patients unless they raise the subject	4.86 (0.90)	0.725
Discussing smoking with all patients is likely to do more harm than good	4.62 (1.15)	0.726
Don't discuss smoking with all smokers but select out those I feel will respond to my advice	3.42 (1.21)	0.700

TABLE 2 *The five perceived efficacy statements showing mean scores, standard deviations (SD) and factor loading values*

Attitude statement	Mean score (SD)	Factor loading value
My anti-smoking advice is more effective than any other anti-smoking education my patients receive	3.78 (1.12)	0.662
Anti-smoking advice still has a worthwhile effect in patients who continue to smoke despite having had repeated advice to stop	3.74 (1.19)	0.661
Anti-smoking advice is more effective when linked to an individual's presenting problem	5.03 (0.86)	0.625
Can be effective in persuading some patients to stop smoking	4.50 (1.01)	0.780
Discussing smoking with patients can be rewarding	3.80 (1.15)	0.718

TABLE 3 *Distribution of enthusiasm and efficacy scores*

Score	No. of respondents for whom score calculated	Range of possible scores	Median score	Interquartile range (25-75%)	10th percentile	90th percentile
Efficacy	305	5-30	21	18-23	16	26
Attitude	316	7-42	31	27-35	25	37

A further test of construct validity was a comparison of the attitude scores of GPs who reported having received anti-smoking training with those of GPs who did not. GPs who reported having received anti-smoking training had significantly higher perceived efficacy scores [median = 22 (range 15-28) based on 104 GPs versus 21 (range 9-39) based on 201 GPs. Mann-Whitney $U = 8480$, $P = 0.007$]. No difference was found in the enthusiasm scores of these two groups of GPs.

Discussion

Using close reference to the literature, the Attitudes to Smoking Advice Questionnaire has been designed. This has validity and reliability for measurement of GPs' attitudes towards discussing smoking with patients. Both subscales of this 12-item instrument appear to be able to differentiate between groups of GPs who report different levels of anti-smoking advice-giving activity. The perceived efficacy subscale also appears able to differentiate between groups of GPs who report having received anti-smoking training and those who have not.

Higher scores on the perceived efficacy and enthusiasm subscales are associated with GPs reporting greater anti-smoking activity in their previous surgery. This provides construct validity for the subscales. GPs who are more enthusiastic about giving anti-smoking advice or who have a greater belief in the efficacy of their advice would be expected to report more advice-giving. Additionally, it is expected that higher scores on the perceived efficacy subscale are associated with GPs having received training in how to help smokers quit. Perhaps the training could have convinced GPs that they were more effective with smokers or those who considered themselves more effective might be more likely to undertake anti-smoking training.

As the two subscales have good internal reliability and initial tests of construct validity indicate their validity, they have potential for use in selecting GPs with diverse views on the subject of giving advice about smoking. Given the clustering of perceived efficacy and enthusiasm scores around their medians it seems logical that any sampling of GPs should be done by selecting those from the tails and central portion of each distribution. A further paper describes how the scores were used in this way¹⁴ to achieve a sample of GPs with diverse reported attitudes towards discussing smoking

with patients. The concept of utilizing this type of instrument to sample GPs with diverse attitudes for qualitative studies is important. For example, standard instruments like the depression attitude questionnaire, which differentiates between psychiatrists' and GPs' attitudes towards depression,¹⁵ could be used in a similar way to select a sample of GPs with varied attitudes towards depression. Choosing GPs with variation in their reported attitudes could be more effective for selecting GPs with diverse views on the subject of research than merely picking GPs because they work in different types of practices.

The process of deriving the Attitudes to Smoking Advice Questionnaire has two main drawbacks. Firstly, the content validity of the two subscales may not be completely addressed. There could be factors which influence GPs in their use of routine consultations for anti-smoking discussions which are not covered by the attitude statements. Rigorous, qualitative exploration of these issues with GPs during questionnaire design would have been preferable to help maximize content validity. Secondly, starting with a much larger bank of attitude statements and refining the questionnaire over a number of mailings would have also been preferable. Unfortunately, this was beyond the scope of this study, but a recently-published review¹⁶ has suggested how researchers can mix qualitative and quantitative methods to produce similar scales for use in health services research.

