Public Health Research Consortium

Final Report

Evaluating the impact of Picture Health Warnings on Cigarette Packets

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What this study adds to knowledge:
Health warning messages on tobacco products are a vital means of conveying information to smokers about the health risks of smoking. Smoking is the largest cause of premature death and preventable illness in the UK. Use of health warning messages has been proven to increase motivations to quit smoking and quit attempts. Research has demonstrated that graphic picture health warnings are even more effective than textual warnings in communicating messages about the risks of smoking. In England, text warnings on the reverse of cigarette packets were replaced with one of fourteen graphic health warnings on the 1st October 2008. This study is the first evaluation of the impact of picture health warnings among both adults and young people. Data from this study also provides comprehensive and nationally representative information about awareness of the health risks of smoking and attitudes to the health warnings in general.

Support for and awareness of the picture health warnings was high. Almost all people in England believe that the warnings are necessary, impart important information and are credible. The impact of the picture health warnings so far, has been modest, at least in changing behaviour. Among adults, there was agreement that the pictures made smoking seem less attractive and that the pictures put people off smoking. Smokers were more likely to report that the warnings messages made them think about their smoking behaviour and thought about quitting smoking after the pictures warnings were introduced. However, as yet, these 'emotional' responses have not been translated into behavioural change. It remains to be seen whether such transitions are observed once the picture health warnings have been in circulation for a longer period of time.

The impact of the picture health warnings was greatest among adults. Among young people few changes were observed. This, in part, may be attributable to lower levels of exposure to the picture health warnings among younger people. However, comparisons with other jurisdictions suggest that size and placement of the messages have an impact on the efficacy of the messages and it may be that these issues need to be considered further if the full potential of this policy upon young people is to be realised.

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1. Executive Summary

Aims and objectives:

- The aim of this study was to assess the impact and effectiveness of the new picture health warnings on cigarette packets among the English population. The new picture health warnings were introduced from 1st October 2008.

- The main objectives of this study were to assess the impact of the new picture health warnings in the following areas:
    - Impact on awareness and knowledge of the health risks of smoking
    - Impact on smoking-related behaviour
    - Impact on attitudes towards the health warnings messages.

  In this report the impact of picture health warnings are considered for three main sub-groups of interest: non-smokers aged 18 and over, current smokers aged 18 and over and young people (aged 13-17 years).

- This study comprised of two waves of data collection. The first wave was conducted in August – September 2008, prior to the introduction of the picture health warnings to provide baseline information about knowledge of the health risks of smoking, smoking behaviour and awareness of the text health warnings. Changes in these domains were assessed by comparing data collected *after* the introduction of the picture health warnings (wave 2).

Study Design:

- The questionnaire developed for this project was largely based on similar international studies and underwent an extensive expert review process. The questionnaire was field tested with interviewers prior to wave 1 fieldwork.

- The questionnaire consisted of three core modules: smoking-related behaviour (measuring current behaviour and intended behaviour changes), knowledge about the health risks of smoking, and attitudes to and recall of the health warning messages.

- All participants for this study were sampled from Health Survey for England informants who had agreed to be re-contacted and take part in future research.

- For both waves of data collection, the issued sample was divided into three main groups of interest:
    i A general population sample of adults aged 18 or older.
    ii A boost of adult smokers aged 18 or older.
    iii A boost of young people aged between 13 and 17.

- Wave 1 fieldwork began in mid August 2008 and continued until the end of September 2008. In total 2227 interviews were achieved, comprising of 700 adults from the general population, 678 from the smokers boost and 849 young people aged 13-17. The wave 1 response rate was 64%. Among those who could be contacted, the response rate was 74%.

- Wave 2 fieldwork began in mid May 2009 and continued until mid July 2009. In total 2279 interviews were achieved, comprising of 760 adults from the general population, 660 from the smokers boost and 859 young people aged 13-17. The wave 2 response rate was 64%. Among those who could be contacted, the response rate was 79%.

- All estimates have been weighted to take into account non-response to the survey. Calibration weighting was used to ensure that the weighted distribution of individuals in participating households matched the weighted HSE 2007/2008 estimates for various demographics including sex, age, GOR and social class.

Results:

Awareness, knowledge and perception of the health risks of smoking

- All participants were asked to spontaneously recall any health problems or effects associated both with smoking and second-hand exposure to smoke.
- There were few changes post implementation of the pictures in the range and depth of knowledge of the health risks of smoking. Post introduction of the picture warnings, 97% of adults aged 18 and over correctly named at least one health effect associated with smoking. The mean number of health effects correctly recalled was 2.8 for men and 3.0 for women. 98% of young people aged 13-17 correctly named at least one health effect associated with smoking, the mean number of conditions correctly named was 2.3.
- One in twenty five (4%) current smokers (18+) could not recall *any* health problems associated with smoking compared with 1 in 50 (2%) non-smokers aged 18 and over.
- There were no changes post implementation of the picture health warnings in the mean number of health effects recalled. The proportion of adults who could not name any health effects actually increased post 1st October 2008. However, this increase was entirely attributable to non-smokers aged 18 and over among whom exposure to the new warnings is likely to be lower.
- For both adults and young people, the most frequently recalled health problem was lung cancer. Post 1st October 2008, it was mentioned by 72% of non smokers (18+), 66% of current smokers (18+) and 76% of young people. Among adults, the most commonly recalled conditions were lung cancer, cancer in general and heart disease/problems. Among young people, awareness of oral cancer was also high (25%) and this was the third most popular response. This pattern of responses did not change post implementation of the picture health warnings.
- Post implementation of the pictures, awareness of oral cancer as a health effect associated with smoking significantly increased among adults, rising from 15% to 20%. Awareness of the impact of smoking upon appearance was also significantly higher post implementation of the pictures. Post 1st October 2008, 8% of adults were aware of this compared with 4% previously. Likewise, post introduction of the pictures, more young people aged 13-17 reported that gum disease or tooth loss or mouth disease were a health effects associated with smoking. Estimates rose from 3% to 7%.
- All participants were asked to name health conditions associated with exposure to secondhand smoke. Post 1st October 2008, 89% of adults correctly named at least one health effect associated with secondhand smoke. Around 79% of young people reported the same. The estimates were similar pre and post implementation of the picture health warnings. Lung cancer was the most commonly named condition among non-smokers, adult smokers and young people alike. Post implementation of the pictures, awareness of lung cancer as a health effect of secondhand exposure to smoke significantly increased among young smokers aged 13-17. Estimates increased from 34% to 63%.
- All participants were asked whether they agreed or disagreed that smokers were more likely than non-smokers to experience a range of conditions. Responses to these questions were summarised and scored.
- Risk perception scores did not change post implementation of the pictures. Post 1st October 2008 all young people (100%) aged 13-17 had some perception of the health risks associated with smoking, as did 99% of adults aged 18 and over.
- All participants were asked whether they agreed or disagreed that smoking causes a variety of conditions. Post implementation of the picture health warnings, more adults agreed that smoking caused mouth cancer. However, endorsement that smoking causes mouth cancer was already high; estimates rose from 95% to 97%. More young people aged 16-17 agreed that smoking causes reduced growth of unborn babies post implementation of the pictures (86% pre 1st October 2008; 90% post implementation 2008).
- There were some notable differences among sub-groups in awareness of the health effects of smoking. Current cigarette smokers aged 18 and over, those aged 45 and over and those from routine/manual households had the poorest awareness of the health effects of smoking, had the lowest risk perceptions and were less likely to agree that smoking causes some illnesses.

- To explore differences in awareness of the health effects of smoking Latent Class Analysis was used. This analysis showed that there were five distinct sub-groups of adults, ranging from those with very high knowledge of the health risks of smoking to those with very poor knowledge of the health risks of smoking. Those with poor knowledge were more likely to be older adults, to be current cigarette smokers and to have low levels of educational attainment.
- Among young people, knowledge of the health effects of smoking was lower among those aged 13-15 than those aged 16-17. Awareness of the health effects of smoking was similar between young people from non-routine/non-manual households and those from routine/manual households. However, young people from routine/manual households had poorer awareness of the health effects of secondhand exposure to smoke; a concern as adult smoking prevalence is highest among these households.

Smoking-related behaviour:

- All participants were asked about their current smoking behaviour, whether the messages had had an impact on their behaviour and, if so, which warning messages had made them think the most about their smoking behaviour.
- This study was not designed to detect statistically significant changes in smoking prevalence; a much larger sample is needed to achieve this. However, for context, smoking prevalence estimates for both waves were calculated. Among adults, smoking prevalence was 20% and among young people aged 13-17 it was 13%. These estimates are coterminous with current trends in smoking prevalence and with findings from the Health Survey for England.
- Post implementation of the pictures, adult smokers were more likely to report that the messages made them think about quitting smoking; estimates rose from 48% to 56%. The largest increase was observed among male smokers and those from non-routine/non-manual households. More adult smokers also reported that the picture warning messages had made them think about their smoking behaviour. Pre 1st October 2008, 54% reported this compared with 65% post 1st October 2008.
- Health warnings messages, either textual or picture, were also effective in prompting some adult smokers to report that they smoked less around others (45%), smoked less in general (27%) and encouraging some smokers to want to quit smoking (34%).
- Awareness of the new picture health warnings was high, 94% of adults correctly described at least one picture when asked. Post implementation of the pictures, the images of healthy and diseased lungs and rotting teeth/mouth disease were the messages which most smokers reported had made them think about smoking behaviour. A greater range of different picture messages than the text only messages were mentioned as prompting adult smokers to think about their behaviour.
- Among young people aged 13-17, awareness of the picture health warnings was also high; 85% correctly described one of the picture warnings when asked. However, even after the pictures had been introduced the message most likely to prompt young cigarette smoker to think about their smoking behaviour was the front of packet message 'Smoking Kills' (23%).
- Forgoing a cigarette when about to smoke one; stubbing out a cigarette or using a variety of techniques to avoid viewing the health warnings messages are important behavioural responses to the health warnings. Among both adults and young people, the prevalence of forgoing a cigarette or stubbing a cigarette out did not change post implementation of the pictures. However, using techniques to avoid viewing the health warnings messages (such as covering up the messages or using a case or container) increased significantly post 1st October 2008. Among adult smokers the proportion reporting this rose from 17% among men and 29% among women to 29% and 42% respectively. It has been argued that this action can often have the opposite effect of increasing unwanted thoughts about the risk of smoking and is therefore a positive behavioural response to the health warning messages.
- Depth of processing of the messages are measured by how often a participant reports noticing, reading and thinking about the health warnings messages. Among adult current cigarette smokers, there were no differences pre and post implementation of the picture health warnings for any of these measures.

Attitudes to the health warning messages:

- All participants were asked a series of questions about their attitudes to the text health warning messages.
- Attitudes to the health warnings messages, both textual and picture, were positive. Post 1st October 2008, the vast majority of adults agreed that the warning messages were truthful (90%); that they provide important information about the health risks of smoking (89%) and that they are necessary (86%).
- Post implementation of the pictures, significantly more adults agreed that the health warnings made smoking seem less attractive (65% pre 1st October 2008; 70% post 1st October 2008) and that the health warnings 'put me off smoking' (42% pre 1st October 2008; 49% post 1st October 2008). Fewer adults reported that warnings were unnecessary after the pictures had been introduced. Estimates fell from 18% pre 1st October 2008 to 14% post 1st October 2008.
- After the picture health warnings were introduced, more young people agreed that the health warning messages made smoking seem less attractive. The proportion reporting this rose from 79% pre 1st October 2008 to 85% post 1st October 2008. Significantly fewer young people thought that the messages had no impact on behaviour. The proportion agreeing with this fell from 50% pre 1st October 2008 to 43% post 1st October 2008.

Summary:

- Post implementation of the picture health warnings, there were no changes in the breadth or depth of people's awareness of the health risks of smoking. However, awareness of some conditions rose in prominence. More people were aware of oral cancer or mouth disease as a health effect of smoking post implementation of the picture health warnings. Adults were more aware of the impact of smoking on appearance and younger smokers were more aware of lung cancer as a health effect of secondhand smoke. These shifts in knowledge may be directly related to the new picture health warnings as both adults and young people had the highest recall of images relating to these conditions (that of diseased/healthy lungs and that of rotting teeth). These were also the messages which adult smokers reported were most likely to prompt them to think about their smoking behaviour. These two messages are arguably the most graphic of all the picture warnings and evidence from this study shows they were the most memorable, that there were changes in awareness of the health conditions they depict and that they were most likely to prompt smokers to think about their behaviour.
- Assessing the impact of picture health warnings involves monitoring emotional and behavioural responses to the warnings. Among adults, there were some emotional responses to the health warnings. Post implementation of the pictures, adult smokers were more likely to report that the messages made them think about their smoking behaviour and that the messages made them think about quitting smoking than previously. Adults aged 18 and over were also more likely to agree that the picture warnings put them off smoking. The only significant change in behaviour was that more adult smokers reported using a technique to avoid seeing the messages. It therefore remains to be seen whether these emotional responses are translated into behavioural change in the future. Among young people, the impact of picture health warnings was negligible. This may, in part, be related to lower levels of exposure to the messages among this group. The size and placement of the messages should be considered if the efficacy of the health warnings among this group is to be improved.
- Among adults, persistent inequalities between socio-demographic groups were evident. Those from routine/manual households were more likely to have poorer knowledge of the health risks of smoking; have lower perceptions of the risk of smoking and be less worried that smoking will damage their health in the future than their counterparts from non-routine/non-manual households. The factors predicting poor knowledge should be explored. Brief examination within this report suggests that education levels are an important predictor of knowledge; those with poorer levels of academic achievement being most likely to have the poorest awareness of the health risks of smoking. It is this area in which the picture health warnings may have the greatest impact in the longer term as researchers have argued that picture health warnings convey the risks of smoking in a more effective way than written warnings.

2. Introduction

Smoking is recognised as the greatest single cause of preventable illness and premature death in the United Kingdom. Nearly 9 million adults in England currently smoke and there are 83,900 deaths each year which are directly attributable to smoking (Information Centre, 2008). Recent figures estimate that the cost to the NHS of treating smoking related illness and disease was £5.2 billion in 2005/06, accounting for 5.5% of all health care costs. The government is committed to reduce the number of people who smoke and has set the target that smoking rates among adults should be 21% or less by 2010. The 1998 White Paper *Smoking Kills* highlighted inequalities in smoking prevalence among socio-demographic groups and stated that any reductions in smoking prevalence should occur equally across manual and non manual groups. Building on this, the 2004 White Paper *Choosing Health* set out the government's strategy to tackle smoking and the effects of smoking on other people. Part of this strategy focused upon the regulation of tobacco products which included examination of how tobacco products are packaged and labelled.

Health warning messages displayed on tobacco products are viewed as a vital tool to help inform smokers of the risks of smoking to health and to impart information about methods available to help those who want to quit. A number of international frameworks have been implemented to ensure that health warnings messages are displayed on cigarettes packets in most countries (and all EU countries) with recommendations about the size and format of these messages. Article 11 of the Framework Convention for Tobacco Control, the first ever international treaty dedicated to public health, includes directives about the size and format of health warning messages, labelling of constituents of tobacco and removal of misleading terms such as 'low-tar' from packaging. This is one of the most widely embraced treaties in UN history, with 164 ratified parties thus far, including the UK (WHO, 2009). In 2003, following the Tobacco Products Regulations which brought the UK in to line with the European Directive on tobacco products, larger, hard-hitting text warnings were introduced to tobacco product packaging in the UK. The introduction of picture health warnings were the result of an amendment to the Tobacco Products Regulations in 2007. From 1st October 2008, all cigarettes manufactured for sale in the UK had a picture health warning displayed on the pack. By 1st October 2009, packaging for all other tobacco products sold in the UK also had pictorial warnings. By 1st October 2010, the pictures will be required on all tobacco products sold in the UK.

Evidence from other countries, including Canada and Australia, suggests that picture health warnings are effective in increasing current smokers desire to quit smoking and raising awareness of the health effects associated with smoking (Environics, 2007; Shanahan & Elliot, 2008). There is also substantial research which demonstrates that consumers experience health warning fatigue or wear out. In 2006, a comparative study of the health warnings used in Canada, Australia, the USA and the UK concluded that the frequency with which smokers notice the health warnings decreases over time 'as smokers become desensitised to the warnings' (Hammond, 2007). As such, researchers have advocated that messages need to be regularly updated to maintain impact. This has been taken on board by the Brazilian government who to date have issued three rotating sets of graphic health warnings, the most recent displaying images specifically aimed at young people.

The aim of this study was to assess the impact of the new picture health warnings on cigarette packets across a range of domains. These were grouped thematically into the following areas:

a) Impact on awareness and knowledge of the health risks of smoking
b) Impact on smoking-related behaviour
c) Impact on attitudes towards the health warnings messages.

For each theme a range of key outcome indicators were identified through review of international research in this area. For example, the impact upon awareness and knowledge was measured by both spontaneous recall of health effects associated with smoking (as used in similar Canadian studies) and through measurement of risk perceptions (as used within the International Tobacco

Control Surveys (ITC)). This report presents findings in each area and discusses the key outcome indicators at the outset of each chapter (see sections 4 and 5).

A further aim of this study was to provide information on each domain for three population groups. These were:

- the general adult population of adults aged 18 and over
- current cigarette smokers aged 18 and over
- young people aged 13-17.

As such, the report is split into two main sections. Section 4 presents findings for adults aged 18 and over. Section 5 presents findings among young people aged 13-17. For both adults and young people, we examine the impact of the picture health warnings by sub-group, where base sizes permit. The main sub-groups of interest are smokers vs. non-smokers; gender; age group and National Statistics Socio-Economic Classification (NS-SEC) of household reference person. The latter is a particularly important group as recent evidence has shown there are persistent inequalities in smoking prevalence and smoking-related knowledge between those from non-routine/non-manual households and those from routine/manual households (Wardle, 2008). This study also provides the first in-depth assessment of knowledge and awareness of the health risks of smoking and attitudes towards health warnings messages in England.

3. Study design and methods

3.1 Overview

Two waves of data collection were conducted to compare results pre and post implementation of the picture health warnings. The first wave was conducted between August 2008 and 30th September 2008, prior to the implementation of the picture health warnings on the 1st October 2008. The second wave was collected between May 2009 and July 2009, when the picture health warnings were judged to be in full circulation. Computer Assisted Telephone Interviewing was used and the same questionnaire and methods were used in both waves of data collection.

For each wave, an independent, cross-sectional sample was drawn from among participants who had taken part in the Health Survey for England between 2007 and 2009 and had agreed to participate in future research (the advantages and disadvantages of this method are discussed below). The sample for each wave was designed to provide representative information from the general public aged 13 and over and to boost the number of adult smokers interviewed. A repeat cross-sectional design was chosen as the optimum design for this study. An alternative approach would be a longitudinal design whereby the same people were interviewed pre and post implementation of the picture health warnings. However, a substantial part of the questionnaire was aimed at measuring changes in awareness and knowledge of the health risks of smoking. With a longitudinal design, there is the possibility that participants at wave 1 are sensitized to the topic area as a result of their participation and a "learning effect" bias may be introduced into the results. As such a repeat-cross sectional design was the preferred option for this study.[1]

Prior to this study commencing, the project proposal was subject to peer review and ethical approval was gained from the National Centre for Social Research's independent Research Ethics Committee.

[1] Other studies which have used a longitudinal design (like the ITC studies) have not included the same depth of questions about awareness and knowledge of the health risks of smoking and therefore may be less concerned about respondent conditioning between data collection waves. In addition, a longitudinal design also gives rise to potential attrition between data collection waves and potentially exacerbates non-response biases. A cross sectional design does not have this additional layer of potential non-response.

3.2 Health Survey for England as a sampling frame

The Health Survey for England (HSE) is a nationally representative study of adults and children living within private households in England. A random and representative cross section of the English population are chosen to participate every year, with around 16000 adults (aged 16+) and 8000 children (aged 0 -15) interviewed in most years. Each year, around 90% of participants agree that they would be willing to take part in future research. HSE has mainly been used as a sampling frame for studies which need to generate representative but cost effective data from certain sub-groups of the population. Many high profile national surveys have used this approach, such as the English Longitudinal Study of Ageing and the Ethnic Minority Psychiatric Illness Rates in the Community (*EMPIRIC*) study

The advantages of using HSE as a sampling frame for this study are threefold:

1) Using HSE as a sample frame enabled current cigarette smokers aged 18 and over to be over sampled without conducting a costly screening exercise.
2) Key demographic data was already obtained in HSE interview, removing the need for long question sets to be readministered and giving the opportunity to focus the interview on questions pertinent to the aims and objectives of this study.
3) Finally, using HSE as a sampling frame provides in-depth information about non-responders which can, and has, been taken into account when producing the non-response weights for this study.

One main consideration when using the HSE as a sampling frame is the cumulative effect of non-response both to the Health Survey and to the 'follow-up' study. This has been taken into account within the production of the non-response weights (full details of response rates to each data collection wave are given in appendix A). However, using HSE 2007 as an example, we estimate that the overall response rate, taking into account response to HSE and response to this study, is around 35% for adults and 38% for young people.[2] This is not as high as one would expect to achieve on a bespoke study utilising face to face interviewing methods. However, it is in keeping with surveys which use random digit dialling techniques and, among young people, it is similar to the response rates achieved among school-based surveys.

3.3 Questionnaire Design

The questionnaire used for both waves of this study was developed by drawing on comparative international studies and based on advice from experts in the area. The draft questionnaire was reviewed by colleagues at the Department of Health, by a panel of experts in questionnaire design and by academics with experience of conducting similar projects. The questionnaire was piloted in early August 2008, during which 34 interviews were achieved. Data from the pilot was analysed by researchers to ensure the routing was correct and to examine responses to open questions. Interviewers conducting the pilot participated in a face to face debrief with researchers to highlight questions which participants had particular difficulty in answering. Following the pilot, any necessary changes to the questionnaire were made.

The final version of the questionnaire consisted of three core modules:

- smoking-related behaviour,
- knowledge about the health risks of smoking and,
- awareness, recall and attitudes to the health messages.

The same questions were administered in both wave 1 and wave 2. In wave 2, code frames for some questions were updated to reflect the changes in the health warnings. Additional precoded answer options were added to some questions in wave 2 based on responses given at wave 1. To minimise

[2] In 2007, 58% of eligible adults and 65% of eligible children took part in the Health Survey. Of these, around 90% agreed to be recontacted and the response rate achieved in wave 1 of this survey was 65%. Once these factors are multiplied (eg. (58*0.9)*0.65) the cumulative, estimated response is 34% among adults and 38% among young people. These figures are provided for illustration only as exact response rates need to take into account the proportion of people sampled but who were subsequently ineligible. See Appendix A.

the response burden on those aged 13-15, some questions were omitted for this group. See Appendix B for a full copy of the questionnaire.

3.4 Sampling, data collection and achieved sample sizes

3.4.1 Sampling overview

The aim was to interview 2225 people in each wave. The wave 1 sample was selected from participants who had taken part in HSE 2007 and the first quarter of HSE 2008 and had agreed to participate in future research. The wave 2 sample was drawn from participants who had also agreed to be recontacted and who were interviewed in HSE 2007 (though not selected for the wave 1 sample) and those interviewed in the second, third and fourth quarters of HSE 2008. For each wave, there were three main sample types:

- adults aged 18 or older (general population)
- young people aged between 13 and 17 (young people)
- boost of adult smokers aged 18 or older (smokers boost).

Full details of the sampling methodology are given in appendix A.

Overall, in wave 1, 3550 individuals were selected: 1190 in the general population sample, 1360 in the young persons sample and 1000 in the smokers boost.

In wave 2, 3614 individuals were selected: 1190 in the general population sample, 1360 in the young persons sample and 1064 in the smokers boost.

3.4.2 Data collection

Questionnaires were administered using Computer Assisted Telephone Interviewing (CATI). This allowed questions such as spontaneous recall of the health effects of smoking to be asked and interviewers to code responses into a precoded list of answers. Many international studies in this area have also used CATI methods, for example, all Canadian Tracking Surveys and the International Tobacco Control surveys (Environics 2007; Hammond et al, 2009)

The first wave of data was collected between August 2008 and 30th September 2008. It was essential to complete wave 1 data collection prior to the introduction of the picture health warnings and to interview as many people as possible before mid September to prevent any mass publicity surrounding the change from influencing results. The majority of wave 1 participants were interviewed before mid September 2008.

The second wave of data collection was conducted between May 2009 and July 2009. By this date it was judged, in consultation with the Department of Health, that the new warnings were in broad circulation.

3.4.3 Achieved sample sizes and response rates

In wave 1, 2227 interviews were achieved. This comprised of 700 adults from the general population sample, 678 from the smokers boost and 849 young people. The overall response rate was 64%. Among those who could be contacted, the response rate was 74%.

In wave 2, 2279 interviews were achieved. This comprised of 760 adults from the general population sample, 660 from the smokers boost and 859 young people. To boost response among smokers in wave 2, a £5 unconditional incentive was posted along with the advance letter. Overall, the response rate was 64%. Among those who could be contacted, the response rate was 79%.

A full breakdown of response rates is given in Appendix A.

3.5 Analysis and reporting conventions

All analysis presented within this report has been produced using SPSS v15 complex surveys module. This takes into account complex, clustered survey design and adjusts for this to produce correct standard errors.

The commentary highlights differences that are statistically significant at the 95% level. This means there is a 5 in 100 chance that the variation seen is simply due to random chance. It should be noted that statistical significance is not intended to imply substantive importance. Some sub-groups have small base sizes and whilst estimates may appear to vary, they are not significant unless specifically noted.

The following reporting conventions have been used in this report:

- Unless stated, the tables are based on the responding sample for each individual question (i.e., item non-response is excluded) therefore bases may differ between tables.
- All data has been weighted to account for selection biases and for non-response. Non-response and selection weights were calculated for:
    - the general population sample.
    - smokers from both the smokers boost and smokers identified within the general population sample to allow all adult smokers to be analysed as one group.
    - the young persons sample.

  Both weighted and unweighted base sizes are shown at the foot of each table. The weighted number reflects the relative size of each group of the population, not the number of interviews achieved. This is shown by the unweighted bases. Full details of the weighting strategy used are given in Appendix A.

- The following conventions are used in the tables:
  - No observations (zero values)
  0 Non zero values of less than 0.5% and thus rounded to zero.
  [] An estimate presented in square brackets warns of small base sizes.

- Because of rounding, row or column percentage may not exactly add to 100%.

- A percentage may be presented in the text for a single category that aggregates two or more percentages in the table. The percentages for that single category may, because of rounding, differ by one percentage point from the sum of the percentages in the table.

- Some questions were multi-coded (i.e. allowing the participant to give more than one answer). The column percentages for these questions sum to more than 100%.

4. Impact of health warnings on adults aged 18 and over

4.1 Overview

This chapter examines the impact of the picture health warnings among adults aged 18 and over. Analyses are presented in three broad areas: the impact of the picture health warnings upon awareness, knowledge and risk perceptions of the health effects of smoking; smoking-related behaviour and awareness and attitudes towards the health warnings messages.

Throughout each chapter, evidence pre and post implementation of the picture health warnings are presented to assess impact overall. Where appropriate, differences between sub-groups and inequalities in knowledge, awareness and behaviour are also noted.

4.2 Awareness, knowledge and risk perceptions of health risks of smoking

4.2.1 Introduction

A key research objective for this study was evaluation of the impact of picture health warnings upon awareness and knowledge of the health risks associated with smoking. Other countries which have introduced picture health warnings reported increases in the awareness of the health risks of smoking and in the range of knowledge that people possess post implementation. For example, in Canada awareness of oral cancer, heart disease and lung disease among the general population increased following the introduction of picture health warnings (Environics, 2004)

Measuring changes in awareness and knowledge of both the health effects of smoking and the health effects of secondhand smoke is important. Research has shown that primary motivations for smoking cessation are concerns about both the health risks of smoking and impact on others (Hammond et al, 2004; Romer & Jaimeson, 2001; Shananon & Elliott, 2008). From a UK policy perspective, improving awareness and knowledge of the impact of smoking upon health are integral to delivering the 'choosing health' agenda. People need to be fully aware, and accept, the impact of smoking upon health if they are to make informed choices about their own behaviour. Therefore, assessment of changes in awareness and knowledge of the health risks of smoking are a vital part of this evaluation. This area has also been a key focus of other similar evaluations conducted in Canada and Australia. These studies have collected data on a range of key outcome indicators including:

- Spontaneous recall of the health risks of smoking (to measure the breadth and depth of knowledge).
- Spontaneous recall of the health risks associated with secondhand exposure to the smoke of others.
- Perceptions of risk; both whether the smoker believes that smoking poses a future risk to health and whether people agree that smokers are more likely to experience a range of illnesses.
- Agreement of whether smoking causes a range of illnesses.

In this study, data was collected on each of these outcome indicators. The same questions were administered pre and post implementation of the picture health warnings. As with any evaluation, baseline information prior to the implementation of the policy is necessary. There is limited evidence available from other studies about levels of awareness and knowledge of the health risks of smoking. Prior to this study, existing data was collected by the Office for National Statistic's smoking related behaviour and attitudes survey. However, this simply focused on whether adults in the UK were aware

that smoking was a primary cause of premature deaths among those aged under 65. Further data about a range of health outcomes that may be experienced by children who live with smokers have been routinely included (ONS, 2008). This data, whilst useful, does not constitute comprehensive measurement of awareness of the health risks of smoking among the general population or among smokers. HSE 2007 did include some questions about knowledge of the health risks of smoking. However, results from HSE should be interpreted with caution as questions were presented as part of a self-completion booklet with a tick box format. Presentation of a list of options gives a visual cue to participants about the range of health conditions that they ought to consider and potentially influences results. The International Tobacco Control Four Countries Survey has routinely included some questions about whether smokers agree that smoking causes a range of illnesses but has not included items measuring risk perceptions or spontaneous knowledge.

Information from these sources can be combined to provide an overview of evidence in this area. However, to date, there are no comprehensive data about the general population's range and depth of knowledge of health risks of smoking. This study therefore provides the first full assessment of these issues among adults aged 18 and over living in England. It gives an opportunity to not only assess the impact of the picture health warnings within this area but to also assess which groups have poor or limited knowledge and describe their features. Understanding which population sub-groups have the poorest awareness or acceptance of the health risks of smoking is an important step towards fulfilling the 'choosing health' agenda as resources and strategies can only be appropriately targeted once these groups are identified.

This chapter therefore has a dual focus. The first is to assess the impact of picture health warnings across a range of measures relating to awareness and knowledge of the health risks of smoking. The second is to describe and assess inequalities in awareness among sub-groups and to model the features of those with low or poor awareness as measured across a range of indices. The measures used are discussed in section 4.2.2 and results in these two areas are summarised in section 4.2.8.

4.2.2 Methods and definitions

In both data collection phases, all participants aged 18 and over were asked a variety of questions aimed at measuring awareness of the health risks of smoking cigarettes and awareness of the health risks of exposure to secondhand smoke.

Firstly, participants were asked to spontaneously recall what health effects, if any, were associated with both smoking and exposure to secondhand smoke. Interviewers coded participant's responses into a pre-existing answer frame (see Appendix B).The number of health effects correctly mentioned and awareness of specific health effects were key outcome variables. To summarise this data, the type of health effects recalled were also grouped into five broad categories. These were:

- Lung and respiratory problems
- Heart disease and circulation problems
- Cancer
- Impact on children/unborn babies
- Effect on appearance.

Full detail on the way these health effects were grouped by category is given in appendix A.

Secondly, participants were asked whether smokers were more likely or not more likely than non-smokers to experience a range of illnesses. These questions included lung cancer, stroke, heart disease, premature ageing of the skin and fertility problems. These questions were designed to measure perception of risk in relation to smoking. Answer options were: a lot more likely, a little more likely or not more likely than smokers to experience these things. For these questions, participants who said that they 'did not know' whether smokers were more likely or not more likely to experience each health condition have been included in the analysis as this is a valid answer option. To summarise participant's perception of risk, a risk score was computed. Answers to each question were scored in the following way:

1) A lot more likely = score 2
2) A little more likely = score 1
3) Not more likely = score 0
4) Not sure/Don't Know = 0.

The scores to each of the risk perception questions were summed giving a maximum score of 10 and a minimum score of 0. A score of 10 represents the highest perception of risk associated with smoking; a score of 0 represent no perception of risk associated with smoking.

Finally, participants were asked to report whether they agreed or disagreed that smoking caused a variety of illnesses. Nine health conditions which are associated with smoking were included. These were: lung cancer, heart disease, stroke, impotence in men, mouth or throat cancer, infertility, gum or mouth disease, smaller babies or reduced growth during pregnancy and wrinkles or premature ageing of the skin. Two further conditions which are not associated with smoking were also included to act as a control. These were arthritis and alzheimers. These were presented within the questionnaire with a randomised starting point to reduce order effects. As with the risk perception questions, a 'don't know' response has been included as a valid answer option.

Data from these questions were scored to summarise the information. A score of 1 was given for every condition which participants correctly identified as being associated with smoking. A score of 1 was also given if a participant correctly reported that the control conditions were *not* associated with smoking. The maximum score was 11, representing the highest level of knowledge of the health effects of smoking. The minimum score was 0, representing no knowledge of the health effects of smoking.

Throughout this report, if no differences pre and post implementation of the picture health warnings were observed but there were differences between sub-groups, estimates post 1st October 2008 are quoted. This is for the sake of clarity for the reader and also consistency. In these instances, the pattern of the association post 1st October 2008 is the same as prior to 1st October 2008.

4.2.3 Awareness of the health risks of smoking

Number of health effects recalled by sex, age and NS-SEC

Participants were asked to spontaneously recall health effects associated with smoking. Both pre and post the implementation of the picture health warnings, the majority of participants could name at least 1 health effect associated with smoking; 99% pre 1st October 2008; 97% post 1st October 2008.

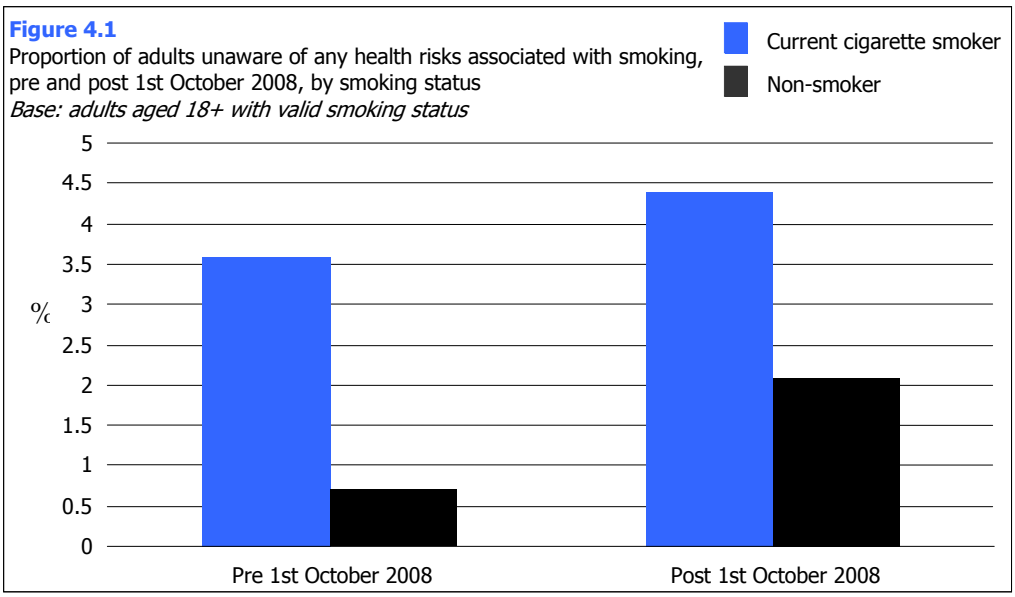
Smokers were more likely than non-smokers to report that they did not know of any health effects associated with smoking. Roughly 1 in 25 smokers (4%) were not aware of any health risks associated with smoking. This pattern was the same pre and post 1st October 2008

There were no differences in the number of health effects recalled pre and post implementation of the picture health warnings. The mean number of health effects recalled pre and post 1st October 2008 was 2.9.

However, post-implementation more participants reported that they could not recall *any* health effects associated with smoking; 1% pre 1st October 2008; 3% post 1st October 2008. This increase was only significant among non-smokers (1% pre 1st October 2008, 2% post 1st October 2008), among whom one would not expect the pictures to have a great deal of influence as non-smokers are less exposed to them than smokers.

Table 4.1, Figure 4.1

Figure 4.1
Proportion of adults unaware of any health risks associated with smoking, pre and post 1st October 2008, by smoking status
Base: adults aged 18+ with valid smoking status



The number of health effects recalled by men and women pre and post 1st October 2008 did not change significantly. However, both pre and post implementation, the mean number of health effects recalled was higher among women than among men; 2.8 for men, pre and post 1st October 2008 and 3.0 for women pre and post 1st October.

Table 4.1

Table 4.2 shows the number of different health effects recalled by broad age group. Both pre and post 1st October 2008, younger participants aged 18-44 recalled more health effects associated with smoking (3.0 post 1st October 2008) than older participants aged 44 and over (2.8 post 1st October 2008). The mean number of health effects recalled by each age group did not vary significantly post implementation.

Table 4.2

The National Statistics Socio-Economic Classification (NS-SEC) is a classification of social position, introduced in 2001. Due to small bases, two categories are presented in this report: non-routine/non-manual occupations and routine/manual occupations. Participants are allocated to a category based on the occupation of the Household Reference Person. See Appendix A for more details. The mean number of health effects recalled by each group was similar both pre and post 1st October 2008. However, in both survey waves, the mean number of health effects recalled was higher among those from non-routine/non-manual households (3.1 pre and post 1st October 2008) than among those from routine/manual households (2.6 pre and post 1st October 2008).

Furthermore, the proportion of participants who could not recall any health effects associated with smoking was higher among those from routine/manual households than those from non-routine/non-manual households. This was most marked among smokers. Around 1 in 17 (6%) smokers from routine/manual households post 1st October 2008 could not recall any health effects of smoking compared with 1 in 50 (2%) smokers from non-routine/non-manual households post 1st October 2008. This pattern was the same both pre and post 1st October 2008.

Table 4.3

Recall of specific health effects associated with smoking by sex and smoking status

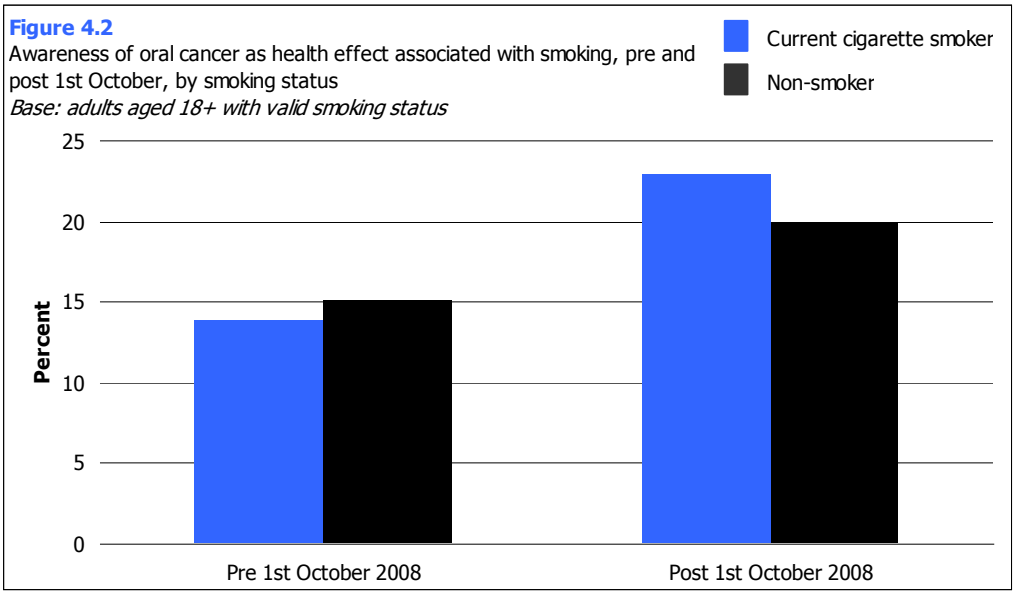
Participants were asked to spontaneously name any health effects they believed were associated with smoking. Responses ranged from bad breath to lung cancer. Some participants reported health effects that are not associated with smoking, such as Multiple Sclerosis. These responses were excluded from this analysis are not discussed here.

The majority of participants mentioned lung cancer as a health effect associated with smoking. 69% of adults pre 1st October 2008 and 71% of adults post 1st October 2008 reported this. The next most

popular response was heart disease/attack/coronary problems; 37% and 38% reported this pre and post 1st October 2008 respectively. The third most mentioned effect was cancer in general (27% and 24%, pre and post 1st October 2008 respectively).

For the majority of specific health effects mentioned, results were similar pre and post 1st October 2008. However, there were some significant changes for some health effects. More participants reported that oral cancer was a health effect of smoking post implementation of the pictures. 15% of adults mentioned this pre 1st October 2008 compared with 20% of adults post 1st October 2008. Whilst this increase was observed among both smokers and non-smokers, as figure 4.2 shows, the largest increase was observed among smokers, rising from 14% to 22% respectively. Awareness of oral cancer as a health effect of smoking also increased in prominence. Post implementation of the picture health warnings, it was the 6th most popular response whereas it was previously the 9th most popular response.

Figure 4.2
Awareness of oral cancer as health effect associated with smoking, pre and post 1st October, by smoking status
Base: adults aged 18+ with valid smoking status



Awareness of the effect of smoking on the colour of teeth and appearance also increased post 1st October 2008. Mention of this as a health effect associated with smoking increased from 1%, pre 1st October 2008, to 5% post 1st October 2008.

Some health effects were less likely to be mentioned post 1st October 2008. These were blood circulation, chest infections, chronic bronchitis and coughing/colds. Awareness of all of these effects was lower post 1st October 2008 than pre 1st October 2008, though in the case of chronic bronchitis, the fall in awareness is largely attributable to non-smokers rather than smokers.

Table 4.4

Types of health effects recalled by sex, age and NS-SEC

To summarise the data, the specific health effects mentioned were grouped into five broad categories. These were lung and respiratory problems; heart disease and circulation problems; cancer; impact on children including foetuses and effect on appearance.

Table 4.5 shows responses by these broad types, pre and post 1st October 2008. There were no differences in the proportion of adults mentioning heart disease, cancer or impact on children pre and post implementation of the picture health warnings. However, awareness of the effect of smoking on appearance was higher post 1st October than prior to 1st October; increasing from 4% to 8% respectively. Awareness of lung and respiratory problems, however, was lower post 1st October 2008 than prior to it, 64% and 58% respectively. The pattern for non-smokers and smokers was similar.

Table 4.5

Overall, women were more likely than men to mention lung and respiratory problems as a health effect of smoking, whereas men were more likely than women to mention cancer. For both men and women, awareness of the effect of smoking on appearance significantly increased post implementation and the awareness of lung and respiratory problems decreased. This pattern was the same by each age group also.

Younger adults aged 18-44 were more likely than adults aged 44 and over to name impact on appearance or cancer as a specific health effect of smoking. For example, post 1st October 2008, 11% of those aged 18-44 named impact on appearance as a health effect of smoking compared with 6% of those aged 45 and over. Likewise, awareness of cancer as a health effect of smoking was 13 percentage points higher among those aged 18-44 (88%) than those aged 45 and over (75%) post 1st October 2008. For other types of health effects, the estimates between age groups were broadly similar.

Tables 4.5, 4.6

For those in both non-routine/non-manual households and routine/manual households, awareness of the impact of smoking upon appearance was higher post 1st October 2008 than prior to it. Among routine/manual households there were no differences pre and post the implementation of the pictures across the other categories. However, among non-routine/non-manual households, the proportion of participants who recalled lung and respiratory problems decreased after the pictures were introduced (66% pre 1st October, 58% post 1st October).

Tables 4.7

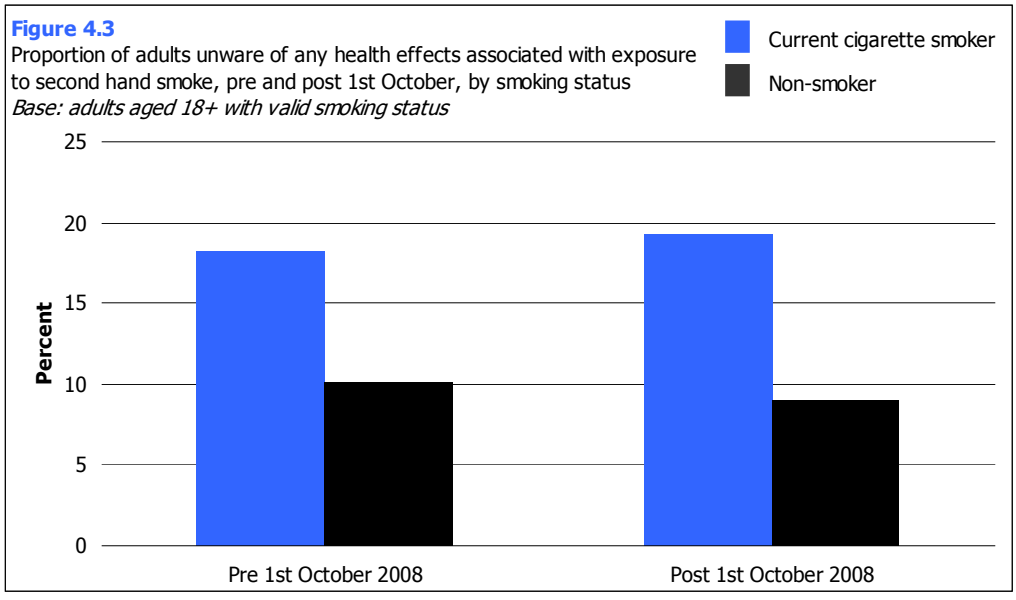
Recall of health effects of exposure to secondhand smoke by sex, age and NS-SEC

All participants were also asked to report what health effects were associated with exposure to secondhand smoke. This item was asked later in the questionnaire and separately from the health effects of smoking question to try to avoid participants simply repeating answers previously given.

As with awareness of the health effects of smoking, the majority of participants could name at least one health effect of exposure to secondhand smoke. However, table 4.8 shows that overall 12% of participants interviewed prior to 1st October 2008 and 11% interviewed post 1st October 2008 could not recall *any* health effect associated with exposure to secondhand smoke. This was more pronounced among smokers, with around 1 in 5 current cigarette smokers (19% post 1st October 2008) being unable to name any specific health effects associated with exposure to secondhand smoke. This pattern was the same pre and post implementation of the picture health warnings.

Table 4.8; Figure 4.3

Figure 4.3
Proportion of adults unware of any health effects associated with exposure to second hand smoke, pre and post 1st October, by smoking status
Base: adults aged 18+ with valid smoking status



The mean number of health effects recalled and the proportion unable to name any health effects associated with exposure to other people's smoke did not vary pre and post 1st October 2008 by sex,

age group or NS-SEC of household reference person. Among men and women, the mean number of health effects associated with secondhand smoke pre and post 1st October 2008 was the same (2.1 for men; 2.2 for women).

Table 4.8

The mean number of health effects recalled was greater among adults aged 18-44 than adults aged 45 and over; 2.3 and 2.0 post 1st October 2008 respectively. As observed among all adults, smokers from both age groups were more likely than non smokers to report that they could not think of any health effects associated with exposure to secondhand smoke. This was particularly pronounced among those aged 44 and over. 27% of smokers aged 44 and over (post 1st October 2008) did not know of any health effects associated with exposure to other people's smoke. Among smokers aged 18-44 the equivalent estimate was 14%.

Table 4.9

There were some notable differences between adults from non-routine/non manual households and those from routine/manual households. For example, fewer participants from non-routine/non manual households reported that they could not recall any health effects associated with exposure to secondhand smoke (9% post 1st October 2008) than those from routine/manual households (14% post 1st October 2008). Likewise, the mean number of health effects recalled was lower among those from routine/manual households than those from non-routine/non-manual households; 1.9 and 2.3 respectively. This is similar to the pattern observed in awareness of the health effects of smoking and points to overall lower levels of awareness of the health risks of both personal smoking and exposure to other people's smoke among those from routine/manual households.

