



## Evaluating the impact of Picture Health Warnings on Cigarette Packets

- Graphic picture health warnings printed on the reverse of cigarette packets were introduced in England on the 1<sup>st</sup> October 2008.
- Health warnings have been proven to be an effective way of communicating the health risks associated with smoking. Countries such as Canada and Australia have shown that picture health warnings are more effective than text-based warnings alone.
- This study is the first assessment of the impact of picture health warnings upon knowledge of the health risks of smoking, smoking-related behaviour, attitudes to smoking and to the health warning messages themselves. It assessed impacts in spring 2009, 7-9 months after their introduction.
- The range and depth of knowledge about the health risks of smoking did not change after the pictures were introduced. However, awareness of some conditions depicted by the picture warnings, such as gum/mouth disease or oral cancer, increased significantly. These health warning pictures are arguably the most graphic and were the messages that smokers reported had made them think about their smoking behaviour.
- After the picture health warnings had been introduced, more adults (aged 18+) and young people (aged 13-17) agreed that the message made smoking seem less attractive and more adults agreed that the messages 'put me off smoking'.
- Smokers (aged 18+) were more likely to report that the messages made them think about quitting smoking after the pictures were introduced.
- There were very few smoking-related behaviour changes observed after the pictures were introduced. It remains to be seen whether emotional reactions, such as thinking about quitting or the messages making smoking seem less attractive, are translated into behaviour change in the future.
- The impact of the picture health warnings was modest and not as great as observed in countries such as Canada or Australia. This may reflect differences in tobacco control policy or methodological differences in assessing the impact of the picture warnings. However, in Canada and Australia, the picture health warnings are larger than in England and are displayed on both the front and reverse of the cigarette packet. They are therefore more prominent and noticeable than in England, where the pictures are only displayed on the reverse of the packet.

## Background

Health warning messages on tobacco products are a vital means of conveying information about the health risks of smoking. 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 1<sup>st</sup> October 2008. This study is the first evaluation of the impact of picture health warnings among both adults (aged 18+) and young people (aged 13-17). The main objectives of this study were to assess the impact of the 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 addition, 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.

## Methods

Participants for this study were sampled from respondents to the Health Survey for England (HSE) 2007/2008 who had agreed to participate in future research. This allowed us to over sample smokers aged 18 and over and young people aged 13-17.

Data were collected using computer assisted telephone interviewing in two phases. Wave 1 data collection was conducted between August and September 2008, prior to the picture health warnings being introduced, to collect baseline data on knowledge of the health risks of smoking, smoking-related behaviour and attitudes to the health warnings messages.

Wave 2 data were collected between May 2009 and July 2009 when the picture health warnings

were judged to be in broad circulation. The questionnaire was largely identical to the wave 1 questionnaire to enable comparisons post implementation of the picture health warnings to be made.

For both waves of data collection, independent, cross-sectional samples were drawn for three sub-groups of interest. These were:

- The general population aged 18 and over
- Smokers aged 18 and over
- Young people aged 13-17.

Around 2250 people took part in each wave and the response rate for both waves was 64%. All data were weighted to account for non-response both to the HSE and to this study.

## Key Findings

*Awareness, knowledge and perception of the health risks of smoking*

- All participants were asked to spontaneously recall any health problems or effects associated with smoking and second-hand exposure to smoke; whether they thought smokers were more likely or not more likely to experience a range of conditions and whether they agreed or disagreed that smoking causes a range of illnesses.
- There were few changes post implementation of the picture health warnings in the number of health effects recalled or participant's perception of risk.
- For both adults and young people, the most frequently recalled health problem was lung cancer. Post 1<sup>st</sup> October 2008, it was mentioned by 72% of non smokers (18+), 66% of current smokers (18+) and 76% of young people. This pattern was the same prior to the implementation of picture health warnings.
- Awareness of oral cancer as a health effect associated with smoking was significantly higher among adults post implementation of the picture health warnings, rising from 15% to 20%. Awareness of the impact of smoking upon appearance was also significantly higher post implementation of the pictures. Post 1<sup>st</sup>

October 2008, 8% of adults were aware of this compared with 4% previously.