This paper shows that with limited resources it is possible to design a survey instrument which is valid and reliable for measuring GPs' attitudes towards giving anti-smoking advice. The Attitudes to Smoking Advice Questionnaire appears to be appropriate for use in sampling GPs with diverse reported attitudes towards discussing smoking with patients. Researchers should consider using this type of instrument when GPs with varied attitudes on specific subjects are required for qualitative studies. Well-validated questionnaires which categorize GPs by their reported attitudes may be more effective than other methods of systematic sampling¹ in the selection of research subjects with diverse attitudes or behaviours.

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Appendix

Attitude statement scoring

Below are two examples of questions with scoring explained:

Key

SA = strongly agree; A = agree; TTA = tend to agree; TTD = tend to disagree; D = disagree; SD = strongly disagree

1. Discussing smoking with all presenting smokers is not an appropriate use of my time. SA A TTA TTD D SD
2. I can be very effective in persuading some of my patients to stop smoking. SA A TTA TTD D SD

Responses to individual questions on each scale scored up to 6 points. A high score was intended to measure strongly positive attitudes towards giving anti-smoking advice and a low score the opposite. Question 1 above would be awarded 1 point for a response of SA, up to 6 for SD. This would be reversed for question 2, with SA scoring 6 points through to SD scoring 1.

Sampling for qualitative research using quantitative methods. 2. Characteristics of GPs who agree to video-taping of consultations

Tim Coleman

Coleman T. Sampling for qualitative research using quantitative methods. 2. Characteristics of GPs who agree to video-taping of consultations. *Family Practice* 1996; **13**: 531–535.

Background and objectives. Studies using video-recordings of GPs' consultations have been important in investigating GPs' clinical behaviour. Unfortunately, the characteristics of participating GPs are rarely described, making it difficult to assess how representative they are or how generalizable the studies' results can be. This paper documents the recruitment of 53 GPs to a research project which involved video-recording their consultations to determine how GPs approach the topic of smoking cessation with patients.

Methods. The Attitudes to Smoking Advice Questionnaire was used to select GPs with diverse attitudes towards discussing smoking with patients.

Results. Out of 123 GPs who were eligible to take part, 53 (43.1%) agreed. GPs who agreed to become research subjects were younger, more likely to work in teaching or training practices and more likely to be current members of the RCGP.

Conclusions. When planning studies which utilize video-recordings of GPs' consultations, researchers should give consideration to how this apparent self-selection by participating GPs could influence research results.

Keywords. GPs, research methodology, videotape recordings.

Introduction

Video-recording of GPs' consultations is an established technique in general practice research, which has been used in studies exploring a wide variety of areas including doctor–patient communication,¹ GPs' detection of depression,^{2,3} the influence which medical computing has on GPs' behaviour⁴ and the adequacy of data held on general practice computing systems.⁵ Video-recording has been recommended for use in studies of doctor–patient communication, as it records all modalities of interaction between participants in a consultation.⁶

Unfortunately, studies which utilize video-recorded consultations generally give scanty details about the GPs who participated as research subjects and the methods of their selection.^{2–4,7,8} Some studies have taken place in the researcher's own practice,^{4,8,9} suggesting that participating GPs were chosen because it was perceived

that they were likely to agree to take part (a 'sample of convenience'). GPs can hold strongly negative views about the video-recording of consultations¹⁰ and it is not known how acceptable they find the use of this technique for research. The internal and external validity of studies which involve video-recordings of 'real' consultations could be compromised if there are qualitative differences between GPs who allow themselves to be recorded and those who refuse. //

This paper describes how GPs were recruited to a study which aimed to video-record their consultations in order to describe how GPs use their routine consultations to promote smoking cessation. The project involved video-recording of GPs' surgeries and semistructured interviews with GPs. An ideal sample of GPs would include individuals who exhibited diversity in their behaviour during interactions with smokers and who described a wide variety of reasons for broaching or avoiding the topic of smoking with patients. To facilitate selection of such a sample, the Attitudes to Smoking Advice questionnaire was used to measure GPs' attitudes towards discussing smoking with patients during routine consultations. This questionnaire has been shown to be valid and reliable for this purpose.¹¹ The final GP sample was chosen to reflect as wide a variety of reported attitudes as possible. It was

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hoped that GPs' behaviour with smokers would be as diverse as their reported attitudes.