Table 4.10

Recall of specific health effects and type of health effects associated with secondhand smoke by sex, age and NS-SEC

Table 4.11 shows the different health effects associated with secondhand exposure to other people's smoke named by participants. Lung cancer was the most frequently recalled condition, with 51% of adults pre 1st October 2008 and 56% of adults post 1st October 2008 mentioning this condition. This was followed by asthma and heart disease.

For most named conditions, the proportion recalling each one did not vary pre or post 1st October 2008. However there were some significant differences. Awareness of lung disease or lung problems was higher post implementation of the picture health warnings than prior to the 1st October 2008; 20% and 14% respectively. For a number of named conditions, awareness of them as a health effect associated with secondhand exposure to smoke was actually lower post 1st October 2008. These were: Asthma, chronic bronchitis, chest infections, cough and colds. Interestingly, these are largely the same conditions for which awareness of them as a health effect of smoking was also lower post 1st October 2008. It is logical that there should be some overlap in findings; if a participant is not aware of these conditions as a potential health effect of smoking, they are less likely to be aware of these as a health effect associated with secondhand smoke.

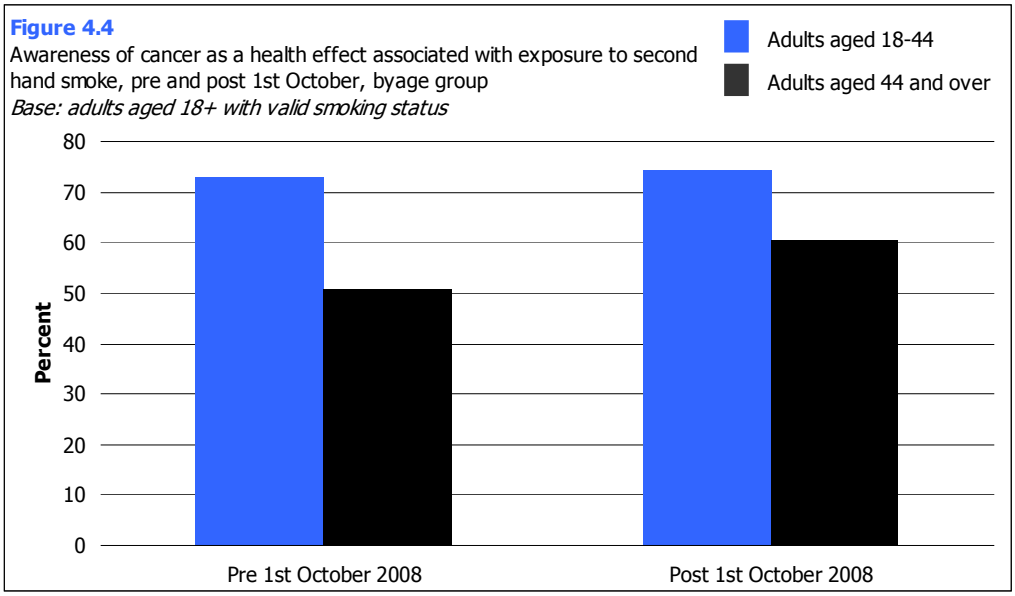
Table 4.11

These conditions were also grouped by type. The only significant increase in awareness post implementation of the picture health warnings was observed for cancer, with more participants mentioning some type of cancer as a health effect of exposure to secondhand smoke. Estimates were 61% pre 1st October 2008 and 67% post 1st October 2008. Equivalent estimates among current smokers were 55% and 59%.

Increased awareness of cancer as a health effect associated with secondhand smoke occurred equally for men and women and a similar pattern was observed among adults from both non-routine/non-manual and routine/manual households. However, the most pronounced increase in awareness of cancer as a health effect of secondhand smoke was among those aged 44 and over, rising from 51% pre 1st October 2008 to 60% post 1st October 2008. Among adults aged 18 to 44, the

estimates did not change pre and post implementation of the picture health warnings; 73% and 74% respectively.

Figure 4.4
Awareness of cancer as a health effect associated with exposure to second hand smoke, pre and post 1st October, byage group
Base: adults aged 18+ with valid smoking status



Tables 4.12 – 4.14; Figure 4.4

4.2.4 Perceptions of health risks associated with smoking, by sex, age group and NS-SEC

All participants were asked whether they thought that smokers were more likely than non smokers to experience a range of health conditions. Responses to these questions are shown in table 4.15. On the whole, the majority of participants correctly reported that smokers were more likely than non-smokers to experience lung cancer (98%); stroke (79% pre 1st October 2008; 78% post 1st October 2008); heart disease (92% pre 1st October 2008; 93% post 1st October 2008); fertility problems (64% pre 1st October 2008; 63% post 1st October 2008) and premature ageing of the skin (85% pre 1st October 2008; 84% post 1st October 2008). These estimates did not vary following the introduction of the picture health warnings.

However, there were some notable differences between smokers and non-smokers. With the exception of fertility problems, smokers were less likely to endorse that they had a greater risk of experiencing each condition listed than non-smokers. (Figure 4.5 illustrates this using post 1st October 2008 estimates.) For example, both pre and post 1st October 2008, 4% of smokers reported that they were *not* more likely to experience lung cancer than non-smokers and a further 1% reported that they did not know. Only 1% of non-smokers reported the same (table not shown).

Figure 4.5
Proportion agreeing that smokers are more likely than non smokers to experience each condition, by smoking status
Base: Adults aged 18 + with valid smoking status, post 1st October 2008

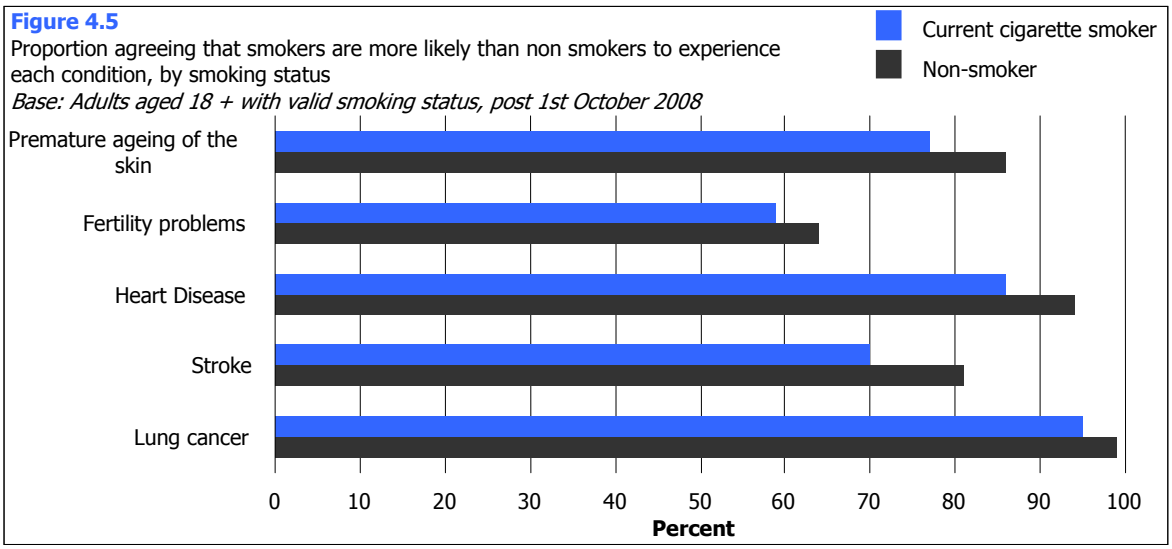


Table 4.15; Figure 4.5

Estimates for men and women did not change pre and post implementation of the picture health warnings. However, more men than women reported that smokers were more likely to experience heart disease, stroke or fertility problems. For example, 82% of men pre and post 1st October 2008 agreed that smokers were more likely to experience a stroke than non-smokers. Equivalent estimates for women were 77% and 75% respectively. Estimate for lung cancer were the same for both men and women. More women than men endorsed that smokers were more likely to experience premature ageing of the skin.

Table 4.15

Table 4.16 shows risk perceptions by age group. There were no differences evident in risk perceptions among each age group pre and post implementation of the picture health warnings. However, younger people aged 18 to 44 were more aware that smokers are more likely to experience premature ageing of the skin, fertility problems and heart disease than those aged 45 and over. Those aged 45 and over tended to be more aware of the risk of smoking upon the likelihood of experiencing a stroke. This division may be somewhat indicative of the concerns of each age group. Furthermore, some participants may not wish to admit that smoking could affect their health in these ways or perhaps have found that smoking has not affected them in these ways. For example, it is notable that 41% of smokers aged 45 and over pre and post 1st October 2008 reported that smokers were *not* more likely than smokers to experience fertility problems whereas only 19% of younger people aged 18-44 reported the same (table not shown). If smokers aged 45 and over have not experienced fertility problems this may impact on their perception of the relative risk of smoking.

Table 4.16

Risk perceptions by NS-SEC did not vary pre and post 1st October 2008 and were largely similar between non-routine/non-manual households and routine/manual households. The two exceptions were that slightly more participants from non-routine/non-manual households agreed that smokers were more likely to experience premature ageing of the skin and heart disease than those from routine/manual households.

Table 4.17

Perceptions of health risk score, by sex, age group and NS-SEC

Answers to the perception of risk questions were scored and summarised. A score of 0 represents no perception of the health risks of smoking whereas a score of 10 represents the highest perception of the health risks of smoking. This analysis was undertaken to be able to summarise and describe which sub-groups have very poor or very good risk perceptions and to examine if this changed pre and post implementation of the picture health warnings.

There were no significant differences in risk perception scores pre and post 1st October 2008. The same was true by sex, age group, smoking status and NS-SEC of household reference person, with the pattern for each category being the same post implementation of the picture health warnings than prior to it.

Overall, there were some interesting differences in perception of risk scores by sub-groups. Smokers (4% post 1st October 2008) were more likely than non-smokers (less than 1% post 1st October 2008) to have a risk perception score of 0.

Table 4.18

Risk perception scores were broadly similar among men and women, but varied significantly by age group and smoking status. Smokers aged 45 and over were more likely than smokers aged 18-44 to have a risk perception score of 0. Estimates post 1st October 2008 were 7% among current smokers aged 45 and over and 1% among current smokers aged 18-44. Likewise, younger smokers aged 18-44 had the highest risk perceptions scores, with 26% post 1st October 2008 having a risk perception score of 10. Equivalent estimates among smokers aged 45 and over were 10%.

Tables 4.18-4.19

Those in routine/manual households were more likely than those in non-routine/non-manual households to have a risk perception score of 0. This was most pronounced among current cigarette smokers. Post 1st October 2008, 2% of smokers from non routine/non manual households had a risk perception score of 0 compared with 5% of smokers from routine/manual households. This pattern was the same among those interviewed pre 1st October 2008.

Table 4.20

4.2.5 Knowledge of health effects caused by smoking by sex, age and NS-SEC

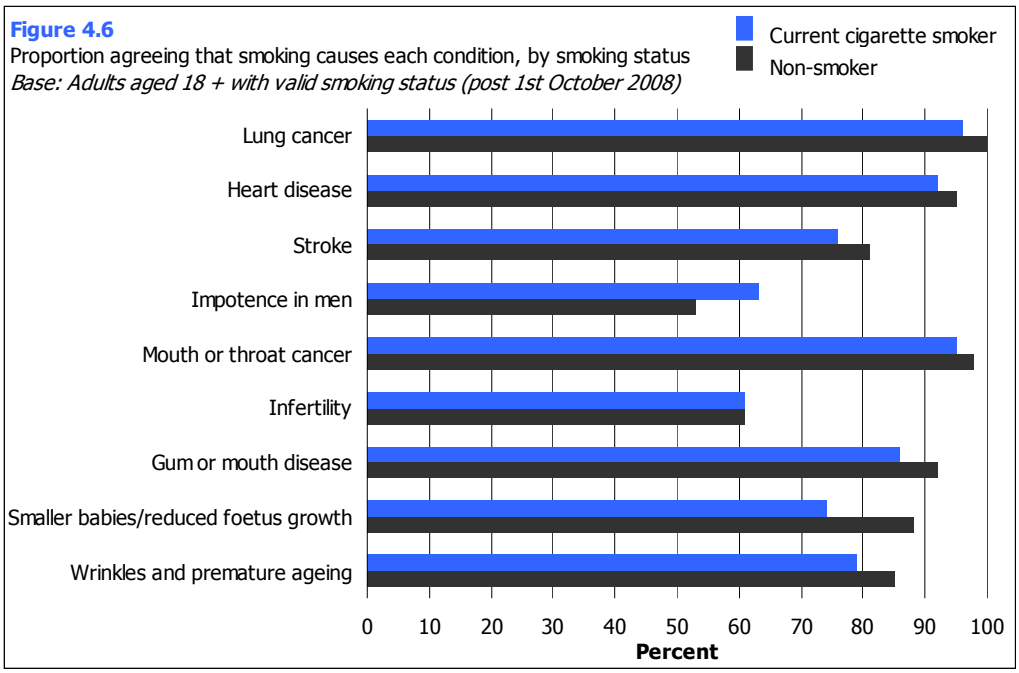
As a further measure of awareness of the health effects of smoking, all participants were asked whether they agreed or disagreed that smoking caused a range of illnesses. This included nine conditions which are associated with smoking and two (arthritis and alzeheimer's) which are not.

Table 4.21 shows that vast majority of adults correctly agreed that smoking causes lung cancer, heart disease, stoke, impotence in men, mouth or throat cancer, infertility, gum of mouth disease, smaller babies or reduced growth of babies and wrinkles or premature ageing. Estimates ranged from 99% (post 1st October 2008) agreeing that smoking causes lung cancer to 55% (post 1st October 2008) who agreed that smoking causes impotence in men.

Though some estimates varied pre and post implementation of the picture health warnings, the only significant change observed was that more adults reported that smoking causes mouth or throat cancer, increasing from 95% pre 1st October to 97% post 1st October. Whilst this is a positive result, it is worth noting that endorsement that smoking causes mouth or throat cancer was already high prior to the pictures being introduced.

With the exception of infertility and impotence, smokers were less likely than non-smokers to report that smoking caused each of the conditions listed. For example, post 1st October 2008, 74% of smokers agreed that smoking causes smaller babies or reduced growth of foetuses during pregnancy compared with 88% of non-smokers. As observed with the risk perception questions, there were a small but significant number of smokers who were unwilling to accept that smoking causes lung cancer. Overall 3% of smokers disagreed that smoking causes lung cancer with a further 1% stating they did not know if this was the case (table not shown).

Figure 4.6
Proportion agreeing that smoking causes each condition, by smoking status
Base: Adults aged 18 + with valid smoking status (post 1st October 2008)



Smokers were more likely to agree that smoking causes impotence than non smokers. Estimates post 1st October 2008 were 63% among smokers and 53% among non-smokers.

Table 4.21; Figure 4.6

The only significant difference observed pre and post implementation of the picture health warnings was the overall increase among adults in reporting that smoking causes mouth cancer. Among men and women, by each age group or by NS-SEC category no other differences pre and post 1st October 2008 were observed.

Overall, the pattern of those agreeing that smoking causes a variety of conditions was very similar between men and women. However, the exceptions were that men were more likely to agree than women that smoking causes impotence, and that women were more likely to agree that smoking causes premature ageing of the skin. This may be evidence of certain groups perhaps having greater awareness of conditions that are most salient to them.

Table 4.21

Agreement that smoking causes each condition tended to be lower among people aged 45 and over than those aged 18-44. This was most pronounced for impotence in men, where 71% of 18-44 year olds agreed that smoking caused this compared with 41% of those aged 45 and over.

Table 4.22

Table 4.23 shows agreement that smoking causes each condition by the NS-SEC of household reference person. The proportions agreeing that smoking causes lung cancer, heart disease, impotence in men, gum and mouth disease and wrinkles or premature ageing was higher among adults from non-routine/non-manual households than those from routine/manual households. For the other conditions, no differences were observed. Differences among cigarette smokers from non-routine/non-manual and routine/manual households were even more pronounced. For example, post 1st October 2008, 85% of smokers from non-routine/non-manual households reported that smoking caused wrinkles and premature ageing compared with 75% of those from routine/manual households. This, along with the lower risk perceptions and awareness of health effects of smoking noted above, points to a persistent inequality in knowledge relating to the health effects of smoking among those from routine/manual households. This is explored further in section 4.2.8.

Table 4.23

Knowledge of health effects caused by smoking score by sex, age and NS-SEC
As with the risk perceptions question, a knowledge score was computed to summarise answers to these questions. The maximum score was 11, where participants correctly reported that nine of the eleven conditions were caused by smoking and that two were not. Participants not correctly reporting any of these were given a score of 0. Overall, there were no differences in knowledge score pre or post implementation of the picture health warnings.

Some differences by sub-groups were evident, largely confirming previous analysis. For example, those with a low knowledge score, that is a score of 3 or less, were more likely to be smokers (3%) than non-smokers (1%); aged 45 and over (2%) than aged 18–44 (1%) and from routine/manual households (2%) than from non-routine/non-manual household (1%). All figures quoted are post 1st October 2008.

Tables 4.24-4.26

4.2.6 Latent Class Analysis: different levels of awareness, knowledge and risk perception among groups of people

This study provides an opportunity to examine how awareness and knowledge of the health effects of smoking and secondhand exposure to smoke vary among different groups and to describe the key features of these groups. To do this, a statistical technique, Exploratory Latent Class Analysis (LCA), has been used to divide our whole sample of participants into homogeneous groups. As there were few differences pre and post implementation of the picture health warnings data from both waves has been combined to allow this analysis to be undertaken.

LCA fits a statistical model to the data in an attempt to determine these classes. The probability of belonging to each class can be obtained for each participant, with individuals allocated to the class for which this probability is the largest (modal allocation). In this way, people are assigned to a group in which they are most similar to other members, in respect to their awareness and knowledge of the health risks of smoking. Therefore, LCA has been used in this report to create homogeneous groups of participants who have similar levels of awareness, risk perceptions, and knowledge of the health effects of smoking. The variables used to create the groups were awareness summary score (both recall of health effects of smoking and recall of the effects exposure to secondhand smoke), the summary of perceived risk score (with a maximum score of 10 and a minimum of 0), and the knowledge summary score (with a maximum score of 11 and a minimum of 0).

The results of the LCA suggested that there were four, five or six distinct classes of individuals in the data. The five class solution was chosen for the following reasons:
• All five classes were interpretable;
• The five class solution produced a new group (not present in the four class solution), which, though very small, clearly represented individuals with very low levels of awareness/knowledge who would otherwise be subsumed under a different group; and
• The six class solution produced a new class which was much less robust in terms of probabilities of membership compared with the other five classes and was less interpretable.

Describing the classes
Classes 1 and 4 had the highest levels of awareness of the health effects of smoking, both upon smokers and upon other people. 100% of those in class 4 recalled five or more health effects associated with smoking and 91% of those in class 1 recalled three or more health effects associated with smoking. This was higher than any other class. Class 4 and 1 also had higher levels of knowledge and risk perception. In class 4, 45% of people obtained the highest risk perception score and 35% obtained the highest knowledge score. Equivalent estimates for class 1 were 25% and 35%.Those in class 4 also had the greatest levels of awareness of the health effects of secondhand exposure (97% could recall five or more health effects associated with secondhand exposure to smoke). Therefore, although class 4 only represents 4.5% of the sampled population, these people are the most knowledgeable and most informed about the health risks of smoking. Class 1 represents

those who are moderately well informed about the range of health risks of smoking and this comprises the largest group of people; 47% of participants belonged to class 1.

Class 2 had low recall of the health effects of smoking. Most could recall just one or two specific health effects associated with smoking. However, their understanding of the perceived risk of smoking was relatively high, 75% had a risk perception score of 7 or more indicating high levels of awareness that smokers are more likely than non-smokers to experience a range of health problems. Their knowledge that smoking causes a range of illnesses was also high; 95% had a knowledge score of seven or more. This pattern of responses is interesting as it may point to some measurement issues with the self-reported spontaneous recall questions. Some people may be either less able to answer, or feel less confident answering, an open-ended question of this nature. As such, they may not appear to have the same range or depth of knowledge of the health effects of smoking as others. However, this group of people had a good understanding of the risk of smoking and agreed that smoking caused a variety of illnesses, information about which was collected through closed questions. This illustrates the need to consider information from all three indices together to assess levels of awareness of the health risks of smoking. Class 2 represents the second largest group of people; 35% of participants belonged to this group.

Class 3 had higher recall of the range of health effects of smoking and the range of health effects of exposure to secondhand smoke than class 2, but were less willing to report that smokers were more likely than non-smokers to experience a range of health conditions or that smoking caused a range of illnesses. 5% of those in this group had a risk perception score of 7 or more, compared with 75% in class 2. Likewise, 57% had a knowledge score of less than 3, compared with 5% of those in class 2. This class may be seen as encompassing ‘aware non-believers’, those who are aware of the range of health risks but do not believe as greatly as other groups that these things are more likely to happen to smokers or that smoking will cause a range of illnesses. 16% of participants belonged to this group.

Class 5 was the smallest class with only 2.3% of participants being classified as belonging to this group. This group had the lowest awareness of the health risks of smoking and secondhand exposure; lowest knowledge and risk perception scores. 23% could not name any health effect associated with smoking; 31% had no perception that smokers were more likely than non-smokers to experience a range of illnesses; 51% had a knowledge score of less than 3, indicating low levels of awareness that smoking causes particular illnesses and 76% could not recall any health effects associated with secondhand exposure to smoke. This group scored poorly on all three indices of smoking-related health effects rather than, as seen with class 2, performing better on closed questions rather than open-ended questions. This suggests that this group represents those with the poorest awareness and knowledge of the health effects of smoking.

Table 4.27

Demographic characteristics of the classes

A range of demographic and behaviour characteristics were compared for each group. There were no significant differences in the gender distribution between the classes. However, participants in classes 3 (aware non-believers) and 5 (those with poorest knowledge) were more likely to be older. Over half of participants in these two classes were aged 55 and over. Class 5 also had the highest proportion of people in routine/manual occupations; 60% of participants in class 5 were from routine/manual households and 73% had no formal qualifications, though this may in part be related to the age profile of this group. Class 4 (greatest knowledge) had the highest proportion of participants in non-routine/non-manual households, and those with degree level or higher qualifications.

Smoking prevalence was highest among class 5, with nearly 50% of those in class 5 being current smokers. Class 3 had the next highest proportions of current smokers (28%). It is notable that those classes with lower or the lowest levels of knowledge contained the highest proportion of current cigarette smokers whereas those classes with the lowest levels current smoking prevalence (classes 1 and 4) displayed the highest levels of awareness of the risks of smoking. That said, around 1 in 5 of both classes 1 and 4 were current cigarette smokers despite displaying good knowledge of the health risks of smoking.

Class 2 had the highest proportion of participants who had never smoked cigarettes, which could help to explain why they were unable to recall the health effects of smoking as easily as other groups.

As class 5 are the group among whom levels of knowledge and awareness are lowest, a logistic regression analysis was performed to ascertain the predictors of belonging to class 5 when other factors are controlled for. All of the demographic variables listed in table 4.28 were considered as potential predictors, and stepwise regression was used to obtain the final predictors in the model. Age, smoking status and highest qualification were all found to be predictors of belonging to class 5 (as opposed to belonging to another class). Those aged 65-74 were 9 times more likely to be in class 5 than those aged 18-54. Current cigarette smokers were 4.7 times more likely to be classified in class 5 than those who have never smoked cigarettes. And those with CSE other grade equivalent or no qualifications were 3.3 times more likely to be in class 5 than those with qualifications higher than high-school level. Notably, educational qualifications were a significant predictor even after age had been controlled for. Once these other predictors were controlled for, socio-economic status (non-routine or manual occupations versus routine/manual occupations) was not a significant predictor of belonging to class 5. Therefore, those who belonged to class 5 and who had the lowest levels of awareness of the health risks of smoking were more likely to be older, more likely to be current cigarette smokers and more likely to have no educational qualifications. It is plausible that older participants, particularly those who smoke, may be less willing to report to interviewers that smoking is related to a variety of health effects. As such, this group either represents those who have the poorest knowledge of the health risks of smoking or those who have not accepted or do not wish to report that smoking is associated with a variety of health risks.

It would be of interest to perform further analysis involving additional logistic regression of the other classes to explore this area more fully in the future and utilise the broader range of variables available from the main HSE survey. However, such detailed analyses are beyond the scope of this report and therefore are not presented here.

Tables 4.28 & 4.29

4.2.7 Summary

Impact of the picture health warnings on awareness, knowledge and risk perceptions
The impact of the picture health warnings on awareness, knowledge and the perception of risk from smoking was modest. There was no difference pre and post 1st October 2008 in the mean number of health effects recalled associated with either smoking or exposure to secondhand smoke. Conversely, there was an increase post introduction of the picture health warnings in the proportion of adults who could not name any health effect associated with smoking (rising from 1% to 3% pre and post 1st October 2008). However, this increase was entirely attributable to non-smokers among whom exposure to the new warning messages is likely to be lower and therefore substantive importance should not be attached to this result.

However, there were some interesting changes in the specific types of health effects recalled. More adults noted that oral cancer was a health effect of smoking after the introduction of the picture health warnings and significantly more adults noted the impact of smoking upon appearance as a potential health effect. These increases were at the expense of conditions such as bronchitis or chest infections; recall of each of these conditions was lower post implementation of the pictures. Likewise, there was an increase in awareness of the association of secondhand smoke with both lung problems and cancer. Again, recall of conditions such as chest infections or chronic bronchitis was lower.

These shifts in the types of conditions recalled are particularly interesting as they correspond to the picture health warnings which are arguably the most vivid. This suggests that whilst the picture health warnings have not had an impact on increasing the range and depth of knowledge, certain messages are salient and have prompted some shifts in the type of conditions recalled. Furthermore, the only significant increase in endorsement that smoking causes certain illnesses was observed for mouth cancer; increasing from 95% to 97% post implementation of the picture health warnings. Although acceptance that smoking causes mouth cancer was already high pre 1st October 2008, this modest

but significant increase potentially provides substantiating evidence that the pictures of rotting teeth and gums in particular have had an effect in raising the profile of this as a health effect of smoking. (This issue is discussed further in section 6).

These were the only significant differences observed pre and post implementation of the picture health warnings. Risk perceptions did not vary significantly; the majority of adults pre and post implementation of the picture health warnings were aware that smokers were more likely than non smokers to experience a range of adverse health conditions. Likewise, overall levels of knowledge did not vary, again with the majority of adults being aware that smoking can cause a range of illnesses.

Inequalities in awareness, knowledge and risk perceptions by sub-groups

This chapter has highlighted some notable inequalities in knowledge and awareness of the health risks of smoking. Overall, 4% of smokers could not name any health effect associated with smoking and 17% could not name any health effect associated with secondhand exposure to smoke. These represent notable gaps in knowledge for a small subsection of the smoking population. This lack of awareness of the health risks of smoking was highest among smokers aged 44 and over (7%) and smokers from routine/manual households (6%). Likewise, there is a small but significant proportion of smokers (4%) who had a risk score of 0 meaning that they did not accept that smokers were more likely than non-smokers to experience premature ageing of the skin; lung cancer; fertility problems; heart disease or stroke. With the exception of fertility problems and impotence, smokers were also less likely than non-smokers to accept that smoking caused illnesses such as lung cancer; heart disease or stroke.

Those with the poorest recall of the health effects associated with smoking and lowest risk and knowledge scores were most likely to be those aged 45 and over and those from routine/manual households, pointing to a persistent inequalities in knowledge among these groups.

Latent class analysis has highlighted the different classes or groupings that participants fell into in respect to their levels of knowledge, awareness and perceptions of the risk of smoking. This showed that there is a small section of the population who are fully aware of the health risks of smoking, accept the risk and believe that smoking causes a range of illnesses (class 4). However, smoking prevalence among this group is 19%, just slightly under the national average. These smokers, if they do not intend to quit, represent the next best situation in that they are fully aware of their potential impact of their behaviour but still choose to smoke.

There is an equally small but significant group (class 5) among whom self-reported levels of awareness, perceptions of risk and knowledge of the health risks of smoking are very low but who have the highest smoking prevalence rates (49%). These people are more likely to be aged 45 and over and most likely to have low levels of educational attainment. It is among this group that there is most progress to be made in terms of increasing the level of awareness of the health risks of smoking or helping them to accept the potential risks.[3] Equally concerning are the group of adults who are aware of the health risks, but do not believe them or do not think these things will be more likely to happen to them. Smoking prevalence is higher than average among this group (26% in class 3) and progress needs to be made in communicating the level of risk associated with smoking to this group and enabling them to accept the potential risk.

[3] As with all self-reported data, there is the potential for reporting biases to be evident. Some people may not be willing to report to interviewers that they believe there is a health risk associated with smoking whereas others may not know or accept that there is a health risk associated with smoking. Further qualitative work would be needed to investigate whether such biases are evident and to explore the way participant's personal perceptions of risk are associated with, and may mitigate, their responses.

4.3 Smoking-related behaviour

4.3.1 Introduction

Previous research into the effectiveness of health warning messages has shown that they can impact upon a range of smoking behaviours. In Canada, picture health warnings messages were associated with an increase in self-reported motivations to quit smoking, an increase in forgoing a cigarette when about to take one and an increase in stubbing out a cigarette (Environics, 2001).

This chapter examines changes pre and post implementation of the picture health warnings across a range of behavioural factors, including cigarette smoking prevalence, cigarette consumption, impact of the warning messages on smoking behaviour, messages most likely to make participants think about their smoking behaviour and depth of processing of the warning messages. These latter factors are referred to by the authors of the International Tobacco Control project as distal variables. They emphasise their importance in promoting potential changes in smoking behaviour. For example, increasing motivation to quit smoking is an important factor in prompting quit attempts and therefore whilst this does not measure *direct* behaviour change, it is important to monitor as it is associated with *potential* changes in behaviour.

It should be noted that this study was not designed to be able to detect statistically significant changes in cigarette smoking prevalence post 1st October 2008. To do this effectively much larger sample sizes would be required. Furthermore, as recent trends in smoking prevalence have shown a pattern of gradual decline, it would be extremely difficult to detect whether any change observed was part of this ongoing trend or was due to the implementation of the picture health warnings. A much larger and more complex study design would be required to do this effectively. As such, data about smoking prevalence is presented in this chapter to provide contextual information but the main analysis focuses upon the 'distal' variables described above.

4.3.2 Methods and definitions

For all adults aged 18 and over, the interview collected information about the use of various tobacco products including cigarettes, cigars and among men, pipes. Those who reported smoking cigarettes were asked to estimate their daily consumption of cigarettes. These were the same questions as administered within the Health Survey for England and comparisons can be made between the two studies.

All smokers were asked whether they agreed or disagreed that the health warning messages had made them think about their smoking behaviour or think about quitting smoking. Furthermore, all smokers were asked what messages or pictures, if any, they could recall seeing on cigarette packets. Pre 1st October 2008 participants only had to recall broadly what the message said, rather than recite it word for word. Post 1st October 2008 participants could describe either the pictures or the text on the picture warnings; they did not have to recite the text word for word. Those who recalled any of the messages were asked whether any of the warnings had effected their smoking behaviour and, if so, to specify which ones. In addition, smokers were also asked to report how often they had either forgone a cigarette when about to smoke one or stubbed a cigarette out whilst smoking it because they had thought about the health risks of smoking.

A range of questions were asked to measure participant's depth of processing of the health warning messages. These included noticing the messages, looking at or reading the messages, thinking about the messages, talking about the messages and saving a health warning message from a cigarette packet. Questions were included about avoidance measures that smokers may take to avoid looking

at the health warnings messages. This is a behavioural reaction to the health warnings which researchers have argued (Hammond et al, 2009; Shannon and Elliott 2008) is indicative of innate discomfort with the content of the health warning messages.

4.3.3 Cigarette smoking prevalence and consumption, pre and post 1st October

Cigarette smoking prevalence by sex, age and NS-SEC

Cigarette smoking prevalence did not vary significantly pre and post implementation of the picture health warnings. Pre 1st October 2008 estimates for both men and women aged 18 and over were 22%. Post 1st October 2008 estimates for men and women were 20%. These figures are comparable to the latest cigarette smoking trend data provided by the Health Survey for England. HSE 2008 has shown that smoking prevalence among men was 22% and 19% among women. In the last decade, trends in smoking prevalence have been of a slow and gradual decline (see figure 4.7).[4] In wave 2 of this study participants were interviewed in May to July 2009. The smoking prevalence observed among these groups (20% for both men and women) therefore seems coterminous with current trends in cigarette smoking prevalence.

Figure 4.7
Trends in cigarette smoking prevalence, 1993 - 2008 by sex (moving average of three years)
Base: Aged 16 and over

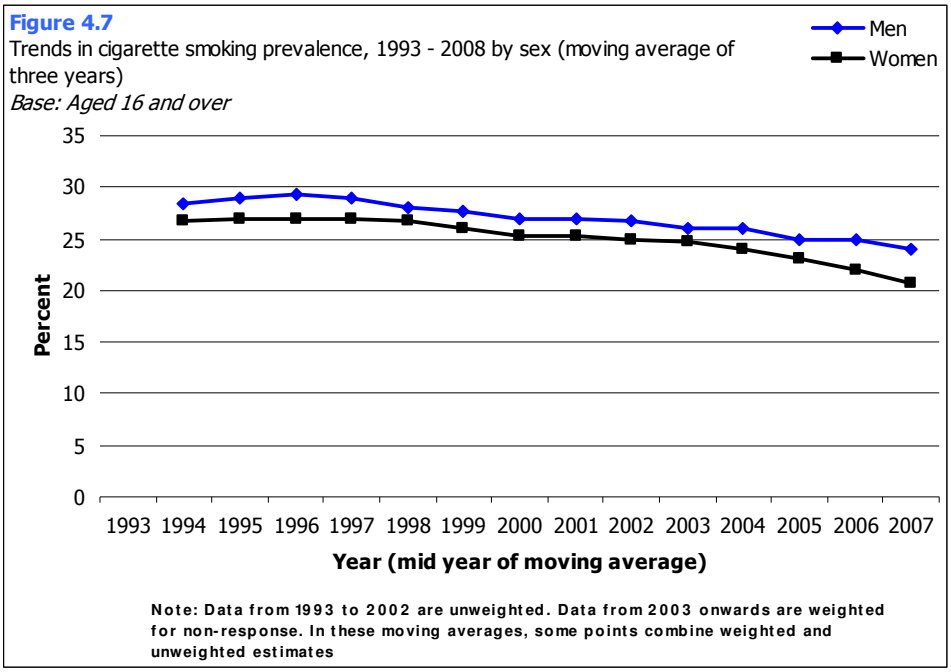


Table 4.30; Figure 4.7

There were no differences observed pre and post 1st October 2008 by age group or NS-SEC of household reference person. In keeping with smoking trends in England, cigarette smoking prevalence was higher among those aged 18-44 (29% post 1st October 2008) than those aged 45 and over (13% post 1st October 2008) and was higher among those from routine/manual households (28% post 1st October 2008) than those from non-routine/non-manual households (15% post 1st October 2008). These findings are in keeping with data from the most recent HSE, which showed that 30% of those from routine/manual households and 17% from non-routine/non-manual households were current smokers (Wardle, 2009).

Tables 4.31-4.32

[4] The data in figure 1 is for all adults aged 16 and over. However, the trend pattern is the same for those aged 18 and over.

As with smoking prevalence, there were no differences pre or post implementation of the picture health warnings in self-reported cigarette consumption. This, in part, is to be expected. Evidence from HSE 2008 has shown that while self-reported cigarette consumption did not vary pre and post implementation of the smokefree legislation, mean cotinine[5] levels among smokers did decline pointing to a reduction in cigarette consumption (Wardle, 2009). When asked to report the number of cigarettes smoked, participants typically report rounded numbers or pack sizes (i.e. 10, 15, 20). This tends not to vary regardless of whether the participant is actually smoking 9, 10 or 11 cigarettes per day, for example. This makes the self-reported mean number of cigarettes smoked per day a blunt measure and insensitive to detecting changes unless they are very large. Cotinine data is not available for this study and therefore equivalent analysis to that presented in the HSE 2008 report can not be performed.

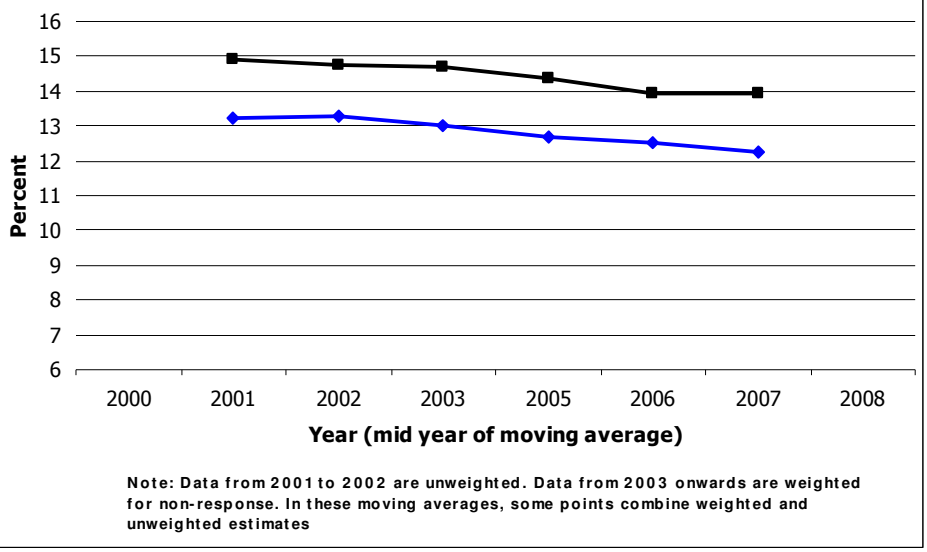
Table 4.33

There were no differences observed in cigarette consumption pre and post implementation of the picture health warnings by age group. As previously reported, those aged 45 and over had a higher mean consumption of cigarettes than those aged 18-44, confirming that although smoking prevalence is lower among the older age groups, those who do smoke cigarettes smoke more heavily than younger adults.

Table 4.34

Table 4.35 shows cigarette consumption by NS-SEC of household reference person. Among routine/manual households, mean cigarette consumption did not vary post implementation of the picture health warnings. However, mean cigarette consumption among those from non-routine/non-manual households was lower post 1st October 2008 than prior to 1st October 2008. Estimates were 12.2 (post 1st October 2008) and 15.3 (pre 1st October 2008). Caution should be exercised in attributing this change directly to the implementation of the picture health warnings.[6] As with any survey, there is the potential that differences between data collection waves could be subject to sampling error. It is therefore important to consider the whole picture when analysing trends. Figure 4.8 shows trends in mean cigarette consumption by NS-SEC using HSE data since 2001 with estimates presented as three-year moving averages to smooth out random variation and differences in sample sizes.

Figure 4.8
Trends in mean cigarettes smoked per day, 2000 - 2008 by NS-SEC of household reference person (moving average of three years)
Base: Aged 18 and over



Note: Data from 2001 to 2002 are unweighted. Data from 2003 onwards are weighted for non-response. In these moving averages, some points combine weighted and unweighted estimates

[5] Cotinine is derivative of nicotine and a high cotinine level is indicative of personal tobacco use. Saliva cotinine levels can therefore provide an objective cross check of self-reported smoking behaviour as well as providing information about levels of exposure to other people's smoke among non-smokers.
[6] HSE 2004 is excluded as this year focused upon Minority Ethnic Groups.

As figure 4.8 shows, a mean cigarette consumption of 12.2 among those from non-routine/non-manual households post 1st October 2008 (where participants were interviewed in May – July 2009) is in keeping with the current trends of cigarette consumption among this group. Therefore it seems likely that the unusually high figure observed for those in non-routine/non-manual households prior to 1st October 2008 is most likely the result of a sampling error and does not represent a real decline in mean consumption of cigarettes among this group.

Table 4.35; Figure 4.8

4.3.4 Self-reported impact of the health warning messages upon behaviour, by sex, age group and NS-SEC of household reference person

All smokers were asked whether they agreed or disagreed that the warning messages had made them smoke less; smoke less around others; thought about quitting or made them want to quit.

Significantly more participants reported that the health warning messages had made them think about quitting smoking post implementation of the picture warnings than previously. 56% of smokers reported this post 1st October 2008 compared with 48% of smokers pre 1st October 2008. The largest increase was observed among men, rising from 46% to 55%; equivalent estimates for women were 50% and 57%.

There were no other differences observed pre or post 1st October 2008 for the other behaviours (smoking less, smoking less around others and wanting to quit). However, table 4.36 shows that health warnings in general do have a basic level of impact upon these areas. Post 1st October 2008, 27% of smokers reported that the health warnings had made them smoke less and 47% reported that the warnings had made them smoke less around others. A further 32% of smokers reported that the health warnings messages had made them want to quit smoking.

Table 4.36

As observed by sex, the only significant difference pre and post implementation by age group was an increase in the proportions reporting that the health warnings had made them think about quitting. This rose from 53% for those aged 18-44 and 40% for those aged 45 and over pre 1st October 2008 to 61% and 48% respectively post 1st October 2008. It is particularly notable that post implementation the vast majority of smokers aged 18-44, among whom smoking prevalence is highest, reported that the picture warnings made them think about quitting. For all other behaviours, the pattern between age groups was similar.

Table 4.37

The pattern by NS-SEC of household reference person was the same as by sex and age group, with the picture health warnings increasing thoughts of quitting smoking. However, the largest increase was observed among adults from non-routine/non-manual households, rising from 41% to 56% compared with 54% and 57% respectively among adults from routine/manual households.

Table 4.38

Forgoing or stubbing out a cigarette by sex, age group and NS-SEC of household reference person

All smokers were asked how often, if at all, in the past month the health warning messages had stopped them from smoking a cigarette when about to smoke one. Likewise, smokers were also asked how often, if at all, in the past month they had stubbed out a cigarette because they had thought about the harm of smoking. Overall there were no differences pre or post implementation in the frequency of which smokers reported doing either of these things. The same pattern was observed by sex, age group and NS-SEC of household reference person.

Both pre and post implementation, the prevalence of forgoing a cigarette was low, 11% of smokers reported doing this at least once in the past month, post 1st October 2008. Equivalent estimates for stubbing out a cigarette were 24%. This pattern was the same for both men and women.

Table 4.39

By age group, adults aged 18-44 were more likely to report forgoing a cigarette or stubbing out a cigarette at least once in the last month than those aged 45 and over. Post 1st October 2008, 14% of smokers aged 18-44 had forgone a cigarette and 28% had stubbed out a cigarette in the past month. Equivalent estimates for those aged 45 and over were 5% and 18%.

Table 4.40

Among non-routine/non-manual groups and routine/manual groups, the prevalence of stubbing out a cigarette in the past month was similar (25% and 24% post 1st October 2008 respectively). However, prevalence of forgoing a cigarette was higher among those from routine/manual households than those from non-routine/non-manual households; 13% and 8% respectively.

Table 4.41

4.3.5 Recall of specific health warnings messages and impact on behaviour

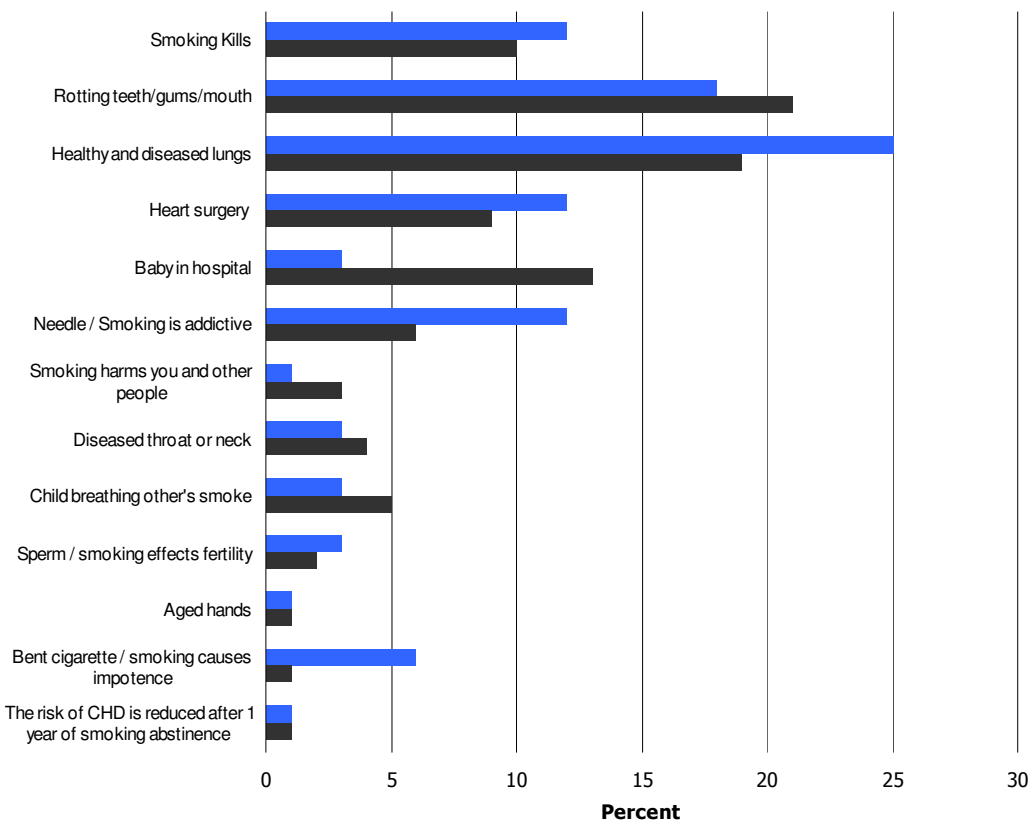
All smokers were asked which, if any, health warning messages they could specifically recall. Those who could recall any of the messages were asked whether the warnings had made them think about their smoking behaviour and, if so, specifically which ones. Overall, recall of at least one health warning message was high, 93% of smokers pre 1st October 2008 and 100% post 1st October 2008 could name at least one warning message. Post 1st October 2008, awareness of the picture health warnings was high, only 6% of smokers did not name one of the new warnings messages when asked (table not shown).

Tables 4.42 and 4.43 show which health warning messages smokers reported had made them think about their smoking behaviour (more than one message could be reported). Pre 1st October 2008 54% of smokers reported than the textual health warnings has made them think about their smoking behaviour. Post 1st October 2008, this increased; 65% of smokers reported that the picture health warnings made them think about their smoking behaviour.

Pre 1st October 2008, the message which most smokers named as making them think about their smoking behaviour was ‘Smoking Kills’ (23%) followed by ‘Smoking causes lung cancer’ (10%). For all other messages, less than 10% of smokers reported that these messages had caused them to think about their behaviour.

Figure 4.9 shows post 1st October 2008 which picture health messages smokers were most likely to name as making them think about their smoking behaviour.

Figure 4.9
Proportion of smoker reporting that each message had made them think about their smoking behaviour
Base: Smokers aged 18 + (post 1st October 2008)



The front of pack message, Smoking Kills, was no longer the most prevalent. 22% of smokers named the picture of diseased lungs as a message that had made them think about their smoking behaviour, followed by 19% who reported that the picture of rotting teeth and gums made them think about their smoking behaviour. Among men, the next most popular messages were the image of a needle and accompanying text 'smoking is highly addictive – don't start' and 'Smoking Kills (12% of male smokers named these two messages). Among women, the third most named message was the image of the baby in the hospital crib (13%) followed by 'Smoking Kills' (10%). Interestingly, none of the messages aimed at providing information to aid smokers to quit (i.e., choose freedom; you can do it – we can help) were mentioned by smokers as encouraging them to think about their smoking behaviour.