- Post implementation of the picture health warnings, more young people aged 13-17 reported that gum disease/tooth loss or mouth disease was a health effect associated with smoking. The proportion rose from 3% to 7%. More adults agreed that smoking caused mouth cancer. However, endorsement that smoking causes mouth cancer was already high, and rose from 95% to 97%.
- 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 more likely to disagree that smoking causes some illnesses.

#### *Smoking-related behaviour*

- All participants were asked about their current smoking behaviour, whether they agreed that 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.
- Post implementation of the pictures, adult smokers were more likely to report that the messages had made them think about quitting smoking; the proportion rose from 48% to 56%. More adult smokers also reported that the picture warnings messages had made them think about their smoking behaviour, rising from 54% pre 1<sup>st</sup> October 2008 to 65% post 1<sup>st</sup> October 2008.
- Awareness of the new picture health warnings was high, 94% of adults and 85% of young people could name at least one picture. The images of healthy and diseased lungs and rotting teeth/mouth disease were the messages that adult smokers most often reported had made them think about smoking behaviour. Among young people, it was the front of packet message 'Smoking Kills'.

- There were no differences post implementation of the picture health warnings in the number of smokers reporting forgoing a cigarette when about to smoke one or stubbing out a cigarette because they thought about the health risks of smoking.
- Post implementation, more adult smokers reported using some method to avoid looking at the messages than previously, rising from 17% among men and 29% among women to 29% and 42% respectively. It has been argued that such avoidance 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.

#### *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 1<sup>st</sup> October 2008, the vast majority of adults agreed that they were truthful (90%); that they provided important information about the health risks of smoking (89%) and that they are necessary (86%).
- Post 1<sup>st</sup> October 2008, more adults agreed that the health warnings made smoking seem less attractive (65% pre 1<sup>st</sup> October 2008; 70% post 1<sup>st</sup> October 2008) and that the health warnings 'put me off smoking' (42% pre 1<sup>st</sup> October 2008; 49% post 1<sup>st</sup> October 2008).
- After the picture health warnings were introduced, more young people agreed that the health warning messages made smoking seem less attractive, rising from 79% pre 1<sup>st</sup> October 2008 to 85% post 1<sup>st</sup> October 2008. Fewer young people were likely to agree that the messages had no impact on behaviour, falling from 50% pre 1<sup>st</sup> October to 43% post 1<sup>st</sup> October.

#### **Conclusions**

This study demonstrates that, although the impact of the picture health warnings was

modest, there were some key emotional responses to the new warnings messages and that some pictures arguably had a greater impact than others. For example, more people were aware of the association between oral cancer or mouth disease and smoking post 1<sup>st</sup> October 2008.

The picture messages related to these conditions are arguably the most graphic 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 these messages were most likely to prompt smokers to think about their behaviour.

Post implementation, adult smokers were more likely to report that the messages made them

think about their smoking behaviour and think about quitting smoking, and were more likely to agree that the picture warnings put them off smoking. With the exception of an increase in avoiding the messages, there were few behavioural changes post implementation of the pictures. 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.

#### **Details of research team:**

Heather Wardle<sup>a</sup>, Deanna Pickup<sup>a</sup>, Lucy Lee<sup>a</sup>, Julia Hall<sup>a</sup>, Kevin Pickering<sup>a</sup>, Kristi Grieg<sup>a</sup>, Crawford Moodie<sup>b</sup>, Anne-Marie MacKintosh<sup>b</sup>

<sup>a</sup> National Centre for Social Research

<sup>b</sup> Institute for Social Marketing, University of Stirling

#### **Address for correspondence:**

Heather Wardle, 35 Northampton Square, London, EC1V0AX. Email: [heather.wardle@natcen.ac.uk](mailto:heather.wardle@natcen.ac.uk)

**About PHRC:** The Public Health Research Consortium (PHRC) is funded by the Department of Health Policy Research Programme. The PHRC brings together researchers from 11 UK institutions and aims to strengthen the evidence base for public health, with a strong emphasis on tackling socioeconomic inequalities in health. For more information, visit: [www.york.ac.uk/phrc/index.htm](http://www.york.ac.uk/phrc/index.htm)

**Disclaimer:** The views expressed in this publication are those of the authors and not necessarily those of the PHRC or the Department of Health Policy Research Programme.