The aims of this paper are:

- (i) to describe the characteristics of GPs who will agree to be video-recorded for a research project;
- (ii) to document the reasons GPs advance for refusing to participate;
- (iii) to illustrate the use of the Attitudes to Smoking Advice Questionnaire to systematically sample GPs for a qualitative interview project.

Methods

Originally, postal questionnaires were sent to all 468 GPs on the Leicestershire FHSA list. The full details of this survey have already been reported.¹² Thirteen attitude statements exploring GPs' attitudes towards discussing smoking with patients during routine consultations were included on the survey instrument. Another paper explains how the Attitudes to Smoking Advice Questionnaire subscales were derived from these 13 statements.¹¹ The two subscales of the Attitudes to Smoking Advice Questionnaire are the enthusiasm and perceived efficacy subscales. These subscales measure GPs' enthusiasm towards discussing smoking with patients and GPs' belief in the efficacy of their anti-smoking advice. Evidence of their construct validity and internal reliability has already been presented.¹¹

Selection and recruitment of GPs

GPs with diverse reported attitudes towards discussing smoking with patients were systematically selected using scores calculated for each GP on the enthusiasm and perceived efficacy subscales. GPs' scores on each subscale were clustered around the median,¹¹ suggesting that dividing the distributions using tertiles before sampling from the central portion and tails of each distribution was most logical.¹¹ Figure 1 summarizes the rolling recruitment process. This process of selecting GPs by differences in their reported attitudes continued until the required quota from each of the six thirds agreed to participate. The two scores for each GP were treated as being independent of one another and only one attempt was made to recruit each GP. GPs who could not be contacted after three successful calls to the surgery were classified as refusing to participate. Whilst on the telephone, GPs who refused to take part in the study were asked, 'Could you tell me what in particular it is about the study which makes it difficult to take part?' If they made reference to the use of video they were then specifically asked 'What concerns does the use of video-recording cause you?' GPs' answers were recorded longhand by TC.

The main themes which GPs reported were identified by content analysis of these non-verbatim transcriptions.

- 18 GPs selected randomly each week
(3 from each of the 6 thirds)
- 5 stage process:
 - (i) Short 'populist' letter to all 18 explaining details of the study. Subject of study is described as 'preventive medicine'
 - (ii) Follow-up telephone call to the 18 two weeks later
 - (iii) Further details sent to GPs who expressed an interest in participating
 - (iv) Follow-up telephone call to interested GPs a further two weeks later
 - (v) Face-to-face interview arranged to discuss participation
- Recruitment ends when 7 or 8 GPs from each third agree

FIGURE 1 Recruitment of GPs

Information obtained to allow comparison of participants with non-participants

To allow comparison of GPs who agreed to participate in the project with those who refused, data about all GPs on the Leicestershire FHSA list was collected from a number of sources. The FHSA gave information about GPs' gender, numbers of partners in GPs' practices and number of hours worked by each GP. Current membership of The Royal College of General Practitioners was obtained from the College and the time that had elapsed since the GP had qualified was found in the Medical Register. The time since qualifying was categorized as greater or less than 10 years ago at 1 January 1994. It was hypothesized that GPs who had qualified as doctors later than 1 January 1984 were more likely to have been exposed to video-recording and this could influence whether or not they would agree to be filmed for a research project. The training status of GPs' practices was supplied by the Leicestershire, Nottingham and Derby Vocational Training Schemes and the undergraduate departments of General Practice of the Universities of Leicester and Nottingham enabled undergraduate teaching practices to be identified. TC categorized GPs into those who were known personally to him and those who were not. Any brief meeting between TC and a GP resulted in the GP being classed as 'known to researcher'. Chi-square tests were used to compare the characteristics of those who agreed to participate in the project with those who refused.

Results

Of the 468 questionnaires sent in the initial survey 327 (69.9%) were returned after two reminders. Full details of the differences between respondents and non-respondents have already been reported.¹² Briefly,

	No. of GPs reporting difficulty
Lack of time (e.g. too many commitments, too busy, just appointed a new partner, already teach students)	36
Video-recording viewed as a problem (see Box 3)	33
Other objections (inadequate remuneration, dislike of research topic, non-English language consultations, inadequate premises)	16

Based on the responses of 58 (out of 70 GPs) who could be contacted.