Tables 4.42, 4.43; Figure 4.9

4.3.6 Depth of processing and avoidance of the health warnings messages by sex, age group and NS-SEC of household reference person

Hammond et al (2007) argued that any assessment of the salience of health warning messages should measure the depth to which people process the information that the messages impart. This has been measured by looking at how often smokers report a) noticing the messages b) looking at or reading them or c) thinking about them. This information is summarised in tables 4.44 to 4.46.

Overall, there were no changes pre or post implementation of the pictures in how often a smoker had noticed the warnings in the last month or how often they had thought about them. Post 1st October 2008, 39% of smokers reported noticing the messages several times a day and 19% reported thinking about them several times a day. This pattern was the same for both men and women.

Table 4.44

Smokers aged 44 and over were less likely to report noticing the health warning messages several times a day (29% post 1st October 2008) than those aged 18-44 (46% post 1st October 2008). This is unusual as smokers aged 44 and over consume more cigarettes per day than those aged 18-44 and therefore have more opportunities to be exposed to the warning messages. The pattern between age groups for thinking about the messages was similar.

Table 4.45

The prevalence of noticing a warning message or thinking about it several times a day was similar for both non-routine/non-manual and routine/manual groups.

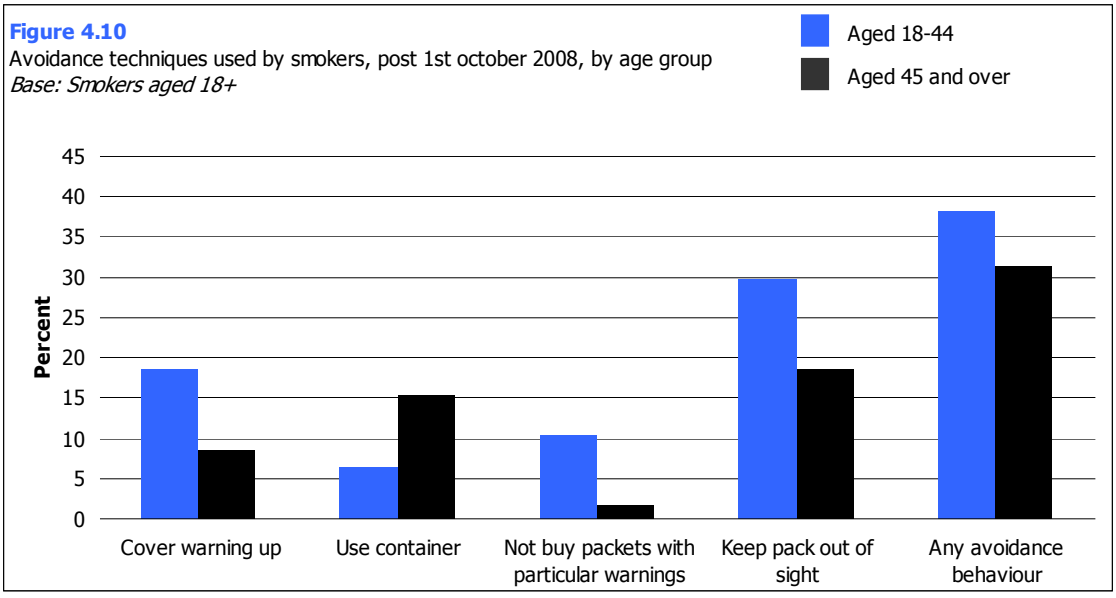
Table 4.46

The prevalence of looking at or reading the health warning messages was lower post implementation of the picture health warnings messages. The prevalence of doing this several times a day fell from 28% pre 1st October 2008 to 20% post 1st October 2008. These results are best placed in context with the variety of techniques smokers use to avoid looking at the messages. These include using a cigarette container, keeping the cigarette packet out of sight, covering the messages up or not buying packets with particular messages printed on them. Overall, the prevalence of using one or more technique to avoid viewing the health warning messages rose from 17% among men and 29% among women pre 1st October 2008 to 29% and 42% respectively post 1st October 2008. The most common avoidance measure used was keeping the packet out of sight, which 1 in 4 smokers reported doing post implementation.

Table 4.44; Table 4.47

In this context, it is therefore unsurprising that the proportion of smokers who reported looking at or reading the health warning messages was lower post implementation of the pictures.

Figure 4.10
Avoidance techniques used by smokers, post 1st october 2008, by age group
Base: Smokers aged 18+



Those aged 18-44 were more likely to report post 1st October 2008 that they kept the pack out of sight (30%) than those aged 45 and over (19%). Pre 1st October 2008, the prevalence of keeping the pack out of sight was similar between the two age groups, suggesting that it is those aged 18-44 in particular who do not want to view the picture health warnings. In addition, prevalence of covering up a warning post 1st October 2008 was higher among the younger age group (19%) than older adults (9%) and trying to avoid buying cigarette packet with particular messages on them was higher among those 18-44 (10%) than those aged 45 and over (2%)

Table 4.48; Figure 4.10

Those from routine/manual households were more likely to report using a cigarette container (9% post 1st October) or attempting to buy cigarettes without certain messages printed on them (13% post 1st October) than those from non-routine/non-manual households (4% and 7% respectively). This pattern

was the same pre and post implementation of the picture health warnings. For other avoidance behaviours, the estimates were similar for both groups.

Table 4.49

4.3.7 Summary

As expected, there were no changes in cigarette smoking prevalence post introduction of the picture health warnings. Neither were there any observed differences in self-reported mean cigarette consumption. However, data from HSE 2008 has demonstrated that biases in self-reported consumption can actually mask changes when compared against objective cotinine data. This information is not available for this study and therefore these analyses can not be undertaken.

However, on some other behavioural indicators, significant differences were observed after the picture health warnings had been introduced. There was a significant increase in the percentage of smokers who reported that the health warnings messages had made them think about quitting, rising from 48% to 56%. Notably, the largest increase in those reporting this was observed among men, rising from 46% to 55%. This is positive, as recent HSE 2008 data shows that smoking prevalence continues to be higher among men than women. HSE 2008 showed that among women, the target to reduce smoking prevalence to 21% by 2010 has been achieved yet among men there was still more work to be done; estimates were 20% for women and 22% for men (Wardle, 2009).

The increase of smokers reporting that the messages had made them think about quitting is supported by an increase in the proportion of smokers who reported that seeing a health warning message had made them think about their smoking behaviour. This rose from 54% to 65% after the introduction of the picture warnings messages.

Examination of which health warnings messages were most likely to prompt smokers to think about their behaviour shows some notable changes after the implementation of picture health warnings. Prior to the picture warnings, smokers were more likely to report that the front of pack message 'Smoking Kills' was the message which made smokers think most about their behaviour (24%). For all other messages the proportion of smokers reporting that these made them think about their smoking behaviour was 10% or less. This included all of the back of packet messages. However, after the introduction of the pictures, the messages which smokers most often reported had made them think about their behaviour were the back of packet, pictorial, messages showing healthy and diseased lungs (22%); rotting teeth (19%); needle and addiction (13% among men); baby in hospital (12% among women) and then the front of packet message, Smoking Kills (11%).

The introduction of the pictures has therefore changed the range of messages which smokers report prompts them to think about their smoking behaviour, with greater endorsement of a variety of messages being evident post 1st October 2008. This is to be expected. Researchers have long noted the capacity for message wear out. Hammond et al (2004) noted that the UK text warnings comparative to the Canadian picture health warnings were susceptible to this. Message wear out relates to when smokers become used to the existing messages and therefore stop noticing, seeing or thinking about them. Pre 1st October 2008 it was the front of packet message which was most commonly mentioned as prompting smokers to think about their smoking behaviour. The other textual messages were both less likely to be recalled and less likely to prompt similar thoughts. This provides some support to the argument that the text warnings were subject to 'wear out'. It is not surprising, therefore, that the introduction of graphic picture warnings saw an increase in some smokers reporting that these had prompted them to think about their smoking behaviour.

Furthermore, the prevalence of using a technique to avoid viewing the warnings was greater post implementation of the pictures than prior to this. Shanahan and Elliott (2008) have argued that this is an important behavioural response. The act of covering or avoiding viewing the warnings suggests that smokers are uncomfortable with the message and wish to prevent themselves from seeing it. 1 in 4 smokers reported doing this post implementation of picture health warnings. Previously only 1 in 7 smokers reported doing this.

This chapter therefore shows some modest changes in emotional and behavioural responses to the picture health warning messages. Smokers were more likely to think about quitting, more likely to think about their smoking behaviour and more likely to try to avoid viewing the health warnings after the pictures were introduced. However, for many other key measures there were no changes observed post implementation of the pictures. However, unlike in countries such as Canada and Australia, the prevalence of forgoing or stubbing a cigarette did not increase once the picture health warnings were introduced. Likewise, there were no changes in smoker's depth of processing of the messages; they did not report noticing them more often or thinking about them more often.

The impact of the picture health warnings on smoking related behaviour is particularly modest and it remains to be seen if increases in thinking about quitting or thinking about smoking behaviour are translated into actual behaviour changes in the future.

4.4 Attitudes to the health warnings, perceptions of smoking and awareness of chemicals

4.4.1 Introduction

A key factor in promoting changes in behaviour is promoting change in attitudes. The effectiveness of the picture health warnings therefore needs to be measured against indicators of attitudes to the health warnings in general, to the level of information they provide and whether people trust these as a source of information. Fundamentally, for the health warning messages to be effective in promoting smoking cessation among adults, these messages need to be internalised and smokers need to believe that their behaviour is harmful to health both now and in the future. All smokers were asked whether they believed smoking had damaged their health or was likely to damage their health in the future. This data is analysed in this section so that associations between attitudes to the health warnings and personal perceptions of risk can be examined.

4.4.2 Methods and definitions

All adults aged 18 and over were asked to report whether they agreed or disagreed to a series of attitude statements relating to the health warnings messages. This included whether they agreed that the messages were easy to understand; were unnecessary; made smoking seem less attractive and so on.

All smokers were asked whether they felt that smoking had damaged their health or if they were concerned that smoking would damage their health in the future. In addition, they were asked whether smoking had affected their quality of life or if they were worried that it could affect their quality of life in the future. Each of these questions were ranked on a four point scale ranging from not at all to a great deal (or very worried for the future health/quality of life questions).

As with previous chapters, where no differences pre and post implementation of the picture health warnings are observed, estimates quoted are post 1st October 2008.

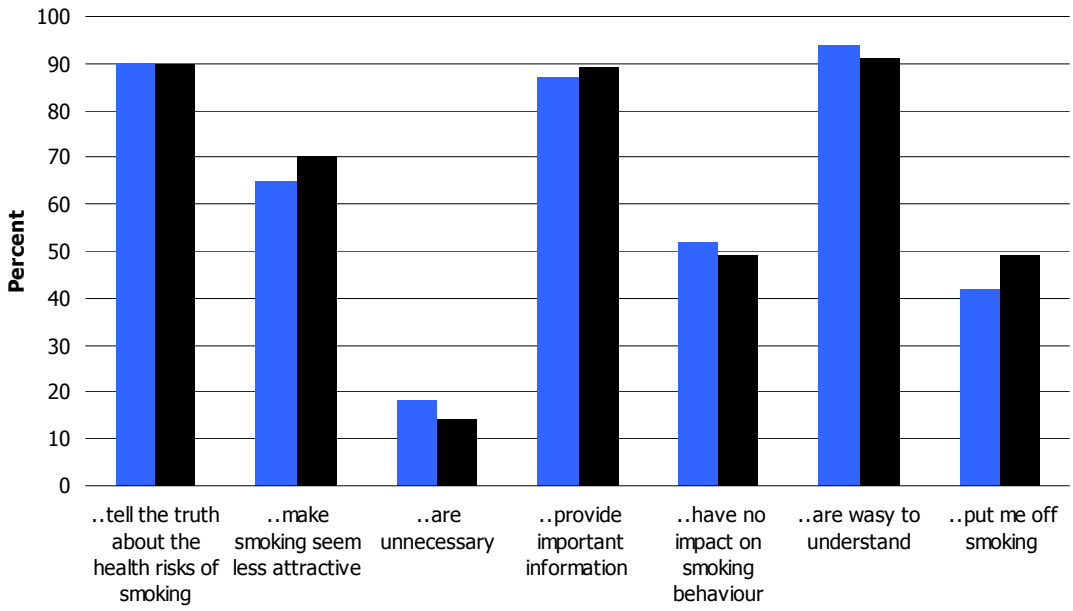
4.4.3 Attitudes to the health warnings messages by age, sex and NS-SEC of household reference person

Table 4.50 shows the proportion of people who agreed with each of the statements relating to health warnings on cigarette packets. Overall 90% of adults thought that the messages were truthful. A similar proportion agreed that they were easy to understand (91% post 1st October 2008) and that they provided important information about the health risks of smoking (89% post 1st October 2008). Slightly fewer people agreed that the messages made smoking less attractive (70% post 1st October 2008). Less than half of adults agreed that the message 'put me off' smoking or that the messages had no impact on smoking behaviour (49% for both, post 1st October 2008). Only a small proportion of adults agreed that the messages were unnecessary (14% post 1st October 2008).

Post implementation of the picture health warnings, more adults agreed that the messages made smoking seem less attractive (65% pre 1st October 2008; 70% post 1st October 2008) and that the messages 'put me off smoking', rising from 42% pre 1st October 2008 to 49% post 1st October 2008. Conversely, post implementation of the picture health warnings, fewer adults agreed that the health warnings were unnecessary, falling from 18% pre 1st October 2008 to 14% post 1st October 2008. The increase in the proportion agreeing that the messages made smoking seem less attractive was most pronounced among smokers, rising from 66% to 78% post implementation.

Table 4.50; Figure 4.11

Figure 4.11
Attitudes to the health warnings messages, pre and post 1st october 2008
Base: All aged 18+



Both pre and post implementation of the picture health warnings, smokers were less likely than non-smokers to agree that the messages tell the truth about the health risks of smoking (88% smokers; 91% non-smokers, post 1st October 2008) or that the messages 'put me off' smoking (36% smokers; 53% non-smokers). However, smokers were more likely than non-smokers to agree that messages were easy to understand (96% smokers; 90% non-smokers) but also more likely to agree that the messages are unnecessary (24% smokers; 12% non-smokers).

The proportion of men and women agreeing that the messages 'put me off' smoking, are truthful and are unnecessary was similar pre and post implementation of the picture health warnings. However, fewer women than men agreed that the health warnings made smoking seem less attractive, though the gap between the two narrowed post implementation of the health warnings.

Likewise, fewer women than men agreed that the health warnings provided useful information about the health risks of smoking (90% men; 87% women post 1st October 2008) or that the messages were easy to understand (93% men; 90% women, post 1st October 2008). Women were more likely to agree that the health warnings had no impact upon smoking behaviour (46% men; 51% women; post 1st October 2008).

Table 4.50

There were some notable differences by age group also. Adults aged 45 and over were less likely than those age 18-44 to agree that the messages were truthful (86% and 95% post 1st October 2008 respectively); that the messages made smoking seem less attractive (61% and 81%); that the messages provided important information about the health risks of smoking (83% and 95%); that the messages were easy to understand (87% and 96%) and that the messages 'put me off smoking' (41% and 59%). The proportions agreeing that the messages were unnecessary or had no impact on smoking behaviour were similar for both age groups.

Table 4.51

Those from routine/manual households were less likely than those from non-routine/non-manual households to agree that the messages were truthful (88% and 91% post 1st October 2008) and that the messages make smoking seem less attractive (67% and 72%). Overall, there was an increase post implementation among those who agreed that the pictures made smoking seem less attractive. Table 4.52 shows that this increase is almost entirely attributable to those from routine/manual

households. The proportion of adults from routine/manual households reporting this rose from 55% pre 1st October 2008 to 67% post 1st October 2008. Equivalent estimates among those from non-routine/non-manual households were 71% and 72%.

The only other difference observed by NS-SEC group was that those from routine/manual households were more likely than those from non-routine/non-manual households to agree that the messages were unnecessary (18% and 12%, post 1st October 2008 respectively).

Table 4.52

4.4.4 Perceptions of damage to health and quality of life among smokers, by sex, age group and NS-SEC of household reference person

All smokers aged 18 and over were asked whether they believed that smoking had damaged their health or quality of life so far or whether they were worried that smoking would damage their health or quality of life in the future. Overall, around 1 in 5 smokers (21% post 1st October 2008) reported that they did not think smoking had damaged their health. Around 1 in 7 smokers (14% post 1st October 2008) stated they were not worried about smoking damaging their health in the future. Around 2 in 5 smokers (41% post 1st October 2008) reported that smoking had not affected their quality of life and around 1 in 7 (16% post 1st October 2008) were not worried about smoking affecting their quality of life in the future. The pattern was similar for both men and women. Furthermore, the estimates pre and post implementation of the picture health warnings were similar and did not vary significantly.

Table 4.53

Smokers aged 18-44 were more likely to report that smoking had effected their quality of life than their older counterparts. Post 1st October 2008, 62% of smokers aged 18-44 stated this compared with 53% of those aged 44 and over. Likewise those aged 18-44 were more likely to be worried about the effect of smoking on their quality of life in the future (90% post 1st October 2008) than those aged 45 and over (25% post 1st October 2008). The pattern for all other estimates between age groups did not vary significantly.

Table 4.54

Those from non-routine/non-manual groups were more likely to report that they were worried that smoking would damage their health in the future (91% post 1st October 2008) than those from routine/manual household (82%). However, those from routine/manual households were more likely to admit that smoking had lowered their quality of life than those from non-routine/non-manual households. Estimates post 1st October 2008 were 60% and 55% respectively.

Table 4.55

4.4.5 Associations between attitudes and perceptions of future health among smokers

As can be seen from tables 4.53 to 4.56, there is a small core of smokers (14% post 1st October 2008) who are not concerned that smoking will damage their health in the future. These people come disproportionately from routine/manual households (18% routine/manual; 9% non-routine/non-manual). The table opposite shows how attitudes to the health warnings messages vary by those who are concerned that smoking will damage their health and those who are not. The pattern was the same pre and post implementation of the picture health warnings. As such, only estimates post 1st October 2008 are shown.

Attitudes to the health warnings by perceptions of smoking on future health

Smokers aged 18+; post 1st October 2008		
% agreeing with each statement	Not worried that smoking will damage health in future	Worried that smoking will damage health in the future
	%	%
Messages tell the truth about the health risks of smoking	65	91
Messages make smoking seem less attractive	54	81
Messages are unnecessary	39	21
Messages provide important information about the health risks of smoking	72	93
Messages have no impact on people's smoking behaviour	51	45
Messages are easy to understand	97	96
Messages put me off smoking	14	39
Bases (unweighted)	*96*	*551*

This table shows that smokers who were not concerned that smoking would damage their health in the future were less likely to agree that the messages were truthful; that the messages make smoking seem less attractive; that they provide important information or that they put them off smoking than their counterparts who were concerned that smoking would damage their health in the future. Those who were unconcerned about the impact of smoking on future health were also far more likely to agree that the messages were unnecessary than their counterparts who were worried about the impact of smoking on their health. The only point of agreement between the two groups was that the messages are easy to understand. Taking this evidence together suggests that a small group of smokers, who are unconcerned about the impact of smoking on their future health, believe that the health warnings are not truthful, unnecessary, have no impact and do not provide important information.

4.4.6 Awareness of chemicals contained within smoke

There were no differences observed in the awareness of each chemical contained with cigarette smoke post implementation of the picture health warnings. Overall, 55% of adults correctly reported that Benzene was contained within cigarette smoke. For the remaining chemicals the proportions correctly reporting that they were in cigarette smoke ranged from 35% for Hydrogen Cyanide to 24% for Nitrosamines (all estimates are post 1st October 2008).

Smokers were more likely than non-smokers to correctly report that cigarette smoke contained each chemical. However, 25% of smokers (post 1st October 2008) reported that cigarette smoke did not contain any of these chemicals (table not shown).

There were some differences between men and women in the proportion correctly reporting that cigarette smoke contained each chemical. However, caution should be undertaken before attributing this to greater knowledge among men. Examination of the proportion of 'don't know' responses shows these were significantly higher among women than men. It may be the case that women were more likely to say that they were unsure whereas men may have been more likely to guess an answer.

Table 4.56

Those aged 18-44 had greater awareness of each of the chemicals contained within cigarette smoke than those aged 45 and over. For example post 1st October 2008, 65% of those aged 18-44 correctly identified that Benzene is contained within cigarette smoke compared with 47% of those aged 45 and over. However, more adults aged 18-44 reported that Difluride, the placebo chemical, was included

within cigarette smoke than those aged 45 and over, potentially pointing to the younger group employing more guess work when answering these questions.

Awareness of chemicals was similar between non-routine/non-manual and routine/manual groups.
Tables 4.57-4.58

4.4.7 Summary

The impact of picture health warnings on attitudes towards health warnings messages
The implementation of the picture health warnings has had a positive impact upon the attitudes of some people towards the heath warnings messages. The fact that more adults agreed post introduction of the pictures that they make smoking seem less attractive is a positive step. This is supported by the modest increase among adults reporting that the picture health warnings 'put them off smoking'. It will be of interest in the future to see if this perception of smoking as less attractive translates into behavioural changes among smokers or helps to prevent non-smokers from starting to smoke.

It is particularly interesting that increased endorsement of the messages making smoking seem less attractive was most pronounced among smokers themselves, rising from 66% to 78% and also among those from routine/manual households, increasing from 55% to 67%. Post 1st October 2008 the difference between routine/manual groups and non-routine/non-manual groups agreeing that the messages make smoking seem less attractive was 5 percentage points whereas pre 1st October 2008, it was 16 percentage points.

Those from routine/manual households are a key sub-group of interest as smoking prevalence is highest among this group. In the last decade, smoking prevalence among those from routine/manual groups has not declined at the same rate as those from non-routine/non-manual groups. Therefore, any policy which helps to level the difference between these two groups, even if it is a levelling of attitudes rather than changes in smoking behaviour, represents a small step in the right direction.

A further positive change is the decrease in the proportion of adults who believe that the messages are unnecessary. It has long been argued that the health warning messages are a vital source of imparting information about the health risks of smoking and a vital tool in tobacco control strategy. With the implementation of the picture health warnings, more adults in England also agree with this position and believe they are necessary. The finding that the majority of people thought that the messages, both textual and visual, were truthful, important and necessary provides a powerful mandate of support for this policy.

The impact of picture health warnings on perceptions of health and quality of life
Evidence from this study has shown that the picture health warnings did not have an effect on how concerned smokers were that smoking would damage their health in the future or lower their quality of life. These are important measures as many of the health warning messages rely heavily on promoting awareness of the range of health problems that are more likely to be experienced by smokers. It is of note that around 1 in 7 smokers reported that they are not concerned that smoking will damage their health in the future or that smoking will lower their quality of life in the future. Examination of the attitudes of this group to the health warning messages showed that these smokers are less likely to agree the that health warning messages tell the truth about the health risks of smoking; that the messages make smoking seem less attractive; that they put them off smoking or that they provide important information about the health risks of smoking.

Attitudes to the health warnings messages among those who were not concerned about future health risks of smoking did not vary significantly post implementation of the picture health warnings, though base sizes were small for this group. This group may be seen as committed smokers who are unwilling to fully accept or admit that smoking is associated with adverse health outcomes, either in general or to themselves. Further examination of this group could be undertaken to fully profile their levels of awareness of the health effects of smoking, their socio-economic status and their risks

perceptions. This is beyond the scope of this study but would be of interest to gain more information about a group of people most in need of accepting the potential damage that smoking may cause to health.

5 Impact of health warnings on young people aged 13-17

5.1 Overview

This section examines the impact of both textual and picture health warnings among young people aged 13-17. As for adults, analyses are presented in three broad areas. These are impact of the picture health warnings on:

- awareness, knowledge and risk perceptions of health effects of smoking (section 5.2);
- smoking-related behaviour (section 5.3) and,
- attitudes towards the health warnings messages (section 5.4).

At the end of each subsection, key results are summarised and discussed.

Throughout each chapter, evidence pre and post implementation of the picture health warnings are presented to assess impact overall. Where appropriate, differences between sub-groups and inequalities in knowledge, awareness and behaviour are also noted.

5.2 Awareness, knowledge and risk perceptions of health effects of smoking among young people

5.2.1 Introduction

As with adults, a key research objective for this study was assessment of the impact of picture health warnings upon awareness and knowledge of the health risks associated with smoking.
Evidence from Canada and Australia showed that picture health warnings were particularly effective among youth. In Canada, 90% of young people aged 12 to 18 agreed that the pictures were important, accurate and made smoking seem less attractive. Furthermore, the proportion of young people who agreed that smoking causes impotence in men, mouth cancer, gum disease and stroke increased after the picture health warnings were introduced (Environics, 2004b). In Thailand, the picture health warnings prompted more young people to think about the health risks of smoking (ITC, 2007).

Communicating the health risks of smoking to young people is a vital part of tobacco control strategy as it may deter them from developing a behaviour that persists into adulthood. Measuring the impact of picture health warnings upon awareness, knowledge and risk perceptions of the health effects of smoking among young people is an integral part of this evaluation. The same range of questions asked of adults aged 18 and over were also asked of young people aged 13-17 to obtain comparative data. This included:

- Spontaneous recall of the health risks of smoking (to measure the breadth and depth of knowledge).
- Spontaneous recall of the health risks associated with secondhand exposure to smoke.
- Perceptions of risk measured by whether young people agree that smokers are more likely to experience a range of illnesses.
- Agreement of whether smoking causes a range of illnesses.

To date, there is very little data available which assesses knowledge of the health risks of smoking among young people in England in a comprehensive way. The Smoking, Drinking and Drug Use Survey includes some questions for those aged 11-15 and demonstrates that the majority of young people agree that smoking causes lung cancer and heart disease (Fuller, 2009). However, broader questions about the relative risk that smoking poses to health or the range of health effects that are associated with both personal tobacco use and exposure to secondhand smoke are not included. This

study therefore provides an opportunity to assess knowledge, awareness and risk perceptions of the health effects of smoking among youth in general.

As such this chapter has a dual focus:

a) to assess the impact of the picture health warnings across a range of measures relating to the awareness and knowledge of the health risks of smoking and,
b) to describe and assess inequalities in awareness among youth and youth sub-groups more generally.

5.2.2 Methods and definitions

In both data collection phases, all participants aged 13-17 were asked a variety of questions aimed at measuring levels of awareness of the health risks associated with smoking cigarettes and awareness of the health risks of exposure to secondhand smoke.

Firstly, participants were asked to spontaneously recall what health effects, if any, were associated with both smoking and exposure to secondhand smoke. The number of health effects correctly identified as being associated with smoking and awareness of specific health effects are key outcome variables. To help summarise this data, the type of health effects recalled were grouped into five broad categories:

- Lung and respiratory problems
- Heart disease and circulation problems
- Cancer
- Impact on children/unborn babies
- Effect of appearance.

Full detail on how these health effects were grouped is given in Appendix A.

Secondly, participants were asked whether smokers were more likely or not more likely than non-smokers to experience a range of illnesses. This included lung cancer, stroke, heart disease, premature ageing of the skin and fertility problems. These questions were designed to measure perception of risk in relation to smoking. Answer options were a lot more likely, a little more likely or not more likely than smokers to experience these things. For these questions, participants who said that they 'did not know' whether smokers were more likely or not more likely than non-smokers to experience each health condition have been included in this analysis as this is a valid answer option. To summarise participant's risk perceptions a risk score was computed. Answers to each question were scored in the following way:

5) A lot more likely = score 2
6) A little more likely = score 1
7) Not more likely = score 0
8) Not sure/Don't Know = 0.

The scores to each risk perception question were summed, giving a maximum score of 10 and a minimum score of 0. A score of 10 represents the highest perception of risk associated with smoking; a score of 0 represent no perception of risk associated with smoking.

Finally, participants were asked to report whether they agreed or disagreed that smoking caused a variety of illnesses. Nine health conditions which are associated with smoking were included. These were: lung cancer; heart disease; stroke; impotence in men; mouth or throat cancer; infertility; gum or mouth disease; smaller babies or reduced growth during pregnancy and wrinkles or premature ageing of the skin. Two further conditions which are not associated with smoking were also included to act as a control. These were arthritis and alzheimer's. As with the risk perception questions, 'don't know' response have been included in the analysis. To reduce response burden among younger participants, those aged 13-15 were asked a subset of these questions. Items about smoking causing smaller babies and smoking causing alzheimers were omitted.

As noted in previous chapters, if no differences pre and post implementation of the picture health warnings have been observed but there are differences overall between sub-groups, estimates post 1st October 2008 are quoted. This is for the sake of clarity for the reader and also consistency. In these instances, the pattern of the association post 1st October 2008 will be the same as prior to 1st October 2008.

5.2.3 Awareness of the health risks of smoking

Number of health effects recalled by sex, age and NS-SEC

All young people aged 13-17 were asked to name any health effects associated with smoking. The majority of young people could name at least one health effect; 96% pre 1st October 2008 and 98% post 1st October 2008. The mean number of health effects correctly named was 2.3. However, there were a small proportion of young people (2% post 1st October 2008) who could not name *any* health effects associated with smoking. The number of health effects recalled did not vary significantly post implementation of the picture health warnings.

Table 5.1

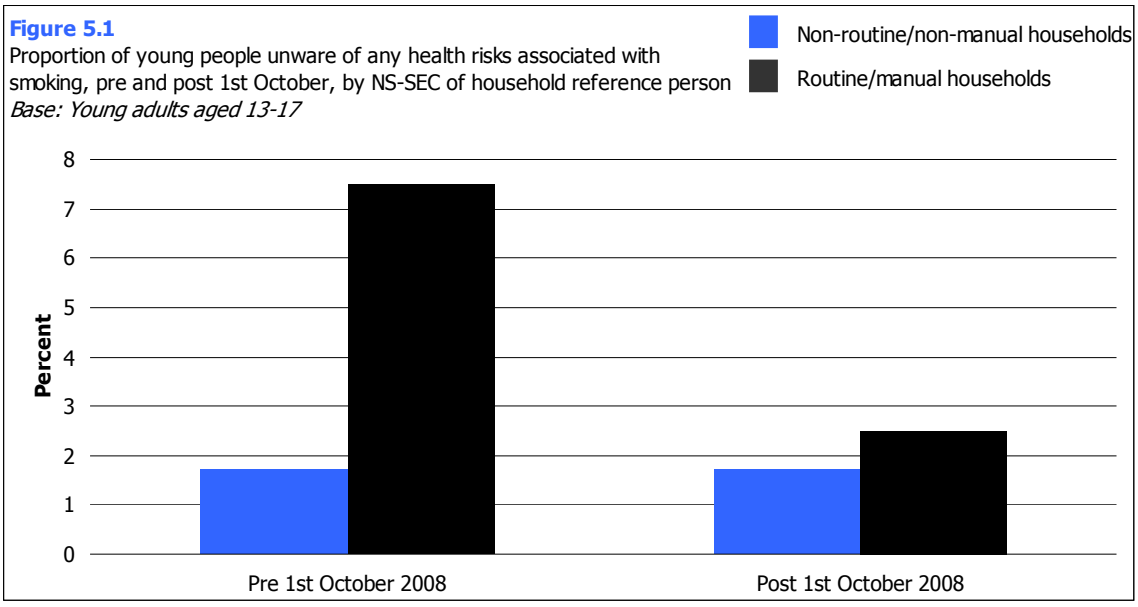
There were no differences between young men and young women in their recall of the health effects of smoking; both recalled 2.3 health effects correctly. However, mean recall of the number of health effects associated with smoking was higher among those aged 16-17 than those aged 13-15. Estimates post 1st October 2008 were 2.6 health effects recalled for those aged 16-17 and 2.2 for those aged 13-15, suggesting that the older age group are more aware of the health effects of smoking.

Table 5.2

NS-SEC is a classification of social position. Due to small base sizes, two categories are presented in this report: non-routine/non-manual occupations and routine/manual occupations. There were some interesting differences between young people living in non-routine/non-manual households and those living in routine/manual households. Firstly, the mean number of health effects recalled was significantly higher among those from non-routine/non-manual household (2.4 post 1st October 2008) than those from routine/manual households (2.2 post 1st October 2008). Secondly, the proportion of young people from routine/manual households who could not name *any* health effects associated with smoking fell from 8% pre 1st October 2008 to 3% post 1st October. Among those from non-routine/non-manual households, the estimates did not change.

Table 5.3; Figure 5.1

Figure 5.1
Proportion of young people unware of any health risks associated with smoking, pre and post 1st October, by NS-SEC of household reference person
Base: Young adults aged 13-17



Recall of specific health effects associated with smoking by sex and smoking status
Table 5.4 lists the specific health effects named by young people as being associated with smoking. As observed with adults, responses ranged from conditions such as bad breath to lung cancer. Some participants reported health effects that are not associated with smoking, such as diabetes. These are excluded from this analysis are not discussed here.

The most popular health effect mentioned was lung cancer; 75% of young people pre 1st October 2008 and 76% of young people post 1st October 2008 reported this. The next most popular response was heart disease/attack/coronary problems; 28% and 33% reported this pre and post 1st October 2008 respectively. The third most mentioned effect pre 1st October 2008 was cancer in general (26%). Post implementation of the picture health warnings, the third most popular health effect was oral cancer (25%).

This pattern is very similar to that observed among adults, though the proportion naming lung cancer as a health effect associated with smoking was slightly higher among young people than among adults (75% post 1st October 2008 for those aged 13-17 and 71% post 1st October 2008 for those aged 18 and over).

For the vast majority of specific health effects mentioned, results were similar both pre and post 1st October 2008. However, there were some significant differences for some conditions. More participants aged 13-17 reported that gum disease/tooth loss/mouth disease was a health effect of smoking post implementation of the picture health warnings. 3% of young people mentioned this pre 1st October 2008 compared with 7% of young people post 1st October 2008. Mentioning gum disease/rotting teeth as a health effect of smoking also rose in prominence. Post implementation, it was the 6th most popular response whereas prior to the implementation of picture health warnings it was the joint 12th most popular response.

Some health effects were less likely to be mentioned post 1st October 2008 than pre 1st October 2008. These were blood circulation and emphysema. Estimates fell from 5% to 2% for blood circulation and from 7% to 3% for emphysema.

Table 5.4 also shows the pattern of responses among smokers and non-smokers. The number of smokers aged 13-17 identified pre and post 1st October 2008 is low and therefore caution needs to be exercised when looking at these results. Overall, the pattern of responses was similar for smokers and non-smokers. However, non-smokers were more likely than smokers to mention oral cancer, eye disease and impotence as a health effect associated with smoking cigarettes. Current smokers were more likely than non-smokers to mention coughing and colds as a health effect of smoking.

Table 5.4

Types of health effects recalled by sex, age and NS-SEC
As noted in section 5.2.2, the specific health effects mentioned were grouped into five broad categories. These were lung and respiratory problems, heart disease and circulation problems, cancer, impact on children including foetuses and effect on appearance.

Overall, there were no differences pre and post implementation in the proportions mentioning any health effects within these categories. Recall of cancer (including lung cancer, oral cancer and cancer in general) as a health effect associated with smoking was particularly high, post 1st October 2008 87% of young people mentioned this. The next two most popular categories were heart disease and circulation problems (34%) and lung and respiration problems (32%). Awareness of the impact on children was negligible and awareness of the impact on appearance was also low (7% post 1st October 2008). As figure 5.2 suggests, young people aged 13-17 display good awareness that cancer is a health effect associated with smoking, but their depth of knowledge and awareness of the range of illnesses associated with smoking is poorer.

Figure 5.2
Awareness of types of health conditions associated with smoking among young people aged 13-17, post 1st October 2008
Base: Young adults aged 13-17

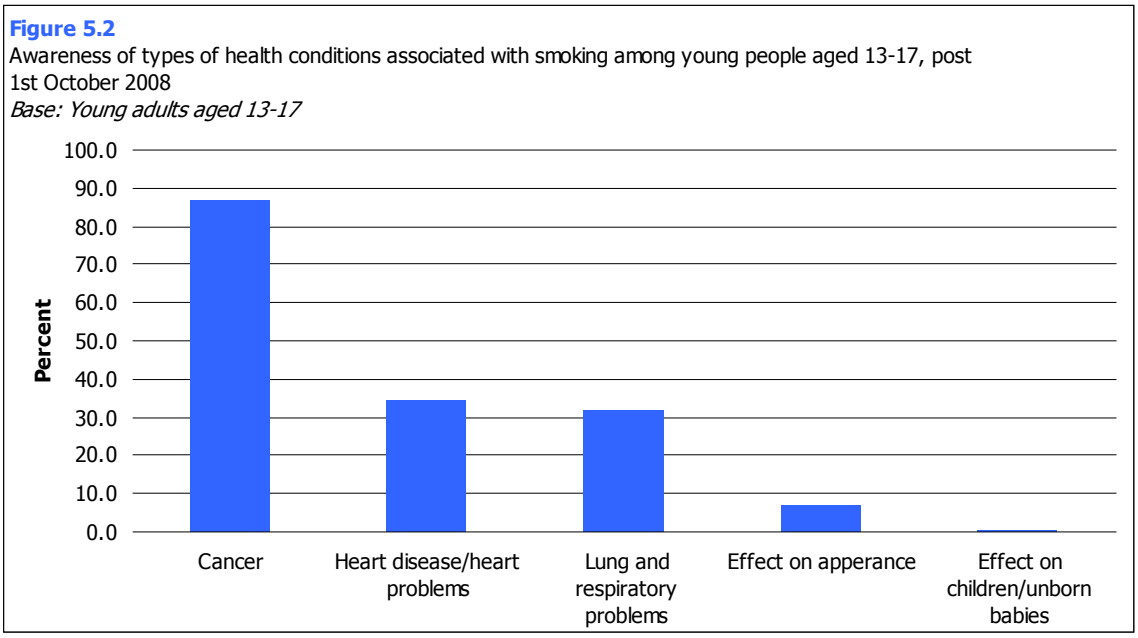


Table 5.5, Figure 5.2

Among young men and young women, by each age group and by NS-SEC of household reference person the pattern of responses were similar, as were estimates pre and post implementation of the picture health warnings.

Tables 5.5-5.7

Recall of number of health effects of exposure to secondhand smoke by sex, age and NS-SEC
All participants were asked to report what health effects were associated with exposure to secondhand smoke. Most participants aged 13-17 named at least one health effect associated with exposure to secondhand smoke (around 80% pre and post 1st October 2008). The mean number of health effects named as being associated with secondhand exposure was 1.5 (post 1st October 2008). However, table 5.8 shows that around 1 in 5 young people could not recall *any* health effect associated with exposure to secondhand smoke.

There were no changes in the number of health effects associated with secondhand exposure recalled post implementation of the pictures

Recall of the number of health effects associated with secondhand smoke was similar between young men and young women. Post implementation of the pictures, young men correctly recalled 1.5 conditions on average and young women named 1.4. The pattern for both young men and young women did not vary pre and post implementation of the picture health warnings.

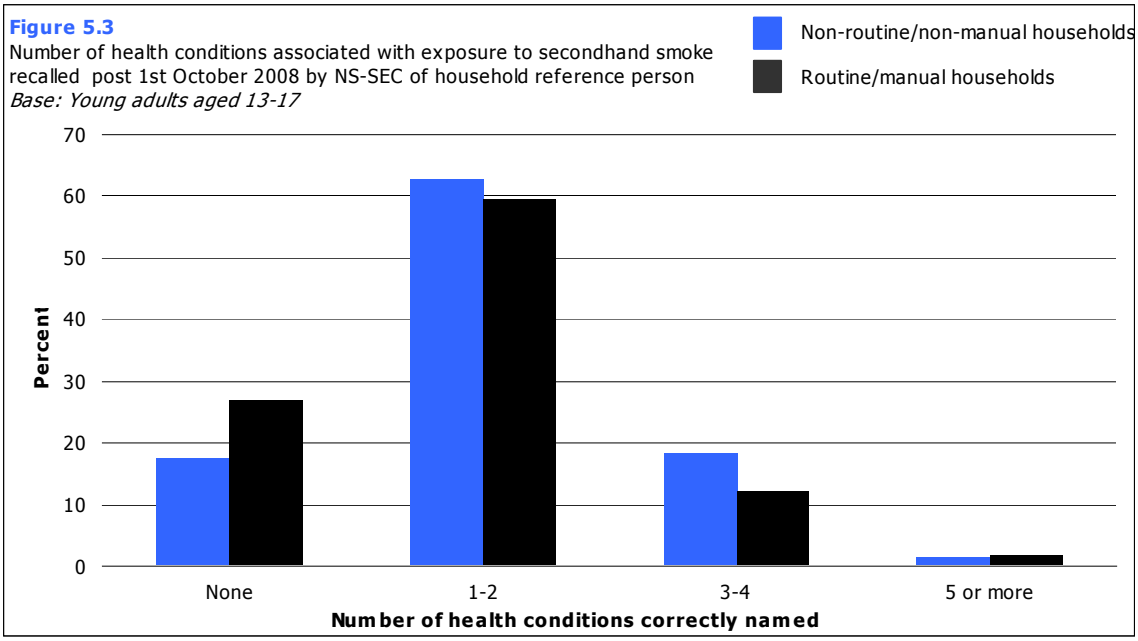
Table 5.8

Young people aged 13-15 were significantly more likely that those aged 16-17 to be unable to name any health effects associated with secondhand smoke. Estimates post 1st October 2008 were 24% for those aged 13-15 and 18% for those aged 16-17. Likewise, the mean number of health effects recalled was higher among those aged 16-17 (1.7 post 1st October 2008) than those aged 13-15 (1.3 post 1st October 2008).

Table 5.9

Those from routine/manual households displayed poorer awareness of the health effects of secondhand exposure to smoke than their counterparts from non-routine/non-manual households.

Figure 5.3
Number of health conditions associated with exposure to secondhand smoke recalled post 1st October 2008 by NS-SEC of household reference person
Base: Young adults aged 13-17



Post 1st October 2008, 27% of young people from routine/manual households could not name *any* health effects associated with secondhand exposure to smoke. The equivalent estimate among young people from non-routine/non-manual households was 18%. Mean recall of health effects was correspondingly higher among young people from non-routine/non-manual households (1.5) than routine/manual households (1.3). This pattern was the same both pre and post 1st October 2008.

Table 5.10; Figure 5.3

Recall of specific health effects and type of health effects associated with secondhand smoke by sex, age and NS-SEC

Table 5.11 shows the range of health effects associated with secondhand exposure to smoke named by participants. The most frequently named condition was lung cancer, with 51% of young people pre and post 1st October 2008 reporting this. Pre 1st October 2008, this was followed by cancer in general (14%) and heart disease/heart problems and lung disease/respiratory problems (13% each). Post 1st October 2008, the next most popular conditions named were heart disease/heart problems (15%) and lung disease/respiratory problems (14%).

As with recall of the health effects associated with smoking, estimates pre and post 1st October 2008 were similar for the vast majority of named conditions. The exception was that blood circulation problems were less likely to be named as a health effect associated with secondhand smoke post implementation of the pictures. Estimates fell from 3% pre 1st October 2008 to 1% post 1st October 2008.

Among young people overall, there was no change in the proportion of young people naming lung cancer as a health effect of secondhand exposure to smoke. However, among current cigarette smokers, the proportions reporting this rose from 34% pre 1st October 2008 to 63% post 1st October 2008. The only other significant difference observed between current smokers aged 13-17 and non-smokers was that the former were more likely to name oral cancer as a health effect of secondhand smoke than non-smokers. Post 1st October 2008 estimates were 24% for smokers and 10% for non-smokers.

Table 5.11

These conditions were also grouped by type. The categories were lung and respiratory problems, heart disease and circulation problems, cancer, impact on children/unborn babies and effect on appearance. Overall there were no differences pre and post 1st October 2008 in the proportions reporting that each type was associated with secondhand exposure to smoke. However, there were

some differences by sub-group. Post implementation of the picture health warnings, significantly more young women reported that lung and respiratory problems were a health effect associated with secondhand smoke. Estimates rose from 34% pre 1st October 2008 to 43% post 1st October 2008. Among young men, the opposite pattern was observed, with fewer young men naming lung and respiratory problems as a health effect of secondhand exposure to smoke after the pictures had been introduced. Estimates fell from 38% to 31%.

Young men were also more likely than young women to report that cancer was a health effect associated with secondhand exposure to smoke. Post 1st October 2008, 61% of young men reported this compared with 53% of young women.

Table 5.12

Awareness of cancer and lung and respiratory problems as a health effect of exposure to secondhand smoke was higher among those aged 16-17 than those aged 13-15. For other condition types, estimates were similar.

Table 5.13

Table 5.14 shows awareness of the health effects associated with secondhand exposure to smoke by NS-SEC of household reference person. Awareness of cancer as a health effect of secondhand smoke was highest among those from non-routine/non-manual households (61% post 1st October 2008) than those from routine/manual households (53% post 1st October 2008). For other condition types, estimates were similar between the two groups.

The only significant change observed pre and post 1st October 2008 was among those from routine/manual households. Awareness of heart and circulation problems as a health effect of exposure to secondhand smoke rose from 9% pre 1st October 2008 to 16% post 1st October 2008. Post implementation of the pictures, there was no difference in the proportion of young people from non-routine/non-manual households and routine/manual households naming heart and circulation problems as a health effect of secondhand exposure to smoke. Prior to the implementation of the pictures, awareness of this was 10 percentage points higher among those from non-routine/non-manual households. Considering this together shows some very modest improvements in awareness of the health effects of secondhand smoke among those from routine/manual households post 1st October 2008.

Table 5.14

5.2.4 Perceptions of health risks associated with smoking, by sex, age group and NS-SEC

All participants were asked whether they thought that smokers were more likely than non-smokers to experience a range of health conditions. Responses to these questions are shown in table 5.15. On the whole, the majority of young people aged 13-17 correctly reported that smokers were more likely than non-smoker to experience lung cancer (98% pre 1st October 2008; 97% post 1st October 2008); stroke (79% both pre and post 1st October 2008); heart disease (95% pre 1st October 2008; 93% post 1st October 2008); fertility problems (78% pre 1st October 2008; 73% post 1st October 2008) and premature ageing of the skin (91% both pre and post 1st October 2008). These estimates did not change significantly after the introduction of the picture health warnings.

The only difference observed between young men and young women was that a higher proportion of young women agreed that smokers were more likely to experience premature ageing of the skin than non-smokers. Estimates post 1st October 2008 were 89% among young men and 93% among young women.

Table 5.15

Estimates between those aged 13-15 and 16-17 were similar, with the exception that more young people aged 16-17 endorsed that smokers were more likely to experience fertility problems than non-

smokers. Post 1st October 2008, estimates were 68% among those aged 13-17 and 81% among those aged 16-17.

Table 5.16

Table 5.17 shows risk perceptions by NS-SEC of household reference person. While both groups had high agreement that smokers were more likely to experience lung cancer, more of those from non-routine/non-manual groups endorsed this.

Table 5.17

Perceptions of health risk score, by sex, age group and NS-SEC

Answers to the perception of risk questions were scored and summarised. A score of 0 represents no perception of the health risks of smoking whereas a score of 10 represents the highest perception of the health risks of smoking.

There were no significant differences in risk perception scores pre and post 1st October 2008. The same was true by sex, age group and NS-SEC of household reference person, with the pattern for each category being the same post implementation of the picture health warnings than prior to it.

However, it is notable that no young people aged 13-17 had a risk perception score of 0, meaning that *all* young people interviewed had at least some perception of the health risks of smoking. Around three quarters (74% pre and post 1st October 2008) of young people had a risk perception score of 7 or more, displaying relatively good awareness of the health risks of smoking. Risk perception scores were similar among young men and young women, those from non-routine/non-manual and routine/manual households and were highest among those aged 16-17.

Tables 5.18-5.20

5.2.5 Knowledge of health effects caused by smoking by sex, age and NS-SEC

To further measure awareness of the health effects of smoking, all young people were asked whether they agreed or disagreed that smoking caused a range of illnesses. For those aged 16-17, these were the same set of questions asked of adults containing nine conditions which are associated with smoking and two (arthritis and alzeheimer's) which are not. To reduce respondent burden among those aged 13-15, a subset of these questions was asked containing eight conditions that are associated with smoking and one that is not (arthritis).