FIGURE 2 Responses to question "could you tell me what in particular it is about this study which makes it difficult for you to take part?"

Concern for self (feeling threatened, self-conscious, inhibited)	22
Previous bad experience of video-recording	7
Doubts about validity of video-recording	8
Concern for patients' reactions	6
Not been video-recorded before	5
Other (including disruption and time taken by video)	8

Question asked to 33 GPs

FIGURE 3 Responses to question "what concerns does the use of video recording cause you?"

Members of the Royal College of General Practitioners, GPs who had qualified less than 10 years ago and women GPs were more likely to respond.

Outcome of GP recruitment

In total 125 GPs were approached and asked to take part in the project before the desired quota from each of the thirds agreed. A total of 53 GPs were recruited.

Two GPs were no longer practising, reducing the denominator to 123 and making the agreement rate 43.1%. Table 1 compares characteristics of GPs who refused to participate with those who finally agreed to take part. There was no association between the size of GPs' partnerships and agreement to be video-recorded.

GPs' reasons for refusal to participate

Of the 70 GPs who were eligible to participate but refused, 12 would not talk to TC or could not be contacted. The remaining 58 gave their views in the telephone interview. GPs were allowed to cite more than one reason for refusal. Lack of time was the most common reason, being mentioned by 36 GPs, but 33 refusers specifically mentioned that they were unhappy with the use of video-recording. Again, GPs often raised multiple objections. The main themes which GPs reported as barriers to their participation are summarized in Figures 2 and 3. Only one GP cited the topic of the study as a reason for non-participation.

Discussion

These data show that it is feasible to recruit service GPs who are not already acquainted with researchers for studies involving the video-recording of their consultations. In this sample, however, nearly 60% of GPs refused, making recruitment an onerous task. Additionally, there are qualitative differences between GPs who agree to be video-taped and those who refuse. The fact that the subject of the project was only cited once as a reason for refusal suggests that these findings are likely to be generalizable to situations where researchers ask to video-record GPs' consultations for other purposes.

Table 1 suggests that GPs who are familiar with the use of video-recording are more likely to agree to participate in this type of research. Teaching and training practices are likely to use video-recorded consultations for teaching or the training purposes. Younger GPs are more likely than older GPs to have experienced consultation analysis using video-recording during their training. Also, it is not surprising that GPs who are acquainted with the researcher were more likely to agree to participate. The researcher works in an academic department and most of the GPs known to him are associated with this organization. It is worth noting, however, that the GPs who gave consent to be video-recorded appear happy with their final decision. One year since the first GP was recruited, 44 GPs have been approached for data collection and only two have withdrawn co-operation (unpublished observations).

Unfortunately, it appears unlikely that either of the main barriers to GPs' participation in this type of research can easily be overcome. Researchers often pay

TABLE 1 Comparison of GPs who refused to have consultations video-recorded with those who agreed

Characteristic of GP	No. (%) of GPs refusing to be video-recorded with characteristic (total = 70)	No. (%) of GPs agreeing to be video-recorded with characteristic (total = 53)	P-value (on chi-square test of difference between proportions)
Works in training practice	13 (19)	26 (49)	0.003
Works in teaching practice	20 (29)	31 (58)	0.0009
MRCGP	17 (24)	28 (53)	0.0008
Qualified < 10 years ago	9 (13) ^a	19 (36) ^b	0.003
Known by researcher	5 (7)	11 (21)	0.03
Male	49 (70)	44 (83)	0.17
Full time (versus less than full time)	64 (91)	49 (92)	0.9

^a Data missing for three GPs.

^b Data missing for one GP.

GPs for their participation in projects, but this does not relieve GPs of their reported time pressures. Figure 3 demonstrates that many GPs have personal and emotive reasons for objecting to video-recording of their consultations. Although the data in Table 1 suggests that familiarity with the use of video-recording may be associated with some GPs' agreement to participate, Figure 3 demonstrates that past experience of video-recording can act as a disincentive for a minority.

Research into doctor-patient communication is still in its infancy, making it difficult to predict how the characteristics of a GP sample might affect study findings. GP trainers are more patient-centred than other GPs,¹⁴ so this sample is likely to demonstrate greater patient-centredness than a random sample of GPs. Researchers should note that when recruiting GPs to studies which involve video-recording of consultations, success is more likely amongst younger GPs who hold the MRCGP qualification and work in teaching or training practices. If appropriate to answering the research question(s) posed, asking only GPs with these characteristics to take part is likely to minimize recruitment efforts. Where a more catholic sample is required, however, researchers must give careful consideration to how the characteristics of the sample obtained might influence research findings.

This work suggests that a considerable amount of self-selection occurs when GPs are asked to take part in research which involves video-recording their consultations. The characteristics of GPs who participate in this kind of research need to be considered when assessing research findings. Researchers need to be aware that recruiting GPs as subjects for this kind of research can be extremely time-consuming and any attempt at obtaining a sample of GPs which is truly representative of the whole profession is likely to be doomed to failure.

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Comparison of video-recorded consultations with those in which patients' consent is withheld

TIM COLEMAN

TERJINDER MANKU-SCOTT

SUMMARY

Background. Video-recorded consultations are widely used for research in general practice. Recently, video recordings have begun to be used for the purposes of general practitioner (GP) registrar assessment. It is unknown, however, whether consultations in which patients withhold consent for recording differ from those that are recorded.

Aim. To compare clinical problems and demographic characteristics of adult patients who consent to the video recording of consultations with those who withhold consent.

Method. This was a prospective study of 538 adult patients consulting 42 GPs, based in practices throughout Leicestershire. Each patient attended a surgery session with one of the 42 GPs between April 1995 and March 1996. Clinical presentations and demographic characteristics of patients consenting and withholding consent to the video recording of their consultations were compared. GPs' perceptions of whether patients in these two groups were distressed/upset or embarrassed were also compared.

Results. A total of 85.9% (462/538) of adults consented to video recording, and 14.1% (76/538) withheld consent. Multiple logistic regression revealed that patients who presented with a mental health problem were more likely to withhold consent to recording (odds ratio 2.5, 95% confidence interval 1.4–4.6). Younger patients were also more likely to withhold consent to video recording. Additionally, where patients' consent was withheld, GPs perceived patients to be more distressed or embarrassed.

Conclusion. Younger patients and those suffering from mental health problems are more likely than others to withhold consent to being video recorded for research purposes in general practice. The implications of this study for the assessment of registrar GPs using video-recorded consultations are discussed.

Keywords: videotape recording; consultations; patient consent.

Introduction

VIDEO recording is well established as a method of recording general practice consultations for research purposes. This technique has been used to explore doctor–patient communication,¹ how general practitioners (GPs) detect depression^{2,3} and psychological distress,⁴ and to investigate the adequacy of data held on general practice computing systems.⁵ Video-recorded consultations have been used in the summative assessment of Scottish GP registrars^{6,7} and in the Royal College of General Practitioners' fellowship assessment.⁸

Despite the widespread use of video recording, little is known about the characteristics of patients who withhold consent to being recorded or about the clinical content of their consultations. One study⁹ has suggested that patients presenting with anxiety, depression, and gynaecological conditions are more likely to withhold consent to video recording but, unfortunately, no statistical evidence was presented to confirm this assertion. Patients withholding consent to recording did, however, report concerns with confidentiality and having embarrassing problems,⁹ so it is possible that qualitative differences exist between recorded and non-recorded consultations.

Given the ways in which video-recorded consultations are used, it is important to determine the nature and extent of any variations between these and consultations in which patients withhold consent. Accordingly, this study compares the clinical presentations and demographic characteristics of adult patients who consented or withheld consent to the video recording of their consultations. GPs' perceptions of whether patients were distressed or embarrassed were also compared.

Methods

Forty-two GPs each had one surgery session video recorded for a study examining the ways in which smoking is discussed during consultations. GPs were asked to avoid giving patients prior warning that the surgery would be video recorded. One author (TC) asked attending patients to complete a questionnaire about their smoking habits and, afterwards, consent to video recording was requested in accordance with Southgate's guidelines.¹⁰ This usually occurred in a private room. Patients were excluded if they could not give consent (e.g. demented adults with care staff), and those who refused to talk to the researcher were classed as withholding consent to video recording. Patients were told that the focus of the study was doctor–patient communication. Patients who asked why they had been given a questionnaire about their smoking habits were informed that the project was particularly interested in communication about smoking.