Over 90% of young people agreed that smoking causes heart disease, mouth or throat cancer and gum/mouth disease. 100% of young people agreed that smoking causes lung cancer. Furthermore, a majority of young people agreed that smoking also causes premature ageing of the skin (84% post 1st October), stroke (78% post 1st October 2008), infertility (61% post 1st October 2008), and 90% of those aged 16-17 agreed that smoking causes smaller babies or reduced growth of babies during pregnancy.

Post implementation of the pictures, there were some changes in the proportion of young people reporting that smoking causes some illnesses. More young people aged 16-17 agreed that smoking caused smaller babies or reduced growth of babies during pregnancy post 1st October 2008. Estimates agreeing with this increased from 86% to 90%.

However, the proportion who agreed that smoking causes impotence in men decreased falling from 60% pre 1st October 2008 to 54% post 1st October 2008. This change is largely attributable to greater numbers reporting that they did not know whether smoking caused impotence in men or not. The proportion reporting that they were not sure increased from 17% to 28%, while the percentage who reported that smoking did not cause impotence actually fell from 23% to 17% (table not shown).

As observed among adults, greater numbers of young women agreed that smoking caused smaller babies or reduced growth of babies in pregnancy; wrinkling and premature ageing of the skin than young men. Young men were more likely than young women to agree that smoking causes impotence in men. As for adults, this suggests young men and women also have greater awareness of conditions that are arguably most salient to each group. The pattern for other conditions was similar for both young men and young women.

Table 5.21

Young people aged 16-17 displayed a greater range of awareness that smoking causes a range of conditions than their younger counterparts. Those aged 16-17 were more likely to agree that smoking causes wrinkling or premature ageing of the skin, infertility, mouth cancer and impotence in men than those aged 13-15.

Table 5.22

Finally, the only difference evident between those from non-routine/non-manual groups and routine/manual groups was that the former were more likely to agree that smoking causes smaller babies or reduced growth during pregnancy. Post 1st October 2008 estimates were 94% of young people aged 16-17 from non-routine/non-manual household agreed that smoking caused this. The equivalent estimate for those from routine/manual households was 79%.

Table 5.23

5.2.6 Summary

Impact of the picture health warnings on awareness, knowledge and risk perceptions among young people

Among those aged 13-17, awareness of the health risks associated with smoking was high both pre and post 1st October 2008. For example, 100% of young people agreed that smoking causes lung cancer and virtually all young people named at least one health effect associated with smoking. No young people perceived smoking to carry no health risks. Detecting changes post implementation of the picture health warnings when awareness of the health risks of smoking is already high is therefore difficult. On the whole, the patterns observed were the same pre and post implementation of the pictures.

However, there were a few small but interesting changes. Firstly, before implementation of the picture health warnings, the proportion of young people who could not name any health effects associated with smoking was highest among those from routine/manual households. At 8%, this meant that around 1 in 12 young people from these households could not name any health effect associated with smoking. Comparative estimates among those from non-routine/non-manual households were 2% or 1 in 50 young people. After the picture health warnings had been introduced, the proportions reporting this was roughly equal between the two groups; 3% for those from routine/manual households and 2% for those from non-routine/non-manual households. This represents a significant increase in knowledge among those from routine/manual households post 1st October 2008. Furthermore, the only increase in awareness of the health risks of secondhand smoke was observed among those from routine/manual households, with the proportion reporting that heart disease/problems were associated with secondhand exposure increasing from 9% to 16%. Estimates reporting this post implementation were the same for both non-routine/non-manual groups and routine/manual groups (16%) whereas prior to 1st October 2008, awareness of this was significantly higher among those from non-routine/non-manual groups. These are small but positive steps which suggest that some progress is being made towards equalising some inequalities in knowledge for some conditions between these two groups.

Both pre and post implementation of the pictures, lung cancer was most likely to be named as a health effect associated with smoking. However, awareness of conditions such as gum or mouth disease (which is related to arguably one of the more 'graphic' picture health warnings) increased in prominence after the pictures were introduced. Post 1st October 2008, 20% of young people reporting that this was a health effect associated with smoking. Young people who were current cigarette

smokers were also more likely to name lung cancer as a health effect of secondhand smoke post 1st October 2008 than prior to it. Those aged 16-17 were more likely to agree that smoking causes smaller babies post implementation. For all other analyses, estimates pre and post implementation of the picture health warnings did not vary significantly. This therefore represents very modest improvements in some levels of awareness of the health risks of smoking among some groups.

Inequalities in awareness, knowledge and risk perceptions by sub-groups

This chapter provides an opportunity overall to look at knowledge of the health risks of smoking among youth in general and among youth sub-groups. Analysis shows that one area where most progress to be made is in relation to awareness of the health risks of secondhand exposure to smoke. Overall around one in five young people could not name any health effect associated with exposure to secondhand smoke. This did not change post implementation of the picture health warnings. Nearly half of young people (49%) were not aware that lung cancer is associated with exposure to secondhand smoke. This is more concerning when considered in the context of young people's understanding of the health risks of smoking. By and large, the vast majority of young people are aware that smoking causes cancer (100%) and agree that smokers are more likely to experience lung cancer than non-smokers (97%). However, it appears that there is proportion of young people who have not made a similar connection between exposure to secondhand smoke and lung cancer or cancer as a likely health effect of this.

Overall, very few differences were observed among young men and young women. They had the same mean recall of the health effect associated with smoking and secondhand exposure to smoke, the same awareness of the risks associated with smoking and by and large same levels of agreement that smoking causes a range of conditions. Where agreement did vary it tended to be in relation to conditions that are most pertinent to each group. For example, young men were more likely to agree than young women that smoking causes impotence in men. The fact that smoking prevalence is higher among young women than young men aged 13-17 does not therefore appear to be attributable to a disparity in knowledge of the health risks of smoking.

Those aged 16-17 tended to have slightly greater levels of awareness of the health risks of smoking than those aged 13-15. They had a higher mean recall of conditions associated with smoking and greater levels of endorsement that smoking causes a range of conditions than their younger counterparts. However, those aged 13-15 displayed relatively high perceptions of the health risks of smoking and were aware, at least, that smoking causes cancer and is associated with specific conditions such as lung cancer. This demonstrates that although this age group may not have the same depth of knowledge as their slightly older counterparts, there is a basic understanding among those aged 13-15 that smoking is associated with adverse health outcomes.

Post 1st October 2008, there were few differences in knowledge of the health effects of smoking between those from non-routine/non-manual households and those from routine/manual households. Young people from routine/manual households were just as aware as those from non-routine/non-manual households that smoking is associated with cancer or heart disease. Risk perceptions scores and agreement that smoking causes a range of illnesses were similar between the two groups. Where differences pre implementation were observed, such as the number of young people who could not recall any health effect associated with smoking, post implementation these differences were no longer evident. Knowledge of the health risks of smoking appears to be equal among both groups.

However, one area where differences by socio-economic sub group were observed was in awareness of the health risks associated with secondhand exposure to smoke. Those from routine/manual households were still more likely than those from non-routine/non-manual households to be unable to name any health effect associated with secondhand smoke (27% and 18% post 1st October 2008 respectively) and awareness of cancer as a health effect of secondhand exposure to smoke was significantly lower among those from routine/manual groups (53%) than those from non-routine/non-manual groups (61%). These relatively lower levels of awareness are a concern and are an area in which the introduction of the picture health warnings has had little effect. Data from HSE 2008 highlighted that smoking prevalence continues to be significantly higher among adults from routine/manual households and that non-smoking young people from routine/manual households are

more likely to be exposed to the smoke of others (Wardle, 2009). Unpublished examination of the HSE 2008 data shows that 51% of people from routine/manual households reporting being exposed to the smoke of others in the home compared with 37% of those from non-routine/non-manual households. As such, young people from routine/manual households are more likely to live in the same household as a smoker and more likely to be exposed to secondhand smoke. The fact young people are less aware than their non-routine/non-manual counterparts of the potential adverse health consequences of this highlights a further area of inequality between these two groups.

5.3 Smoking-related behaviour among young people

5.3.1 Introduction

Smoking prevalence among young people is declining. The most recent Smoking, Drinking and Drug Use Survey showed that regular smoking among those aged 11-15 had declined from 13% in the mid 1990s to 6% in 2008. Statistics from HSE 2008 show that 17% of those aged 16-17 were current cigarette smokers, falling from 26% in 1998. The overall trajectory of smoking prevalence among young people is that of gradual decline (Fuller, 2008). That said, a number of young people are current cigarette smokers. For the majority of smokers, uptake begins before the age of 24 and is most likely to occur during teenage years. Teenage years are also the period when young people experience transitions in their smoking behaviour, moving in and out of smoking (Amos et al, 2009). Thus, targeting strategies at this age group which may prevent the onset of a long-term habit demonstrated to persist into adulthood is vital. As such, assessing the impact of health warnings upon smoking-related behaviour and attitudes is an important part of this evaluation.

This chapter looks at smoking-related behaviour among 13-17 year olds. For those classified as current cigarette smokers, analyses examine the association between the health warning messages and a range of smoking–related behaviours. However, it should be noted that this study was not designed to provide national statistics on smoking prevalence or to boost the number of smokers aged 13-17. Therefore, information about smoking prevalence among young people is presented for contextual information only. The number of smokers aged 13-17 interviewed was small, roughly 70 in each wave of data collection. To detect changes in smoking-related behaviour post implementation of the picture health warnings, observed differences would have to be very large. As such, this chapter focuses on the impact of health warning messages on smoking-related behaviour in general.

5.3.2 Methods and definitions

Young people were asked a series of questions to determine their smoking status (see Appendix B). For young people aged 16-17 the same set of questions used to determine adult smoking status were administered (see page 24). Young people aged 16-17 were categorised as current cigarette smokers, those who used to smoke, and those who had never smoked cigarettes (with the exception of trying them once or twice). Equivalent categories were created for young people aged 13-15. Where possible, these were defined in the same way as for young people aged 16-17. An exception to this is that the 'never smoked' category among 13-15 year olds only includes those who reported that they had never smoked a cigarette at all as data was not collected from this age group about whether they had just tried a cigarette once or twice. As such, the number of 13-15 year olds included in the 'used to smoke category' is likely to be overestimated. For participants aged 13-15 questions about smoking behaviour just required a 'yes' or no' answer to ensure that information was not disclosed to household members who may have been in the vicinity whilst the interview was conducted. Despite these differences in classification and administration, smoking behaviour data for those aged 13 to 17 has been combined to permit analysis among current cigarette smokers to be presented.

As for adults, all current cigarette smokers aged 13-17 were asked a series of questions about their smoking-related behaviour and the health warnings. These included forgoing or stubbing out a cigarette because of thinking about the harm of smoking; measures taken to avoid viewing the health warning messages and questions pertaining to depth of processing of the health warning information.

5.3.3 Smoking prevalence by sex, age group and NS-SEC of household reference person

Cigarette smoking prevalence among young people did not vary significantly post implementation of the picture health warnings; prevalence was 10% pre 1st October 2008 and 12% post 1st October 2008. Estimates were similar for both young men and young women.

Table 5.24

As expected, smoking prevalence was higher among those aged 16-17 than those aged 13-15. Post 1st October 2008, 7% of those aged 13-15 were current cigarette smokers compared with 19% of those aged 16-17. There were no changes in smoking prevalence post implementation of the pictures among each age group.

The cigarette smoking prevalence estimates observed among those aged 13-15 are lower than those provided by the Smoking, Drinking and Drug Use Survey. SDD 2008 estimated that around 16% of those aged 13-15 smoked cigarettes either occasionally or regularly. However, it is recognised that household based surveys consistently obtain lower estimates of smoking than school based surveys as some participants may not wish to disclose their true smoking status in front of other household members. In 2008, the number of current cigarette smokers identified within HSE was 6% among those aged 13-15 and 17% for those aged 16-17. The estimates for this study are therefore coterminous with the HSE.

Table 5.25

Table 5.26 shows smoking prevalence by National Statistics Socio-Economic Classification (NS-SEC). Research has shown that young people from routine/manual households are more likely to smoke than those from non-routine/non-manual households. As expected, cigarette smoking prevalence was higher among those from routine/manual household (16% post 1st October 2008) than those from non-routine/non-manual households (9%, post 1st October 2008).

Table 5.26

5.3.4 Smoking-related behaviour and health warnings messages

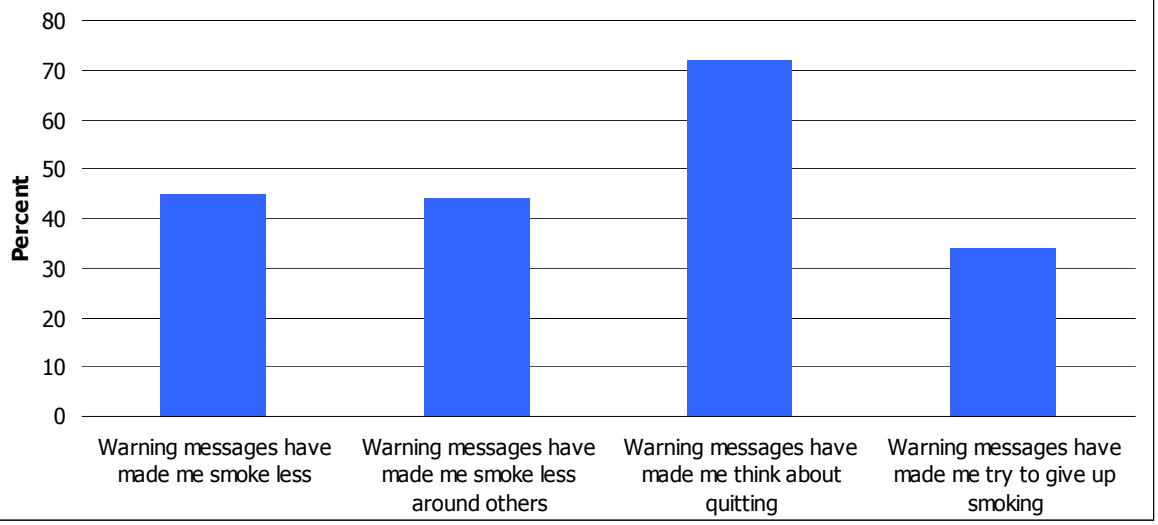
Self-reported impact of the health warnings messages on smoking behaviour

All smokers were asked whether the health warning messages had encouraged them to change their behaviour in a number of ways, such as smoke less around others or made them want to quit smoking. As noted above, the number of current cigarette smokers aged 13-17 included in this study was small, making it unlikely that any significant differences would be observed post implementation unless the changes were very large.

Over a third of smokers aged 13-17 (34% post 1st October 2008) reported that the health warnings messages made them try to give up smoking. Over half (53% and 72% pre and post 1st October 2008) reported that the messages made them think about quitting smoking and around two in five smokers agreed that the messages had either made them smoke less around others (44% post 1st October 2008) or made them smoke less in general (45% post 1st October 2008). The pattern was the same for both textual and picture health warnings.

Table 5.27; Figure 5.4

Figure 5.4
Percent of smokers aged 13-17 agreeing that the warning messages had influenced behaviour, post 1st October 2008
Base: Current cigarette smokers aged 13-17



Current cigarette smokers aged 13-17 were asked how the warning messages had affected their smoking behaviour in the last month. Firstly, they were asked whether warning messages have 'stopped me from having a cigarette when about to smoke' and, if so, how often. There was no difference between answers given pre and post 1st October 2008. Secondly, young smokers were asked whether they had stubbed out a cigarette because 'I thought about the harm of smoking' and, if so, how often. There were no differences between the answers given pre and post 1st October 2008.

However, it is notable that even at this early age, when smoking careers are most transient and young people move in and out of smoking, that around a quarter of young smokers reported stubbing out a cigarette in the past month because they thought of the health risk of smoking (25% post 1st October 2008) and 14% of young smokers also reported forgoing a cigarette in the past month because they thought of the health risks of smoking.

Table 5.28

Processing of the health warning information

All young smokers were asked how often they had noticed, looked at or thought about the health warnings on cigarette packets. After the implementation of the picture warning messages, young smokers were both more likely to notice the health warning messages and to notice the messages more frequently than they had been before. Pre 1st October 2008, 9% of young smokers reported that they had never noticed the messages. This fell to 1% after the picture health warnings were introduced. Likewise, the proportion of smokers who reported that they noticed the health warnings once or more a day rose from 34% to 59%. However, caution should be exercised with this latter result. How often smokers notice the health warnings is related to their cigarette consumption. Information on cigarette consumption is not available for those aged 13-15 and it is a possibility that this finding may in part be attributable to sampling error, with young smokers sampled after the 1st October 2008 being heavier smokers by chance. Mean cigarette consumption data is available for those aged 16-17 and lends some support to this possibility as the mean number of cigarettes smoked among by those aged 16-17 pre 1st October 2008 was 7.4 and post 1st October 2008 was 11.4.

There were no significant differences observed pre and post implementation of the picture health warnings relating to how often young people had looked at or thought about the health warnings. Even so, 45% (post 1st October 2008) of young people looked at the health warning message once or more a day, and 36% (post 1st October 2008) thought about the health warnings once or more a day. Although 99% (post 1st October) had noticed the health warnings at some point in the last month, 10% of current smokers managed never to look at or think about the message during that month.

Table 5.29

Current young smokers aged 13-17 were also asked about what actions, if any, they had taken in the past month to avoid viewing the health warnings. A minority of young smokers (14% post 1st October 2008) had used a cigarette container and/or had kept the packet out of sight (12% post 1st October 2008). Less popular actions were covering up the messages (8% post 1st October 2008) and not buying packets with certain warnings on (5% post 1st October 2008). There was little difference in these actions pre and post 1st October 2008. Overall around 30% of young smokers aged 13-17 reported that they had used one or more of these techniques to avoid looking at the health warnings messages in the past month.

Table 5.30

5.3.5 Summary

In line with previous findings, those aged 16-17 were more likely to smoke than their younger counterparts, as were young people from routine/manual households. There were no differences between the smoking habits of young men and young women, though other research has demonstrated that after the age of 13 young women are more likely to smoke than young men (Fuller, 2008). Overall, levels of smoking did not change between pre and post 1st October 2008.

Evidence examining the impact of picture warnings messages upon the smoking behaviour of young people is based on very small base sizes, making the detection of difference pre and post implementation of the pictures difficult. However, young smokers were more likely to report noticing the health warning messages after the pictures had been introduced than prior to them. Post 1st October 2008, only 1% of young smokers reported that they had not noticed any health warnings in the past month. However, not all of those who noticed the picture health warnings reported processing the information that the message impart in detail, by either reading or thinking about what the messages was saying.

Overall, there is some evidence that health warning messages, be they picture or textual, do have an impact on the smoking behaviour of young people. Over half of young smokers (53% pre 1st October 2008 and 74% post 1st October 2008; the difference is not significant) reported that the health warning messages had made them think about stopping smoking. Around a third of young smokers also reported that the health warning messages (either textual or picture) had made them try to give up smoking. This is a positive step towards preventing young people developing a habit that may persist into adulthood.

Furthermore, a small number of smokers (14%) reported that the warning messages had prompted them to forgo a cigarette when about to smoke one in the last month. Although prevalence of this is low, it is interesting that some young people are already reporting this behaviour and also report stubbing out a cigarette because they thought about the health problems associated with smoking. Borland et al (2009) have argued that these behaviours are precursors to quit attempts and it is therefore positive that young smokers are already engaging in such actions. Smoking behaviour among those aged 13-17 is transient and young people move in and out of smoking. Evidence from this study suggests that the warning messages are effective in encouraging some young smokers to think about making the transition from smoking to non-smoking.

However, it is important to note that the converse of these findings are also true, that around two thirds of young smokers disagreed the messages had made them try to quit smoking and that the vast majority did not report forgoing a cigarette because of the health warning messages or stubbing out a cigarette because they thought about the health risks of smoking. The efficacy of the health warning messages need to be considered in the context of these findings also. This chapter does not have sufficient sample sizes of young smokers to consider these issues in depth and therefore these results should be viewed as a marker for future evaluation and should not be considered definitive.

5.4 Attitudes to the health warnings, perceptions of smoking and awareness of chemicals among young people

5.4.1 Introduction

A key tool in reducing smoking prevalence is preventing young people from starting to smoke and establishing a habit that for many will persist into adulthood. The factors governing smoking uptake among young people are complex and incorporate issues relating to natural experimentation, peer pressure or social acceptability as well as perceptions of risks (Buller, 2003). Health warnings need to address these issues if they are to be successful in discouraging smoking uptake among young people. A vital aspect of assessing the impact of the picture warnings is measuring changes in attitudes towards the health warnings. This is the focus of this chapter which looks at young people's attitudes to health warning messages, awareness and recall of the messages, the subsequent effect of the messages on smoking behaviour, and knowledge of chemicals contained in cigarettes.

5.4.2 Methods and definitions

In both data collection phases, all participants aged 13-17 were asked a variety of questions to gauge their attitudes towards the picture health warnings, their recall of the messages and their knowledge of the chemicals contained in cigarettes.

Firstly, participants were asked whether or not they agreed with a list of attitude statements about health warning messages. Secondly, participants were asked to spontaneously recall as many health warning messages as possible. Pre 1st October 2008 participants only had to recall broadly what the message said, rather than recite it word for word. Post 1st October 2008 participants could describe either the pictures or the text on the picture warnings; they did not have to recite the text word for word. Interviewers coded participants' answers into a pre-existing answer frame (see Appendix B). Young people classed as current cigarette smokers were then asked whether the message(s) they had recalled had made them think about their smoking behaviour. Where a participant had recalled more than one message, they were asked which message(s) made them think most about their smoking behaviour.

Finally, all participants were read a list of chemicals and asked to identify which ones they thought were contained in cigarettes. The list included five chemicals, one of which was a placebo chemical (Difluride), used to gauge whether participants were guessing their answers or not.

All analyses are presented by sex, age group, NS-SEC of household reference person and, where base sizes permit, smoking status. NS-SEC is the National Statistics Socio-Economic Classification. For young people, this is based on the occupation of the Household Reference Person which is split into two categories: non-routine/non-manual households and routine/manual households. See Appendix A for more details.

5.4.3 Attitudes towards the health warnings messages

Attitudes towards the health warnings by sex, age, NS-SEC and smoking status
All young people were asked whether they agreed or disagreed to a series of attitude statements relating to the health warnings, such as 'messages tell the truth about the risks of smoking' and 'messages make smoking seem less attractive'.

The majority of young people aged 13-17 believed that the messages, either textual or visual 'tell the truth about smoking' (94% post 1st October 2008), that 'messages are easy to understand' (98% post

1st October 2008), that the 'messages put me off smoking' (81% post 1st October) and that 'messages provide important information about the health risks of smoking' (92% post 1st October 2008). Less than a fifth of young people thought that the 'messages are unnecessary' (14% post 1st October 2008). For each statements no significant differences pre and post implementation of the picture health warnings were observed.

However, post 1st October 2008, young people were more likely to agree that 'messages make smoking seem less attractive' (85% post 1st October 2008; 79% pre 1st October 2008). Likewise, fewer young people post 1st October 2008 believed that 'messages have no impact on people's smoking behaviour' (43% post 1st October 2008; 50% pre 1st October 2008).

The pattern was the same for both young men and young women. The proportions agreeing with each statement were similar, as were differences pre and post 1st October 2008.

Table 5.31

Table 5.32 shows attitudes towards the health warning messages by age group (13-15 and 16-17 year olds). Broadly, attitudes towards health warning messages were similar for both age groups. However, young people aged 13-15 were much more likely to agree that both the messages put them off smoking than their 16-17 year old counterparts (86% and 74% respectively, post 1st October 2008).

As noted above, post 1st October 2008, significantly more young people reported that the messages made smoking seem less attractive and significantly fewer reported that the messages had no impact. Review of figures 5.5 and 5.6 below shows that these changes are largely attributable to those aged 16-17.

Figure 5.5
Proportion agreeing with the statement 'messages make smoking seem less attractive', pre and post 1st October 2008
Base: Young adults aged 13-17

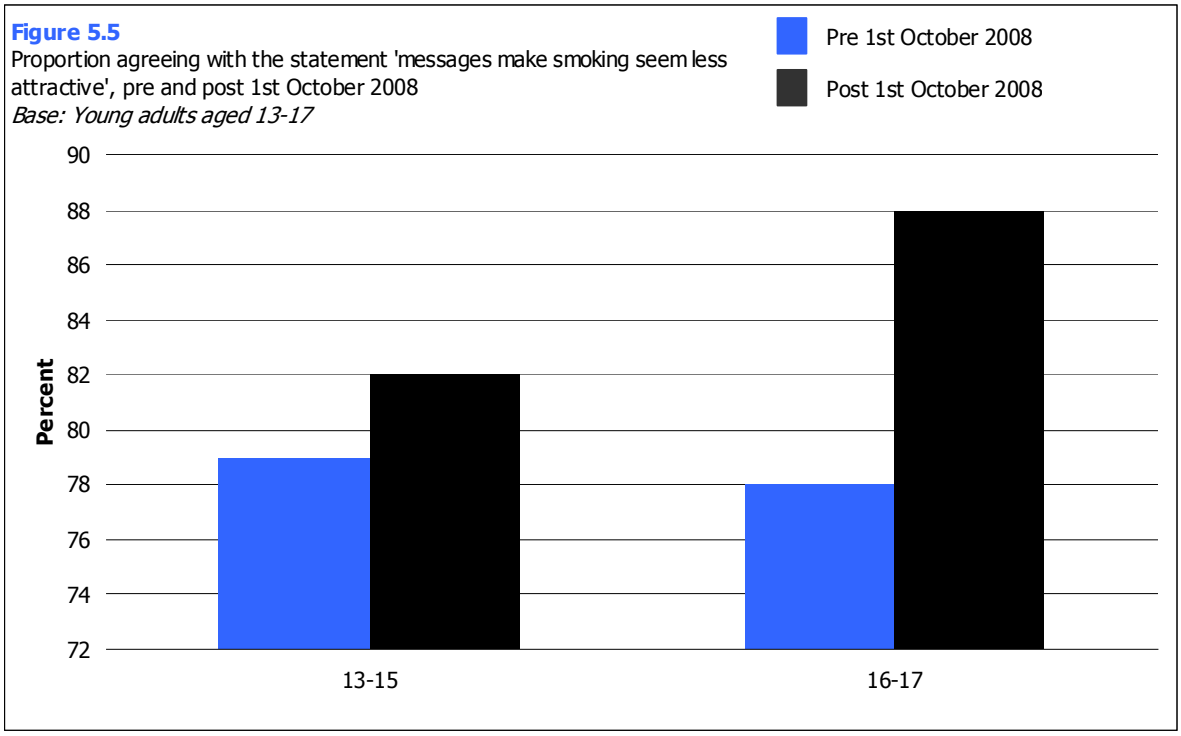
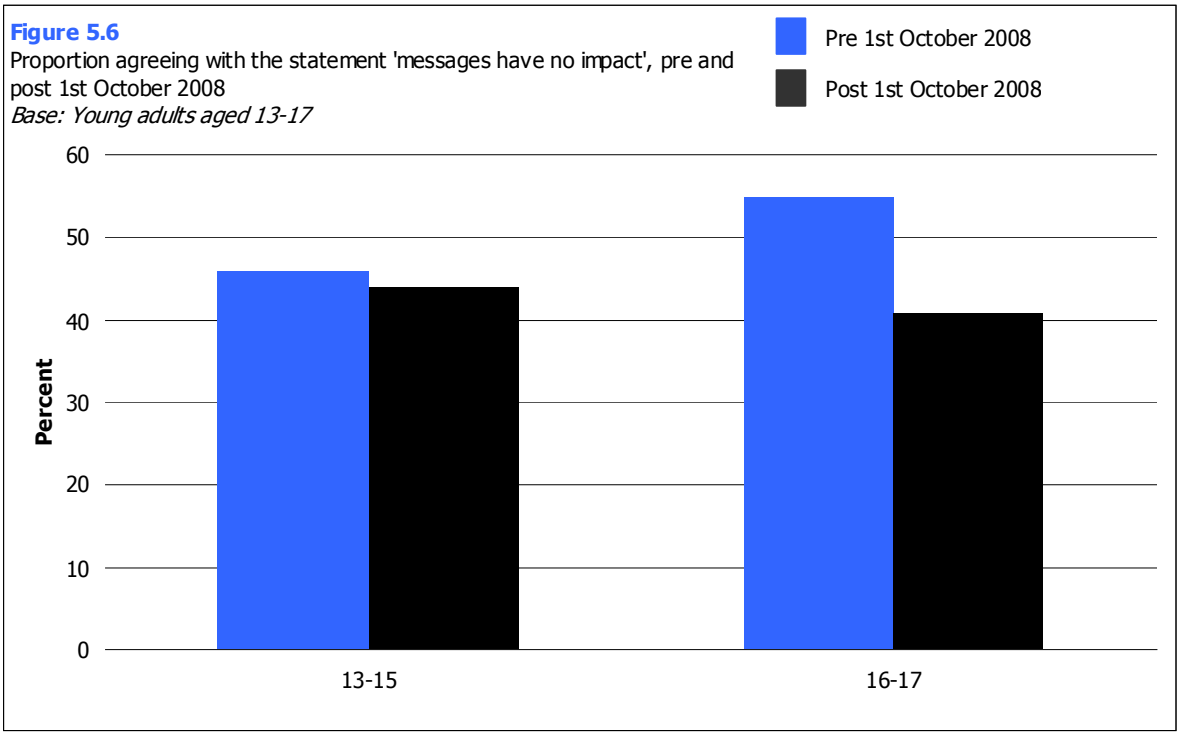


Figure 5.6
Proportion agreeing with the statement 'messages have no impact', pre and post 1st October 2008
Base: Young adults aged 13-17



(Table 5.32; Figures 5.5, 5.6)

Table 5.33 shows attitudes towards the health warnings by National Statistics Socio-Economic Classification (NS-SEC). Attitudes between the two groups were similar. However, whilst young people from both groups were more likely post 1st October 2008 to agree that the warnings made smoking seem less attractive, those from non-routine/non-manual households were even more likely to report this. For all other attitude statements, the patterns by between NS-SEC groups and pre and post implementation were similar.

Table 5.33

Attitudes to the health warnings were examined by smoking status. Some caution should be employed when interpreting these results as the number of current cigarette smokers aged 13-17 was small. Differences between smokers and non-smokers may appear large but are not significant unless noted. Overall, non-smokers were more likely than young smokers to report that the 'messages put me off smoking' (85% and 53% post 1st October 2008 respectively); that the 'messages tell the truth' (95% and 89%). Conversely, smokers were more likely than non-smokers to agree that 'messages are unnecessary' (27% and 12%).

The increase in proportion reporting that the message made smoking seem less attractive occurred equally among both smokers and non-smokers, rising from 71% pre 1st October 2008 to 77% post 1st October 2008 for smokers and from 80% pre implementation to 86% post implementation among non-smokers. Non-smokers were less likely to report that the health warning messages had no impact on behaviour after the pictures warnings had been introduced.[7]

Table 5.34

5.4.4 Knowledge about the picture health warnings

Spontaneous recall of health warnings by sex, age, NS-SEC and smoking status
All 13-17 year olds were asked what messages or pictures, if any, they could recall seeing on cigarette packets. Pre 1st October 2008 participants only had to recall broadly what the message said,

[7] The number of smokers reporting this did not vary significantly pre and post 1st October 2008, even though the estimates were 66% and 47% respectively. The p-value was 0.07.

rather than recite it word for word. Post 1st October 2008 participants could describe either the pictures or the text on the picture warnings; they did not have to recite the text word for word.

Pre 1st October 2008, the vast majority of young people aged 13-17 were able to recall at least one health warning message (90%; table not shown). The most recalled text warnings were 'Smoking kills' (68%), 'Smoking causes lung cancer' (25%) and 'Smoking harms you and other people' (21%). Least recalled were 'Smoking is addictive' (1%) and the messages involving helpline numbers (GP/Pharmacist/website to aid quitting) (1%).

The pattern was the same for both young men and young women save for the message 'Stopping smoking reduces risk of heart and lung disease' which was recalled by more young women (3%) than young men (1%).

Table 5.35

A similar set of recall questions were asked of young people after the picture health warnings were introduced. Awareness of the picture health warnings was high with 85% of young people correctly naming at least one picture health warning. The most recalled message was 'Smoking kills' (44%), followed by the picture warning of healthy and diseased lungs with the message 'Smoking causes fatal lung cancer' (39%), and the picture of rotting teeth and gums with the message 'Smoking contains benzene, nitrosamines, formaldehyde and hydrogen cyanide' (18%).

The least recalled messages introduced after the implementation of the picture health warnings were 'You can do it, we can help – Your doctor or your pharmacist can help you stop smoking', 'Choose freedom, we'll help you – get help to stop smoking', and 'Smoking is a serious nicotine addiction, don't be afraid to ask for help – Your doctor or your pharmacist can help you stop smoking'. Less than 0.5% of young people recalled these.

Again, the pattern was largely the same for young men and young women. However, young women were more likely than their male counterparts to recall the picture of the baby in a hospital crib with the message 'Smoking when pregnant harms your baby' (14% for young women; 7% for young men).

Table 5.36

Young people aged 16-17 were significantly more likely to recall certain picture messages than those aged 13-15 years, including the pictures of the diseased throat or neck, the baby in a hospital crib, the dead man, and the bent cigarette. Those aged 16-17 also had a higher mean recall of messages: 1.9 messages compared with 1.6 for their 13-15 year old counterparts. This may be because 16-17 year olds have more exposure to cigarette packets than 13-15 year olds, as smoking prevalence is higher among this age group.

Table 5.37

Young people living in non-routine/non-manual households were more likely to recall the front of pack messages 'Smoking kills' and 'Smoking harms you and other people' (48% and 10% respectively) than those living in routine/manual households (38% and 5% respectively). Conversely, young people living in routine/manual households were more likely to recall the picture of the healthy and diseased lungs (46%) than those living in non-routine/non-manual households (35%).

Table 5.38

Table 5.39 shows the recall of messages post 1st October 2008 by smoking status. Young smokers were more likely to recall nearly all messages than non-smokers. For example, 34% of smokers recalled the diseased throat or neck compared with 13% of non smokers; 29% of smokers recalled the baby in the crib compared with 8% of non smokers; 29% of smokers recalled the dead man compared with 5% of non-smokers. Smokers also recalled more messages: mean recall for smokers was 2.8 messages and 1.6 for non-smokers.

Figure 5.7

Spontaneous recall of text warning messages, by smoking status

Base: All young people aged 13-17 (post 1st October 2008)

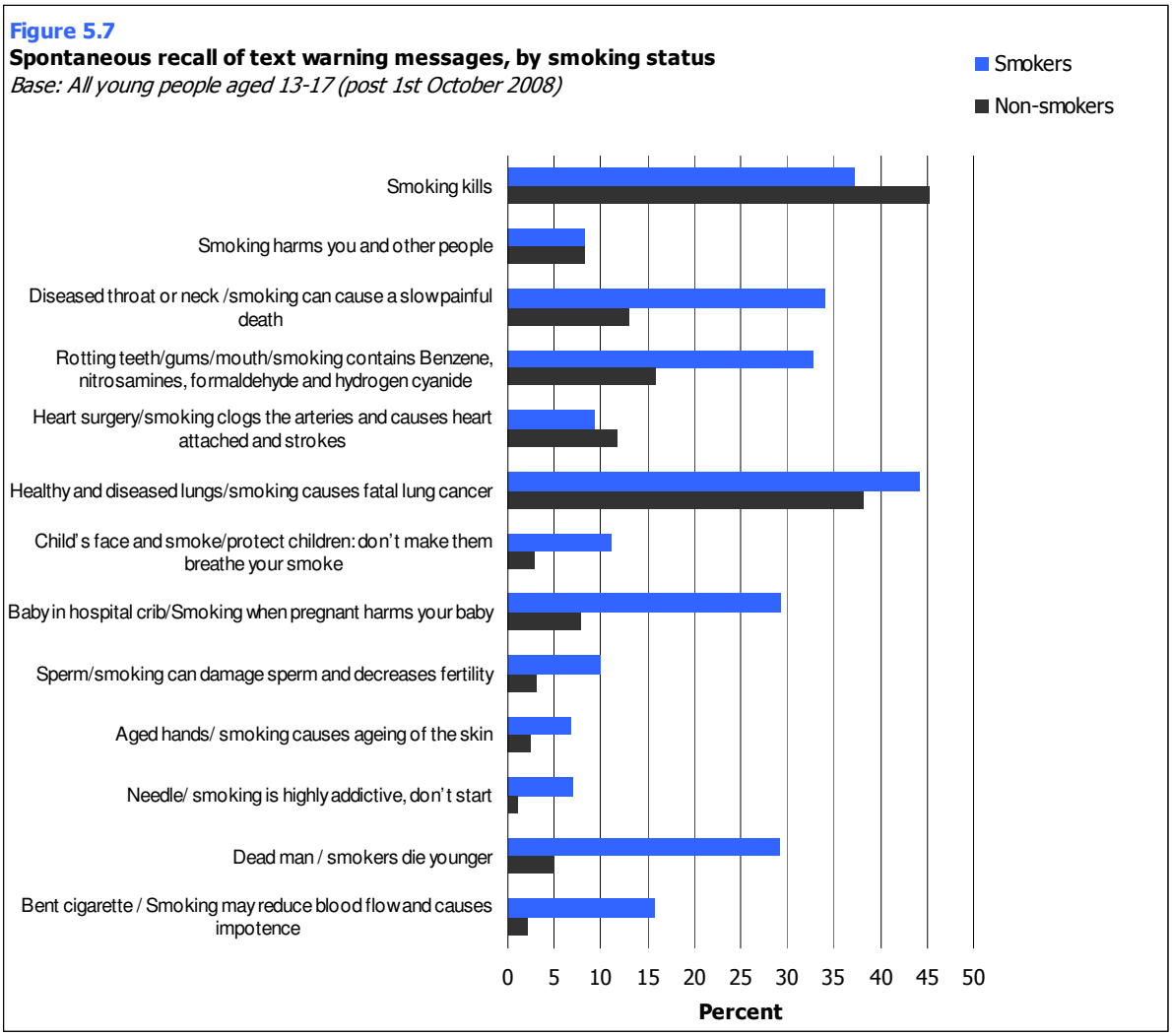


Table 5.39, Figure 5.7

Impact of the health warnings on smoking behaviour

Young people who had recalled a message and were current cigarette smokers were asked if that message had affected their behaviour or not. Overall, pre 1st October 2008, 61% of current cigarette smokers reported that the messages had affected their smoking behaviour. Equivalent estimates post 1st October 2008 were 74% (this was not a significant increase).

Pre 1st October 2008, the messages reported as being most likely to affect the behaviour of smokers aged 13-17 were 'Smoking kills' (23%), 'Smoking causes lung cancer' (15%), 'Smoking clogs arteries/ causes heart attacks/ causes strokes' and 'Smoking causes impotence/ infertility/ other sexual dysfunction' (both 8%). There was no mention of 'Smoking causes premature ageing of the skin', 'Stopping smoking reduces risk of heart and lung disease' or 'Smoking harms you and other people'.

Table 5.40

Post 1st October 2008, the messages reported as being most likely to affect behaviour were the picture of the rotting teeth and gums with the message 'Smoking contains Benzene, nitrosamines, formaldehyde and hydrogen cyanide' (23%), the picture of the healthy and diseased lung with the message 'Smoking causes fatal lung cancer' (19%), the text warning 'Smoking Kills' which is prominent on the front of cigarette packets (17%), and the baby in the hospital crib with the message 'Smoking when pregnant harms your baby' (14%).With the exception of 'Smoking Kills', these are arguably three of the most graphic picture warnings.

The only picture warning not mentioned as affecting smoking behaviour was the image of the needle with the message 'Smoking is highly addictive, don't start'. Three text warnings that offered help quitting and warned of heart disease were also not mentioned as affecting smoking behaviour post 1st October 2008, but recall of these was low (see Table 5.36), even among smokers (Table 5.39).

As observed among adult smokers, a greater range of messages were endorsed by young smokers as affecting behaviour post implementation of the picture. Prior to 1st October 2008, only 'smoking kills' and 'smoking causes lung cancer' were mentioned by more than 10% of smokers as affecting behaviour. Post implementation, four different messages were endorsed by over 10% of smokers aged 13-17 as having an impact on smoking behaviour.

Table 5.41

5.5.5 Knowledge about the chemicals in cigarettes

Knowledge of chemicals in cigarettes by sex, age, NS-SEC and smoking status
To further determine smoking related knowledge, participants were asked to identify what chemicals are in cigarette smoke, from a list read out by the interviewer. The list of chemicals was benzene, nitrosamines, difluride, formaldehyde and hydrogen cyanide. Only difluride is not found in cigarette smoke.

For all chemicals around a third of young people said they did not know whether each chemical was contained in cigarette smoke. There was no increase in the proportion of young people correctly identifying the chemicals between pre and post 1st October 2008.

Pre and post 1st October 2008, the most common correctly identified chemicals by young people were Hydrogen Cyanide (44% post 1st October 2008) and Benzene (43% post 1st October 2008). Only a third (34% pre and post 1st October 2008) correctly identified difluride, the placebo chemical, as not being contained in cigarette smoke. This was a similar proportion (34% post 1st October 2008) of those who correctly identified Formaldehyde as being in cigarette smoke. This suggests a large degree of guess work on the part of young people when answering these questions.

Overall there were few differences pre and post 1st October 2008 in awareness of chemicals by sex, age group or NS-SEC of household reference person. For both smokers and non-smokers, knowledge of chemicals in cigarettes was broadly the same, with the exception of benzene. Post 1st October 2008, 60% of smokers correctly identified this chemical compared with 41% of non-smokers.

Tables 5.42 – 5.44

5.4.6 Summary

Attitudes to and awareness of the picture health warnings
Teenage years are pivotal in the uptake of smoking. Amos et al (2009) have argued that after the early twenties, almost no one starts smoking. Dependence on nicotine for young people can happen within weeks of beginning to smoke occasionally (DiFranza et al, 2000). It is therefore positive that there is a perception among this age group that picture health warnings are more likely to have an impact upon people's smoking behaviour, and that the messages make smoking seem less attractive. 'Intervening with the young', it is argued, 'presents the only opportunity for direct smoking prevention' (DiFranza et al, 2000)

This is a small step towards such intervention and it remains to be seen whether the increased perception of smoking as less attractive is translated into any behavioural change. Both smokers and non-smokers alike reported that the picture health warnings made smoking seem less attractive and believed that the pictures would have an impact on smoking behaviour. These increases were disproportionately observed among those aged 16-17, an age at which smoking occasionally is more likely to transfer into an ongoing habit. However, there were no other differences in attitudes towards

the health warning messages post implementation of the pictures. Crucially the proportion reporting that the messages 'put me off smoking' did not increase significantly, although overall endorsement of this was high (81% post 1st October 2008).

Awareness and recall of the picture health warnings was high. Post 1st October 2008, 85% of young people correctly described one of the health warning message, though for a majority of young people, the message most remembered was the front of packet message 'Smoking Kills'. However, a further 39% of young people recalled the picture of the diseased lungs. This was higher than recall of the textual 'back of pack' messages used prior to 1st October 2008. A further 19% also recalled the picture of the rotting teeth and gums.

Despite the image of the rotting teeth being the second most highly recalled picture warning (18% of all young people and 34% of young smokers), knowledge of the chemicals which are listed with this image was low, with half or more of young people not knowing if each chemical was contained in cigarettes.

Among smokers aged 13-17, there was a shift in which messages were most likely to make them think about their smoking behaviour. Post 1st October 2008, the two most heavily endorsed messages which young smokers reported made them think about their smoking behaviour were the back of packet and graphic messages showing rotting teeth and diseased lungs. Prior to the introduction of the pictures, it was the front of packet message, 'Smoking Kills' which most prompted young smokers to think about their smoking behaviour.

Differences in attitudes to and awareness of the health warning messages by sub-group

This chapter has highlighted some key differences among sub-groups in attitudes towards and awareness of the health warning messages in general. Often these patterns were the same pre and post implementation of the picture health warnings and they are summarise here as they provide information relating to the overall efficacy of the health warning messages among this age group.

Previous research has shown that from age 13 onwards, smoking prevalence among young people increases at a greater rate, with prevalence among young women overtaking that of young men (Hedges and Wardle, 2003; Fuller 2008). It is therefore positive that young people aged 13-15 are more likely than those aged 16-17 to be put off smoking by both textual and picture health warning messages. Both pre and post 1st October 2008, recall of specific messages was higher among those aged 16-17 than those aged 13-15. However, this may be related to exposure as cigarette smoking prevalence is higher among the older age group.

Reducing smoking prevalence among those from routine/manual households is a key policy target. However, there was no discernable change post 1st October 2008 in young people from routine/manual household's attitudes to smoking. The increase in proportions reporting that the messages made smoking seem less attractive came disproportionately from young people from non-routine/non-manual households. Furthermore, young people from non-routine/non-manual households were also more likely than those from routine/manual households to recall the front of pack messages 'smoking kills and smoking harms you and other people' than any back of packet and/or picture health warning. Personal cigarette consumption is lower among young people from non-routine/non-manual households who will therefore be less exposed to the back of packet messages. Furthermore, smoking prevalence among adults is lower among those from non-routine/non-manual households, meaning that young people living within these households are also less likely to be exposed to cigarette packets in the home. It is therefore unsurprising that the messages which are most prominently recalled among this group are those which are most commonly displayed; the front of the packet messages.

Non-smokers were more likely than smokers to think the health warnings messages necessary, and that the 'messages put me off smoking'. It is positive that non-smokers aged 13-17 affirm that health warning messages discourage them from smoking. However, nearly half of young smokers (47%) reported that the health warning messages did not 'put them off smoking'. As observed among adults,

belief that the warning messages told the truth about the health risks of smoking was lower among smokers than non-smokers, though it should be noted that endorsement that messages are truthful was high among both groups (over 89% post 1st October 2008). As would be expected from increased exposure to cigarette packets, smokers had a significantly higher mean recall of picture messages than non-smokers.

6. Discussion

This section summarises the key findings of this report in three main areas and discusses the main themes identified. The three areas are: the impact of the picture health warnings; the efficacy of health warnings (including inequalities among sub-groups) and international comparisons and future directions.

6.1 Impact of picture health warnings

The purpose of this study was to assess the impact of picture health warnings in England in the following areas:

- Impact on awareness and knowledge of the health risks of smoking
- Impact on smoking-related behaviour
- Impact on attitudes towards the health warnings messages.

In addition, many researchers in this area have examined the impact of health warning messages in relation to both emotional and behavioural responses. Examples of emotional responses include whether the warnings make smoking seem less attractive, encourage smokers to think about the health risks of smoking or whether the messages prompt increased thoughts of quitting. Key behavioural responses include increased quit attempts, forgoing or stubbing out a cigarette, reduced consumption of cigarettes or using techniques to avoid viewing the warnings.

Among both adults and young people the impact of the picture health warnings as measured by a range of indices was modest. Post implementation of the pictures no increases were observed in the range or depth of awareness of the health risks associated with smoking or secondhand exposure to smoke. Cigarette smoking prevalence and cigarette consumption did not vary and there were no increases in behavioural responses such as attempting to stop smoking, forgoing a cigarette when about to smoke one or stubbing a cigarette out.

However, this masks some notable changes, largely an increased recognition that certain conditions are associated with smoking and some notable emotional responses to the picture messages. There were shifts in the type of knowledge that some people possessed. Among adults, awareness of oral cancer and the effect of smoking upon appearance were significantly higher after the pictures health warnings had been introduced. Among young people, awareness of gum disease as a health effect of smoking was also significantly higher post implementation of the pictures. Post 1st October 2008, more adults agreed that smoking causes mouth cancer. Adults and young adult smokers alike were more aware of the association between lung cancer and exposure to secondhand smoke.