After each consultation, GPs completed an encounter sheet derived from the one used by Carney.¹¹ GPs were asked to list up to five diagnoses or problems dealt with (if any) and record whether they considered each one to be a new or old (previous) presentation. GPs' perceptions of whether a psychological problem had been dealt with and whether the patient was distressed/upset or embarrassed were ascertained by three forced-choice questions. GPs were instructed to endorse the 'no' response if uncertain.

Video-recording equipment was operated by one author (TC), and GPs were not blinded as to whether or not patients had consented to video recording. In the course of their surgery sessions, however, some GPs forgot which patients were being recorded.

Once the video-recorded surgery session was finished, patients' age, sex, and consultation rates in the previous 12 months (consultations with GP) were extracted from the medical record by TC. Where GPs failed to complete encounter forms, information concerning patients' diagnoses/problems dealt with was also extracted from the medical record. GPs also completed a short questionnaire that asked to what extent video recording of

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consultations currently took place within their practice.

One author (TC) gave read codes to clinical data. Read codes divide general practice morbidity data into many diagnostic groups. Clinical data from diagnostic groups that were recorded infrequently (i.e. clinical presentations from those diagnostic groups that were represented in fewer than 10% of patients) were placed in the 'other' category (Table 1). Where problems could not be read coded, they were counted in the 'not codeable' category. Read codes, encounter sheet data, and data collected from the medical record were then entered into one database and verified. Chi-square, Mann-Whitney and *t*-tests were used as appropriate for categorical, ordinal, and continuous data using the Statistical Package for Social Sciences (SPSS). Forward stepwise logistic regression¹² was used to determine patient characteristics associated with refusal to consent to video recording (dependent variable). Variables with a *P* value of <0.1 in the univariate analysis were entered into the model as explanatory variables (i.e. age, smoking status, and the presence of a mental health problem). GPs' perceptions of consultations were not entered into the model because these data represented judgements made once consent had been decided upon by patients.

Results

A total of 541 adults attended the 42 surgeries, of whom three (0.6%) were excluded because they could not give consent. Of the 538 adults aged 16 or over enrolled in the study, 61.7% (332) were female, with 85.9% (462) of patients agreeing to be video recorded and 14.1% (76) withholding consent. Only 1.5% (8/538) of patients refused to see the researcher. They are included in the group that withheld consent. The mean age of adult patients enrolled in the study was 49.4 years (SD = 19.5 years).

Patients withholding consent to video recording were younger (mean age of 'withholders' = 43.0 years; SD = 17.3) than 'consenters' (mean age = 50.4 years; SD = 19.6; *t* = 3.12, df = 534; 95% confidence interval (CI) for difference between means; 2.5–12.0). Data were missing for two patients (both consenters). Self-reported smokers were more likely to withhold consent to video recording, with 32% (24/76) of 'withholders' being smokers compared with 21% (96/462) of 'consenters' ($\chi^2 = 4.31$; df = 1; *P* = 0.04). There was no difference between consultation rates in the two groups (for 'withholders', median rate was six

attendances in the last year, interquartile range (IQR) = 8; and for 'consenters', the median rate was five attendances, IQR = 7; Mann-Whitney *U*-test, *P* = 0.53). Similarly, there was no significant difference in sex distribution, with 68% (52/72) of those withholding consent being women compared with 60.6% (280/462) of those who consented ($\chi^2 = 1.69$; df = 1; *P* = 0.19).

General practitioners completed 97.2% (523/538) of encounter sheets and, for the remaining 2.8% (15), the diagnosis was obtained from the medical records. Using diagnosis data from the medical record did not alter the final results, so these data were included in the analysis. Altogether, 848 diagnoses/problems were recorded for all attending adult patients, giving a median of one (range 0–5) diagnosis per patient. There was no difference in the number of diagnoses recorded for patients who withheld or gave consent to video recording. The median (range) numbers of new and old diagnoses were one (0–4) and one (0–5) respectively. Again, there were no significant differences in the numbers of 'new' or 'old' problems presented by patients who withheld or gave consent to video recording.

Table 1 summarizes the read-coded data. The main finding is that 24% (18/76) of patients withholding consent to video recording were noted by GPs to have one or more mental health problem(s) compared with only 11% (51/460) of those who consented ($\chi^2 = 9.33$, df = 1; *P* = 0.002). Two patients who refused to see the researcher, and who were included in the group that withheld consent, presented with mental health problems. No other significant differences were found between other categories in the clinical data.

Responses to the forced-choice questions, which measured GPs' perceptions of consultations, are summarized in Table 2. When patients' consent to recording was withheld, GPs were more likely to record that a psychological problem had been discussed, that the patient was distressed or upset, or that the patient was embarrassed about a problem.

Of the 42 GPs, 57% (24) reported that either themselves or another doctor within their practice had video recorded patients' consultations within the last year. Attending a GP who reported video recording being used in his or her practice was not associated with patients' withholding of consent. Overall, 13.5% (38/281) of patients attending in practices that reported using video recording withheld consent, compared with 14.7% (38/257) in practices where the use of video recording was not

Table 1. Comparison of video-recorded and non-video-recorded patients with one or more diagnoses in each read code category.

Read code category	Number (%) of video-recorded patients with one or more diagnoses in read code category ^a (<i>n</i> = 462)	Number (%) of non-recorded patients with one or more diagnoses in read code category (<i>n</i> = 76)	<i>P</i> value (of chi-square test) ^b
Musculoskeletal	97 (20.9)	10 (13.2)	0.113
Cardiovascular	70 (15.2)	14 (18.4)	0.480
Respiratory	61 (13.2)	9 (11.8)	0.740
Mental health	51 (11.0)	18 (23.7)	0.0023
Genitourinary	52 (11.3)	13 (17.1)	0.150
Gastrointestinal	53 (11.5)	5 (6.6)	0.20
Prevention	49 (10.6)	11 (14.5)	0.320
CNS	50 (10.8)	4 (5.3)	0.135
Not codeable	55 (11.9)	7 (9.2)	0.500
Other	146 (31.6)	26 (34.2)	–

^aNumbers represent the presence or absence of a diagnosis from a read code category in an individual patient. Multiple diagnoses from the same read code category are counted only once, so that a patient recorded as presenting with 'depression' and 'schizophrenia' (i.e. two 'mental health' diagnoses) is counted as one patient 'presenting with one or more mental health diagnoses'. ^bNo data missing. The total number of diagnoses is 848, but summing the numbers in this figure produces a lower number (795), as some patients presented two diagnoses from one read code category. Percentages will add up to more than 100% because patients could present with problems in different read code categories.

reported ($\chi^2 = 0.16$; $df = 1$; $P = 0.687$).

Variables included in the final regression equation are shown in Table 3. Patients' smoking status had no significant influence on patients' consent to video recording once age and the presence of a mental health problem were controlled for.

Where variables are categorical, the exponential of the beta-coefficient is an odds ratio, so it can be seen that patients who presented with mental health problems were approximately 2.5 times (95% CI = 1.4–4.6) more likely to withhold consent to video recording. Younger patients were also more likely to withhold consent to recording.

Discussion

We have demonstrated that younger patients and those presenting with mental health problems were more likely to withhold consent to video recording of their consultations for research purposes. Nine significance tests were performed. However, even when P values were multiplied by nine (the Bonferroni correction¹³) to prevent false-positive results, the difference in distribution of mental health problems was still significant at the 5% probability level. Additionally, logistic regression confirmed that the presence of a mental health problem was independently associated with withheld consent. This agrees with Martin and Martin's⁹ observation that depressive disorders appeared to be more common in patients withholding consent to video recording. It is probable that some patients suffering from mental health problems choose to avoid the added stress of video recording when visiting the GP. It is unclear why younger patients should be more likely to withhold consent to video recording. However, if these patients continue to feel resistant towards video recording as they age, future withheld consent rates will increase, limiting the utility of research using video recordings.

Our rate of withheld consent of 14% needs to be scrutinized to assess the external validity of our findings. Withheld consent rates seem to vary with the amount of information and number of opportunities to 'opt out' that are given to patients. Where GPs have sought patients' consent verbally and immediately before consulting,^{14–16} withheld consent rates have been low (2–11%), but GPs using written consent forms⁹ have obtained similar rates (12–29%) to ours. Recent authoritative guidelines,^{10,17} however,

demand that written consent is sought and that patients are fully informed of the reason(s) for video recording (as in our study), so our withheld consent rate is probably more applicable to the present-day context.