Consideration of these findings with evidence relating to recall of specific messages and the impact of certain messages on smoking behaviour provides some insight into these changes. Among both adults and young people, awareness of the picture health warnings was highest for arguably the most graphic images; those of healthy and diseased lungs and the picture of rotting teeth and gums. These were the pictures that were most recalled by participants and were the pictures that most smokers reported that had prompted them to think about their smoking behaviour. As recognition of these images was higher than other messages and as these pictures prompted smokers to think about their behaviour, it is unsurprising that awareness of the conditions they depict increased significantly.

A caveat to this is that despite the image of rotting teeth being one of the most highly recalled messages, knowledge of chemicals contained within cigarettes which are listed with this image, was low and did not vary post implementation of the pictures. This potentially suggests that it is the image that people pay attention to and not the words that accompany it. Certainly among young people this was the case. Post implementation of the pictures, more young people reported that they noticed the health warnings but equivalent increases were not observed in the numbers reporting that they looked at or read the messages. Advocates of pictorial health warnings messages have argued that the pictures communicate the risks of smoking in a more effective way as the warning does not have to be considered in depth for the message to be conveyed (Hammond, 2007). Evidence from this study supports this view. Participants did not report looking at, reading or thinking about the picture

messages more often yet there were clear increases in awareness of some health effects associated with smoking which seem to be linked to recall of the most graphic picture health warnings.

Among adults and young people the picture health warnings were effective in promoting some emotional responses. Both young people and adults alike reported that the pictures made smoking seem less attractive. Crucially, among adults, a greater number reported that the pictures 'put them off smoking' and that the messages had made them think about quitting smoking. However, similar findings were not observed among young people. As young people aged 13-17 are the key age group at which smoking uptake is highest and smoking behaviour is most transient, this is disappointing. However, young people did report that the picture messages were more likely to have an impact on smoking behaviour than textual messages and adults were more likely to agree that the messages were necessary post 1st October 2008.

Further emotional responses relate to whether the messages encouraged smokers think about their smoking behaviour and which messages were most likely to do this. For both young and adult smokers, a greater range of messages were endorsed as prompting them to think about their smoking behaviour. Prior to the introduction of the pictures, the message most likely to prompt smokers to think about their behaviour was the front of packet message 'Smoking Kills'. However, post implementation of the pictures a greater variety of other warnings were cited with similar levels of endorsement. That smokers reported a broader range of picture messages had prompted them to think about their smoking behaviour suggests that either the previous text warnings were less effective in this respect or subject to message wear out. It remains to be seen whether this finding is in part attributable to the 'novelty' value of the new pictures and whether the same attrition is observed once the picture messages have been in place for a number of years.

Among adults, there were also some encouraging changes in emotional responses to the picture health warnings and increased awareness of some hitherto less well known aspects of tobacco related-harm, such as oral cancer. These less well known health effects have not, to date, featured centrally within other anti-tobacco campaigns. Other tobacco policy initiatives have focused on secondhand exposure (SmokeFree legislation and the DH 'invisible killer' campaign, run from March to April 2007), conveying information about risks to health overall and how loved one's are concerned about the impact of smoking (the DH 'scared', 'worried' and 'reasons' campaigns, run from October 2008 to February 2009) or focusing on supporting people to quit (the DH 'get off' campaign run from December 2007 to March 2008). Arguably, to date, picture health warnings are the primary method of conveying information about some lesser known aspects of tobacco-related harm (such as oral cancer, premature ageing/affect on appearance) and it is encouraging to see increase awareness of these conditions post implementation of the pictures.

Unlike many other international studies, very few changes in behavioural responses were observed post implementation of the picture health warnings. Adults and young people alike did not report forgoing a cigarette or stubbing out a cigarette in greater numbers than previously. The overall impact of the pictures upon prompting changes in smoking behaviour therefore rests on whether the emotional responses noted above are translated in behaviour changes. However, one behavioural change observed was that more adult smokers reported using avoidance techniques to prevent them from viewing the health warning messages. Hammond (2007) has argued that this is a critical behavioural response and that avoidance behaviours often have the opposite effect of increasing the presence of unwanted thoughts. In view of this, an increase in avoidance behaviours post implementation of the picture health warnings may be viewed as a skewed but positive finding. That said, as yet, there were very few behavioural changes evident. This suggests that the impact of the picture health warnings is 'stepped' and it remains to be seen whether a transition is made from an emotional response to a behavioural response.

Finally, the impact of the picture health warnings was much more modest among young people than adults. In part, this is to be expected. Smoking prevalence is lower among young people aged 13-17 than adults and therefore this age group has lower exposure to the messages, particularly the back of packet messages. Support for this provided by the finding that post 1st October 2008 the message which most young people recalled was still the front of packet message 'Smoking Kills'. Among adult

smokers the most recalled message was the image depicting healthy and diseased lungs. To gain exposure to the picture warnings, young people need to either purchase or handle a cigarette packet. The Smoking, Drinking and Drug Use Survey (SDD) has demonstrated that 61% of young people aged 11-15 source their cigarettes by being given them from other people. Furthermore, in October 2007, the legal age to purchase cigarettes was increased from 16 to 18 making it more difficult for young people to buy cigarette packets. As such, young people are less likely to be exposed to the picture warnings which are printed on the reverse on packets and it is, perhaps, inevitable that the impact of the pictures is more modest among this age group.

6.2 The efficacy of health warning messages

Health warning messages are viewed as a simple and effective way of communicating the information about the health risks of smoking to the general public. This study demonstrates that there is wide spread support for health warnings messages, both textual and pictorial, with the vast majority of people believing that they are both necessary and credible. In general, both textual and picture health warning messages incite both emotional and behavioural responses. The messages are effective in making smoking seem less attractive, in putting people off smoking and in prompting smokers to think about quitting. The messages are also effective in prompting behavioural responses such as encouraging some smokers to try to give up cigarettes and others to forgo a cigarette when about to smoke one or to stub a cigarette out. Around a quarter of young smokers reported forgoing or stubbing out a cigarette because they thought about the health effects of smoking. This is particularly promising reaction and was evident both pre and post 1st October 2008. Smokers also reported that the messages made them smoke less and smoke less around others.

This study has demonstrated that health warning messages in England do have a basic level of impact upon these areas. The majority of smokers may not report all of these responses and not every smoker will experience each one. However, there are clear sub-groups among whom the messages are effective. They prompt some people to think about, and try to, quit smoking. Among youth, they make smoking seem less attractive and put them off smoking altogether. This provides broad support for using such messages and demonstrates their efficacy.

However, it is evident that there are some sub-groups for whom the health warning messages are less effective. There are a minority of adults who are either not aware of the health risks of smoking or choose not to believe them. These people tend to be older; are disproportionately from routine/manual households and are also more likely to smoke. Conveying the health risks of smoking to this group is a critical concern and an area in which picture health warnings have, as yet, had little discernible impact.

Among adults, some persistent inequalities between socio-demographic groups were evident. Those from routine/manual households were more likely to have poorer knowledge of the health risks of smoking, were more likely to agree that the health warning messages are unnecessary and that they are not truthful. They were less likely to agree that the messages make smoking seems less attractive and were less worried that smoking may damage their health in the future than their counterparts from non-routine/non-manual households. This is disappointing, particularly as these groups arguably have the greatest exposure to the messages as smoking prevalence is highest among those routine/manual households. Further research is needed to examine this issue in depth and explore why the health warning messages are not being communicated as effectively among this population group. The reasons are likely to be complex and may be underpinned by personal perceptions of risk, trust in government and personal experiences and values, to name but a few. Among young people, there were fewer differences in knowledge of smoking-related health risks between those from non-routine/non-manual households and those from routine/manual households. In some areas, disparity in awareness evident prior to 1st October 2008 was not evident post 1st October (for example, prior to 1st October 2008, significantly more young people from routine/manual households could not name any health risks of smoking than those from non-routine/non-manual household. Post 1st October 2008, the proportions reporting this in each group were similar: 2% and 3% respectively).

Further examination of differences in knowledge and attitudes by sub-groups and modelling of the factors associated with poor knowledge is necessary to explore this in depth. Brief examination within this report suggests that education levels are an important predictor of knowledge; those with poorer levels of academic achievement being most likely to have the poorest awareness of the health risks of smoking. It is in relation to this that the picture health warnings may have the greatest impact in the longer term. Researchers have argued that picture health warnings convey the risks of smoking in a more effective way than written warnings. Hammond (2007) has noted that countries with pictorial warnings demonstrate fewer disparities in health knowledge by educational attainment. Furthermore, research from Canada has highlighted that pictorial warnings are effective in conveying the health risks of smoking to those with lower literacy rates. That this association has not yet been observed in England may simply be because it is too early to detect these shifts in awareness.

6.3 International comparisons and future directions

Australia and Canada have instituted comprehensive evaluations of the effectiveness of picture health warnings. In Australia, one evaluation study demonstrated that the picture health warnings were significantly associated with an increase in smokers reporting that the messages prompted them to smoke less, had raised their concerns about smoking, had helped them to give up smoking and had improved their knowledge of the health effects of smoking (Shanahan & Elliot, 2008). Borland et al (2009) reported that post implementation of the pictures in Australia, there was a significant increase in the proportion of smokers noticing and reading the messages, forgoing a cigarette and thinking about the health risks of smoking. Smokers reported that they were more likely to quit and that they were more likely to use a technique to avoid looking at the warnings, post implementation.

In Canada, a variety of research studies have been undertaken. Hammond et al (2004) concluded that the picture health warnings had prompted a fifth of smokers to smoke less. Canadian smokers were more likely to report forgoing a cigarette, to think about the health risks of smoking and reported that they were more likely to quit smoking (Borland et al, 2009). Evidence from Health Canada demonstrated that people were more aware of a range of health conditions associated with smoking post implementation of the pictures (Environics, 2004).

The results from this study do not show similar gains across a range of comparable measures. Adult smokers did not report forgoing or stubbing out cigarettes more often or noticing, reading or thinking about the warnings messages more often. Smokers did report that they were more likely to think about quitting but not that they had smoked less or had actually tried to quit smoking. Among young people, the impact of the pictures was even less noticeable. These comparisons suggest that, thus far, the impact of the picture health warnings in England has been much more modest than observed in Canada or Australia.

Part of the differential impact between countries may be attributable to the research methods used to evaluate the picture health warnings. Much of the evidence from Australia and Canada comes from the ITC project which uses a longitudinal design and focuses solely on smokers. This present study is cross-sectional and representative of the English population in general. Furthermore, this study is the first evaluation in this area and was conducted just six months after the pictures had been introduced. Canada and Australia have continued to conduct evaluations some years after the implementation of the pictures. As such, the results are not directly comparable.

Other policy initiatives introduced concurrently to the picture health warnings by each country may also influence results. For example, certain media campaigns aimed at improving knowledge of health risks of smoking may reinforce the information that the picture health warnings convey. Changes in tobacco restrictions, such as increasing the legal age of purchase as evident in the UK, may have an impact upon younger people by reducing exposure to the messages. It is beyond the scope of this report to provide a comparative overview of all tobacco policy initiatives introduced in the UK, Canada and Australia. However, it should be noted that picture health warnings are tools that are used simultaneously with other tobacco policy initiatives, and other policies may also influence the impact and efficacy of the warnings messages. This also may explain some of the differences observed

between countries. That said, examination of the type of warnings introduced by each country may also shed further light on this issue. Table 2 compares the size and placements of both the picture health warnings and the warnings they replaced in Australia, Canada and the UK.

Table 2: Comparison of the health warnings messages in Australia, Canada and the UK

Country:	Australia		Canada		UK	
	Text	Picture	Text	Picture	Text	Picture
Date:	1995 to 2005	2006 to current	1994 to 2000	2000 to current	2003 to 2008	2008 to current
Type of warning:	Text only	Picture only on principal display area	Text only	Picture only on principal display area	Text	Text and picture on principal display area
Size:	25% front only	30% front; 90% back	25% front; 25% back	50% front 50% back	30% front; 40% back	30% front; 40% back
Placement:	Front of packet at the top; on the flip top of the packet	Front and back; on flip top on front	Front and back at the top of packet	Front and back; top of packet	Front at bottom of packet; Back at bottom of packet	Front at bottom of packet; Back at bottom of packet
Other:		Includes an insert leaflet		Includes an insert leaflet		

As table 2 demonstrates, the picture health warnings in each country have not been implemented in the same way. In Australia and Canada the pictures are printed on the front of the packets and are positioned toward the top of pack. The picture health warnings in Australia and Canada replaced smaller messages and, in the case of Australia, introduced messages on the back of the packet for the first time. Canada and Australia also introduced insert leaflets to be added within each cigarette packets giving explanatory information about the risks of smoking. In the UK, the size and type of warning printed on the front of the packet remained unchanged. The size of the health warning on the reverse of the packet was the same as previously, with the text warning being replaced by the picture warning. There was no insert leaflet introduced.

These differences may go some way to explain why the impact of picture health warnings in the UK was not as large as observed in Australia and Canada. In the UK, the difference between the old messages and the news ones was not as great. This also highlights some future directions in relation to health warnings messages. Research evidence has consistently demonstrated that the size and placement of the warning is critical to impact upon smokers. In particular, size and placement of the warning on the front of the packet is paramount, with recommendations being that larger is better than smaller and that messages should be placed on the front of cigarette packets for maximum impact (Hammond 2007; Borland et al, 2009; Createc 2008). Evidence from this study among young people lends some support to this view. The impact of the picture health warnings upon young people was negligible. It is notable that even after the picture health warnings were introduced, the most recognised health warning message by young people continued to be the front of packet message ‘Smoking Kills’. This suggests that youth in particular may be most susceptible to the placement of the warning. Further work is needed to investigate this issue fully, but this preliminary evidence suggest that if warning messages are to be effective in communicating the health risks of smoking to youth, they should be positioned in the most visible place on cigarette packets; the front.

7 Tables for section 4: Adults

7.1 Tables for section 4.2

Table 4.1 Number of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by smoking status and sex

Aged 18+ with valid smoking status

Number of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	%	%	%	%	%	%
Men						
None[a]	3	0	1	5	2	3
1-2	44	47	47	36	47	45
3-4	39	39	39	38	41	40
5 or more	13	13	13	20	10	12
Mean number of health effects recalled	2.8	2.8	2.8	2.9	2.7	2.8
Standard error of the mean	0.10	0.09	0.07	0.13	0.10	0.09
Women						
None[a]	4	1	1	3	2	2
1-2	45	38	39	41	41	41
3-4	37	46	44	45	42	43
5 or more	14	15	15	10	15	14
Mean number of health effects recalled	2.8	3.1	3.0	2.8	3.0	3.0
Standard error of the mean	0.13	0.09	0.08	0.08	0.10	0.08
All						
None[a]	4	1	1	4	2	3
1-2	45	42	43	39	44	43
3-4	38	43	42	41	42	41
5 or more	13	14	14	15	13	13
Mean	2.8	3.0	2.9	2.8	2.9	2.9
Standard error of the mean	0.08	0.060	*0.05*	0.08	0.07	*0.06*
Bases (unweighted)						
Men	*284*	*313*	*598*	*293*	*317*	*610*
Women	*358*	*421*	*779*	*367*	*443*	*810*
All	*642*	*734*	*1377*	*660*	*760*	*1420*
Bases (weighted)						
Men	*152*	*514*	*666*	*138*	*545*	*683*
Women	*147*	*563*	*711*	*138*	*599*	*737*
All	*299*	*1077*	*1377*	*276*	*1144*	*1420*

[a] This category also includes those who said that they did not know of any health effects of smoking.

Table 4.2 Number of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Number of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	%	%	%	%	%	%
18 to 44 years						
None[a]	2	-	1	3	2	2
1-2	43	41	41	34	40	38
3-4	41	42	42	45	47	46
5 or more	14	17	16	19	11	13
Mean number of health effects recalled	3.0	3.1	3.1	3.1	3.0	3.0
Standard error of the mean	0.13	0.11	0.09	0.11	0.12	0.10
45 years or more						
None[a]	6	1	2	7	2	3
1-2	47	44	44	47	47	47
3-4	34	43	42	36	37	37
5 or more	12	12	12	9	14	13
Mean number of health effects recalled	2.6	2.8	2.8	2.4	2.8	2.8
Standard error of the mean	0.10	0.08	0.07	0.08	0.08	0.07
Bases (unweighted)						
18 to 44 years	*288*	*271*	*559*	*323*	*260*	*583*
45 years or more	*354*	*463*	*818*	*337*	*500*	*837*
Bases (weighted)						
18 to 44 years	*180*	*477*	*657*	*168*	*483*	*651*
45 years or more	*119*	*600*	*720*	*108*	*661*	*769*

[a] This category also includes those who said that they did not know of any health effects of smoking.

Table 4.3 Number of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by smoking status and NS-SEC[a]

Aged 18+ with valid smoking status and NS-SEC

Number of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	%	%	%	%	%	%
Non-routine/non-manual						
None[b]	2	0	1	2	1	1
1-2	42	38	39	32	39	38
3-4	40	43	43	46	46	46
5 or more	17	19	18	20	13	14
Mean number of health effects recalled	3.0	3.1	3.1	3.2	3.0	3.1
Standard error of the mean	0.11	0.08	0.07	0.12	0.09	0.08
Routine/manual						
None[b]	5	1	2	6	4	4
1-2	47	51	50	45	50	48
3-4	37	42	40	37	34	35
5 or more	11	6	7	12	12	12
Mean number of health effects recalled	2.7	2.6	2.6	2.6	2.7	2.6
Standard error of the mean	0.13	0.09	0.07	0.10	0.12	0.09
Bases (unweighted)						
Non-routine/non-manual	*317*	*504*	*821*	*314*	*508*	*822*
Routine/manual	*307*	*223*	*531*	*321*	*241*	*562*
Bases (weighted)						
Non-routine/non-manual	*134*	*718*	*852*	*129*	*739*	*868*
Routine/manual	*152*	*347*	*499*	*135*	*379*	*514*

[a] National Statistics Socio Economic Classification.
[b] This category also includes those who said that they did not know of any health effects of smoking.

Table 4.4 Specific health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by smoking status

Aged 18+ with valid smoking status

Specific health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	%	%	%	%	%	%
Addiction	1	0	1	0	0	0
Allergies	1	1	1	0	0	0
Asthma	18	14	17	11	15	12
Brain Damage	-	0	0	1	0	1
Bad Breath	1	1	1	2	1	2
Blood circulation problems/blood clots/blood problems	9	12	9	6	8	7
Bronchitis/chronic bronchitis	18	14	17	12	13	12
Cancer - breast	1	1	1	0	1	1
Cancer - lung	71	63	69	72	66	71
Cancer - oral	15	14	15	20	22	20
Cancer	26	29	27	23	28	24
Cancer - other	1	0	0	1	1	1
Chest infections	9	12	10	4	5	4
Cot death/SIDS	0	0	0	-	-	-
Coughing including coughs and colds	5	6	5	3	3	3
Diabetes	2	1	2	3	0	3
Death / premature death	0	0	0	1	0	1
Dizziness/nausea	-	0	0	-	0	0
Ear infections in children	-	-	-	0	0	0
Effect on a foetus / unborn child	0	0	0	0	-	0
Emphysema	21	18	20	21	19	21
Eye disease/glaucoma	1	2	1	0	0	0
Gangrene / amputation	1	0	1	0	0	0
Gum disease/tooth loss/mouth disease/throat problems	2	2	2	3	4	3
Headaches	1	0	1	1	1	1
Heart attack/disease/angina/ coronary problems	36	39	37	37	43	38
High blood pressure	5	3	4	5	3	4
Impotence/sexual dysfunction/ infertility	1	1	1	1	3	1
Lung disease/lung or chest problems/COPD/pneumonia/TB	20	22	21	24	18	23
Poor physical condition/loss of energy	2	2	2	3	1	2
Respiratory problems/difficulty breathing/shortness of breath	16	14	16	17	12	16
Smaller babies/reduced growth	1	0	1	1	0	1
Second-hand smoke	1	0	1	0	0	0
Stroke	4	5	4	4	3	4
Wrinkles/premature ageing	2	2	2	3	3	3
Yellow teeth/fingers/bad skin/effect on appearance	1	1	1	5	4	5
Other	3	2	3	2	0	1
None[a]	4	1	1	4	2	3
Bases (unweighted)	*642*	*734*	*1377*	*660*	*760*	*1420*
Bases (weighted)	*299*	*1077*	*1377*	*276*	*1144*	*1420*

[a] This category also includes those who said that they did not know of any health effects of smoking.

Table 4.5 Type of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by smoking status and sex

Aged 18+ with valid smoking status

Type of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
Men						
Lung and respiratory problems	60	58	58	54	54	54
Heart disease and circulation problems	44	42	43	50	39	41
Cancer	79	85	83	80	84	83
Impact on children/unborn babies	1	1	1	0	1	1
Effect on appearance	6	3	4	7	8	8
Women						
Lung and respiratory problems	66	71	70	57	63	62
Heart disease and circulation problems	45	46	46	47	45	46
Cancer	76	76	76	79	79	79
Impact on children/unborn babies	1	1	1	1	1	1
Effect on appearance	2	4	4	5	8	8
All						
Lung and respiratory problems	63	65	64	56	59	58
Heart disease and circulation problems	44	44	44	48	42	43
Cancer	77	80	79	80	81	81
Impact on children/unborn babies	1	1	1	1	1	1
Effect on appearance	4	4	4	6	8	8
Bases (unweighted)						
Men	*284*	*313*	*598*	*293*	*317*	*610*
Women	*358*	*421*	*779*	*367*	*443*	*810*
All	*642*	*734*	*1377*	*660*	*760*	*1420*
Bases (weighted)						
Men	*152*	*514*	*666*	*138*	*545*	*683*
Women	*147*	*563*	*711*	*138*	*599*	*737*
All	*299*	*1077*	*1377*	*276*	*1144*	*1420*

Table 4.6 Type of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Type of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
18 to 44 years						
Lung and respiratory problems	64	61	62	57	57	57
Heart disease and circulation problems	45	45	45	49	37	40
Cancer	86	85	85	86	89	88
Impact on children/unborn babies	1	1	1	1	2	1
Effect on appearance	3	5	4	9	11	11
45 years or more						
Lung and respiratory problems	60	68	67	54	60	60
Heart disease and circulation problems	44	43	43	46	46	46
Cancer	65	76	74	70	75	75
Impact on children/unborn babies	0	1	1	-	1	1
Effect on appearance	4	3	3	2	6	6
Bases (unweighted)						
18 to 44 years	*288*	*271*	*559*	*323*	*260*	*583*
45 years or more	*354*	*463*	*818*	*337*	*500*	*837*
Bases (weighted)						
18 to 44 years	*180*	*477*	*657*	*168*	*483*	*651*
45 years or more	*119*	*600*	*720*	*108*	*661*	*769*

Table 4.7 Type of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by smoking status and NS-SEC[a]

Aged 18+ with valid smoking status and NS-SEC

Type of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Non - smoker	Current cigarette smoker	All
	%	%	%	%	%	%
Non-routine/non-manual						
Lung and respiratory problems	61	67	66	58	58	58
Heart disease and circulation problems	52	48	48	56	47	48
Cancer	82	83	83	86	83	83
Impact on children/unborn babies	0	1	1	1	2	2
Effect on appearance	3	5	5	7	9	9
Routine/manual						
Lung and respiratory problems	65	60	61	54	64	62
Heart disease and circulation problems	37	37	37	42	35	37
Cancer	73	75	74	73	78	77
Impact on children/unborn babies	1	1	1	1	1	1
Effect on appearance	4	1	2	5	7	7
Bases (unweighted)						
Non-routine/non-manual	*317*	*504*	*821*	*314*	*508*	*822*
Routine/manual	*307*	*223*	*531*	*321*	*241*	*562*
Bases (weighted)						
Non-routine/non-manual	*134*	*718*	*852*	*129*	*739*	*868*
Routine/manual	*152*	*347*	*499*	*135*	*379*	*514*

[a] National Statistics Socio Economic Classification

Table 4.8 Number of health effects associated with secondhand exposure to smoke (spontaneously recalled), pre and post 1st October 2008, by smoking status and sex

Aged 18+ with valid smoking status

Number of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
Men						
None[a]	18	13	14	20	9	11
1-2	49	49	49	44	60	57
3-4	27	33	31	27	26	26
5 or more	6	5	5	9	5	6
Mean	2.0	2.1	2.1	2.0	2.1	2.1
Standard error of the mean	0.11	0.10	0.08	0.15	0.09	0.08
Women						
None[a]	18	8	10	19	9	11
1-2	49	54	53	49	50	50
3-4	30	31	31	27	34	32
5 or more	2	7	6	6	7	7
Mean	1.9	2.3	2.2	1.9	2.2	2.2
Standard error of the mean	0.09	0.08	0.06	0.09	0.09	0.08
All						
None[a]	18	10	12	19	9	11
1-2	49	52	51	46	55	53
3-4	29	32	31	27	30	29
5 or more	4	6	6	8	6	6
Mean	1.9	2.2	2.1	1.9	2.2	2.1
Standard error of the mean	0.07	0.06	0.05	0.09	0.06	0.06
Bases (unweighted)						
Men	*284*	*312*	*597*	*293*	*317*	*610*
Women	*358*	*422*	*780*	*367*	*443*	*810*
All	*642*	*734*	*1377*	*660*	*760*	*1420*
Bases (weighted)						
Men	*152*	*514*	*666*	*138*	*545*	*683*
Women	*147*	*564*	*712*	*138*	*599*	*737*
All	299	1078	1378	276	1144	1420

[a] This category also includes those who said that they did not know of any health effects associated with secondhand exposure to other people.

Table 4.9 Number of health effects associated with secondhand exposure to smoke (spontaneously recalled), pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Number of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
18 to 44 years						
None[a]	12	7	9	14	9	11
1-2	50	47	48	43	48	47
3-4	33	39	37	32	36	35
5 or more	5	7	7	11	6	7
Mean	2.2	2.4	2.4	2.3	2.3	2.3
Standard error of the mean	0.11	0.10	0.08	0.13	0.11	0.09
45 years or more						
None[a]	28	12	15	27	9	11
1-2	48	56	55	51	60	59
3-4	22	27	26	19	25	24
5 or more	2	5	5	3	6	6
Mean	1.5	2.0	1.9	1.4	2.0	2.0
Standard error of the mean	0.08	0.07	0.06	0.08	0.07	0.07
Bases (unweighted)						
18 to 44 years	*288*	*270*	*558*	*323*	*260*	*583*
45 years or more	*354*	*464*	*819*	*337*	*500*	*837*
Bases (weighted)						
18 to 44 years	*180*	*476*	*656*	*168*	*483*	*651*
45 years or more	*119*	*602*	*721*	*108*	*661*	*769*

[a] This category also includes those who said that they did not know of any health effects associated with secondhand exposure to other people.

Table 4.10 Number of health effects associated with secondhand exposure to smoke (spontaneously recalled), pre and post 1st October 2008, by smoking status and NS-SEC[a]

Aged 18+ with valid smoking status and NS-SEC

Number of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
Non-routine/non-manual						
None[a]	16	8	9	19	7	9
1-2	51	51	51	42	52	51
3-4	29	34	33	27	33	33
5 or more	4	8	7	11	7	8
Mean	2.0	2.3	2.3	2.1	2.3	2.3
Standard error of the mean	0.11	0.08	0.07	0.16	0.08	0.07
Routine/manual						
None[a]	20	14	16	19	13	14
1-2	48	54	52	50	58	56
3-4	27	29	29	27	24	25
5 or more	4	3	3	4	5	5
Mean	1.8	1.9	1.9	1.8	2.0	1.9
Standard error of the mean	0.10	0.11	0.08	0.10	0.11	0.08
Bases (unweighted)						
Non-routine/non-manual	*134*	*718*	*852*	*129*	*739*	*868*
Routine/manual	*152*	*349*	*501*	*135*	*379*	*514*
Bases (weighted)						
Non-routine/non-manual	*317*	*503*	*820*	*314*	*508*	*822*
Routine/manual	*307*	*224*	*532*	*321*	*241*	*562*

[a] National Statistics Socio Economic Classification

[b] This category also includes those who said that they did not know of any health effects associated with secondhand exposure to other people.

Table 4.11 Specific health effects associated with secondhand exposure to smoke (spontaneously recalled), pre and post 1st October 2008, by smoking status

Aged 18+ with valid smoking status

Specific health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
Addiction	0	-	0	0	0	0
Allergies	1	1	1	0.5	1	1
Asthma	24	25	25	17	19	19
Brain Damage	0		0	0.5	0	0
Bad Breath	0	0	0	0	1	1
Blood circulation problems/blood clots/blood problems	5	4.2	4	4	3	3
Bronchitis/chronic bronchitis	15	18	17	11	11	11
Cancer – breast	1	0	0	1	0	0
Cancer – lung	43	54	51	47	58	56
Cancer – oral	6	11	10	12	12	12
Cancer – other	-	-	-	-	0	0
Cancer in general	18	16	17	16	17	17
Chest infections	8	10	9	8	5	6
Cot death/SIDS	0	0	0	-	0	0
Coughing including coughs and colds	10	7	8	5	4	4
Death / premature death	0	0	0	0	0	0
Dizziness/nausea	-	0	0	0	-	0
Ear infections in children	0	0	0	0	1	1
Effect on a foetus / unborn child	0	-	0	0	0	0
Emphysema	8	10	10	10	11	11
Eye disease/glaucoma	2	1	1	0	2	1
Gangrene / amputation	0	0	0	-	0	0
Gum disease/tooth loss/mouth disease/throat problems	0	1	1	2	2	2
Headaches	0	0	0	0	0	0
Heart attack/disease/angina/ coronary problems	18	18	18	24	20	21
High blood pressure	2	2	2	1	2	1
Impotence/sexual dysfunction/ infertility	-	0	0	3	0	1
Lung disease/lung or chest problems/COPD/pneumonia/TB	12	14	14	16	21	20
Poor physical condition/loss of energy	1	0	0	0	0	0
Premature birth						
Respiratory problems/difficulty breathing/shortness of breath	12	18	17	11	20	18
Smaller babies/reduced growth	1	0	0	1	0	0
Second-hand smoke	3	3	3	1	1	1
Stroke	2	1	1	1	1	1
Wrinkles/premature ageing	1	1	1	1	0	0
Yellow teeth/fingers/bad skin/effect on appearance	-	0	0	1	1	1
Other	1	1	1	0	0	0
None[a]	18	10	12	19	9	11
Bases (unweighted)	*642*	*734*	*1377*	*660*	*760*	*1420*
Bases (weighted)	*299*	*1078*	*1378*	*276*	*1144*	*1420*

[a] None also includes those who said don't know

Table 4.12 Type of health effects associated with secondhand exposure to smoke spontaneously recalled, pre and post 1st October 2008, by smoking status by sex

Aged 18+ with valid smoking status

Type of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
Men						
Lung and respiratory problems	49	52	51	49	54	53
Heart disease and circulation problems	23	26	25	34	24	26
Cancer	57	64	62	59	71	69
Impact on children/unborn babies	1	0	0	1	1	1
Effect on appearance	2	2	2	3	2	2
Women						
Lung and respiratory problems	57	68	66	51	65	62
Heart disease and circulation problems	18	17	17	18	21	21
Cancer	53	62	60	60	66	65
Impact on children/unborn babies	1	1	1	1	1	1
Effect on appearance	0	1	1	2	2	2
All						
Lung and respiratory problems	53	60	59	50	60	58
Heart disease and circulation problems	20	21	21	26	23	23
Cancer	55	63	61	59	69	67
Impact on children/unborn babies	1	1	1	1	1	1
Effect on appearance	1	2	1	2	2	2
Bases (unweighted):						
Men	*284*	*312*	*597*	*293*	*317*	*610*
Women	*358*	*422*	*780*	*367*	*443*	*810*
All	*642*	*734*	*1377*	*660*	*760*	*1420*
Bases (weighted):						
Men	*152*	*514*	*666*	*138*	*545*	*683*
Women	*147*	*564*	*712*	*138*	*599*	*737*
All	*299*	*1078*	*1378*	*276*	*1144*	*1420*

Table 4.13 Type of health effects associated with secondhand exposure to smoke spontaneously recalled, pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Type of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
18 to 44 years						
Lung and respiratory problems	58	60	60	51	60	58
Heart disease and circulation problems	78	78	78	67	76	74
Cancer	68	75	73	70	76	74
Impact on children/unborn babies	1	1	1	1	2	1
Effect on appearance	1	2	2	3	3	3
45 years or more						
Lung and respiratory problems	46	60	58	49	59	58
Heart disease and circulation problems	83	80	80	85	78	79
Cancer	36	54	51	43	63	60
Impact on children/unborn babies	1	0	1	1	1	1
Effect on appearance	1	1	1	1	1	1
Bases (unweighted)						
18 to 44 years	*288*	*270*	*558*	*323*	*260*	*583*
45 years or more	*354*	*464*	*819*	*337*	*500*	*837*
Bases (weighted)						
18 to 44 years	*180*	*476*	*656*	*168*	*483*	*651*
45 years or more	*119*	*602*	*721*	*108*	*661*	*769*

Table 4.14 Type of health effects associated with secondhand exposure to smoke spontaneously recalled, pre and post 1st October 2008, by smoking status and NS-SEC[a]

Aged 18+ with valid smoking status and NS-SEC

Type of health effects	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
Non-routine/non-manual						
Lung and respiratory problems	49	62	60	51	62	60
Heart disease and circulation problems	23	25	24	29	24	25
Cancer	60	66	65	63	70	69
Impact on children/unborn babies	1	1	1	1	1	1
Effect on appearance	1	2	2	3	2	2
Routine/manual						
Lung and respiratory problems	57	56	56	50	58	56
Heart disease and circulation problems	17	15	16	22	21	21
Cancer	52	57	56	56	66	63
Impact on children/unborn babies	1	-	0	1	2	2
Effect on appearance	0	1	1	1	1	1
Bases (unweighted)						
Non-routine/non-manual	*317*	*503*	*820*	*314*	*508*	*822*
Routine/manual	*307*	*224*	*532*	*321*	*241*	*562*
Bases (weighted)						
Non-routine/non-manual	*134*	*718*	*852*	*129*	*739*	*868*
Routine/manual	*152*	*349*	*501*	*135*	*379*	*514*

[a] National Statistics Socio Economic Classification

Table 4.15 Perception of health risks associated with smoking, pre and post 1st October 2008, by smoking status and sex

Aged 18+ with valid smoking status

Perception of risk	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	% agreeing that smokers more likely to experience each condition					
Men						
Premature ageing of the skin	76	83	81	74	84	82
Fertility problems	64	66	66	64	68	67
Heart disease	90	95	93	87	96	94
Stroke	76	84	82	74	84	82
Lung cancer	94	99	98	96	99	98
Women						
Premature ageing of the skin	83	90	89	79	88	87
Fertility problems	61	62	62	54	59	58
Heart disease	85	91	90	85	93	91
Stroke	70	79	77	65	77	75
Lung cancer	97	98	98	93	99	98
All						
Premature ageing of the skin	79	87	85	77	86	84
Fertility problems	63	64	64	59	64	63
Heart disease	87	93	92	86	94	93
Stroke	73	81	79	70	81	78
Lung cancer	96	99	98	95	99	98
Bases (unweighted)						
Men	*280*	*311*	*591*	*290*	*316*	*606*
Women	*357*	*422*	*779*	*365*	*439*	*804*
All	*637*	*733*	*1370*	*655*	*755*	*1410*
Bases (weighted)						
Men	*150*	*510*	*661*	*137*	*543*	*680*
Women	*147*	*564*	*712*	*138*	*591*	*728*
All	*298*	*1075*	*1373*	*274*	*1134*	*1408*

Table 4.16 Perception of health risks associated with smoking, pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Perception of risk	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	% agreeing that smokers more likely to experience each condition					
18 to 44 years						
Premature ageing of the skin	87	94	92	85	92	90
Fertility problems	77	77	77	70	80	77
Heart disease	93	96	95	91	97	96
Stroke	74	84	81	72	83	80
Lung cancer	98	98	98	97	99	98
45 years and over						
Premature ageing of the skin	68	81	79	63	82	80
Fertility problems	41	54	52	42	52	51
Heart disease	79	91	89	77	93	90
Stroke	79	91	89	77	93	90
Lung cancer	91	99	97	91	99	98
Bases (unweighted)						
18 to 44 years	*287*	*269*	*556*	*322*	*259*	*581*
45 years or more	*350*	*464*	*814*	*333*	*496*	*829*
Bases (weighted)						
18 to 44 years	*179*	*473*	*652*	*168*	*478*	*646*
45 years or more	*118*	*602*	*720*	*107*	*656*	*763*

Table 4.17 Perception of health risks associated with smoking, pre and post 1st October 2008, by smoking status and NS-SEC[a]

Aged 18+ with valid smoking status

Perception of risk	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	% agreeing that smokers more likely to experience each condition					
Non-routine/non-manual						
Premature ageing of the skin	82	89	88	82	86	86
Fertility problems	65	66	66	63	63	63
Heart disease	89	94	94	88	95	94
Stroke	77	83	82	74	80	79
Lung cancer	98	99	99	97	99	98
Routine/manual						
Premature ageing of the skin	77	83	82	72	86	83
Fertility problems	62	61	61	55	64	62
Heart disease	86	90	89	85	94	91
Stroke	86	90	89	85	94	91
Lung cancer	94	98	96	93	99	98
Bases (unweighted)						
Non-routine/non-manual	*316*	*503*	*819*	*313*	*506*	*819*
Routine/manual	*303*	*223*	*526*	*317*	*238*	*555*
Bases (weighted)						
Non-routine/non-manual	*134*	*718*	*851*	*129*	*736*	*865*
Routine/manual	*151*	*345*	*496*	*134*	*372*	*505*

[a] National Statistics Socio Economic Classification

Table 4.18 Perception of health risks score, pre and post 1st October, by smoking status and sex

Aged 18+ with valid smoking status

Perception of health risks of smoking score [a]	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%		%	%	
Men						
No perception of risk (0)	3	1	1	3	1	1
1-3	12	4	6	10	4	5
4-6	29	25	26	25	23	23
7-9	38	52	48	41	50	48
Highest perception of risk (10)	18	19	19	21	23	23
Women						
No perception of risk (0)	1	0	1	4	0	1
1-3	15	6	8	13	5	6
4-6	22	21	21	24	23	24
7-9	45	55	52	39	54	51
Highest perception of risk (10)	17	18	18	19	17	18
All						
No perception of risk (0)	2	1	1	4	1	1
1-3	14	5	7	12	4	6
4-6	26	23	24	25	23	23
7-9	41	53	51	40	52	50
Highest perception of risk (10)	17	18	18	20	20	20
Bases (unweighted)						
Men	*280*	*306*	*586*	*287*	*309*	*596*
Women	*354*	*415*	*769*	*362*	*433*	*795*
All	*634*	*721*	*1355*	*649*	*742*	*1391*
Bases (weighted)						
Men	*150*	*505*	*656*	*136*	*531*	*667*
Women	*146*	*555*	*701*	*136*	*582*	*719*
All	*296*	*1060*	*1356*	*272*	*1113*	*1386*

[a] This analysis excludes those participants who reported that they did not know to each perception of risk question.

Table 4.19 Perception of health risks score, pre and post 1st October, by smoking status and age group

Aged 18+ with valid smoking status

Perception of health risks of smoking score [a]	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
18 to 44 years						
No perception of risk (0)	1	-	0	1	1	1
1-3	8	3	4	7	1	2
4-6	20	17	18	21	20	20
7-9	50	55	54	45	52	50
Highest perception of risk (10)	21	26	25	26	27	27
45 years and over						
No perception of risk (0)	4	1	1	7	0	1
1-3	22	7	9	19	7	9
4-6	34	28	29	31	25	26
7-9	28	52	48	33	52	50
Highest perception of risk (10)	12	12	12	10	15	14
Bases (unweighted)						
18 to 44 years	*286*	*267*	*553*	*319*	*257*	*576*
45 years or more	*348*	*454*	*802*	*330*	*485*	*815*
Bases (weighted)						
18 to 44 years	*179*	*472*	*650*	*167*	*473*	*640*
45 years or more	*118*	*589*	*706*	*106*	*640*	*746*

[a] This analysis excludes those participants who reported that they did not know to each perception of risk question.

Table 4.20 Perception of health risks score, pre and post 1st October by smoking status and NS-SEC[a]

Aged 18+ with valid smoking status and NS-SEC

Perception of health risks of smoking score [b]	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
Non-routine/non-manual						
No perception of risk (0)	1	0	0	2	0	1
1-3	11	4	5	10	4	5
4-6	28	22	23	23	24	24
7-9	44	55	53	45	54	52
Highest perception of risk (10)	17	19	19	21	18	18
Routine/manual						
No perception of risk (0)	3	1	2	5	1	2
1-3	15	8	10	13	4	7
4-6	23	24	24	27	21	22
7-9	39	50	47	35	50	46
Highest perception of risk (10)	19	16	17	20	25	23
Bases (unweighted)						
Non-routine/non-manual	*134*	*711*	*844*	*127*	*730*	*858*
Routine/manual	*150*	*338*	*488*	*133*	*360*	*493*
Bases (weighted)						
Non-routine/non-manual	*316*	*496*	*812*	*309*	*500*	*809*
Routine/manual	*301*	*218*	*519*	*315*	*232*	*547*

[a] National Statistics Socio Economic Classification
[b] This analysis excludes those participants who reported that they did not know to each perception of risk question.

Table 4.21 Knowledge of the health effects associated with smoking, pre and post 1st October 2008, by smoking status and sex

Aged 18+ with valid smoking status

Knowledge of health risks	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	% agreeing that smoking causes each condition					
Men						
Lung cancer	95	98	97	97	99	99
Heart disease	93	97	96	91	96	95
Stroke	79	84	83	73	83	81
Impotence in men	64	60	61	66	58	59
Mouth or throat cancer	92	96	95	96	98	97
Infertility	63	59	60	65	64	64
Gum or mouth disease	83	90	88	86	91	90
Smaller babies or reduced growth of babies during pregnancy	77	84	83	76	86	84
Wrinkles and premature ageing	76	83	81	78	84	83
Arthritis	27	27	27	26	22	23
Alzheimer's disease	20	28	26	19	21	21
Women						
Lung cancer	95	99	99	95	100	99
Heart disease	93	95	95	93	94	94
Stroke	80	85	84	78	80	79
Impotence in men	59	49	51	60	49	51
Mouth or throat cancer	93	96	96	94	98	97
Infertility	61	62	62	58	58	58
Gum or mouth disease	88	90	89	86	93	92
Smaller babies or reduced growth of babies during pregnancy	76	88	86	72	90	87
Wrinkles and premature ageing	84	91	89	81	86	85
Arthritis	25	28	27	23	19	20
Alzheimer's disease	22	25	24	24	19	20
All						
Lung cancer	95	99	98	96	100	99
Heart disease	93	96	96	92	95	94
Stroke	80	84	83	76	81	80
Impotence in men	62	54	56	63	53	55
Mouth or throat cancer	93	96	95	95	98	97
Infertility	62	60	61	61	61	61
Gum or mouth disease	85	90	89	86	92	91
Smaller babies or reduced growth of babies during pregnancy	76	86	84	74	88	85
Wrinkles and premature ageing	80	87	85	79	85	84
Arthritis	26	27	27	24	21	21
Alzheimer's disease	21	26	25	22	20	21
Bases (unweighted)						
Men	*282*	*311*	*594*	*292*	*317*	*609*
Women	*357*	*422*	*779*	*365*	*440*	*805*
All	*639*	*733*	*1373*	*657*	*757*	*1414*
Bases (weighted)						
Men	*151*	*510*	*662*	*138*	*545*	*683*
Women	*147*	*564*	*712*	*138*	*592*	*729*
All	*299*	*1075*	*1374*	*275*	*1136*	*1412*

Table 4.22 Knowledge of the health effects associated with smoking, pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Knowledge of health risks	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	% agreeing that smoking causes each condition					
18 to 44 years						
Lung cancer	99	99	99	99	100	100
Heart disease	97	98	98	96	95	95
Stroke	85	89	88	80	82	82
Impotence in men	73	71	71	76	70	71
Mouth or throat cancer	97	99	98	99	98	98
Infertility	75	74	74	75	71	72
Gum or mouth disease	94	93	93	91	94	93
Smaller babies or reduced growth of babies during pregnancy	86	94	92	80	92	89
Wrinkles and premature ageing	89	94	93	89	92	91
Arthritis	28	32	31	28	23	25
Alzheimer's disease	24	30	28	24	22	22
45 years and over						
Lung cancer	89	98	97	92	99	98
Heart disease	88	95	93	86	95	94
Stroke	72	81	79	69	80	79
Impotence in men	45	41	42	43	41	41
Mouth or throat cancer	86	94	92	89	98	96
Infertility	43	49	48	40	53	51
Gum or mouth disease	73	87	85	79	90	89
Smaller babies or reduced growth of babies during pregnancy	61	80	77	63	85	82
Wrinkles and premature ageing	67	81	79	65	80	78
Arthritis	22	24	23	18	19	19
Alzheimer's disease	17	24	23	17	19	19
Bases (unweighted)						
18 to 44 years	*288*	*269*	*557*	*323*	*259*	*582*
45 years or more	*351*	*464*	*816*	*334*	*498*	*832*
Bases (weighted)						
18 to 44 years	*180*	*473*	*653*	*168*	*478*	*646*
45 years or more	*119*	*602*	*721*	*107*	*659*	*766*

Table 4.23 Knowledge of the health effects associated with smoking, pre and post 1st October 2008, by smoking status and NS-SEC[a]

Aged 18+ with valid smoking status

Knowledge of health risks	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	% agreeing that smoking causes each condition					
Non-routine/non-manual						
Lung cancer	97	99	99	98	100	99
Heart disease	94	97	96	95	97	96
Stroke	83	85	85	80	82	82
Impotence in men	63	55	57	67	55	57
Mouth or throat cancer	94	97	97	98	99	98
Infertility	63	61	61	63	62	62
Gum or mouth disease	89	91	90	89	94	93
Smaller babies or reduced growth of babies during pregnancy	80	87	86	79	90	88
Wrinkles and premature ageing	82	88	87	85	86	86
Arthritis	24	24	24	24	19	19
Alzheimer's disease	18	26	24	22	19	19
Routine/manual						
Lung cancer	93	98	96	94	100	98
Heart disease	92	94	94	91	92	91
Stroke	76	84	82	72	80	78
Impotence in men	62	52	55	59	51	53
Mouth or throat cancer	91	93	92	92	97	95
Infertility	62	59	60	59	59	59
Gum or mouth disease	82	88	86	85	88	87
Smaller babies or reduced growth of babies during pregnancy	74	84	81	70	84	80
Wrinkles and premature ageing	79	86	84	75	83	81
Arthritis	29	34	33	25	24	24
Alzheimer's disease	24	27	26	22	23	23
Bases (unweighted)						
Non-routine/non-manual	*317*	*503*	*820*	*313*	*507*	*820*
Routine/manual	*304*	*223*	*528*	*319*	*239*	*558*
Bases (weighted)						
Non-routine/non-manual	*134*	*718*	*852*	*129*	*737*	*866*
Routine/manual	*151*	*345*	*497*	*135*	*373*	*508*

[a] National Statistics Socio Economic Classification

Table 4.24 Knowledge of health effects associated with smoking score, pre and post 1st October 2008, by smoking status and sex

Aged 18+ with valid smoking status

Knowledge of health effects of smoking score	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
Men						
Non knowledge (score 0)	-	-	-	-	-	-
1-3	4	1	2	3	0	1
4-7	23	25	24	27	29	29
8-10	62	67	66	62	58	58
Highest knowledge (score 11)	11	7	8	9	13	12
Women						
Non knowledge (score 0)	-	-	-	1	-	0
1-3	3	1	1	3	1	2
4-7	24	26	26	23	27	26
8-10	62	65	64	64	63	63
Highest knowledge (score 11)	12	8	9	9	9	9
All						
Non knowledge (score 0)	-	-	-	0	-	0
1-3	3	1	2	3	1	1
4-7	23	26	25	25	28	27
8-10	62	66	65	63	61	61
Highest knowledge (score 11)	12	7	8	9	11	10
Bases (unweighted)						
Men	*280*	*311*	*592*	*291*	*316*	*607*
Women	*357*	*422*	*779*	*365*	*440*	*805*
All	*637*	*733*	*1371*	*656*	*756*	*1412*
Bases (weighted)						
Men	*150*	*510*	*661*	*137*	*543*	*681*
Women	*147*	*564*	*712*	*138*	*592*	*729*
All	*298*	*1075*	*1373*	*275*	*1135*	*1410*

Table 4.25 Knowledge of health effects associated with smoking score, pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Knowledge of health effects of smoking score	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
18 to 44 years						
Non knowledge (score 0)	-	-	-	-	-	-
1-3	1	-	0	1	1	1
4-7	12	13	13	16	16	16
8-10	73	74	73	71	65	67
Highest knowledge (score 11)	15	13	14	12	18	17
45 years and over						
Non knowledge (score 0)	-	-	-	1	-	0
1-3	8	2	3	6	1	2
4-7	40	36	36	39	36	37
8-10	46	59	57	50	57	56
Highest knowledge (score 11)	6	3	4	4	6	5
Bases (unweighted)						
18 to 44 years	*287*	*269*	*556*	*322*	*259*	*581*
45 years or more	*350*	*464*	*815*	*334*	*497*	*831*
Bases (weighted)						
18 to 44 years	*179*	*473*	*652*	*168*	*478*	*646*
45 years or more	*118*	*602*	*720*	*107*	*657*	*764*

Table 4.26 Knowledge of health effects associated with smoking score, pre and post 1st October 2008, by smoking status and NS-SEC[a]

Aged 18+ with valid smoking status

Knowledge of health effects of smoking score	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non - smoker	All	Current cigarette smoker	Non - smoker	All
	%	%	%	%	%	%
Non-routine/non-manual						
Non knowledge (score 0)	-	-	-	0	-	0
1-3	2	1	1	2	0	1
4-7	20	25	24	20	25	25
8-10	64	66	66	68	63	63
Highest knowledge (score 11)	14	8	9	10	12	11
Routine/manual						
Non knowledge (score 0)	-	-	-	0	-	0
1-3	5	2	3	5	1	2
4-7	25	28	27	28	33	32
8-10	60	64	63	58	56	56
Highest knowledge (score 11)	10	6	8	8	10	9
Bases (unweighted)						
Non-routine/non-manual	*316*	*503*	*819*	*313*	*507*	*820*
Routine/manual	*303*	*223*	*527*	*318*	*238*	*556*
Bases (weighted)						
Non-routine/non-manual	*134*	*718*	*851*	*129*	*737*	*866*
Routine/manual	*151*	*345*	*496*	*134*	*372*	*506*

[a] National Statistics Socio Economic Classification

Table 4.27 Modal allocations to Classes

All aged 18 over interviewed in wave 1 and wave 2

	Class 1	Class 2	Class 3	Class 4	Class 5	Overall
	%	%	%	%	%	%
Cluster Size	**46.7%**	**30.9%**	**15.5%**	**4.5%**	**2.3%**	
Number of health effects recalled						
None [a]	0.0	1.8	3.2	0.0	23.2	1.6
1-2	8.4	98.2	44.5	0.0	70.6	42.8
3-4	73.6	0.0	48.6	0.0	3.6	42.0
5+	18.0	0.0	3.6	100.0	2.6	13.6
Summary of perceived risk						
No perception of risk	0.0	0.5	0.6	0.0	31.4	1.0
1-3	0.3	5.0	19.4	0.9	64.4	6.3
4-6	11.3	19.5	74.6	11.4	4.2	23.5
7-9	63.9	56.7	5.4	42.6	0.0	50.1
Highest risk perception (10)	24.5	18.3	0.0	45.1	0.0	19.1
Knowledge of health effects						
0-3	0.0	0.0	0.2	0.0	50.8	1.2
4-6	1.2	5.5	56.4	4.5	45.0	12.3
7-9	64.1	71.6	43.4	60.2	4.2	61.6
10+	34.7	23.0	0.0	35.3	0.0	24.9
Number of passive health effects recalled						
None [a]	2.7	9.4	29.8	2.6	76.3	10.7
1-2	34.5	90.6	51.0	0.0	21.8	52.5
3-4	59.1	0.0	19.2	0.0	0.6	30.6
5+	3.6	0.0	0.0	97.4	1.3	6.1
Bases:						
unweighted	*1185*	*807*	*525*	*107*	*120*	*2744*
weighted	*1280*	*846*	*426*	*124*	*64*	*2740*

a This category also includes those who said that they did not know of any health effects of smoking.