It is possible that patients are less likely to consent to video recording for research than for other purposes, but the small number of patients refusing to see the researcher did not indicate great resistance towards participation in research. Also, patients who perceive themselves as 'under scrutiny' by researchers (in this study smokers) could be more reluctant to consent to video recording. This does not seem to have happened in our study, as the subject of research (smoking) was not associated with withheld consent once patients' age and presentation of a mental health problem were controlled for. Finally, patients' previous experiences of being video recorded may influence consent rates but, as reported current use of video recording in study practices was not associated with patients' withheld consent, this does not appear to have been influential in our study. It therefore seems likely that our findings are generalizable to situations in which patients' consent to video recording of consultations for research purposes is requested by a researcher in accordance with the latest guidelines.^{10,17}

A criticism of the study is that GPs were not blinded to video recording. However, Pringle and Stewart-Evans¹⁸ found that awareness of video recording did not influence GPs' consulting behaviour, consultation length, or the numbers of problems they dealt with at each consultation. GPs' lack of blindness to video recording is unlikely to have altered their recording of mental health problems significantly, as GPs had been told that the researcher was interested in recording how they practised preventive medicine. General practitioners' perceptions of the consultations need to be treated with greater caution: as these judgments were made after patients' consent decisions had been taken they could have been influenced by GPs' awareness of whether or not recording occurred. However, patients in previous studies have reported embarrassment as a reason for withholding consent to video recording,⁹ and non-significantly higher stress levels have been measured in patients' who withheld consent.¹⁴ This suggests concordance between GPs' perceptions of consultations in this project and previous research findings.

Researchers planning projects using video-recorded consultations will need to consider how the differences that we have

Table 2. General practitioners' perceptions of video-recorded and non-recorded consultations.

	Number (%) in recorded consultations (total = 462)	Number (%) in non-recorded consultations (total = 76)	<i>P</i> value
Psychological problem was discussed ^a	99 (21)	29 (38)	0.0016
Patient appeared distressed or upset ^b	34 (7)	14 (18)	0.0016
Patient appeared embarrassed ^c	46 (10)	22 (29)	0.0000

^aData missing for three refusers and 22 consenters; ^bdata missing for two refusers and 25 consenters; ^cdata missing for two refusers and 24 consenters.

Table 3. Results of multiple logistic regression analysis with withheld consent to video-recording as the dependent variable.

Variable	Beta-coefficient (standard error)	<i>P</i> value ^a	Exponential of beta-coefficient (95% CI)
Mental health problem presented	0.9098 (0.3128)	0.0036	2.48 (1.35–4.59)
Age	-0.219 (0.0068)	0.0012	0.98 (0.97–0.99)

^aCalculated by chi-square test.

highlighted could influence their study findings. The greatest caution is required where video recordings are used to study consultations with younger patients or those suffering from mental health problems. Researchers should also state explicitly how consent was obtained. Additionally, as patients' consent to video recording should now be obtained as recommended by recent guidelines,^{17,18} our conclusions may have implications for the use of video recordings in the assessment of GP registrars.

Video recordings of GP registrars' consultations are used as one component of the West of Scotland region registrar GP package.^{19,20} The content validity²⁰ of assessment using video recordings has never been demonstrated. To do this, assessors would need to show that consultations video recorded for assessment purposes were not vastly different from others. Adequate content validity is important, because this ensures that judgements about registrars' fitness to practise are based on an appropriate range of clinical challenges. This is particularly relevant because the video component of this assessment package has been shown to detect more registrars of doubtful competence than any other.²¹ Clearly, if our findings are replicated when video recording occurs for assessment purposes, the content validity of this exercise could be compromised.

As video recording of consultations is a valuable research technique, further research should be directed at discovering why younger patients and those suffering from mental health problems are more likely to avoid participating in research that involves video recording their consultations. It would be valuable to discover ways in which recording could be made more acceptable to these patients and so minimize rates of withholding consent. Finally, as the recently introduced summative assessment of registrar GPs includes assessment of video-recorded consultations,²¹ further work is required to determine whether consultations video recorded for assessment purposes also differ from others.

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