Table 4.28 Demographic profile of the Classes

All aged 18 over interviewed in wave 1 and wave 2

	Class 1	Class 2	Class 3	Class 4	Class 5	Overall
	%	%	%	%	%	%
Age						
18-24	11.4	10.7	7.3	14.5	1.4	10.5
25-34	19.6	15.1	10.5	19.0	2.7	16.4
35-44	22.8	21.5	11.7	23.9	2.4	20.2
45-54	18.4	14.8	18.7	19.5	12.0	17.2
55-64	15.0	15.7	19.3	7.6	30.4	15.9
65-74	12.7	22.2	32.7	15.5	51.0	19.8
Sex						
Male	44.7	52.2	52.3	47.3	43.2	48.3
Female	55.3	47.8	47.7	52.7	56.8	51.7
General Health						
Very good or good	80.1	74.7	72.1	76.6	60.7	76.6
Fair	15.8	19.3	20.6	17.5	28.6	18.0
Bad or very bad	4.1	6.0	7.3	5.9	10.7	5.4
Limiting longstanding illness						
Limiting longstanding illness	16.1	18.4	23.1	28.5	34.9	18.9
Non-limiting longstanding illness	15.6	14.2	17.5	18.5	10.8	15.5
No longstanding illness	68.3	67.4	59.4	52.9	54.4	65.6
Household socio-economic classification						
Non-routine/ manual	67.6	58.3	60.3	77.6	40.5	63.5
Routine/manual	32.4	41.7	39.7	22.4	59.5	36.5
Cigarette smoking status						
Never smoked cigarettes	45.3	50.7	41.2	39.9	21.3	45.5
Used to smoke cigarettes occasionally	8.0	9.2	4.5	10.9	9.3	8.0
Used to smoke cigarettes regularly	27.9	20.9	28.3	29.8	20.7	25.7
Current cigarette smoker	18.8	19.2	26.0	19.4	48.7	20.8
Highest qualification						
Degree level or above	39.3	28.4	24.1	49.0	11.6	33.3
A-level or equivalent	41.3	36.8	39.0	38.2	15.2	38.8
GCSE or equivalent	19.5	34.8	37.0	12.8	73.2	27.9
Economic status						
In employment	67.9	55.5	48.2	64.3	23.8	59.8
Unemployed	2.7	6.2	1.9	7.1	1.6	3.8
Retired	14.9	22.5	35.3	16.6	51.2	21.4
Other economically inactive	14.5	15.8	14.7	11.9	23.4	15.0
Index of multiple deprivation						
1 - Least deprived	27.1	18.7	14.9	27.2	11.1	22.2
2	21.4	21.6	24.6	17.2	28.5	21.9
3	17.3	20.8	18.2	27.1	17.3	19.0
4	18.7	19.3	20.0	15.5	18.5	18.9
5 - Most deprived	15.5	19.6	22.3	13.1	24.6	17.9
Equivalised household income						
Lowest income tertile	20.8	20.3	27.7	19.7	51.0	22.4
Middle tertile	36.7	36.3	37.0	39.9	22.5	36.4
Highest income tertile	42.6	43.4	35.3	40.3	26.6	41.2

Table 4.29 Odds ratios for membership of cluster 5

	Odds Ratio	95% Confidence interval	*N (weighted)*
Age group (p<0.001)			
18-54	1		*1762*
55-64	6.56	(3.11-13.86)	*436*
65-74	9.02	(4.46-18.26)	*542*
Smoking status (p<0.001)			
Never smoked	1		*1109*
Ex-smoker	0.67	(0.27-1.67)	*980*
Current smoker	4.68	(2.42-9.07)	*602*
Highest qualification (p=0.006)			
Degree level or above	1		*914*
A-level or equivalent	1.12	(0.40-3.13)	*1063*
GCSE or equivalent/no qualifications	3.35	(1.24-9.05)	*764*

7.2 Tables for section 4.3

Table 4.30 Smoking behaviour, pre and post 1st October 2008, by sex

General population sample aged 18+

Self-reported cigarette smoking status	Pre 1st October 2008	Post 1st October 2008
	%	%
Men		
Current cigarette smoker	22	20
Ex-regular cigarette smoker	31	32
Never regularly smoked cigarettes	47	48
Women		
Current cigarette smoker	22	20
Ex-regular cigarette smoker	21	20
Never regularly smoked cigarettes	57	60
All		
Current cigarette smoker	22	20
Ex-regular cigarette smoker	25	25
Never regularly smoked cigarettes	52	55
Bases (unweighted)		
Men	*340*	*322*
Women	*457*	*480*
All	*797*	*802*
Bases (weighted)		
Men	*381*	*381*
Women	*416*	*421*
All	*797*	*802*

Table 4.31 Smoking behaviour, pre and post 1st October 2008, by age

General population sample aged 18+

Self-reported cigarette smoking status	Pre 1st October 2008	Post 1st October 2008
	%	%
18-44		
Current cigarette smoker	27	29
Ex-regular cigarette smoker	17	16
Never regularly smoked cigarettes	56	55
45 and over		
Current cigarette smoker	18	13
Ex-regular cigarette smoker	33	33
Never regularly smoked cigarettes	49	54
Bases (unweighted)		
18 to 44 years	*294*	*283*
45 years or more	*503*	*519*
Bases (weighted)		
18 to 44 years	*375*	*375*
45 years or more	*422*	*428*

Table 4.32 Smoking behaviour, pre and post 1st October 2008, by NS-SEC of household reference person

General population sample aged 18+

Self-reported cigarette smoking status	Pre 1st October 2008	Post 1st October 2008
	%	%
Non-routine/non-manual		
Current cigarette smoker	15	15
Ex-regular cigarette smoker	25	26
Never regularly smoked cigarettes	60	59
Routine/manual		
Current cigarette smoker	31	28
Ex-regular cigarette smoker	28	26
Never regularly smoked cigarettes	41	46
Bases (unweighted)		
Non-routine/non manual	*260*	*264*
Routine/manual	*797*	*802*
Bases (weighted)		
Non-routine/non manual	*291*	*287*
Routine/manual	*797*	*802*

Table 4.33 Cigarette consumption, pre and post 1st October 2008, by sex

Smokers aged 18+

Cigarette consumption

	Pre 1st October 2008	Post 1st October 2008
	%	%
Men		
Less than 10 cigarettes per day	26	31
10 to less than 20 cigarettes per day	43	41
More than 20 cigarettes per day	31	28
Mean number of cigarettes smoked per day	16.1	16.2
Standard error of the mean	1.01	1.22
Women		
Less than 10 cigarettes per day	34	28
10 to less than 20 cigarettes per day	47	50
More than 20 cigarettes per day	19	22
Mean number of cigarettes smoked per day	13.7	13.3
Standard error of the mean	1.87	0.69
All		
Less than 10 cigarettes per day	30	29
10 to less than 20 cigarettes per day	45	45
More than 20 cigarettes per day	25	25
Mean number of cigarettes smoked per day	15	15
Standard error of the mean	1.05	0.69
Bases (unweighted)		
Men	*280*	*291*
Women	*355*	*365*
All	*635*	*656*
Bases (weighted)		
Men	*147*	*137*
Women	*146*	*138*
All	*293*	*275*

Table 4.34 Cigarette consumption, pre and post 1st October 2008, by age group

Smokers aged 18+

Cigarette consumption		
	Pre 1st October 2008	**Post 1st October 2008**
	%	%
18-44		
Less than 10 cigarettes per day	32	36
10 to less than 20 cigarettes per day	48	45
More than 20 cigarettes per day	20	19
Mean number of cigarettes smoked per day	13.8	12.7
Standard error of the mean	1.6	0.9
44 and over		
Less than 10 cigarettes per day	26	18
10 to less than 20 cigarettes per day	41	47
More than 20 cigarettes per day	33	35
Mean number of cigarettes smoked per day	16.6	17.9
Standard error of the mean	1.2	1.1
Bases (unweighted)		
18 to 44 years	*283*	*322*
45 years or more	*352*	*334*
Bases (weighted)		
18 to 44 years	*175*	*167*
45 years or more	*118*	*107*

Table 4.35 Cigarette consumption, pre and post 1st October 2008, by NS-SEC of household reference person

Smokers aged 18+

Cigarette consumption		
	Pre 1st October 2008	**Post 1st October 2008**
	%	%
Non-routine/non-manual		
Less than 10 cigarettes per day	27	38
10 to less than 20 cigarettes per day	46	44
More than 20 cigarettes per day	26	19
Mean number of cigarettes smoked per day	15.3	12.2
Standard error of the mean	0.98	0.58
Routine/manual		
Less than 10 cigarettes per day	30	21
10 to less than 20 cigarettes per day	45	48
More than 20 cigarettes per day	25	31
Mean number of cigarettes smoked per day	15.0	17.0
Standard error of the mean	1.84	1.16
Bases (unweighted)		
Non manual/non routine	*313*	*311*
Routine/manual	*304*	*320*
Bases (weighted)		
Non manual/non routine	*129*	*127*
Routine/manual	*150*	*135*

Table 4.36 Self-reported impact of messages on smoking-related behaviour, pre and post 1st October 2008, by sex

Smokers aged 18+

Impact of messages	**Pre 1st October 2008**	**Post 1st October 2008**
	% agreeing with each statement	
Men		
Warning messages have made me smoke less	27	27
Warning messages have made me smoke less around others	43	45
Warning messages have made me think about quitting	46	55
Warning messages have made me want to quit	28	34
Women		
Warning messages have made me smoke less	31	28
Warning messages have made me smoke less around others	51	49
Warning messages have made me think about quitting	50	57
Warning messages have made me want to quit	37	29
All		
Warning messages have made me smoke less	29	27
Warning messages have made me smoke less around others	47	47
Warning messages have made me think about quitting	48	56
Warning messages have made me want to quit	32	32
Bases (unweighted)		
Men	*274*	*287*
Women	*350*	*358*
All	*624*	*645*
Bases (weighted))		
Men	*145*	*136*
Women	*144*	*136*
All	*289*	*271*

Table 4.37 Self-reported impact of messages on smoking-related behaviour, pre and post 1st October 2008, by age group

Smokers aged 18+

Impact of messages	**Pre 1st October 2008**	**Post 1st October 2008**
	% agreeing with each statement	
18-44		
Warning messages have made me smoke less	27	28
Warning messages have made me smoke less around others	48	47
Warning messages have made me think about quitting	53	61
Warning messages have made me want to quit	35	33
45 and over		
Warning messages have made me smoke less	28	28
Warning messages have made me smoke less around others	47	47
Warning messages have made me think about quitting	40	48
Warning messages have made me want to quit	27	29
Bases (unweighted)		
18 to 44 years	*174*	*166*
45 years or more	*115*	*105*
Bases (weighted)		
18 to 44 years	*281*	*319*
45 years or more	*343*	*326*

Table 4.38 Self-reported impact of messages on smoking-related behaviour , pre and post 1st October 2008, by NS-SEC of household reference person

Smokers aged 18+

Impact of messages		
	Pre 1st October 2008	**Post 1st October 2008**
	% agreeing with each statement	
Non-routine/non-manual		
Warning messages have made me smoke less	23	27
Warning messages have made me smoke less around others	44	43
Warning messages have made me think about quitting	41	56
Warning messages have made me want to quit	24	30
Routine/manual		
Warning messages have made me smoke less	36	28
Warning messages have made me smoke less around others	52	50
Warning messages have made me think about quitting	54	57
Warning messages have made me want to quit	39	33
Bases (unweighted)		
Non routine/non manual	*308*	*309*
Routine/manual	*299*	*311*
Bases (weighted))		
Non routine/non manual	*127*	*127*
Routine/manual	*149*	*132*

Table 4.39 Frequency of changing smoking habits in the past month because of the health warning messages, pre and post 1st October 2008, by sex

Smokers aged 18+

In the past month…	**Pre 1st October 2008**	**Post 1st October 2008**
	%	%
Men		
…warning messages have stopped me from having a cigarette when about to smoke:		
Never	93	92
Once or twice	1	4
A few times	5	2
Lots of times	0	2
…I have stubbed out a cigarette because I thought about the harm of smoking		
Never	80	75
Once or twice	9	11
A few times	10	11
Lots of times	1	3
Women		
…warning messages have stopped me from having a cigarette when about to smoke:		
Never	88	87
Once or twice	7	3
A few times	3	9
Lots of times	1	2
…I have stubbed out a cigarette because I thought about the harm of smoking		
Never	74	77
Once or twice	11	8
A few times	10	14
Lots of times	5	1
All		
…warning messages have stopped me from having a cigarette when about to smoke:		
Never	90	89
Once or twice	4	3
A few times	4	6
Lots of times	1	2
…I have stubbed out a cigarette because I thought about the harm of smoking		
Never	77	76
Once or twice	10	9
A few times	10	13
Lots of times	3	2
Bases (unweighted)		
Men	*275*	*285*
Women	*352*	*361*
All	*627*	*646*
Bases (weighted))		
Men	*145*	*135*
Women	*145*	*136*
All	*290*	*271*

Table 4.40 Frequency of changing smoking habits because of the health warning messages in the past month, pre and post 1st October 2008, by age group

Smokers aged 18+

In the past month…	**Pre 1st October 2008**	**Post 1st October 2008**
	%	%
18-44		
…warning messages have stopped me from having a cigarette when about to smoke:		
Never	87	86
Once or twice	6	5
A few times	6	8
Lots of times	1	2
…I have stubbed out a cigarette because I thought about the harm of smoking:		
Never	74	72
Once or twice	14	12
A few times	10	14
Lots of times	2	2
45 and over		
…warning messages have stopped me from having a cigarette when about to smoke:		
Never	95	95
Once or twice	2	1
A few times	2	3
Lots of times	1	1
…I have stubbed out a cigarette because I thought about the harm of smoking		
Never	82	82
Once or twice	4	5
A few times	9	11
Lots of times	5	2
Bases (unweighted)		
18 to 44 years	*282*	*320*
45 years or more	*345*	*326*
Bases (weighted)		
18 to 44 years	*174*	*167*
45 years or more	*116*	*105*

Table 4.41 Frequency of changing smoking habits because of the health warning messages in the past month, pre and post 1st October 2008, by NS-SEC of household reference person

Smokers aged 18+

In the past month…	**Pre 1st October 2008**	**Post 1st October 2008**
	%	%
Non-routine/non-manual		
…warning messages have stopped me from having a cigarette when about to smoke:		
Never	96	92
Once or twice	2	4
A few times	2	3
Lots of times	1	1
…I have stubbed out a cigarette because I thought about the harm of smoking:		
Never	81	75
Once or twice	9	11
A few times	7	11
Lots of times	3	2
Routine/manual		
…warning messages have stopped me from having a cigarette when about to smoke:		
Never	86	87
Once or twice	7	2
A few times	7	9
Lots of times	1	2
…I have stubbed out a cigarette because I thought about the harm of smoking		
Never	74	76
Once or twice	12	7
A few times	11	15
Lots of times	3	2
Bases (unweighted)		
18 to 44 years	*308*	*309*
45 years or more	*299*	*312*
Bases (weighted)		
18 to 44 years	*127*	*127*
45 years or more	*147*	*132*

Table 4.42 Messages most likely to prompt smokers to think about behaviour, pre 1st October 2008, by sex

Smokers aged 18+

Messages recalled

	Men	Women	All
	%	%	%
Smoking Kills	20	27	23
Smoking harms you and other people	7	9	8
Smoking premature death	5	3	4
Smoking is related to heart disease	8	6	7
Smoking causes lung cancer	8	11	10
Smoking harms babies during pregnancy	4	9	6
Smoking causes a slow and painful death	2	0	1
Smoking causes impotence/infertility/other sexual dysfunction	7	3	5
Cigarettes contain chemicals	3	1	2
Smoking is addictive	0	1	1
Smoking causes premature ageing	2	1	1
Don't smoke around children	2	1	1
Helplines	0	1	0
Stopping smoking reduces the risk of heart and lung disease		1	0
Smoking harms children	2	1	2
Smoking harms you and damages your health	5	7	6
Any message made me think about smoking behaviour	*51*	*58*	*54*
Bases (unweighted)	*273*	*352*	*625*
Bases (weighted)	*147*	*145*	*292*

Table 4.43 Messages most likely to prompt smokers to think about behaviour, post 1st October 2008, by sex

Smokers aged 18+

Messages recalled	**Men**	**Women**	**All**
		%	%
Smoking Kills	12	10	11
Smoking harms you and other people	1	3	2
Diseased throat or neck / SMOKING CAN CAUSE A SLOW AND PAINFUL DEATH	3	4	3
Rotting teeth or gums or mouth / SMOKE CONTAINS BENZENE, NITROSAMINES, FORMALDEHYDE AND HYDROGEN CYANIDE	18	21	19
Heart surgery / SMOKING CLOGS THE ARTERIES AND CAUSES HEART ATTACKS AND STROKES	12	9	10
Healthy and diseased lungs / SMOKING CAUSES FATAL LUNG CANCER	25	19	22
Child breathing other's smoke	3	5	4
Baby in hospital crib / SMOKING WHEN PREGNANT HARMS YOUR BABY	3	13	8
Sperm / SMOKING CAN DAMAGE THE SPERM AND DECREASES FERTILITY	3	2	2
Aged hands / SMOKING CAUSES AGEING OF THE SKIN	1	1	1
Needle / SMOKING IS HIGHLY ADDICTIVE DON'T START	12	6	9
Bent cigarette / SMOKING MAY REDUCE THE BLOOD FLOW AND CAUSES IMPOTENCE	6	1	4
The risk of coronary heart disease is reduced 50% after 1 year of smoking abstinence	1	1	1
You can do it, we can help	-	-	-
Choose freedom, we'll help	-	-	-
Smoking is a serious nicotine addiction, don t be afraid to ask for help	-	-	-
Any message made me think about smoking behaviour	*62*	*68*	*65*
Bases (unweighted)	*273*	*352*	*625*
Bases (weighted)	*147*	*145*	*292*

Table 4.44 Perceptions and actions relating to the health warnings, pre and post 1st October 2008, by sex

Smokers aged 18+

In the past month…	Pre 1st October 2008	Post 1st October 2008
	%	%
Men		
Noticed the health warning:		
Several times a day	42	39
About once a day	19	18
Once every 2/3 days	11	12
About once a week	15	14
Less than once a week	5	7
Never	8	10
Looked or read the health warning:		
Several times a day	26	18
About once a day	17	16
Once every 2/3 days	12	11
About once a week	13	16
Less than once a week	13	16
Never	18	24
Thought about the health warning:		
Several times a day	15	19
About once a day	16	14
Once every 2/3 days	12	11
About once a week	14	14
Less than once a week	12	15
Never	32	27
Women		
Noticed the health warning:		
Several times a day	46	40
About once a day	17	19
Once every 2/3 days	10	9
About once a week	11	12
Less than once a week	8	9
Never	8	10
Looked or read the health warning:		
Several times a day	30	22
About once a day	16	20
Once every 2/3 days	12	10
About once a week	11	11
Less than once a week	13	15
Never	18	22
Thought about the health warning:		
Several times a day	17	19
About once a day	18	17
Once every 2/3 days	8	12
About once a week	16	11
Less than once a week	15	16
Never	26	24

Table 4.44 Cont…

Smokers aged 18+

In the past month…	Pre 1st October 2008	Post 1st October 2008
	%	%
All		
Noticed the health warning:		
Several times a day	44	39
About once a day	18	19
Once every 2/3 days	11	11
About once a week	13	13
Less than once a week	7	8
Never	8	10
Looked or read the health warning:		
Several times a day	28	20
About once a day	17	18
Once every 2/3 days	12	10
About once a week	12	13
Less than once a week	13	15
Never	18	23
Thought about the health warning:		
Several times a day	16	19
About once a day	17	16
Once every 2/3 days	10	11
About once a week	15	13
Less than once a week	14	16
Never	29	25
Bases (unweighted)		
Men	*146*	*135*
Women	*145*	*137*
All	*290*	*272*
Bases (weighted)		
Men	*276*	*286*
Women	*352*	*362*
All	*628*	*648*

Table 4.45 Perceptions and actions relating to the health warnings, pre and post 1st October 2008, by age group

Smokers aged 18+

	Pre 1st October 2008	Post 1st October 2008
	%	%
Aged 18-44		
Noticed the health warning:		
Several times a day	45	46
About once a day	17	18
Once every 2/3 days	9	11
About once a week	18	12
Less than once a week	5	8
Never	6	6
Looked or read the health warning:		
Several times a day	33	24
About once a day	17	20
Once every 2/3 days	15	12
About once a week	12	14
Less than once a week	14	15
Never	9	15
Thought about the health warning:		
Several times a day	17	22
About once a day	19	18
Once every 2/3 days	12	13
About once a week	16	15
Less than once a week	15	14
Never	22	19
Aged 44 and over		
Noticed the health warning:		
Several times a day	42	29
About once a day	18	20
Once every 2/3 days	13	11
About once a week	6	14
Less than once a week	10	10
Never	11	16
Looked or read the health warning:		
Several times a day	22	14
About once a day	17	14
Once every 2/3 days	8	8
About once a week	11	12
Less than once a week	11	15
Never	31	36
Thought about the health warning:		
Several times a day	15	15
About once a day	15	11
Once every 2/3 days	7	10
About once a week	12	10
Less than once a week	11	19
Never	40	35
Bases (unweighted)		
18 to 44 years	*280*	*317*
45 years or more	*344*	*323*
Bases (weighted)		
18 to 44 years	*174*	*165*
45 years or more	*114*	*103*

Table 4.46 Perceptions and actions relating to the health warnings, pre and post 1st October 2008, by NS-SEC of household reference person

Smokers aged 18+

	Pre 1st October 2008	Post 1st October 2008
	%	%
Non routine/non manual		
Noticed the health warning:		
Several times a day	41	38
About once a day	18	17
Once every 2/3 days	10	11
About once a week	18	17
Less than once a week	7	8
Never	6	8
Looked or read the health warning:		
Several times a day	24	16
About once a day	22	17
Once every 2/3 days	11	14
About once a week	14	16
Less than once a week	11	18
Never	19	19
Thought about the health warning:		
Several times a day	13	20
About once a day	18	13
Once every 2/3 days	9	13
About once a week	14	15
Less than once a week	17	17
Never	30	22
Routine/Manual		
Noticed the health warning:		
Several times a day	47	41
About once a day	18	18
Once every 2/3 days	12	10
About once a week	11	9
Less than once a week	4	9
Never	8	12
Looked or read the health warning:		
Several times a day	33	25
About once a day	13	18
Once every 2/3 days	13	7
About once a week	11	10
Less than once a week	13	13
Never	16	27
Thought about the health warning:		
Several times a day	18	20
About once a day	17	17
Once every 2/3 days	11	10
About once a week	16	8
Less than once a week	11	16
Never	26	29
Bases (unweighted)		
Non-routine/non manual	*310*	*310*
Routine/manual	*300*	*311*
Bases (weighted)		
Non-routine/non manual	*128*	*127*
Routine/manual	*149*	*131*

Table 4.47 Actions taken to avoid viewing the health warnings, pre and post 1st October 2008, by sex

Smokers aged 18+

In the past month…	**Pre 1st October 2008**	**Post 1st October 2008**
	%	%
Men		
Covered up the messages	2	7
Used a cigarette container	6	9
Didn't buy packets with certain warnings on	1	5
Kept the pack out of sight	11	21
Women		
Covered up the messages	9	22
Used a cigarette container	15	11
Didn't buy packets with certain warnings on	3	9
Kept the pack out of sight	18	30
All		
Covered up the messages	5	15
Used a cigarette container	10	10
Didn't buy packets with certain warnings on	2	7
Kept the pack out of sight	14	25
Bases (unweighted)		
Men	*275*	*286*
Women	*352*	*360*
All	*627*	*646*
Bases (weighted)		
Men	*145*	*135*
Women	*145*	*136*
All	*290*	*271*

Table 4.48 Actions taken to avoid viewing the health warnings, pre and post 1st October 2008, by age group

Smokers aged 18+

In the past month…		
	Pre 1st October 2008	**Post 1st October 2008**
	%	%
Aged 18-44		
Covered up the messages	7	19
Used a cigarette container	10	6
Didn't buy packets with certain warnings on	3	10
Kept the pack out of sight	16	30
44 and over		
Covered up the messages	3	9
Used a cigarette container	12	15
Didn't buy packets with certain warnings on	0	2
Kept the pack out of sight	12	19
Bases (unweighted)		
18 to 44 years	*282*	*320*
45 years or more	*345*	*326*
Bases (weighted)		
18 to 44 years	*174*	*167*
45 years or more	*116*	*105*

Table 4.49 Actions taken to avoid viewing the health warnings, pre and post 1st October 2008, by NS-SEC of household reference person

Smokers aged 18+

In the past month…		
	Pre 1st October 2008	**Post 1st October 2008**
	%	%
Non-routine/non-manual		
Covered up the messages	6	12
Used a cigarette container	6	7
Didn't buy packets with certain warnings on	-	4
Kept the pack out of sight	13	25
Routine/manual		
Covered up the messages	6	16
Used a cigarette container	14	13
Didn't buy packets with certain warnings on	4	9
Kept the pack out of sight	17	26
Bases (unweighted)		
Non routine/manual	*310*	*308*
Routine/Manual	*300*	*314*
Bases (weighted)		
Non routine/manual	*128*	*127*
Routine/Manual	*149*	*133*

7.3 Tables for section 4.4

Table 4.50 Attitudes to the health warning messages, pre and post 1st October 2008, by smoking status and sex

Aged 18+ with valid smoking status

Attitudes to the messages	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	% agreeing with each statement					
Men						
Messages tell the truth about the health risks of smoking	88	93	92	86	92	91
Messages make smoking seem less attractive	68	71	71	81	71	73
Messages are unnecessary	31	15	18	21	13	15
Messages provide important information about the health risks of smoking	87	91	90	90	90	90
Messages have no impact on people's smoking behaviour	51	45	47	46	46	46
Messages are easy to understand	97	96	96	94	93	93
Messages put me off smoking	36	47	45	37	54	50
Women						
Messages tell the truth about the health risks of smoking	86	90	89	89	89	89
Messages make smoking seem less attractive	64	58	59	75	66	68
Messages are unnecessary	25	16	18	26	10	13
Messages provide important information about the health risks of smoking	87	83	84	90	87	87
Messages have no impact on people's smoking behaviour	51	60	58	47	52	51
Messages are easy to understand	98	90	92	98	88	90
Messages put me off smoking	32	42	40	34	52	48
All						
Messages tell the truth about the health risks of smoking	87	91	90	88	91	90
Messages make smoking seem less attractive	66	64	65	78	68	70
Messages are unnecessary	28	15	18	24	12	14
Messages provide important information about the health risks of smoking	87	87	87	90	88	89
Messages have no impact on people's smoking behaviour	51	53	52	46	49	49
Messages are easy to understand	98	93	94	96	90	91
Messages put me off smoking	34	45	42	36	53	49
Bases (unweighted)						
Men	*279*	*309*	*588*	*286*	*315*	*601*
Women	*355*	*422*	*777*	*363*	*434*	*797*
All	*634*	*731*	*1365*	*649*	*749*	*1398*
Bases (weighted)						
Men	*150*	*507*	*657*	*136*	*543*	*679*
Women	*146*	*564*	*711*	*137*	*581*	*718*
All	*296*	*1072*	*1368*	*273*	*1124*	*1397*

Table 4.51 Attitudes to the health warning messages, pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Attitudes to the messages	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	% agreeing with each statement					
18-44						
Messages tell the truth about the health risks of smoking	94	95	95	92	96	95
Messages make smoking seem less attractive	68	71	70	84	80	81
Messages are unnecessary	24	15	17	20	9	12
Messages provide important information about the health risks of smoking	92	92	92	94	96	95
Messages have no impact on people's smoking behaviour	51	51	51	44	47	46
Messages are easy to understand	98	97	97	96	96	96
Messages put me off smoking	39	53	50	40	66	59
45 and over						
Messages tell the truth about the health risks of smoking	77	88	87	80	87	86
Messages make smoking seem less attractive	63	59	60	67	60	61
Messages are unnecessary	33	15	18	29	13	15
Messages provide important information about the health risks of smoking	80	83	82	83	83	83
Messages have no impact on people's smoking behaviour	51	54	54	50	51	51
Messages are easy to understand	97	90	91	97	86	87
Messages put me off smoking	26	38	36	29	43	41
Bases (unweighted)						
18 to 44 years	*287*	*269*	*556*	*321*	*256*	*577*
45 years or more	*347*	*462*	*809*	*328*	*493*	*821*
Bases (weighted)						
18 to 44 years	*179*	*473*	*652*	*168*	*470*	*637*
45 years or more	*117*	*599*	*716*	*105*	*654*	*759*

Table 4.52 Attitudes to the health warning messages, pre and post 1st October 2008, by smoking status and NS-SEC of Household Reference Person

Aged 18+ with valid smoking status

Attitudes to the messages	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	% agreeing with each statement					
Non-routine/non-manual						
Messages tell the truth about the health risks of smoking	88	93	92	90	92	91
Messages make smoking seem less attractive	70	71	71	78	71	72
Messages are unnecessary	24	14	15	20	11	12
Messages provide important information about the health risks of smoking	87	89	89	89	89	89
Messages have no impact on people's smoking behaviour	51	50	50	45	50	49
Messages are easy to understand	97	94	95	94	90	90
Messages put me off smoking	31	45	43	34	52	49
Routine/manual						
Messages tell the truth about the health risks of smoking	87	88	88	86	89	88
Messages make smoking seem less attractive	64	51	55	77	63	67
Messages are unnecessary	30	17	21	28	15	18
Messages provide important information about the health risks of smoking	86	81	83	90	86	87
Messages have no impact on people's smoking behaviour	51	60	57	47	49	48
Messages are easy to understand	98	91	93	99	91	93
Messages put me off smoking	35	43	41	37	54	49
Bases (unweighted)						
Non-routine/non-manual	*314*	*502*	*816*	*311*	*505*	*816*
Routine/Manual	*303*	*222*	*525*	*313*	*233*	*546*
Bases (weighted)						
Non-routine/non-manual	*133*	*716*	*848*	*128*	*736*	*864*
Routine/Manual	*151*	*344*	*495*	*133*	*362*	*495*

Table 4.53 Self-reported perception of smoking upon quality of life and future health

Smokers aged 18 and over

Perceptions of health and quality of life	Pre 1st October 2008	Post 1st October 2008
	%	%
Men		
Extent to which smoking has damaged health:		
Not at all	21	23
Just a little	43	38
A fair amount	26	33
A great deal	10	6
Extent to which worried about smoking damaging health in the future:		
Not at all worried	21	14
A little worried	26	29
Moderately worried	29	36
Very worried	24	21
Extent to which smoking has lowered quality of life:		
Not at all	45	45
Just a little	34	29
A fair amount	15	19
A great deal	6	6
Extent to which worried about smoking damaging quality of life in the future:		
Not at all worried	23	17
A little worried	29	30
Moderately worried	25	33
Very worried	24	19
Women		
Extent to which smoking has damaged health:	33	20
Not at all	37	43
Just a little	22	23
A fair amount	8	14
A great deal		
Extent to which worried about smoking damaging health in the future:	13	14
Not at all worried	24	29
A little worried	33	28
Moderately worried	30	29
Very worried		
Extent to which smoking has lowered quality of life:	42	38
Not at all	25	35
Just a little	22	22
A fair amount	11	6
A great deal		
Extent to which worried about smoking damaging quality of life in the future:		
Not at all worried	18	15
A little worried	28	32
Moderately worried	24	27
Very worried	30	25

Cont..

Table 4.53 Continued

Smokers aged 18 and over

Perceptions of health and quality of life	Pre 1st October 2008	Post 1st October 2008
	%	%
All		
Extent to which smoking has damaged health:		
Not at all	27	21
Just a little	40	41
A fair amount	24	28
A great deal	9	10
Extent to which worried about smoking damaging health in the future:		
Not at all worried	17	14
A little worried	25	29
Moderately worried	31	32
Very worried	27	25
Extent to which smoking has lowered quality of life:		
Not at all	44	41
Just a little	30	32
A fair amount	18	21
A great deal	9	6
Extent to which worried about smoking damaging quality of life in the future:		
Not at all worried	21	16
A little worried	28	31
Moderately worried	24	30
Very worried	27	22
Bases (unweighted)		
Men	*276*	*289*
Women	*352*	*353*
All	*628*	*642*
Bases (weighted)		
Men	*148*	*137*
Women	*144*	*133*
All	*291*	*270*

Table 4.54 Self-reported perceptions of smoking upon quality of life and health, pre and post 1st October 2008, by age group

Smokers aged 18 and over

Perceptions of health and quality of life	Pre 1st October 2008	Post 1st October 2008
	%	%
18-44		
Extent to which smoking has damaged health:		
Not at all	26	18
Just a little	40	41
A fair amount	23	30
A great deal	11	10
Extent to which worried about smoking damaging health in the future:		
Not at all worried	10	7
A little worried	24	30
Moderately worried	33	33
Very worried	33	29
Extent to which smoking has lowered quality of life:		
Not at all	38	38
Just a little	33	33
A fair amount	19	23
A great deal	10	6
Extent to which worried about smoking damaging quality of life in the future:		
Not at all worried	14	10
A little worried	26	33
Moderately worried	27	32
Very worried	33	25
45 and over		
Extent to which smoking has damaged health:	28	26
Not at all	40	40
Just a little	25	26
A fair amount	7	9
A great deal		
Extent to which worried about smoking damaging health in the future:	27	24
Not at all worried	27	28
A little worried	29	29
Moderately worried	18	18
Very worried		
Extent to which smoking has lowered quality of life:	52	47
Not at all	24	31
Just a little	17	16
A fair amount	7	6
A great deal		
Extent to which worried about smoking damaging quality of life in the future:		
Not at all worried	31	25
A little worried	31	29
Moderately worried	21	28
Very worried	18	18
Bases (unweighted)		
18 to 44 years	*284*	*315*
45 years or more	*344*	*327*
Bases (weighted)		
18 to 44 years	*177*	*166*
45 years or more	*115*	*104*

Table 4.55 Self-reported perceptions of smoking upon quality of life and health, pre and post 1st October 2008, by NS-SEC of household reference person

Smokers aged 18 and over

Perceptions of health and quality of life	Pre 1st October 2008	Post 1st October 2008
	%	%
Non-routine/non-manual		
Extent to which smoking has damaged health:		
Not at all	25	20
Just a little	45	45
A fair amount	26	29
A great deal	4	6
Extent to which worried about smoking damaging health in the future:		
Not at all worried	14	9
A little worried	26	27
Moderately worried	32	39
Very worried	28	25
Extent to which smoking has lowered quality of life:		
Not at all	49	45
Just a little	35	36
A fair amount	13	15
A great deal	3	4
Extent to which worried about smoking damaging quality of life in the future:		
Not at all worried	18	13
A little worried	30	31
Moderately worried	26	32
Very worried	25	24
Routine/manual		
Extent to which smoking has damaged health:	30	22
Not at all	38	37
Just a little	20	28
A fair amount	12	13
A great deal		
Extent to which worried about smoking damaging health in the future:	19	18
Not at all worried	25	31
A little worried	32	26
Moderately worried	23	25
Very worried		
Extent to which smoking has lowered quality of life:	41	40
Not at all	27	28
Just a little	21	25
A fair amount	12	7
A great deal		
Extent to which worried about smoking damaging quality of life in the future:		
Not at all worried	24	20
A little worried	27	32
Moderately worried	24	29
Very worried	26	20
Bases (unweighted)		
Non-routine/Non-manual	*131*	*127*
Routine/Manual	*147*	*131*
Bases (weighted)		
Non-routine/Non-manual	*310*	*306*
Routine/Manual	*300*	*311*

Table 4.56 Knowledge of chemicals in cigarette smoke, pre and post 1st October 2008, by smoking status and sex

Aged 18+ with valid smoking status

Knowledge of chemicals	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	% agreeing with each chemical is contained within cigarette smoke					
Men						
Benzene	71	62	64	72	63	64
Nitrosamines	29	28	28	37	22	25
Formaldehyde	43	37	39	48	31	34
Hydrogen Cyanide	50	36	39	55	39	42
Difluride (placebo chemical)	22	17	18	26	17	19
Women						
Benzene	67	45	49	61	42	46
Nitrosamines	34	22	24	28	22	23
Formaldehyde	41	28	31	35	30	31
Hydrogen Cyanide	50	25	30	37	25	28
Difluride (placebo chemical)	26	14	16	20	15	16
All						
Benzene	69	53	56	66	52	55
Nitrosamines	32	25	26	33	22	24
Formaldehyde	42	33	35	42	30	33
Hydrogen Cyanide	50	30	34	46	32	35
Difluride (placebo chemical)	24	15	17	23	16	18
Bases (unweighted)						
Men	*280*	*309*	*589*	*288*	*316*	*604*
Women	*355*	*422*	*777*	*365*	*436*	*801*
All	*635*	*731*	*1366*	*653*	*752*	*1405*
Bases (weighted)						
Men	*150*	*507*	*658*	*136*	*543*	*680*
Women	*146*	*564*	*711*	*138*	*585*	*723*
All	*297*	*1072*	*1368*	*274*	*1128*	*1402*

Table 4.57 Knowledge of chemicals in cigarette smoke, pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Knowledge of chemicals	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	% agreeing with each chemical is contained within cigarette smoke					
18-44						
Benzene	77	65	68	76	61	65
Nitrosamines	41	34	36	40	30	32
Formaldehyde	50	44	46	49	38	41
Hydrogen Cyanide	54	37	42	52	42	44
Difluride (placebo chemical)	32	25	27	29	25	26
45 and over						
Benzene	55	43	45	51	46	47
Nitrosamines	17	17	17	21	16	17
Formaldehyde	30	24	25	29	25	25
Hydrogen Cyanide	43	25	28	37	25	27
Difluride (placebo chemical)	11	7	8	14	10	10
Bases (unweighted)						
Men	*287*	*269*	*556*	*322*	*257*	*579*
Women	*348*	*462*	*810*	*331*	*495*	*826*
Bases (weighted)						
Men	*179*	*473*	*652*	*168*	*473*	*641*
Women	*117*	*599*	*716*	*106*	*655*	*761*

Table 4.58 Knowledge of chemicals in cigarette smoke, pre and post 1st October 2008, by smoking status and age group

Aged 18+ with valid smoking status

Knowledge of chemicals	Pre 1st October 2008			Post 1st October 2008		
	Current cigarette smoker	Non-smoker	All	Current cigarette smoker	Non-smoker	All
	% agreeing with each chemical is contained within cigarette smoke					
Non-routine/Non-manual						
Benzene	73	57	60	77	52	56
Nitrosamines	30	27	27	38	21	24
Formaldehyde	45	34	36	48	31	34
Hydrogen Cyanide	50	34	36	52	33	36
Difluride (placebo chemical)	19	15	16	24	18	19
Routine/Manual						
Benzene	66	45	52	57	53	54
Nitrosamines	35	20	25	29	25	26
Formaldehyde	41	30	33	37	31	32
Hydrogen Cyanide	51	23	32	41	31	34
Difluride (placebo chemical)	29	17	21	23	14	16
Bases (unweighted)						
Non-routine/Non-manual	*133*	*716*	*849*	*128*	*736*	*865*
Routine/Manual	*151*	*344*	*495*	*133*	*366*	*500*
Bases (weighted)						
Non-routine/Non-manual	*315*	*502*	*817*	*312*	*506*	*818*
Routine/Manual	*303*	*222*	*525*	*316*	*235*	*551*

8 Tables for section 5: Young People

8.1 Tables for section 5.2

Table 5.1 Number of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by smoking status and sex

All aged 13-17

Number of conditions recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
Young men		
None[a]	3	2
1-2	56	61
3-4	33	31
5 or more	8	6
Mean number of health effects recalled	2.3	2.3
Standard error of the mean	0.08	0.08
Young women		
None[a]	4	3
1-2	57	59
3-4	35	31
5 or more	4	7
Mean number of health effects recalled	2.3	2.3
Standard error of the mean	0.07	0.08
All		
None[a]	4	2
1-2	56	60
3-4	34	31
5 or more	6	7
Mean number of health effects recalled	2.3	2.3
Standard error of the mean	0.05	0.06
Bases (unweighted)		
Young men	*429*	*449*
Young women	*420*	*410*
All	*849*	*859*
Bases (weighted)		
Young men	*436*	*445*
Young women	*413*	*414*
All	*849*	*859*

a This category also includes those who said that they did not know of any health effects of smoking.

Table 5.2 Number of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by age group

All aged 13-17

Number of conditions recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
13-15		
None[a]	4	3
1-2	62	65
3-4	29	27
5 or more	5	5
Mean number of health effects recalled	2.2	2.2
Standard error of the mean	0.06	0.10
16-17		
None[a]	3	1
1-2	48	54
3-4	41	36
5 or more	8	10
Mean number of health effects recalled	2.5	2.6
Standard error of the mean	0.06	0.11
Bases (unweighted)		
13-15	*589*	*641*
16-17	*260*	*218*
Bases (weighted)		
13-15	*497*	*506*
16-17	*352*	*353*

a This category also includes those who said that they did not know of any health effects of smoking.

Table 5.3 Number of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by NS-SEC of household reference person

All aged 13-17

Number of conditions recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
Non-routine/non-manual		
None[a]	2	2
1-2	55	58
3-4	37	32
5 or more	7	7
Mean number of health effects recalled	2.4	2.4
Standard error of the mean	0.06	0.11
Routine/manual		
None[a]	8	3
1-2	59	63
3-4	28	28
5 or more	5	7
Mean number of health effects recalled	2.1	2.2
Standard error of the mean	0.07	0.10
Bases (unweighted)		
Non-routine/non-manual	*568*	*553*
Routine/manual	*262*	*285*
Bases (weighted)		
Non-routine/non-manual	*566*	*544*
Routine/manual	*263*	*293*

a This category also includes those who said that they did not know of any health effects of smoking.

Table 5.4 Specific health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by smoking status

Aged 13-17

Specific health effects recalled	Pre 1st October 2008			Post 1st October 2008		
	Non-smoker	Current cigarette smoker	All	Non-smoker	Current cigarette smoker	All
	%	%	%	%	%	%
Addiction	1	-	0	1	-	1
Allergies	-	-	-	-	-	-
Asthma	5	5	5	4	7	4
Brain Damage	-	4	2	1	1	1
Bad Breath	3	-	3	1	2	1
Blood circulation problems/blood clots/blood problems	6	4	5	2	2	2
Bronchitis/chronic bronchitis	5	13	5	6	7	6
Cancer - breast	2	-	1	1	-	1
Cancer - lung	77	63	75	77	75	76
Cancer - oral	20	26	21	23	40	25
Cancer	26	30	26	21	30	22
Cancer - other	1	-	1	1	-	1
Chest infections	2	5	3	2	1	1
Cot death/SIDS	-	-	-	-	-	-
Coughing including coughs and colds	5	1	4	5	1	4
Death / premature death	1	-	1	1	1	1
Dizziness/nausea	-	-	0	-	-	-
Ear infections in children	-	-	-	0	-	0
Effect on a foetus / unborn child		-	-	0	-	0
Emphysema	6	18	7	4	1	3
Eye disease/glaucoma		3	0	0	1	0
Gangrene / amputation	0	1	0	1	-	1
Gum disease/tooth loss/mouth disease/throat problems	4	2	3	7	11	7
Headaches	0	-	0	0	-	0
Heart attack/disease/angina/ coronary problems	29	23	28	33	33	33
High blood pressure	1	2	1	1	1	1
Impotence/sexual dysfunction/ infertility	1	3	1	1	8	2
Lung disease/lung or chest problems/COPD/pneumonia/TB	15	18	15	20	20	20
Poor physical condition/loss of energy	2	1	2	2	3	2
Respiratory problems/difficulty breathing/shortness of breath	9	10	9	7	9	7
Smaller babies/reduced growth	1	-	1	0	1	0
Second-hand smoke	0	-	0	-	-	-
Stroke	1	1	1	1	1	1
Wrinkles/premature ageing	1	-	1	2	3	2
Yellow teeth/fingers/bad skin/effect on appearance	5	2	5	5	7	6
Other	2	5	2	0	-	0
None[a]	9	3	4	1	2	2
Bases (unweighted)	*778*	*71*	*849*	*787*	*72*	*859*
Bases (weighted)	*767*	*82*	*849*	*759*	*100*	*859*

[a] This category also includes those who said that they did not know of any health effects of smoking.

Table 5.5 Type of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by sex

All aged 13-17

Type of condition recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
Young men		
Lung and respiratory problems	36	27
Heart disease and circulation problems	31	33
Cancer	85	90
Impact on children/unborn babies	-	1
Effect on appearance	6	7
Young women		
Lung and respiratory problems	33	37
Heart disease and circulation problems	31	36
Cancer	89	84
Impact on children/unborn babies	1	0
Effect on appearance	8	7
All		
Lung and respiratory problems	35	32
Heart disease and circulation problems	31	34
Cancer	87	87
Impact on children/unborn babies	1	0
Effect on appearance	7	7
Bases (unweighted)		
Young men	*429*	*449*
Young women	*420*	*410*
All	*849*	*859*
Bases (weighted)		
Young men	*436*	*445*
Young women	*413*	*414*
All	*849*	*859*

Table 5.6 Type of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by age group

All aged 13-17

Type of condition recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
13-15		
Lung and respiratory problems	31	31
Heart disease and circulation problems	31	31
Cancer	86	86
Impact on children/unborn babies	0	1
Effect on appearance	5	6
16-17		
Lung and respiratory problems	40	33
Heart disease and circulation problems	31	39
Cancer	88	88
Impact on children/unborn babies	1	0
Effect on appearance	9	8
Bases (unweighted)		
13-15	*589*	*641*
16-17	*260*	*218*
Bases (weighted)		
13-15	*497*	*506*
16-17	*352*	*353*

Table 5.7 Type of health effects associated with smoking (spontaneously recalled), pre and post 1st October 2008, by NS-SEC of household reference person

All aged 13-17

Type of condition recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
Non-routine/Non-manual		
Lung and respiratory problems	37	33
Heart disease and circulation problems	34	35
Cancer	89	86
Impact on children/unborn babies	1	1
Effect on appearance	7	8
Routine/manual		
Lung and respiratory problems	31	31
Heart disease and circulation problems	25	33
Cancer	83	87
Impact on children/unborn babies	1	0
Effect on appearance	6	4
Bases (unweighted)		
Non-routine/non-manual	*568*	*553*
Routine/manual	*262*	*285*
Bases (weighted)		
Non-routine/non-manual	*566*	*544*
Routine/manual	*263*	*293*

Table 5.8 Number of health effects associated with exposure to secondhand smoke (spontaneously recalled), pre and post 1st October 2008, by sex

All aged 13-17

Number of conditions recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
Young men		
None[a]	15	22
1-2	61	61
3-4	22	17
5 or more	2	1
Mean number of health effects recalled	1.7	1.5
Standard error of the mean	0.08	0.08
Young women		
None[a]	24	21
1-2	56	62
3-4	19	15
5 or more	0	2
Mean number of health effects recalled	1.4	1.4
Standard error of the mean	0.07	0.08
All		
None[a]	19	21
1-2	59	61
3-4	21	16
5 or more	1	2
Mean number of health effects recalled	1.6	1.5
Standard error of the mean	0.05	0.05
Bases (unweighted)		
Young men	*428*	*449*
Young women	*420*	*410*
All	*848*	*859*
Bases (weighted)		
Young men	*435*	*445*
Young women	*413*	*414*
All	*848*	*859*

a This category also includes those who said that they did not know of any health effects of exposure to secondhand smoke

Table 5.9 Number of health effects associated with exposure to secondhand smoke (spontaneously recalled), pre and post 1st October 2008, by age group

All aged 13-17

Number of conditions recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
13-15		
None[a]	24	24
1-2	59	63
3-4	16	12
5 or more	1	1
Mean number of health effects recalled	1.4	1.3
Standard error of the mean	0.05	0.10
16-17		
None[a]	13	18
1-2	58	59
3-4	27	21
5 or more	2	2
Mean number of health effects recalled	1.8	1.7
Standard error of the mean	0.05	0.11
Bases (unweighted)		
13-15	*588*	*641*
16-17	*260*	*218*
Bases (weighted)		
13-15	*496*	*506*
16-17	*352*	*353*

a This category also includes those who said that they did not know of any health effects of exposure to secondhand smoke

Table 5.10 Number of health effects associated with exposure to secondhand smoke (spontaneously recalled), pre and post 1st October 2008, by NS-SEC of household reference person

All aged 13-17

Number of conditions recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
Non-routine/Non-manual		
None[a]	16	18
1-2	60	63
3-4	23	18
5 or more	1	2
Mean number of health effects recalled	1.7	1.5
Standard error of the mean	0.06	0.10
Routine/manual		
None[a]	25	27
1-2	56	60
3-4	17	12
5 or more	2	2
Mean number of health effects recalled	1.4	1.3
Standard error of the mean	0.06	0.10
Bases (unweighted)		
Non-routine/non-manual	*568*	*553*
Routine/manual	*261*	*285*
Bases (weighted)		
Non-routine/non-manual	*566*	*544*
Routine/manual	*262*	*293*

a This category also includes those who said that they did not know of any health effects of exposure to secondhand smoke

Table 5.11 Specific health effects associated with exposure to secondhand smoke (spontaneously recalled), pre and post 1st October 2008, by smoking status

Aged 13-17

Specific health effects	Pre 1st October 2008			Post 1st October 2008		
	Non-smoker	Current cigarette smoker	All	Non-smoker	Current cigarette smoker	All
	%	%	%	%	%	%
Addiction	0	-	0	1	-	1
Allergies	-	-	-	-	-	-
Asthma	10	10	10	6	9	9
Brain Damage	-	1	1	1	-	1
Bad Breath	0	1	0	0	1	0
Blood circulation problems/blood clots/blood problems	3	1	3	1	1	1
Bronchitis/chronic bronchitis	6	9	6	4	7	4
Cancer - breast	0	1	0	1	1	1
Cancer - lung	53	34	51	50	63	51
Cancer - oral	10	14	11	10	24	12
Cancer	13	23	14	7	11	8
Cancer - other	0		0	0	-	0
Chest infections	4	3	4	3	6	3
Cot death/SIDS	-	-	-	-	-	-
Coughing including coughs and colds	8	6	7	6	6	6
Death / premature death	0	-	0	0	-	0
Dizziness/nausea	-	1	0	-	-	0
Ear infections in children	-	-	-	-	-	-
Effect on a foetus / unborn child	0	-	0	-	-	
Emphysema	3	2	3	1	3	1
Eye disease/glaucoma	-	-	-	-	1	0
Gangrene / amputation	-	-	-	1		0
Gum disease/tooth loss/mouth disease/throat problems	2	-	1	1	4	1
Headaches	0	-	0	0	-	0
Heart attack/disease/angina/ coronary problems	14	10	13	14	17	15
High blood pressure	0	-	0	0	-	0
Impotence/sexual dysfunction/ infertility	0	-	0	0	-	0
Lung disease/lung or chest problems/COPD/pneumonia/TB	13	12	13	14	11	14
Poor physical condition/loss of energy	1	-	0	1	-	1
Respiratory problems/difficulty breathing/shortness of breath	10	11	10	11	6	10
Smaller babies/reduced growth	0	-	0	-	7	1
Second-hand smoke	5	12	5	1	2	1
Stroke	0	1	0	0	-	0
Wrinkles/premature ageing	0	-	0	-	1	0
Yellow teeth/fingers/bad skin/effect on appearance	0	-	0	1	-	1
Other	1	-	1	-	-	-
None[a]	3	9	4	2	1	2
Bases (unweighted)	*766*	*82*	*848*	*759*	*100*	*859*
Bases (weighted)	*777*	*71*	*848*	*787*	*72*	*859*

[a] This category also includes those who said that they did not know of any health effects of exposure to secondhand smoke

Table 5.12 Type of health effects associated with exposure to secondhand smoke (spontaneously recalled), pre and post 1st October 2008, by sex

All aged 13-17

Type of condition recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
Young men		
Lung and respiratory problems	38	31
Heart disease and circulation problems	16	18
Cancer	66	61
Impact on children/unborn babies	0	2
Effect on appearance	2	1
Young women		
Lung and respiratory problems	34	43
Heart disease and circulation problems	15	13
Cancer	56	53
Impact on children/unborn babies	1	-
Effect on appearance	0	1
All		
Lung and respiratory problems	36	37
Heart disease and circulation problems	15	16
Cancer	61	57
Impact on children/unborn babies	0	1
Effect on appearance	1	1
Bases (unweighted)		
Young men	*428*	*449*
Young women	*420*	*410*
All	*848*	*859*
Bases (weighted)		
Young men	*435*	*445*
Young women	*413*	*414*
All	*848*	*859*

Table 5.13 Type of health effects associated with exposure to secondhand smoke (spontaneously recalled), pre and post 1st October 2008, by age group

All aged 13-17

Type of condition recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
13-15		
Lung and respiratory problems	32	35
Heart disease and circulation problems	15	14
Cancer	58	55
Impact on children/unborn babies	1	-
Effect on appearance	1	1
16-17		
Lung and respiratory problems	42	39
Heart disease and circulation problems	15	18
Cancer	67	60
Impact on children/unborn babies	-	2
Effect on appearance	2	1
Bases (unweighted)		
13-15	*588*	*641*
16-17	*260*	*218*
Bases (weighted)		
13-15	*496*	*506*
16-17	*352*	*353*

Table 5.14 Type of health effects associated with exposure to secondhand smoke (spontaneously recalled), pre and post 1st October 2008, by NS-SEC of household reference person

All aged 13-17

Type of condition recalled	Pre 1st October 2008	Post 1st October 2008
	%	%
Non-routine/non-manual		
Lung and respiratory problems	39	38
Heart disease and circulation problems	19	16
Cancer	65	61
Impact on children/unborn babies	0	-
Effect on appearance	1	1
Routine/manual		
Lung and respiratory problems	31	33
Heart disease and circulation problems	9	16
Cancer	54	53
Impact on children/unborn babies	1	2
Effect on appearance	2	1
Bases (unweighted)		
Non-routine/non-manual	*566*	*544*
Manual	*262*	*293*
Bases (weighted)		
Non-routine/non-manual	*566*	*544*
Manual	*262*	*293*

Table 5.15 Perceived health risk of smoking, pre and post 1st October 2008, by sex

All aged 13-17

Perceived health risk	**Pre 1st October 2008**	**Post 1st October 2008**
	% agreeing that smokers are more likely to experience each condition	
Young men		
Premature ageing of the skin	89	89
Fertility problems	76	72
Heart disease	94	94
Stroke	78	81
Lung cancer	98	97
Young women		
Premature ageing of the skin	93	93
Fertility problems	81	74
Heart disease	96	92
Stroke	80	76
Lung cancer	98	97
All		
Premature ageing of the skin	91	91
Fertility problems	78	73
Heart disease	95	93
Stroke	79	79
Lung cancer	98	97
Bases (unweighted)		
Young men	*429*	*445*
Young women	*420*	*410*
All	*849*	*855*
Bases (weighted)		
Young men	*436*	*439*
Young women	*413*	*414*
All	*849*	*853*

Table 5.16 Perceived health risk of smoking, pre and post 1st October 2008, by age group

All aged 13-17

Perceived health risk	Pre 1st October 2008	Post 1st October 2008
	% agreeing that smokers are more likely to experience each condition	
13-15		
Premature ageing of the skin	91	90
Fertility problems	75	68
Heart disease	94	95
Stroke	77	82
Lung cancer	98	97
16-17		
Premature ageing of the skin	92	93
Fertility problems	83	81
Heart disease	97	90
Stroke	81	75
Lung cancer	98	98
Bases (unweighted)		
13-15	*589*	*640*
16-17	*260*	*215*
Bases (weighted)		
13-15	*497*	*504*
16-17	*352*	*350*

Table 5.17 Perceived health risk of smoking, pre and post 1st October 2008, by age NS-SEC of household reference person

All aged 13-17

Perceived health risk	Pre 1st October 2008	Post 1st October 2008
	% agreeing that smokers are more likely to experience each condition	
Non-routine/Non-manual		
Premature ageing of the skin	92	92
Fertility problems	82	73
Heart disease	95	93
Stroke	80	78
Lung cancer	99	98
Routine/Manual		
Premature ageing of the skin	90	89
Fertility problems	72	74
Heart disease	95	93
Stroke	77	81
Lung cancer	97	96
Bases (unweighted)		
Non-routine/non-manual	*262*	*283*
Routine/Manual	*849*	*855*
Bases (weighted)		
Non-routine/non-manual	*566*	*542*
Routine/Manual	*263*	*289*

Table 5.18 Perceived health risk of smoking score, pre and post 1st October 2008, by sex

All aged 13-17

Perception of the health risks of smoking score	Pre 1st October 2008	Post 1st October 2008
	%	%
Young men		
No perception of risk (0)	0	0
1-3	2	2
4-6	27	26
7-9	55	55
Highest perception of risk (10)	15	17
Young women		
No perception of risk (0)	0	-
1-3	2	2
4-6	21	22
7-9	60	60
Highest perception of risk (10)	17	17
All		
No perception of risk (0)	0	0
1-3	2	2
4-6	24	24
7-9	58	57
Highest perception of risk (10)	16	17
Bases (unweighted)		
Young men	*429*	*445*
Young women	*420*	*410*
All	*849*	*855*
Bases (weighted)		
Young men	*436*	*439*
Young women	*413*	*414*
All	*849*	*853*

Table 5.19 Perceived health risk of smoking score, pre and post 1st October 2008, by age group

All aged 13-17

Perception of health risks of smoking score	Pre 1st October 2008	Post 1st October 2008
	%	%
13-15		
No perception of risk (0)	0	0
1-3	2	2
4-6	27	25
7-9	56	61
Highest perception of risk (10)	15	13
16-17		
No perception of risk (0)	0	-
1-3	1	2
4-6	20	22
7-9	61	52
Highest perception of risk (10)	18	23
Bases (unweighted)		
13-15	*589*	*640*
16-17	*260*	*215*
Bases (weighted)		
13-15	*497*	*504*
16-17	*352*	*350*

Table 5.20 Perceived health risk of smoking score, pre and post 1st October 2008, by age NS-SEC of household reference person

All aged 13-17

Perception of health risks of smoking score	Pre 1st October 2008	Post 1st October 2008
	%	%
Non-routine/Non-manual		
No perception of risk (0)	0	0
1-3	1	1
4-6	24	25
7-9	59	58
Highest perception of risk (10)	16	16
Routine/Manual		
No perception of risk (0)	0	-
1-3	3	4
4-6	24	22
7-9	56	55
Highest perception of risk (10)	16	20
Bases (unweighted)		
Non-routine/non-manual	*262*	*283*
Routine/Manual	*849*	*855*
Bases (weighted)		
Non-routine/non-manual	*564*	*542*
Routine/Manual	*263*	*288*

Table 5.21 Knowledge of the health effects of smoking, pre and post 1st October 2008, by sex

All aged 13-17

Knowledge of health effects	Pre 1st October 2008	Post 1st October 2008
	% agreeing that smoking causes each condition	
Young men		
Lung cancer	100	100
Heart disease	96	95
Stroke	78	77
Impotence in men	64	58
Mouth or throat cancer	96	95
Infertility	61	62
Gum or mouth disease	93	93
Smaller babies or reduced growth of babies during pregnancy[a]	80	82
Wrinkles and premature ageing	79	81
Arthritis	31	29
Alzheimer's disease[a]	28	37
Young women		
Lung cancer	100	100
Heart disease	96	94
Stroke	82	78
Impotence in men	55	50
Mouth or throat cancer	97	96
Infertility	64	60
Gum or mouth disease	94	96
Smaller babies or reduced growth of babies during pregnancy[a]	92	98
Wrinkles and premature ageing	87	87
Arthritis	32	35
Alzheimer's disease[a]	42	36
All		
Lung cancer	100	100
Heart disease	96	95
Stroke	80	78
Impotence in men	60	54
Mouth or throat cancer	97	95
Infertility	63	61
Gum or mouth disease	93	95
Smaller babies or reduced growth of babies during pregnancy[a]	86	90
Wrinkles and premature ageing	83	84
Arthritis	32	32
Alzheimer's disease[a]	35	36
Bases (unweighted)		
Young men	*429*	*446*
Young women	*420*	*410*
All	*849*	*856*
Bases (weighted)		
Young men	*436*	*442*
Young women	*413*	*414*
All	*849*	*856*

[a] These questions were only asked of those aged 16-17. Unweighted base sizes for all are 260 pre 1st October 2008 and 216 post 1st October 2008.

Table 5.22 Knowledge of the health effects associated with smoking, pre and post 1st October 2008, by age group

All aged 13-17

Knowledge of health effects	Pre 1st October 2008	Post 1st October 2008
	% agreeing that smoking causes each condition	
13-15		
Lung cancer	99	99
Heart disease	95	96
Stroke	78	78
Impotence in men	53	43
Mouth or throat cancer	96	92
Infertility	56	55
Gum or mouth disease	94	94
Smaller babies or reduced growth of babies during pregnancy	N/A	N/A
Wrinkles and premature ageing	81	81
Arthritis	32	33
Alzheimer's disease	N/A	N/A
16-17		
Lung cancer	100	0
Heart disease	97	93
Stroke	82	77
Impotence in men	70	70
Mouth or throat cancer	98	99
Infertility	73	69
Gum or mouth disease	92	95
Smaller babies or reduced growth of babies during pregnancy	86	90
Wrinkles and premature ageing	85	87
Arthritis	30	30
Alzheimer's disease	35	36
Bases (unweighted)		
13-15	*589*	*640*
16-17	*260*	*216*
Bases (weighted)		
13-15	*497*	*504*
16-17	*352*	*352*

Table 5.23 Knowledge of the health effects associated with smoking, pre and post 1st October 2008, by NS-SEC of household reference person

All aged 13-17

Knowledge of health effects	Pre 1st October 2008	Post 1st October 2008
	% agreeing that smoking causes each condition	
Non-routine/non-manual households		
Lung cancer	100	99
Heart disease	97	94
Stroke	80	79
Impotence in men	1	2
Mouth or throat cancer	97	96
Infertility	66	60
Gum or mouth disease	94	95
Smaller babies or reduced growth of babies during pregnancy	90	94
Wrinkles and premature ageing	84	84
Arthritis	30	31
Alzheimer's disease	35	30
Routine/manual households		
Lung cancer	99	100
Heart disease	95	96
Stroke	78	77
Impotence in men	17	27
Mouth or throat cancer	96	94
Infertility	57	63
Gum or mouth disease	93	94
Smaller babies or reduced growth of babies during pregnancy	77	79
Wrinkles and premature ageing	83	83
Arthritis	34	31
Alzheimer's disease	34	52
Bases (unweighted)		
Non-routine/non-manual	*566*	*542*
Routine/manual	*263*	*292*
Bases (weighted)		
Non-routine/non-manual	*568*	*551*
Routine/manual	*262*	*284*

8.2 Tables for section 5.2

Table 5.24 Smoking behaviour, pre and post 1st October, by sex

All aged 13-17

Self-reported cigarette smoking status	Pre 1st October 2008	Post 1st October 2008
	%	%
Young men		
Current cigarette smoker	10	13
Used to smoke cigarettes (including regularly and occasionally)	18	12
Never smoked cigarettes	72	75
Young women		
Current cigarette smoker	10	11
Used to smoke cigarettes (including regularly and occasionally)	17	16
Never smoked cigarettes	73	73
All		
Current cigarette smoker	10	12
Used to smoke cigarettes (including regularly and occasionally)	18	14
Never smoked cigarettes	73	74
Bases (unweighted)		
Young men	*429*	*449*
Young women	*420*	*410*
All	*849*	*859*
Bases (weighted)		
Young men	*436*	*445*
Young women	*413*	*414*
All	*849*	*859*

Table 5.25 Smoking behaviour, pre and post 1st October, by age group

All aged 13-17

Self-reported cigarette smoking status	Pre 1st October 2008	Post 1st October 2008
	%	%
13-15 year olds		
Current cigarette smoker	7	7
Used to smoke cigarettes (including regularly and occasionally)	19	18
Never regularly smoked cigarettes	74	75
16-17 year olds		
Current cigarette smoker	14	19
Used to smoke cigarettes (including regularly and occasionally)	15	9
Never regularly smoked cigarettes	71	72
Bases (unweighted)		
13-15	*589*	*641*
16-17	*260*	*218*
Bases (weighted)		
13-15	*497*	*506*
16-17	*352*	*353*

Table 5.26 Smoking behaviour, pre and post 1st October, by NS-SEC of household reference person

All aged 13-17

Self-reported cigarette smoking status	Pre 1st October 2008	Post 1st October 2008
	%	%
Non-routine/non-manual		
Current cigarette smoker	8	9
Used to smoke cigarettes (including regularly and occasionally)	17	13
Never regularly smoked cigarettes	75	78
Routine/manual		
Current cigarette smoker	13	16
Used to smoke cigarettes (including regularly and occasionally)	20	17
Never regularly smoked cigarettes	68	67
Bases (unweighted)		
Non-routine/non manual	*568*	*553*
Routine/manual	*262*	*285*
Bases (weighted)		
Non-routine/non manual	*566*	*544*
Routine/manual	*263*	*293*

Table 5.27 Self reported impact of messages on smoking-related behaviour,, pre and post 1st October 2008

Current cigarette smokers aged 13-17

Impact of messages	**Pre 1st October 2008**	**Post 1st October 2008**
	% agreeing with each statement	
Warning messages have made me smoke less	37	45
Warning messages have made me smoke less around others	41	44
Warning messages have made me think about quitting	53	72
Warning messages have made me try to give up smoking	38	34
Bases (unweighted)	*70*	*67*
Bases (weighted)	*82*	*95*

Table 5.28 Changes in self-reported smoking behaviour, pre and post 1st October 2008, by sex

Current cigarette smokers aged 13-17

In the past month…	**Pre 1st October 2008**	**Post 1st October 2008**
	%	%
…warning messages have stopped me from having a cigarette when about to smoke:		
Never	84	86
Once or twice	4	4
A few times	9	8
Lots of times	2	2
…I have stubbed out a cigarette because I thought about the harm of smoking		
Never	73	75
Once or twice	12	15
A few times	10	9
Lots of times	5	1
Bases (unweighted)	*70*	*67*
Bases (weighted)	*82*	*95*

Table 5.29 Perceptions of the health warning messages, pre and post 1st October 2008

Current cigarette smokers aged 13-17

In the past month…	Pre 1st October 2008 %	Post 1st October 2008 %
Noticed the health warning		
About once a day or more often	34	59
2-3 days a week	35	11
About once a week	12	18
Less than once a week	9	11
Never	9	1
Looked at the health warning		
About once a day or more often	33	45
2-3 days a week	17	19
About once a week	17	20
Less than once a week	13	7
Never	20	10
Thought about the health warning		
About once a day or more often	24	36
2-3 days a week	17	9
About once a week	18	23
Less than once a week	18	22
Never	23	10
Bases (unweighted)	*71*	*67*
Bases (weighted)	*82*	*95*

Table 5.30 Actions taken to avoid viewing the health warnings, pre and post 1st October 2008

Current cigarette smokers aged 13-17

In the past month…	Pre 1st October 2008 %	Post 1st October 2008 %
Covered up the messages	4	8
Used a cigarette container	10	14
Didn't buy packets with certain warnings on	5	5
Kept the pack out of sight	16	12
Used any avoidance technique	*29*	*30*
Bases (unweighted)	*70*	*67*
Bases (weighted)	*82*	*95*

8.3 Tables for section 5.3

Table 5.31 Attitudes towards the health warning messages, by sex

All aged 13-17

Attitudes to the messages	Pre 1st October 2008	Post 1st October 2008
	% agreeing with each statement	
Young men		
Messages tell the truth about the health risks of smoking	94	95
Messages make smoking seem less attractive	80	83
Messages are unnecessary	20	13
Messages provide important information about the health risks of smoking	91	92
Messages have no impact on people's smoking behaviour	47	41
Messages are easy to understand	97	98
Messages put me off smoking	77	80
Young women		
Messages tell the truth about the health risks of smoking	95	94
Messages make smoking seem less attractive	78	87
Messages are unnecessary	13	14
Messages provide important information about the health risks of smoking	94	91
Messages have no impact on people's smoking behaviour	52	46
Messages are easy to understand	98	97
Messages put me off smoking	78	82
All		
Messages tell the truth about the health risks of smoking	95	94
Messages make smoking seem less attractive	79	85
Messages are unnecessary	17	14
Messages provide important information about the health risks of smoking	92	92
Messages have no impact on people's smoking behaviour	50	43
Messages are easy to understand	98	98
Messages put me off smoking	77	81
Bases (unweighted)		
Young men	*428*	*443*
Young women	*419*	*407*
All	*847*	*850*
Bases (weighted)		
Young men	*435*	*437*
Young women	*411*	*411*
All	*847*	*849*

Table 5.32 Attitudes towards the health warning messages, by age group

All aged 13-17

Attitudes to the messages	Pre 1st October 2008	Post 1st October 2008
	% agreeing with each statement	
Aged 13-15		
Messages tell the truth about the health risks of smoking	96	96
Messages make smoking seem less attractive	79	82
Messages are unnecessary	15	13
Messages provide important information about the health risks of smoking	93	94
Messages have no impact on people's smoking behaviour	46	44
Messages are easy to understand	97	97
Messages put me off smoking	82	86
Aged 16-17		
Messages tell the truth about the health risks of smoking	93	93
Messages make smoking seem less attractive	78	88
Messages are unnecessary	20	15
Messages provide important information about the health risks of smoking	92	88
Messages have no impact on people's smoking behaviour	55	41
Messages are easy to understand	99	98
Messages put me off smoking	70	74
Bases (unweighted)		
Aged 13-15	*588*	*637*
Aged 16-17	*259*	*213*
Bases (weighted)		
Aged 13-15	*496*	*501*
Aged 16-17	*351*	*348*

Table 5.33 Attitudes towards the health warning messages, by NS-SEC of household reference person

All aged 13-17

Attitudes to the messages	Pre 1st October 2008	Post 1st October 2008
	% agreeing with each statement	
Non-routine/Non-manual		
Messages tell the truth about the health risks of smoking	96	94
Messages make smoking seem less attractive	80	89
Messages are unnecessary	14	12
Messages provide important information about the health risks of smoking	92	91
Messages have no impact on people's smoking behaviour	48	42
Messages are easy to understand	99	98
Messages put me off smoking	79	81
Routine/Manual		
Messages tell the truth about the health risks of smoking	94	95
Messages make smoking seem less attractive	78	80
Messages are unnecessary	21	15
Messages provide important information about the health risks of smoking	94	93
Messages have no impact on people's smoking behaviour	53	43
Messages are easy to understand	96	97
Messages put me off smoking	76	83
Bases (unweighted)		
Non-routine/Non-manual	*568*	*549*
Routine/Manual	*260*	*281*
Bases (weighted)		
Non-routine/Non-manual	*566*	*540*
Routine/Manual	*260*	*288*

Table 5.34 Attitudes towards the health warning messages, by smoking status

All aged 13-17

Attitudes to the messages	Pre 1st October 2008	Post 1st October 2008
	% agreeing with each statement	
Current cigarette smoker		
Messages tell the truth about the health risks of smoking	82	89
Messages make smoking seem less attractive	71	77
Messages are unnecessary	33	27
Messages provide important information about the health risks of smoking	87	88
Messages have no impact on people's smoking behaviour	66	47
Messages are easy to understand	96	100
Messages put me off smoking	42	53
Non-smoker		
Messages tell the truth about the health risks of smoking	96	95
Messages make smoking seem less attractive	80	86
Messages are unnecessary	15	12
Messages provide important information about the health risks of smoking	93	92
Messages have no impact on people's smoking behaviour	48	43
Messages are easy to understand	98	97
Messages put me off smoking	81	85
Bases (unweighted)		
Non-routine/Non-manual	*70*	*67*
Routine/Manual	*777*	*783*
Bases (weighted)		
Non-routine/Non-manual	*82*	*95*
Routine/Manual	*765*	*754*

Table 5.35 Spontaneous recall of health warning messages, pre 1st October 2008, by sex

All aged 13-17 interviewed in wave 1

Messages recalled	Young men	Young women	All
	%	%	%
Smoking kills	70	66	68
Smoking harms you and other people	24	18	21
Smoking can lead to premature death	10	6	8
Smoking clogs arteries/causes heart attacks/causes stroke	11	8	10
Smoking causes lung cancer	25	24	25
Smoking harms babies during pregnancy	11	15	13
Smoking can lead to a slow and painful death	3	1	2
Smoking causes impotence/infertility/other sexual dysfunction	7	7	7
Cigarettes contain chemicals	2	2	2
Smoking is addictive	1	1	1
Smoking causes premature ageing of the skin	2	1	2
Don't smoke around children	1	2	2
Helplines (GP/Pharmacist/website to aid quitting)	1	1	1
Stopping smoking reduces risk of heart and lung disease	1	3	2
Mean number of messages recalled	1.8	1.6	1.7
Standard error of the mean	0.06	0.06	0.04
Bases (unweighted)	*423*	*413*	*836*
Bases (weighted)	*431*	*405*	*836*

Table 5.36 Spontaneous recall of health warning messages, post 1st October 2008, by sex

All aged 13-17 interviewed in wave 2

Messages recalled	Young men	Young women	All
	%	%	%
Smoking kills	45	44	44
Smoking harms you and other people	7	9	8
Diseased throat or neck /smoking can cause a slow painful death	16	15	15
Rotting teeth/gums/mouth/smoking contains Benzene, nitrosamines, formaldehyde and hydrogen cyanide	18	17	18
Heart surgery/smoking clogs the arteries and causes heart attached and strokes	12	11	11
Healthy and diseased lungs/smoking causes fatal lung cancer	42	35	39
Child's face and smoke/protect children: don't make them breathe your smoke	4	4	4
Baby in hospital crib/Smoking when pregnant harms your baby	7	14	10
Sperm/smoking can damage sperm and decreases fertility	3	5	4
Aged hands/ smoking causes ageing of the skin	2	4	3
Needle/ smoking is highly addictive, don't start	2	1	2
Dead man / smokers die younger	9	7	8
Bent cigarette / Smoking may reduce blood flow and causes impotence	4	3	4
The risk of coronary heart disease is reduce 50% after 1 year of smoking abstinence/ stopping smoking reduces the risk of fatal heart and lung disease	1	2	1
You can do it , we can help – Your doctor or your pharmacist can help you stop smoking	-	0	0
Choose freedom, we'll help you – get help to stop smoking	-	0	0
Mean number of messages recalled	1.7	1.8	1.8
Standard error of the mean	0.08	0.08	0.06
Bases (unweighted)	*439*	*406*	*845*
Bases (weighted)	*432*	*410*	*842*

Table 5.37 Spontaneous recall of health warning messages, post 1st October 2008, by age group

All aged 13-17 interviewed in wave 2

Recall of messages	13-15	16-17	All
	%	%	%
Smoking kills	44	44	44
Smoking harms you and other people	9	7	8
Diseased throat or neck /smoking can cause a slow painful death	12	20	15
Rotting teeth/gums/mouth/smoking contains Benzene, nitrosamines, formaldehyde and hydrogen cyanide	16	20	18
Heart surgery/smoking clogs the arteries and causes heart attached and strokes	12	10	11
Healthy and diseased lungs/smoking causes fatal lung cancer	39	40	39
Child's face and smoke/protect children: don't make them breathe your smoke	4	3	4
Baby in hospital crib/Smoking when pregnant harms your baby	8	14	10
Sperm/smoking can damage sperm and decreases fertility	3	6	4
Aged hands/ smoking causes ageing of the skin	3	3	3
Needle/ smoking is highly addictive, don't start	1	2	2
Dead man / smokers die younger	6	11	8
Bent cigarette / Smoking may reduce blood flow and causes impotence	2	7	4
The risk of coronary heart disease is reduce 50% after 1 year of smoking abstinence/ stopping smoking reduces the risk of fatal heart and lung disease	1	2	1
You can do it , we can help – Your doctor or your pharmacist can help you stop smoking	0	-	0
Choose freedom, we'll help you – get help to stop smoking	0	-	0
Mean number of messages recalled	1.6	1.9	1.8
Standard error of the mean	1.64	1.90	0.06
Bases (unweighted)	*635*	*210*	*845*
Bases (weighted)	*499*	*343*	*842*

Table 5.38 Spontaneous recall of health warning messages, post 1st October 2008, by NS-SEC of household reference person

All aged 13-17 interviewed in wave 2

Recall of messages	Non-routine/non-manual	Routine/manual
	%	%
Smoking kills	48	38
Smoking harms you and other people	10	5
Diseased throat or neck /smoking can cause a slow painful death	16	15
Rotting teeth/gums/mouth/smoking contains Benzene, nitrosamines, formaldehyde and hydrogen cyanide	17	21
Heart surgery/smoking clogs the arteries and causes heart attached and strokes	11	13
Healthy and diseased lungs/smoking causes fatal lung cancer	35	46
Child's face and smoke/protect children: don't make them breathe your smoke	4	5
Baby in hospital crib/Smoking when pregnant harms your baby	8	13
Sperm/smoking can damage sperm and decreases fertility	4	3
Aged hands/ smoking causes ageing of the skin	4	2
Needle/ smoking is highly addictive, don't start	1	2
Dead man / smokers die younger	7	9
Bent cigarette / Smoking may reduce blood flow and causes impotence	4	4
The risk of coronary heart disease is reduce 50% after 1 year of smoking abstinence/ stopping smoking reduces the risk of fatal heart and lung disease	1	2
You can do it , we can help – Your doctor or your pharmacist can help you stop smoking	0	-
Choose freedom, we'll help you – get help to stop smoking	0	-
Mean number of messages recalled	1.7	1.8
Standard error of the mean	0.07	0.10
Bases (unweighted)	*546*	*279*
Bases (weighted)	*536*	*285*

Table 5.39 Spontaneous recall of health warning messages, post 1st October, by smoking status

All aged 13-17 interviewed in wave 2

Recall of messages	Current cigarette smoker	Non-smoker
	%	%
Smoking kills	37	45
Smoking harms you and other people	8	8
Diseased throat or neck /smoking can cause a slow painful death	34	13
Rotting teeth/gums/mouth/smoking contains Benzene, nitrosamines, formaldehyde and hydrogen cyanide	33	16
Heart surgery/smoking clogs the arteries and causes heart attached and strokes	9	12
Healthy and diseased lungs/smoking causes fatal lung cancer	44	38
Child's face and smoke/protect children: don't make them breathe your smoke	11	3
Baby in hospital crib/Smoking when pregnant harms your baby	29	8
Sperm/smoking can damage sperm and decreases fertility	10	3
Aged hands/ smoking causes ageing of the skin	7	3
Needle/ smoking is highly addictive, don't start	7	1
Dead man / smokers die younger	29	5
Bent cigarette / Smoking may reduce blood flow and causes impotence	16	2
The risk of coronary heart disease is reduce 50% after 1 year of smoking abstinence/ stopping smoking reduces the risk of fatal heart and lung disease	1	1
You can do it , we can help – Your doctor or your pharmacist can help you stop smoking	-	0
Choose freedom, we'll help you – get help to stop smoking	-	0
Mean number of messages recalled	2.8	1.6
Standard error of the mean	0.23	0.05
Bases (unweighted)	*67*	*778*
Bases (weighted)	*95*	*748*

Table 5.40 Messages most likely to affect behaviour, pre 1st October 2008, by sex

Current cigarette smokers aged 13-17 interviewed in wave 1

Messages most likely to affect behaviour	Current cigarette smokers aged 13-17
	%
Smoking kills	23
Smoking harms you and other people	3
Smoking can lead to premature death	6
Smoking clogs arteries/causes heart attacks/causes stroke	8
Smoking causes lung cancer	15
Smoking harms babies during pregnancy	3
Smoking can lead to a slow and painful death	1
Smoking causes impotence/infertility/other sexual dysfunction	8
Cigarettes contain chemicals	1
Smoking is addictive	1
Smoking causes premature ageing of the skin	-
Don't smoke around children	1
Helplines (GP/Pharmacist/website to aid quitting)	1
Stopping smoking reduces risk of heart and lung disease	-
Smoking kills	-
Smoking harms you and other people	-
Bases (unweighted)	*69*
Bases (weighted)	*79*

Table 5.41 Messages most likely to affect behaviour, post 1st October 2008

Current cigarette smokers aged 13-17 interviewed in wave 2

Messages most likely to effect behaviour	Current cigarette smokers aged 13-17
	%
Smoking kills	17
Smoking harms you and other people	6
Diseased throat or neck /smoking can cause a slow painful death	1
Rotting teeth/gums/mouth/smoking contains Benzene, nitrosamines, formaldehyde and hydrogen cyanide	23
Heart surgery/smoking clogs the arteries and causes heart attached and strokes	5
Healthy and diseased lungs/smoking causes fatal lung cancer	19
Child's face and smoke/protect children: don't make them breathe your smoke	6
Baby in hospital crib/Smoking when pregnant harms your baby	14
Sperm/smoking can damage sperm and decreases fertility	2
Aged hands/ smoking causes ageing of the skin	3
Needle/ smoking is highly addictive, don't start	-
Dead man / smokers die younger	5
Bent cigarette / Smoking may reduce blood flow and causes impotence	8
The risk of coronary heart disease is reduce 50% after 1 year of smoking abstinence/ stopping smoking reduces the risk of fatal heart and lung disease	-
You can do it , we can help – Your doctor or your pharmacist can help you stop smoking	-
Choose freedom, we'll help you – get help to stop smoking	-
Bases (unweighted)	*63*
Bases (weighted)	*89*

Table 5.42 Knowledge of chemicals in cigarettes, by sex

All aged 13-17

Knowledge of chemicals	Pre 1st October 2008	Post 1st October 2008
	% correctly identifying each chemical	
Young men		
Benzene	56	48
Nitrosamines	43	41
Formaldehyde	37	36
Hydrogen Cyanide	50	49
Difluride (placebo chemical)	38	38
Young women		
Benzene	44	39
Nitrosamines	38	38
Formaldehyde	32	33
Hydrogen Cyanide	52	38
Difluride (placebo chemical)	31	31
All		
Benzene	50	43
Nitrosamines	41	40
Formaldehyde	35	34
Hydrogen Cyanide	51	44
Difluride (placebo chemical)	34	34
Bases (unweighted)		
Young men	*429*	*443*
Young women	*420*	*409*
All	*849*	*852*
Bases (weighted)		
Young men	*436*	*437*
Young women	*413*	*413*
All	*849*	*851*

Table 5.43 Knowledge of chemicals in cigarettes, by age

All aged 13-17

Knowledge of chemicals	Pre 1st October 2008	Post 1st October 2008
	% correctly identifying each chemical	
13-15		
Benzene	44	42
Nitrosamines	40	38
Formaldehyde	33	32
Hydrogen Cyanide	51	46
Difluride (placebo chemical)	34	36
16-17		
Benzene	59	46
Nitrosamines	42	43
Formaldehyde	38	37
Hydrogen Cyanide	50	41
Difluride (placebo chemical)	35	31
Bases (unweighted)		
13-15	*589*	*638*
16-17	*260*	*214*
Bases (weighted)		
13-15	*497*	*502*
16-17	*352*	*349*

Table 5.44 Knowledge of chemicals in cigarettes, by NS-SEC of household reference person

All aged 13-17

Knowledge of chemicals	Pre 1st October 2008	Post 1st October 2008
	% correctly identifying each chemical	
Non-routine/Non manual		
Benzene	51	45
Nitrosamines	44	40
Formaldehyde	38	36
Hydrogen Cyanide	55	41
Difluride (placebo chemical)	36	34
Routine/Manual		
Benzene	49	41
Nitrosamines	33	37
Formaldehyde	27	33
Hydrogen Cyanide	42	48
Difluride (placebo chemical)	31	36
Bases (unweighted)		
Non-routine	*568*	*550*
Routine	*262*	*281*
Bases (weighted)		
Non-routine	*566*	*541*
Routine	*263*	*288*

Table 5.45 Knowledge of chemicals in cigarettes, by smoking status

All aged 13-17

Knowledge of chemicals	Pre 1st October 2008	Post 1st October 2008
	% correctly identifying each chemical	
Current cigarette smokers		
Benzene	59	60
Nitrosamines	44	37
Formaldehyde	52	34
Hydrogen Cyanide	56	37
Difluride (placebo chemical)	38	43
Non-smoker		
Benzene	49	41
Nitrosamines	40	40
Formaldehyde	33	34
Hydrogen Cyanide	50	45
Difluride (placebo chemical)	34	33
Bases (unweighted)		
Current cigarette smokers	*71*	*68*
Non-smokers	*778*	*784*
Bases (weighted)		
Current cigarette smokers	*82*	*95*
Non-smokers	*767*	*755*

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Appendix A: Methodology

Sampling

The sample for this study was selected from participants from the Health Survey for England (HSE) 2007 and 2008 who had agreed to be recontacted for future research. The overall aim was to achieve 2225 interviews in each of the two waves of data collection across three different sample types:

i) A general population sample consisting of participants aged 18 and over when interviewed for this study.
ii) A smoker's boost sample consisting of those identified as current smokers in the HSE and aged 18 and over when interviewed for this study.
iii) A young persons sample consisting of those aged 13 to 17 when interviewed for this study.

Table A1 below shows the sample numbers we expected to achieve with our sample design.

Table A1

	General population	Current smokers	Young people	Total
Age	18+	18+	13-17	
Wave 1 estimated sample	800	625 (+ estimated 175 smokers from general population sample for analysis)	800	2225
Wave 2 estimated sample	800	625 (+ estimated 175 smokers from general population sample for analysis)	800	2225
Total	1600	1250	1600	4450

The Health Survey for England (HSE) typically consists of a core general population sample and a child boost sample. It is a randomised, stratified and clustered sample and addresses are selected from the Postcode Address File according to this specification. At core addresses, up to 10 adults aged 16 and over and up to 2 children aged 0-15 are interviewed. Only two children are interviewed at each address to keep parental burden to a minimum. To increase the number of

children interviewed in any one year, there is also a child boost sample. In total 8000 children aged 2-15 are interviewed every year.

Wave One: Sample overview

The wave 1 sample was selected from participants who had taken part in HSE 2007 and the first quarter of HSE 2008 and agreed to participate in future research. There were three main sample types:

- adults aged 18 or older
- young people aged between 13 and 17
- boost of adult smokers aged 18 or older.

Overall, 3550 individuals were selected: 1190 in the General Population sample, 1360 in the Young Persons sample and 1000 in the Smokers Boost.

The Young Persons sample was selected from both the HSE core sample and the HSE child boost to ensure that there were sufficient numbers of young people aged 16 and 17 (the HSE child boost only sampled young people up to the age of 15).

Table A2 summarises the number selected for each sample by HSE sample type.

Table A2

Wave 1 sample:	General Population Sample	Smokers Boost Sample	Young Persons Sample	Not Selected
Sampled from:				
HSE Core (2007 and first quarter 2008)	1190	1000	178	3308
HSE Child Boost (2007 and first quarter 2008)*	-	-	1182	472
Total	1190	1000	1360	3780

*Households containing at least one 13-17 year old.

Wave One: General Population Sample

For the General Population sample the sampling frame consisted of all households in the HSE Core 2007 and first quarter 2008 samples who had agreed to participate in future research. To maximise the precision of the sample and to ensure adequate representation, it was selected using a method called stratified sampling. The list of households was ordered by the number of smokers in the household and then by social class. The sample of households was then selected by sampling from the list at fixed intervals from a random start (1190 households were selected from 5676 households).

From those households selected for the General Population sample, one adult (aged 18+ as at 1st September 2008) was selected at random from the household (from amongst those in the household who had agreed to participate in future research).

Wave One: Smokers Boost Sample

For the Smokers Boost the sampling frame consisted of all households in the HSE Core 2007 and first quarter 2008 samples not selected for the General Population sample that contained a

smoker and who agreed to participate in future research. For those households which also contained someone aged 16-17 and a smoker aged 18+, half of these households were randomly selected for the Young Persons sample and half for the Smokers Boost (there were only 62 households with both a smoker and a young person in them). The rest of the households for the Smokers Boost were selected as a simple random sample from the eligible households (969 households were selected from 1211 households).

From those households selected for the Smokers Boost, one adult smoker was selected at random from the household (from amongst those in the household who had agreed to participate in future research).

Wave One: Young Persons Sample

For the Young Persons sample, a simple random sample of households was selected from the HSE Child Boost (2007 and first quarter 2008), from all households who agreed to participate in future research and that contained at least one 13-17 year old (age was calculated as at 1st September 2008, so children aged 15 in the HSE could be aged between 15 and 17 at 1st September 2008).

In addition, all households in the HSE Core sample containing any 16-17 year olds (2007 and first quarter of 2008) which were not selected for the General Population sample were selected for the Young Persons sample (except for the 31 of the 62 households which also contained a smoker – as described above these households were selected for the Smokers Boost). There were 147 households containing 16-17 year olds and no smokers as well as the 31 households with someone who smoked that contained a 16-17 year old. This additional sample from the HSE Core was needed to ensure an adequate number of children aged 16-17 were included, as the HSE Child Boost contained only those children up to the age of 15 (although some participants would have turned 16 or 17 by the time of this follow-up project, there were still not an adequate amount from the Child Boost).

From those households selected for the Young Persons sample, one individual aged 13-17 (as at 1st September 2008) was selected at random from the household (from amongst those in the household who had agreed to participate in future research).

Wave 2

Wave Two: Overview

The Wave 2 sample was selected from participants who had taken part in HSE 2007 and quarters two-four of HSE 2008 and agreed to participate in future research. Participants were assigned to three main sample types, as in wave one of this study:

- adults aged 18 or older
- young people aged between 13 and 17
- boost of adult smokers aged 18 or older.

Overall, 3614 individuals were selected for wave 2: 1190 in the General Population sample, 1360 in the Young Persons sample and 1064 in the Smokers Boost.

As with Wave 1, the Young Persons sample was selected from both the HSE core sample and the HSE child boost to ensure that there were sufficient numbers of young people aged 16 and 17 (the HSE child boost only sampled young people up to the age of 15).

Table A3 shows the number selected from both HSE sample types for each Wave 2 sample.

Table A3

Wave 2 sample:	General Population Sample	Smokers Boost Sample	Young Persons Sample	Not Selected (for Wave 1 or Wave 2)
Sampled from:				
HSE Core (2007 and quarters 2-4 2008)	1190	1064	60	6254
HSE Child Boost (2007 and quarters 2-4 2008)*	-	-	1300	0
Total	1190	1064	1360	

*Households containing at least one 13-17 year old.

Wave Two: General Population Sample

For the General Population sample the sampling frame consisted of all households in quarters two-four of the HSE Core 2008 sample who had agreed to participate in future research. As for Wave 1, stratified sampling was used with the number of smokers in the household and social class as the strata. 1190 households were selected from a total of 6184 eligible households.

From those households selected for the General Population sample, one adult (aged 18+ as at 1st September 2008) was selected at random from the household (from amongst those in the household who had agreed to participate in future research).

Wave Two: Smokers Boost Sample

For the Smokers Boost the sampling frame consisted of all households in the HSE Core 2007 and quarters two-four of the HSE Core 2008 samples not selected for the General Population sample that contained a smoker and who agreed to participate in future research.

Only half of all smokers from the HSE 2008 core sample were allowed to be selected for this study. For those households which also contained someone aged 16-17 and a smoker aged 18+, half of the households were randomly selected for the Young Persons sample and half for the Smokers Boost (there were 75 households with both a smoker and a young person in them). Of the remaining 1307 eligible households that did not contain any 16-17 year olds, 636 of these were randomly selected for the Smokers Boost sample.

To ensure that an adequate number of smokers were selected, households from the HSE Core 2007 sample were eligible for selection for Wave 2 if:

- the household was selected for Wave 1 but a smoker was not selected, or
- the household was selected for Wave 1 and a smoker was selected, but there was more than one smoker in the household.

All eligible households from the HSE Core 2007 that did not contain any 16-17 year olds were selected for the Smokers Boost sample. For those households in the HSE Core 2007 sample which also contained any 16-17 year olds, half of them were randomly selected for the Young Persons sample and half for the Smokers Boost (there were only 5 households with both a smoker and a young person in them).

From those households selected for the Smokers Boost, one adult smoker was selected at random from the household (from amongst those in the household who had agreed to participate in future research).

Wave Two: Young Persons Sample

For the Young Persons sample, all households who agreed to participate in future research, contained at least one 13-17 year old, and had not been selected for Wave 1, were selected from the HSE Child Boost 2007 and quarters two-four of 2008 (age was calculated as at 1st June 2009, so children aged 15 in the HSE could be aged between 15 and 17 at 1st June 2009). There were 1300 such households.

The remaining 60 households were selected from all households in the HSE Core sample (2007 and quarters two-four of 2008) that contained any 16-17 year olds and were not selected for either the General Population sample or Wave 1 (except for the 40 of the 80 households which also contained a smoker – as described above these households were selected for the Smokers Boost). There were 183 households containing 16-17 year olds and no smokers as well as the 40 households with someone who smoked that contained a 16-17 year old. This additional sample from the HSE Core was needed to ensure an adequate number of children aged 16-17, as the HSE Child Boost contained only those children up to the age of 15 (although some would have turned 16 or 17 by the time of this follow-up sampling, there were still not an adequate amount from the Child Boost).

From those households selected for the Young Persons sample from the HSE Child Boost samples, one individual aged 13-17 (as at 1st June 2009) was selected at random from the household (from amongst those in the household who had agreed to participate in future research). From those households selected for the Young Persons sample from the HSE Core samples, one individual aged 16-17 (as at 1st June 2009) was selected at random from the household (from amongst those in the household who had agreed to participate in future research).

Fieldwork processes and data collection

Following the sample selection, all contact telephone numbers were processed using AFD software to ensure their accuracy. Where a phone number was not recorded for a sampled participant, their address details were processed through the AFD software to help identify a contact telephone number. Where a contact telephone number was not established, the participant was not included in the final sample.

Fieldwork for wave one took place from mid August to the 30th September 2008. Fieldwork for wave two took place approximately 8 months after the implementation of the picture health warnings from May to July 2009. Prior to being contacted, all participants selected for either wave of the study were sent an advance letter. This letter detailed that they had been selected for a follow up study, contained a general description of the content of the survey, stated that the project had ethical approval and explained that an interviewer from NatCen's telephone unit would be contacting them shortly. For those aged, 13 to 15, the letter was sent to the parent of the participant and for those aged 16 and 17 (adults according to ethical guidelines), the letter was sent to the participant and a courtesy letter was sent to the parent to explain that an interviewer would be calling to speak to their child. In wave 2, to help boost response among smokers, a £5 high street voucher was included in the advance letter as an unconditional incentive.

Initial contact with each of the participants was gained by calling each participant with a working telephone number on different days of the week at different times of the day. Each telephone number was attempted at least 10 times. For those aged 16 and over, interviewers asked to speak to the participant directly. For those aged 13 to 15, interviewers asked to speak to the parent or legal guardian of the participant to first gain consent to interview the young person. Only after parental consent was obtained would the interviewer ask to speak to the young person directly. If a participant had moved since the HSE interview, interviewers asked for forwarding contact details to try and trace the participant.

Response rates

The tables below outline response rates for the two waves of data collection. Response rates are given for the general population and young person samples as well as a total response rate. The general population sample includes response figures for the adult's smokers boost sample.

Wave One: Response Rates

Overall, 2227 interviews were achieved (including 28 partial interviews). Further details of the achieved interviews and response rates are presented below.

Table A4. Achieved interviews and response rates – Wave 1

	General population (18+)[a]	**Young people (13-17)**	**Total**
Total issued	2190	1360	3550
Raw response rate			
Productive (full + partial)	1378	849	2227
All unproductive	812	511	1323
Raw response[b]	*63%*	*62%*	*63%*
Response excl. 'out of scope'[c]			
Productive	1378	849	2227
Unproductive in scope	757	491	1248
Unproductive out of scope	55	20	75
Total eligible (excluding out of scope)	2135	1340	3475
Response adjusted for out of scope	*65%*	*63%*	*64%*
Co-operation rate			
Productive	1378	849	2227
Unproductive contactable[d]	473	326	799
Unproductive not contactable[e]	339	185	524
Total contactable (excluding out of scope and non contactable)	1851	1175	3026
Co-operation rate[f]	*74%*	*72%*	*74%*
Refusal rate			
Total number refused	284	170	454
Refusal rate[b]	*13%*	*13%*	*13%*

[a] Includes current smoker's boost sample

b Based on total issued

[c] 'Out of scope' refers to all participants who were ill, in hospital, physically or mentally incapable or could not take part for some other reason during the fieldwork period, 'in scope' refers to all other participants
[d] Participants who could be contacted on a functioning telephone number and were 'in scope' but did not result in a productive interview
[e] Includes all participants who are 'out of scope', non-functioning telephone numbers and telephone numbers where people had moved and there was no further alternative contact information
[f] The number of productive interviews divided by the number of contactable participants

The overall response rate, excluding those who were out of scope, was 64%. 524 participants could not be contacted. Excluding these cases shows that the co-operation rate among those who could be contacted was 74%. This resulted in 2227 productive interviews, with 1378 interviews with adults aged 18 and over and 849 interviews with young people aged 13-17. Of the 1378 interviews with adults, 642 were current smokers.

Wave Two: Response rates

Overall, 2247 interviews were achieved (including 32 partial interviews). Further details of the achieved interviews and response rates are presented below.

Table A5. Achieved interviews and response rates – Wave 2

	General population (18+)[a]	**Young people (13-17)**	**Total**
Total issued	2190	1360	3550
Raw response rate			
Productive (full + partial)	1420	859	2279
All unproductive	834	501	1335
Raw response[b]	**63%**	**63%**	**63%**
Response excl. 'out of scope'[c]			
Productive	1420	859	2279
Unproductive in scope	779	479	1258
Unproductive out of scope	55	22	77
Total eligible (excluding out of scope)	2199	1338	3537
Response adjusted for out of scope	**65%**	**64%**	**64%**
Co-operation rate			
Productive	1420	859	2279
Unproductive contactable[d]	360	240	600
Unproductive not contactable[e]	404	241	645
Total contactable (excluding out of scope and non contactable)	1780	1099	2879
Co-operation rate[f]	**80%**	**78%**	**79%**
Refusal rate			
Total number refused	260	167	427
Refusal rate[b]	**12%**	**12%**	**12%**

[a] Includes current smoker's boost sample

b Based on total issued
[c] 'Out of scope' refers to all participants who were ill, in hospital, physically or mentally incapable or could not take part for some other reason during the fieldwork period, 'in scope' refers to all other participants
[d] Participants who could be contacted on a functioning telephone number and were 'in scope' but did not result in a productive interview
[e] Includes all participants who are 'out of scope', non-functioning telephone numbers and telephone numbers where people had moved and there was no further alternative contact information
[f] The number of productive interviews divided by the number of contactable participants

As in wave 1, the overall response rate, excluding those who were out of scope, was 64%. 404 participants could not be contacted. Excluding these cases shows that the co-operation rate among those who could be contacted was 79%, slightly higher than the co-operation rate for wave 1. This resulted in 2279 productive interviews, with 1420 interviews with adults aged 18 and over and 859 interviews with young people aged 13-17. Of the 1420 interviews with adults, 660 were with current smokers.

The target for wave one and wave two had been to achieve 800 interviews with the general population (regardless of smoking status) and conduct a further 625 interviews with smokers. The objective was to be able to combine smokers from the general population sample (we estimated that there would be aprox. 175 smokers interviewed in the general population sample) and the smokers boost to give an overall smokers sample of 800 achieved interviews. The total number of adult smokers interviewed in wave one was 642 and in wave two was 660, lower than our target. This was due to a combination of factors, such as people quitting smoking in the intervening period between taking part in HSE and either wave of this study and higher than anticipated rates of refusal among smokers. [8]

Data management and analysis

Data was collected using Computer Assisted Telephone Interviewing (CATI). Data checks, such as range checks, were built into the CATI program to help minimize the amount of data editing required and remove the need for more common data checks and edits (ie. the age people start smoking being greater than their actual age).

Data from wave one and wave two was checked and edited following the completion of fieldwork for each wave. To ensure consistency, the same processes undertaken for wave one was followed for wave two. Additionally, following the data checking and editing of the wave one data, further checks were built into the CATI program for wave two to reduce the amount of edits required on the wave two dataset. All data were checked and edited using SPSS version 15.0. Data were checked for anomalies and outliers typically caused by keying errors. Where these were noted, they were listed and the researchers discussed possible solutions and the data edited accordingly. In many cases, this meant that the erroneous data was given a missing value as it was not possible to decipher what the correct response was.

[8] In wave 1, 726 people identified as current smokers in HSE were interviewed, out of 1246 issued. Of the 726 interviewed, 101 had quit smoking in the time between HSE interview and this follow up study. 17 participants who were identified as either ex-smokers or never smoked in HSE were identified as current smokers for this study. Similarly for wave 2, 783 identified as smokers in the HSE were interviewed for this study, out 1336 issued. Of the 783 interviewed, 132 had quit smoking in the time between HSE interview and this study. 8 participants who were identified as either ex-smokers or never smoked in HSE were identified as current smokers in this study.

For some questions, interviewers had the option of typing in the participant's answer, if they could not fit it to the available coding frame. Following the completion of fieldwork, where possible, the typed responses were back coded into the original coding frame or new categories were created. A new category was created if it was mentioned at least 20 times. Where a new category was created for wave one it was added to the coding frame for wave two.

Following the checks and edits of the data, summary variables were created for analysis of the key outcomes. Two of these variables included

1. The type of illnesses spontaneously recalled by participants when asked about any health effects, if any, were caused by smoking and secondhand exposure to smoke. The illnesses recalled were grouped into five broad categories:
    i. Lung and respiratory problems including asthma, bronchitis/chronic bronchitis, chest infections, coughs and colds, emphysema, lung disease/lung problems/chronic obstructive pulmonary disease/pneumonia/tuberculosis, and respiratory problems/difficulty breathing/shortness of breath.
    ii. Heart disease and circulation problems including blood circulation problems/blood clots/blood diseases, gangrene / amputation, heart attack/angina/heart disease/coronary problems, high blood pressure, and stroke.
    iii. Cancer including breast cancer, lung cancer, oral cancer, cancer in general or another type of cancer.
    iv. Impact on children and unborn babies including cot death / SIDS, ear infections in children, general effect on the foetus / unborn child, smaller babies / reduced growth of babies during pregnancy.
    v. Effect in appearance including bad breath, wrinkles / premature ageing and yellow teeth / fingers / effect on appearance in general / bad skin.

    Not all responses to the survey question were grouped into the summary variable. The remaining responses in the original coding frame did not share a common theme or were not associated with smoking and could therefore not be summarised. Following the grouping of the health effects into their respective categories, the categories were shown to a doctor with significant experience in this field to confirm that they were accurate. It was also confirmed that the remaining options in the coding frame could not be summarized further.

2. Grouping the National Statistics Socio-economic Classification (NS-SEC) into routine/manual, and non routine/manual to use as a key indicator for analysis. The National Statistics Socio-economic Classification (NS-SEC) was introduced from April 2001, and replaced Social Class based on occupation and Socio-economic Groups (SEG). NS-SEC is a social classification system that attempts to classify groups on the basis of employment relations, based on characteristics such as career prospects, autonomy, mode of payment and period of notice. Full details can be found in 'The National Statistics Socio-economic Classification User Manual 2002', ONS 2002.

    There are fourteen operational categories representing different groups of occupations (see below) and a further three 'residual' categories.

Descriptive definition	NS-SEC categories
Large employers and higher managerial occupations	L1, L2
Higher professional occupations	L3
Lower managerial and professional occupations	L4, L5, L6

Intermediate occupations	L7
Small employers and own account workers	L8, L9
Lower supervisory and technical occupations	L10, L11
Semi-routine occupations	L12
Routine occupations	L13
Never worked and long-term unemployed	L14

The three residual categories: L15 (full time students); L16 occupation not stated or inadequately described) and L17 (not classifiable for other reasons) are excluded when the classification is collapsed into its analytical classes.

The categories can be further grouped into:

Managerial and professional occupations	L1-L6
Intermediate occupations	L7-L9
Routine/manual occupations	L10-L13

This results in the exclusion of those who have never worked and the long term unemployed, in addition to the groups mentioned above.

This survey has used two categories for analysis; non routine/manual created by collapsing L1-L9, and routine/manual collapsing L10-L13. The two category option was used to allow for large enough base sizes for analysis. In analyses presented in this report it is the NS-SEC of the household reference person which is used.

Weighting

Data were weighted for selection biases and to account for non-response to the survey. Separate sets of weights were generated for: analyses of the general population sample; comparing smokers (including the smokers boost sample) against non-smokers; and for analyses of young people (including the young person boost sample). The following section describes (in brief) how these weights were generated.

The general population sample weights

One adult (defined as being aged 18 or older) was sampled from responding adults (that gave permission to be re-contacted) in households selected from the Health Survey for England (HSE). To correct for the sampling of adults within households, a selection weight was calculated, equal to the number of adult participants in the household (regardless of whether they agreed to be re-contacted in the HSE). This selection weight was combined with the HSE interview weight, and the combined weight calibrated so that the weighted distribution matched the HSE (2007 and 2008 combined) estimates for: age group by sex; household type; region; social class; smoking status; and general health.

Weights for comparing smokers and non-smokers

For the smoking boost sample, households that contained any responding adult that smoked at the time of the HSE and agreed to be re-contacted were identified. From these households, one of the adults that smoked was sampled at random. A selection weight was calculated equal to the number of adult participants in the household that smoked at the time of the HSE (regardless of whether they agreed to be re-contacted in the HSE). This selection weight was combined with the HSE interview weight.

The smokers in the general population sample were extracted and combined with the smokers from the smoking boost sample. The selection weight calculated for the general population sample (equal to the number of adult participants in the household) was combined with the HSE interview weight.

The smokers in the smoking boost sample and general population sample were merged into one sample and the combined (selection and HSE interview) weights calibrated so that the weighted distribution matched HSE (2007 and 2008 combined) estimates based on adult smokers only for: age group by sex; household type; region; social class; smoking status; general health; and number of smokers in the household.

The non-smokers in the general population sample were extracted with their final general population weight. The weights were adjusted so that the proportion of non-smokers matched the estimate of non-smokers from the HSE (2007 and 2008 combined).

Young person weights

The sample of young people was selected from both the HSE general population sample and child boost samples. One young person aged 13 to 17 (at the time of the study) was selected from those that responded to the HSE for each household. This was corrected using a selection weight equal to the number of 13 to 17 year olds in the household that responded to the HSE. The selection weight was combined with the interview weight (or child weight for the child boost sample) from the HSE. The combined weight was then calibrated to match mid-year population estimates of age (in years) by sex and GOR for 13 to 17 year olds.

Appendix B: Questionnaire

(ASK ALL)

HelPr
I'm going to read out a list of things which can affect people's health. Which of the following do you think is the biggest health problem in the UK. Is it…READ OUT…

INTERVIEWER: CODE ONE ONLY

1 …Alcohol misuse,
2 Smoking,
3 Drug use,
4 Or, HIV/AIDS?

GenHelf
Now I am going to ask you some questions about your health.
How is your health in general? Would you say it was…READ OUT…

1 Very good
2 Good
3 Fair
4 Bad
5 Very bad

LongIll
Do you have any long standing illness, disability or infirmity? By long standing I mean anything that has troubled you over a period of time, or that is likely to affect you over a period of time?

1 Yes
2 No

IF LongIll=Yes THEN
LimitAct
Does this limit your activities in any way?

1 Yes
2 No
ENDIF

IF AGE = 16+
SmokEver
May I just check, have you ever smoked a cigarette, a cigar or a pipe?

1 Yes
2 No

IF SmokEver = 1 THEN

SmokeNow

Do you smoke cigarettes at all nowadays?

1. Yes
2. No

IF SmokeNow = 1 THEN

DlySmoke

About how many cigarettes a day do you usually smoke on weekdays? INTERVIEWER: IF LESS THAN ONE A DAY, ENTER 0. IF RANGE GIVEN AND CAN'T ESTIMATE, ENTER MID POINT. IF RESPONDENT SMOKES ROLL UPS AND CANNOT GIVE NUMBER OF CIGARETTES, CODE 97.

Range: 0..97

WKndSmok

And about how many cigarettes a day do you usually smoke at weekends? INTERVIEWER: IF RANGE GIVEN AND CAN'T ESTIMATE, ENTER MID POINT. IF RESPONDENT SMOKES ROLL UPS AND CANNOT GIVE NUMBER OF CIGARETTES, CODE 97.

Range: 0..97

ENDIF

ENDIF

ENDIF

IF AGE = 13-15 THEN

YPIntro

The next questions are about cigarettes. Remember that no-one else can hear what questions I am asking, so please just answer yes or no to the following.

1 Enter

Kcignow

Do you smoke cigarettes at all nowadays?

1 Yes
2 No

IF Kcignow = No THEN

KcigEvr

Have you ever smoked a cigarette, even if it was just a puff or two?

1 Yes
2 No

IF KcigEvr = Yes THEN

KCigOft

Did you ever smoke cigarettes regularly, that is usually smoking at least one cigarette a week?

1 Yes

2 No

ENDIF
ENDIF

IF Kcignow = Yes THEN
KCigReg
Do you usually smoke at least one cigarette a week?

1 Yes
2 No

IF KCigReg = No THEN
KcigOcc
Do you sometimes smoke cigarettes, but don't smoke as many as one a week?

1 Yes
2 No

ENDIF
ENDIF

IF KcigReg=Yes or KcigOft=Yes or KcigOcc=Yes *(current regular/occasional or ex-regular smoker aged 13-15)* THEN
KcigStop
Have you ever done any of the following things to help you give up smoking? Please just say yes or no to each one that I read out

1 Asked an adult at school (e.g. teacher, school nurse)
2 Asked family or friends
3 Used any nicotine products, such as nicotine patches, chewing gum or other similar products
4 Been to see your family doctor or GP
5 Phoned an NHS smoking helpline
6 Used NHS Stop Smoking Services
7 Not spent time with friends who smoke

ENDIF
ENDIF

(ASK ALL)

NumLiv
How many people do you live with?
INTERVIEWER: CODE 0 IF THE RESPONDENT DOES NOT LIVE WITH ANYONE ELSE
Number: 0..20

IF NumLiv >=1 THEN
NumSm

How many of them smoke. Don't count yourself?
Number: 0..20

IF NumSm>=1 & AGE = 13-17 THEN

NumSm1

Who do you live with who smokes?
IF ASKED: For example, a parent, brother or sister?

1 Mum
2 Dad
3 Step dad
4 Step Mother
5 Brother (including step brothers)
6 Sister (including step sisters)
7 Other relative
8 Other non-relative

ENDIF

IF NumSm>=1 THEN

NumSm2

Does anyone you live with usually smoke inside your home?

1 Yes
2 No

ENDIF
ENDIF

Ruls

Which of these statements best describes rules on smoking inside your home? Please think about where smoking is allowed rather than who is allowed to smoke…READ OUT…

INTERVIEWER: If respondent is aged 13-24, please ask them to give the corresponding answer number category.

1 Smoking is not allowed at all
2 Smoking is allowed in some rooms or at some times
3 Smoking is allowed anywhere
4 (SPONTANEOUS) Don't Know

Passive

Are you regularly exposed to other people's smoke?

1 Yes
2 No

IF Passive = Yes THEN

Passive1

In which places are you usually exposed to other people's smoke?

INTERVIEWER: IF ASKED, READ OUT LIST.
PROBE: Where else? CODE ALL THAT APPLY

1 At own home
2 In other people's home,
3 In other places,
4 No, none of these
5 Other people on street / in beer gardens etc

ENDIF

(ASK ALL)

HelSmk1
I am now going to ask you some questions about the effects smoking cigarettes can have on people's health.

What illnesses or health problems, if any, can you think of that may be caused by smoking cigarettes?

PROBE: What else?
CODE ALL THAT APPLY

1 Addiction
2 Allergies
3 Asthma
4 Brain damage
5 Bad breath
6 Blood circulation problems / blood clots/blood problems/blood diseases
7 Bronchitis / chronic bronchitis
8 Cancer – breast
9 Cancer – lung
10 Cancer – Oral (tongue, lips, mouth, throat)
11 Cancer in general
12 Chest infections
13 Cot death / SIDS (sudden infant death syndrome)
14 Coughing (coughs and colds)
15 Diabetes
16 Death / premature death
17 Dizziness / nausea
18 Ear infections (children)
19 Effect on the foetus / unborn child (general)
20 Emphysema
21 Eye disease / glaucoma
22 Gangrene / amputation
23 Gum disease / tooth loss / mouth disease / throat problems
24 Headaches
25 Heart attack / disease / angina / heart problems / coronary problems
26 High blood pressure
27 Impotence / sexual dysfunction / infertility

28 Lung disease / lung or chest problems / smokers lung disease /chronic obstructive pulmonary disease (COPD) / pneumonia/tuberculosis
29 Multiple sclerosis
30 Poor physical condition / loss of energy
31 Premature birth / preterm birth
32 Respiratory problems / difficulty breathing / shortness of breath
33 Smaller babies / reduced growth of babies during pregnancy
34 Second-hand smoke
35 Stroke
36 Wrinkles / premature ageing
37 Yellow teeth / fingers / effect on appearance/bad skin
38 None
39 Other (Specify)
40 Don't know / no answer

IF HelSmk = Cancer in general THEN

HelCan

You mentioned cancer as a possible illness or health problem resulting from smoking cigarettes, were you thinking about a particular type of cancer or cancer in general?

1 Particular type of cancer
2 Cancer in general

IF HelCan = Particular type of cancer THEN

HelCanTy

Which type were you thinking about?

1 Lung
2 Breast
3 Oral (include mouth, throat, tongue)
4 Other (SPECIFY)

IF HelCanTy = Other THEN

HelCanO

INTERVIEWER: Write in other type of cancer mentioned.
:STRING [60]

ENDIF

ENDIF

ENDIF

IF HelSmk = Other THEN

HSmkOth

INTERVIEWER: Write in other health problem or illness mentioned.
Text: Max 50 characters

ENDIF

PasSmkA

How much, if at all, do you think breathing in other people's smoke affects the health of **adults** who are exposed to it? Is it…RUNNING PROMPT…

1 Not at all
2 Just a little
3 A fair amount
4 A great deal
5 (SPONTANEOUS) Don't know

PasSmkC
How much, if at all, do you think breathing in other people's smoke affects the health of **children**? Is it…RUNNING PROMPT…

1 Not at all
2 Just a little
3 A fair amount
4 A great deal
5 (SPONTANEOUS) Don't know

HelPas1
What illnesses or health problems, if any, can you think of that non-smokers could get by **breathing in other people's smoke**?

PROBE: What else?

CODE ALL THAT APPLY

1 Addiction
2 Allergies
3 Asthma
4 Brain damage
5 Bad breath
6 Blood circulation problems / blood clots/blood problems/blood diseases
7 Bronchitis / chronic bronchitis
8 Cancer – breast
9 Cancer – lung
10 Cancer – Oral (tongue, lips, mouth, throat)
11 Cancer in general
12 Chest infections
13 Cot death / SIDS (sudden infant death syndrome)
14 Coughing (coughs and colds)
15 Diabetes
16 Death / premature death
17 Dizziness / nausea
18 Ear infections (children)
19 Effect on the foetus / unborn child (general)
20 Emphysema
21 Eye disease/glaucoma
22 Gangrene
23 Gum disease / tooth loss / mouth disease / throat problems
24 Headaches
25 Heart attack / disease / angina / heart problems / coronary problems
26 High blood pressure
27 Impotence / sexual dysfunction

28 Lung disease / lung or chest problems / smokers lung disease /chronic obstructive pulmonary disease (COPD) / pneumonia/tuberculosis
29 Multiple sclerosis
30 Poor physical condition / loss of energy
31 Premature birth / preterm birth
32 Respiratory problems / difficulty breathing / shortness of breath
33 Smaller babies / reduced growth of babies during pregnancy
34 Second-hand smoke
35 Stroke
36 Wrinkles / premature ageing
37 Yellow teeth / fingers / effect on appearance/bad skin
38 None
39 Other (Specify)
40 Don't know / no answer

IF HelPas = Cancer in general THEN
HPasCan
You mentioned cancer as a possible illness or health problem resulting from smoking cigarettes, were you thinking about a particular type of cancer or cancer in general?

1 Particular type of cancer
2 Cancer in general

IF HPasCan = Particular type of cancer THEN
HPCanTy1
Which type were you thinking about?

1 Lung
2 Breast
3 Oral (include mouth, throat, tongue)
4 Other (SPECIFY)

IF HPCanTy = Other THEN
HPCanO
INTERVIEWER: Write in other type of cancer mentioned.
:STRING [60]
ENDIF
ENDIF
ENDIF

IF HelPas = Other THEN
HPasOth
INTERVIEWER: Write in other health problem or illness mentioned.
Text: Max 50 characters
ENDIF

MajMin
In general, do you think that cigarette smoking is a major health problem, a minor health problem or not a health problem in England?"

1 Major
2 Minor
3 Not a problem
4 SPONTANEOUS: Don't know / no answer

ASK IF AGE 16+

IF SmokEver = Yes AND SmokeNow = No *(Smoked but doesn't smoke cigarettes nowadays)*

SmokeCig

Have you ever smoked cigarettes?

1 Yes
2 No

IF SmokeCig = Yes THEN

SmokeReg

Did you smoke cigarettes regularly, that is at least one cigarette a day, or did you smoke them only occasionally?

INTERVIEWER: If respondent aged 16-24 ask them to state the corresponding number

1 Smoked cigarettes regularly, at least 1 per day
2 Smoked them only occasionally
3 SPONTANEOUS: Never really smoked cigarettes, just tried them once or twice

IF SmokeReg = Smoked cigarettes regularly THEN *(used to be regular smoker)*

NumSmok

About how many cigarettes did you smoke in a day?
INTERVIEWER: IF RANGE GIVEN AND CAN'T ESTIMATE, ENTER MID POINT. IF RESPONDENT SMOKES ROLL UPS AND CANNOT GIVE NUMBER OF CIGARETTES, CODE 97
Range: 0..97

ENDIF

IF SmokeReg=Smoked cigarettes regularly OR Smoked cigarettes occasionally (*used to be regular / occasional cigarette smoker)* THEN

EndSmoke

How long ago did you stop smoking cigarettes?
INTERVIEWER: ENTER NUMBER OF YEARS. IF LESS THAN ONE YEAR AGO, CODE 0.
Range: 0..97

IF EndSmoke=0 THEN

LongEnd

How many months ago was that?
1 Less than 6 months ago

2 Six months, but less than one year

ENDIF
ENDIF

SmokYrs
And for approximately how many years did you smoke cigarettes regularly?
INTERVIEWER: ENTER NUMBER OF YEARS. IF LESS THAN ONE YEAR, CODE 0.
Range: 0..97

ENDIF
ENDIF
ENDIF

IF SmokNow = Yes THEN

GiveUp
How much would you like to give up smoking…READ OUT…

1 Not at all,
2 A little,
3 A fair amount,
4 Quite a lot,
5 Very much indeed?

IF GIVEUP ≠ Not at all THEN

QuitRes1
What are your main reasons for wanting to give up smoking?
PROBE: What else?

1 Because of a health problem I have at present
2 Better for my health in general
3 Less risk of getting smoking related illnesses
4 Doctor/other health professional advised I should stop
5 Ban on smoking in public places
6 Friends/Family want me to stop
7 Pregnancy
8 Worried about effect on my children/grandchildren
9 Financial reasons/costs too much/can't afford it
10 Smell
11 Not socially accepted/antisocial/stigma
12 Bad habit
13 Picture health warnings on cigarette packets
14 Other (SPECIFY)

IF QuitRes1 = Other THEN

QuitResO
INTERVIEWER: Please specify other reasons
Text: Max 60 characters.

ENDIF

ENDIF

ENDIF

IF Smokenow = Yes OR Longend = Response

NHShelp

In the past year, have you rung the NHS smoking helpline, quitline or another helpline?

1 Yes
2 No

Dochelp

In the past year have you asked a doctor, pharmacist or other health professional for help to quit smoking?

1 Yes
2 No

ENDIF

IF Longend = Response THEN

QuitRe2

Why did you decide to give up smoking?

PROBE: Why else?

1 Advice from a GP or health professional,
2 Advert for a nicotine replacement product,
3 Government TV, radio or press advert,
4 Seeing a health warning on cigarette packet,
5 Hearing about a new stop smoking treatment,
6 Financial reasons (couldn't afford it),
7 The smoking ban in all enclosed public places, including pubs and restaurants,
8 I knew someone else who was stopping,
9 Family or friends wanted me to stop,
10 Being contacted by my local NHS Stop Smoking Services,
11 Health problems I had at the time,
12 Worried about future health problems,
13 Pregnancy,
14 Worried about the effect on my children,
15 Worried about the effect on other family members,
16 My own motivation,
17 Not socially accepted / antisocial / stigma
18 Something else,
19 Cannot remember, NODK

IF QuitRes2=Other THEN

Please specify other

ENDIF

ENDIF

IF SmokNow = Yes OR SmokeReg=Yes (*current smoker / used to smoke regularly)*
THEN

SmkDam

Now I'd like to ask you about smoking and your health...

To what extent, if at all, do you think that smoking has damaged your health…READ OUT...

1 Not at all
2 Just a little
3 A fair amount
4 A great deal

ENDIF

IF SmokNow = Yes THEN

SmkDamF

How worried are you, if at all, smoking may damage your health in the future...READ OUT...

1 Not at all worried
2 A little worried
3 Moderately worried
4 Very worried

ENDIF

IF SmokNow = Yes OR SmokeReg=Yes *(current smoker / used to smoke regularly)*
THEN

SmkQoL

To what extent, if at all, do you think that smoking has lowered your quality of life...READ OUT...

1 Not at all
2 Just a little
3 A fair amount
4 A great deal

ENDIF

IF SmokNow = Yes THEN

SmkQolF

How worried are you, if at all, that smoking will lower your quality of life in the future...READ OUT...

1 Not at all worried
2 A little worried
3 Moderately worried

4 Very worried

ENDIF

(ASK ALL)

CausIll
I am going to read you a list of illnesses or health problems that may, or may not, be caused by smoking cigarettes. Please tell me if you agree or disagree that smoking cigarettes may cause each of the following.

PRESS 1 TO CONTINUE

****Note: The following options have a rotating starting point to minimise order effects****

CausLung
(Do you agree or disagree that smoking cigarettes may cause)…

...Lung cancer

1 Agree
2 Disagree

IF CausLung = Agree or Disagree THEN
CLAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

CausHart
(Do you agree or disagree that smoking cigarettes may cause)…

…Heart disease?
1 Agree
2 Disagree

IF CausHart = Agree or Disagree THEN
CHAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

CausStrk
(Do you agree or disagree that smoking cigarettes may cause)…

…Stroke?

1 Agree
2 Disagree

IF CausStrk = Agree or Disagree THEN
CSAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

CausArt
(Do you agree or disagree that smoking cigarettes may cause)…

…Arthritis?

1 Agree
2 Disagree

IF CausArt = Agree or Disagree THEN
CAAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

CausImp
(Do you agree or disagree that smoking cigarettes may cause)…

…Impotence in men?

1 Agree
2 Disagree

IF CausImp = Agree or Disagree THEN
CIAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

CausMou
(Do you agree or disagree that smoking cigarettes may cause)…

…Mouth or Throat cancer?

1 Agree
2 Disagree

IF CausMou = Agree or Disagree THEN

CMagDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

CausInf
(Do you agree or disagree that smoking cigarettes may cause)…

…Infertility?

1 Agree
2 Disagree

IF CausInf = Agree or Disagree THEN

CInAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

CausGum
(Do you agree or disagree that smoking cigarettes may cause)…

…Gum or mouth disease?

1 Agree
2 Disagree

IF CausGum = Agree or Disagree THEN

CGAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

IF Age = 16+
CausBab
(Do you agree or disagree that smoking cigarettes may cause)…

…Smaller babies or reduced growth of babies during pregnancy?

1 Agree
2 Disagree

IF CausBab = Agree or Disagree THEN
CBAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

CausAlz
(Do you agree or disagree that smoking cigarettes may cause)…

…Alzheimer's disease?

1 Agree
2 Disagree

IF CausAlz = Agree or Disagree THEN
CAlAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

CausWrin
(Do you agree or disagree that smoking cigarettes may cause)…

…Wrinkles and premature ageing?

1 Agree
2 Disagree

IF CausWrin = Agree or Disagree THEN
CWAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

RiskPrem
I'm now going to ask you about illnesses and health problems and whether you think smokers are more likely to experience these than non-smokers.

Do you think that smokers are more likely or not more likely than non smokers to have premature ageing of the skin?

1 More likely
2 Not more likely

IF RiskPrem = More likely THEN

RiskPre2
Is that a little more likely or a lot more likely?

1 Little more likely
2 A lot more likely

ENDIF

RiskFert
Do you think that smokers are more likely or not more likely than non smokers to have fertility problems?

1 More likely
2 Not more likely

IF RiskFert = More likely THEN

RiskFer2
Is that a little more likely or a lot more likely?

1 Little more likely
2 A lot more likely

ENDIF

RiskHart
Do you think that smokers are more likely or not more likely than non smokers to have heart disease?

1 More likely
2 Not more likely

IF RiskHart = More likely THEN

RiskHar2
Is that a little more likely or a lot more likely?

1 Little more likely
2 A lot more likely

ENDIF

RiskArt
Do you think that smokers are more likely or not more likely than non smokers to have arthritis?

1 More likely
2 Not more likely

IF RiskArt = More likely THEN

RiskArt1
Is that a little more likely or a lot more likely?

1 Little more likely
2 A lot more likely

ENDIF

RiskStrk
Do you think that smokers are more likely or not more likely than non smokers to have a stroke?

1 More likely
2 Not more likely

IF RiskStrk = More likely THEN

RiskStr2
Is that a little more likely or a lot more likely?

1 Little more likely
2 A lot more likely

ENDIF

RiskLung
Do you think that smokers are more likely or not more likely than non smokers to have a lung cancer?

1 More likely
2 Not more likely

IF RiskLung = More likely THEN

RiskLun2
Is that a little more likely or a lot more likely?

1 Little more likely
2 A lot more likely

ENDIF

(ASK ALL)

IntChem
Now I am going to ask you a few questions about what cigarettes contain.

1 Enter

ChemBen
I am going to read you a list of chemicals. Please tell me whether you think each of these are included in cigarette smoke or not.

Do you think benzene is included in cigarette smoke or not?

1 Yes
2 No
3 SPONTANEOUS: Don't know

ChemNit
..nitrosamines?

1 Yes
2 No
3 SPONTANEOUS: Don't know

ChemDf
..Difluride?

1 Yes
2 No
3 SPONTANEOUS: Don't know

ChemForm
..formaldehyde?

1 Yes
2 No
3 SPONTANEOUS: Don't know

ChemHyCy
..hydrogen cyanide?

1 Yes
2 No
3 SPONTANEOUS: Don't know

AnyInfo
Have you seen or heard any information about the impact smoking cigarettes has on health?

1 Yes
2 No

IF AnyInfo = Yes

WherInfo
Where have you seen or heard this information?

PROBE: Where else?

CODE ALL MENTIONED

1 Television adverts/Cinema adverts
2 Television programmes/News
3 Newspapers
4 Magazines/books
5 Radio
6 Billboard adverts/adverts on buses and trains
7 Posters and leaflets
8 Cigarette packets
9 Other tobacco product packets
10 Doctors surgery/hospital/other health professional premises/Quit groups
11 Pharmacy
12 School/University/youth club
13 Workplace
14 Word of mouth/family/friends
15 Internet/websites
16 Other
17 Nowhere

IF WherInfo = Other THEN

WherOth

INTERVIEWER: Please record other

Text: Max 120 characters

ENDIF

ENDIF

IF WherInfo = 2 responses or more but not nowhere

ThnkEfct

Which of these, if any, made you think the most about the impact smoking cigarettes has on health?

INTERVIEWER: IF NECESSARY REMIND RESPONDENT OF RESPONSES TO PREVIOUS QUESTION

****Note: CATI is programmed to display answer codes given by respondent to WherInfo as well as the answer options below****

18 None of these

19 SPONTANEOUS: Thought about all equally

IF WherInfo= only 1 response THEN
ThnkEfc2
Did this make you think about the impact smoking cigarettes has on health?

1 Yes
2 No

ENDIF
ENDIF

ChangePk
Now I'm going to ask you some questions about the warning messages that are on cigarette packets. Have you noticed any changes to the warning messages on cigarette packets in the last year?
1 Yes
2 No

ChanMess
Thinking about the warning messages that are on cigarette packets, and without looking at a cigarette packet, what do the warning messages look like?

INTERVIEWER: IF ASKED explain that you are asking about the warning messages on cigarette packets they have most recently seen.

PROBE: What others?

CODE AS MENTIONED

1 Pictures/explicit images/graphics in general
2 Large warning/ warning covers about half of the packet
3 More information
4 Tough, stronger messages
5 Information on how to quit/where to get help
6 Written warnings in black/white/red
7 Chemical/ingredients listed
8 Give information about specific health risks
9 On front of the packet only
10 On back of the packet only
11 On the side of the packet
12 On multiple sides of packet
13 Text
14 Small/label is small
15 Other (Specify)
16 SPONTANEOUS: Have never seen a warning message

IF ChanMess=15 THEN
ChanOth
INTERVIEWER: Please specify other

:Text (120 characters).

ENDIF

NoticPk

I am now going to ask you some further questions about the warning messages on cigarette packets. By warning messages I mean both written messages and picture warnings that you might see on cigarette packets.

How often, if at all, have you noticed the warning messages on cigarette packets? Would it be...READ OUT...

1 Several times a day
2 About once a day
3 Once every two or three days
4 About once a week
5 Less than once a week
6 or, Never?

IF SmokNow = Yes OR Kcigreg = Yes OR Kcigocc = Response *(current smokers)* THEN

LookPckt

How often, if at all, do you find yourself looking at or reading the warning messages on cigarette packets? Would it be…READ OUT...

1 Several times a day,
2 About once a day,
3 Once every two or three days,
4 About once a week,
5 Less than once a week,
6 or, Never?

IF LookPckt = Several times a day THEN

NumLook

On average, how many times a day would you look at or read one of these messages?

INTERVIEWER: If respondent answers whenever I have a cigarette code 97.
Number:1..97

IF NumLook = 97 THEN

NumLook2

And how often is that?
Number:1..50

ENDIF

ENDIF

ThinkPck

How often, if at all, do you think about what the warning messages are telling you? Would it be...READ OUT…

1 Several times a day
2 About once a day
3 Once every two or three days
4 About once a week
5 Less than once a week,
6 or, Never?

TalkPck
Have you ever talked with anyone about the warning messages on cigarette packets?

1 Yes
2 No

SavePck
Have you ever saved or held onto a warning message from an empty cigarette packet?

1 Yes
2 No

MessRmbr
Still thinking about the warning messages on cigarette packets, what messages or pictures, if any, can you remember?

INTERVIEWER:
IF ASKED: explain that they can describe either the pictures or the text on the picture warnings. They do not need to recite the text word for word.

PROMPT: What else?

See HELP <F9>
(INTERVIEWER: For options 3-13 the text in bold font refers to the pictures on cigarette packets. The text in capitals refers to the written warning which accompanies the picture. If a respondent describes either the picture and/or the written warning, code appropriately.
INTERVIEWER: Options 18 and 19 are old text warning messages which no longer exist as part of the new picture warning messages. Only use these if the respondent is clearly not talking about a picture warning message.)

CODE AS MENTIONED

1 Smoking kills
2 Smoking harms you and other people
3 Diseased throat or neck / SMOKING CAN CAUSE A SLOW AND PAINFUL DEATH
4 Rotting teeth or gums or mouth / SMOKE CONTAINS BENZENE, NITROSAMINES, FORMALDEHYDE AND HYDROGEN CYANIDE

5 Heart surgery / SMOKING CLOGS THE ARTERIES AND CAUSES HEART ATTACKS AND STROKES
6 Healthy and diseased lungs / SMOKING CAUSES FATAL LUNG CANCER
7 Child's face and smoke / PROTECT CHILDREN: DON'T MAKE THEM BREATHE YOUR SMOKE
8 Baby in hospital crib / SMOKING WHEN PREGNANT HARMS YOUR BABY
9 Sperm / SMOKING CAN DAMAGE THE SPERM AND DECREASES FERTILITY
10 Aged hands / SMOKING CAUSES AGEING OF THE SKIN
11 Needle / SMOKING IS HIGHLY ADDICTIVE DON'T START
12 Dead man / SMOKERS DIE YOUNGER
13 Bent cigarette / SMOKING MAY REDUCE THE BLOOD FLOW AND CAUSES IMPOTENCE
14 The risk of coronary heart disease is reduced 50% after 1 year of smoking abstinence / stopping smoking reduces the risk of fatal heart and lung diseases
15 You can do it, we can help – Your doctor or your pharmacist can help you stop smoking
16 Choose freedom, we'll help you – Get help to stop smoking (includes helpline number)
17 None of these

OLD TEXT MESSAGES
18 Smoking harms children
19 Smoking harms you / damages your health

IF MessRmbr=1 to 16, 18, 19 AND (SmokNow = Yes OR Kcigreg = Yes OR Kcigocc = Response *(current smokers))* THEN

MessThnk

*(*Have any of these messages made *{if more than one response to **MessRmbr**}* */*Did this message make *{If only one response to **MessRmbr**})* you think about your smoking behaviour?

1 Yes
2 No

IF MessThnk = Yes & MessRmbr >1 response THEN

MessWhch

Which ones?

INTERVIEWER:Code from list below

****Note: CATI is programmed to display answer codes given by respondent to MessRmbr ****

ENDIF

ENDIF

IF SmokNow = Yes OR Kcigreg = Yes OR Kcigocc = Response *(current smokers)* THEN

SmkLess

Still thinking about the warning messages that are on cigarette packets, have the messages...READ OUT…

Made you smoke less?

1 Yes

2 No

SmkLessO

(Have the messages)…READ OUT…

Made you smoke less around others?

1 Yes

2 No

SmkQuit

(Have the messages)…READ OUT…

Made you think more about quitting smoking?

1 Yes

2 No

SmkWantQ

(Have the messages)…READ OUT…

Made you want to quit smoking?

1 Yes

2 No

SmkTryQ

And, still thinking about the warning messages that are on cigarette packets, have the messages...READ OUT…

Made you try to give up smoking?

1 Yes

2 No

MessCovr

Do you do any of the following to avoid looking at or thinking about the warning messages on cigarette packets...READ OUT...

Cover the warning up?

1 Yes

2 No

MessOth

(Do you)…READ OUT…

Use a cigarette case or other container?

1 Yes

2 No

MessBuy

(Do you)…READ OUT…

Not buy packs with particular labels on?

1 Yes

2 No

MessOut

(Do you)…READ OUT…

Keep the pack out of sight?

1 Yes

2 No

MessStop

In the last month, have the warning messages stopped you from having a cigarette when you were about to smoke one?

1 Yes

2 No

IF MessStop = Yes THEN

StopOftn

How often in the last month have the warning messages stopped you from having a cigarette when you were about to smoke one? READ OUT...was it…

1 Once or twice,

2 A few times,

3 or, a lot of times?

ENDIF

MessStub

In the last month, have you stubbed out a cigarette because you thought about the harm of smoking?

1 Yes

2 No

IF MessStub=1 THEN

StubOftn

How often in the last month did you stub out a cigarette because you thought about the harm of smoking? READ OUT...was it…

1 Once or twice,
2 A few times,
3 or, a lot of times?

ENDIF

ENDIF

MessTrue

I am going to read out some things that people have said about the warning messages on cigarette packets. Please tell me whether you agree or disagree with each of the following

…READ OUT…

The messages tell the truth about the health risks of smoking?

1 Agree
2 Disagree
3 Neither agree/disagree/Don't know

IF MessTrue= Agree or Disagree THEN

TruAgDis

Is that a little or a lot?

1 A little
2 A lot

ENDIF

MessAttr

(Do you agree or disagree that)…READ OUT…
The messages make smoking seem less attractive?

1 Agree
2 Disagree
3 Neither agree/disagree/Don't know

IF MessAttr = Agree or Disagree THEN

AttrAgDis

Is that a little or a lot?

1 A little
2 A lot

ENDIF

MessUnec
(Do you agree or disagree that)…READ OUT…
The messages are unnecessary?

1 Agree
2 Disagree
3 Neither agree/disagree/Don't know

IF MessUnec = Agree or Disagree Then
UneAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

MessImpt
(Do you agree or disagree that)…READ OUT…
The messages provide important information about the health risks of smoking?

1 Agree
2 Disagree
3 Neither agree/disagree/Don't know

IF MessImpt = Agree or Disagree THEN
ImpAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

MessBeh

(Do you agree or disagree that)…READ OUT…
The messages have no impact on people's smoking behaviour?

1 Agree
2 Disagree
3 Neither agree/disagree/Don't know

IF MessBeh = Agree or Disagree THEN

BehAgDis

Is that a little or a lot?

1 A little
2 A lot

ENDIF

MessUnd

(Do you agree or disagree that)…READ OUT…
The messages are easy to understand?

1 Agree
2 Disagree
3 Neither agree/disagree/Don't know

IF MessUnd = Agree or Disagree THEN

UndAgDis

Is that a little or a lot?

1 A little
2 A lot

ENDIF

MessOff

(Do you agree or disagree that)…READ OUT…
The messages put me off smoking?

1 Agree
2 Disagree
3 Neither agree/disagree/Don't know

IF MessOff = Agree or Disagree THEN

OffAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

Addict
Do you agree or disagree that smoking can be addictive?

1 Agree
2 Disagree

IF Addict = Agree or disagree THEN
AdAgDis
Is that a little or a lot?

1 A little
2 A lot

ENDIF

MessFeel

In your own words, when you first noticed the messages on cigarette packets, what sorts of feelings occurred to you?

String: Open code

CigDisp
Finally, I have just asked you some questions specifically about the messages on cigarette packets. I am now going to ask you some questions about things you may have seen inside at shops where people can buy tobacco products.

In the last month, have you seen cigarette packets being displayed, including on shelves or on the counter?
1 Yes
2 No
3 SPONTANEOUS: Don't know

IF CigDisp=Yes THEN
DispMess
In the last month, when you have seen the display of cigarette packets in the shop did you, at any time…

…notice the warning messages on the cigarette packets?
1 Yes
2 No

DispThnk
In the last month, when you have seen the display of cigarette packets in the shop, did you, at any time…

…think about smoking a cigarette?
1 Yes
2 No

DispProm
In the last month, when you have seen the display of cigarette packets in the shop, have you, at any time…

…been tempted to buy a packet of cigarettes even when you hadn't gone into the shop for that purpose?
1 Yes
2 No

IF DispProm=Yes THEN
DispBuy
On any of these occasions did you purchase a packet of cigarettes?

1 Yes
2 No

ENDIF
ENDIF