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Briefing on the effectiveness of tobacco control mass media campaigns in England

Based on an NPRI-funded project conducted by researchers at the University of Nottingham, University of Bath and Kings College London.

Introduction

Until recently, there has been very limited evidence on how effective tobacco control mass media campaigns in the UK have been. While three peer-reviewed academic studies have looked at the effectiveness of three specific mass media campaigns in the UK, the campaigns were run for short time periods in the 1990s when there was little other tobacco control activity. Findings from these studies are therefore of limited relevance to the current large-scale media campaigns run as part of the UK's comprehensive tobacco control programme.

In 2012 we obtained funding to evaluate the impact of government-funded televised tobacco control campaigns shown in England since 2002 on key indicators of adult smoking behaviours including campaign recall, quitting behaviour, smoking prevalence, cigarette consumption and smoking in the home. Exposure to government-funded tobacco control television advertisements was measured in Television Ratings (TVRs), a standard industry measure of a campaign's reach and frequency.¹ Outputs from this project, and a preliminary related project, funded by CRUK's Tobacco Advisory Group, are 10 papers. This briefing summarises the papers' key findings.

PAPER 1: Langley, T., McNeill, A., Lewis, S., Szatkowski, L., Quinn, C., 2012. The impact of media campaigns on smoking cessation activity: a structural vector autoregression analysis. *Addiction*, 107(11), 2043-2050

Brief outline and study aims

This study explores the effect of tobacco control media campaigns and pharmaceutical company-funded advertising for nicotine replacement therapy (NRT) shown between January 2002 – May 2010 on smoking cessation activity (calls to NHS stop smoking helpline, over-the-counter (OTC) sales of NRT and prescribing of NRT). Data on calls to the NHS stop smoking helpline were obtained from the Department of Health, point of sale data on OTC sales of NRT from Symphony IRI and prescribing data from The Health Improvement Network (THIN), a database of UK primary care records.

Key findings

- An increase in tobacco control TVRs was associated with a statistically significant increase in calls in the same month.
- Tobacco control TVRs were not associated with OTC NRT sales or prescribed NRT.

Conclusions

- Televised tobacco control campaigns appear to be effective at triggering quitting behaviour.
- Any effect seems to be restricted to the month of the campaign, suggesting such campaigns need to be sustained over time

¹ For example, 400 TVRs per month indicates that on average 100% of the adult population were exposed to 4 advertisements per month, or 50% were exposed to 8 advertisements, and so on. This term is often used interchangeably with 'Gross Rating Points' (GRPs), which are interpreted in the same way but reflect the sum of TVRs for individual adverts (e.g. the sum of TVRs for all tobacco control adverts).

PAPER 2: Langley, T., Lewis, S., McNeill, A., Gilmore, A., Salway, R., Szatkowski, L., Sims, M. The freeze on mass media campaigns in England: a natural experiment of the impact of tobacco control campaigns on quitting behaviour 2014 Jun;109(6):995-1002

Brief outline and study aims

In April 2010, the government ceased spending on national public health mass media campaigns. This study evaluates the impact of the campaign freeze on a range of measures of quitting behaviour: calls to the NHS quitline, text requests for quit support packs, web hits on the smoking cessation website and attendance and 4-week quitters at NHS Stop Smoking Services. These data were obtained from the Department of Health and the NHS Information Centre.

Key findings

- There was a statistically significant decrease in quit support packs, quitline calls and web hits after the freeze, falling 98%, 65% and 34% respectively.
- The freeze had no impact on the use of NHS smoking cessation services during the study period.

Conclusions

- Overall, our findings demonstrate a clear reduction in quitting-related activity during the freeze.
- Given the large number of quitline calls prior to the freeze and the proportion of quitline-supported quit attempts that are successful compared with unsupported quit attempts, our findings suggest that a substantial number of successful quit attempts via quitline may have been prevented as a result of the suspension of campaigns.

PAPER 3: Sims, M., Salway, R., Langley, T., Lewis, S., McNeill, A., Szatkowski, L., Gilmore, A. Effectiveness of mass media campaigns to change tobacco use in England: a population-based cross-sectional study. 2014 Jun;109(6):986-94.

Brief outline and study aims

This study explores whether tobacco control advertisements shown between January 2002 and April 2010 were associated with reductions in adult smoking prevalence and cigarette consumption. It uses data on tobacco use collected by the ONS Opinions survey.

Key findings

- After adjusting for other tobacco control policies, cigarette costliness and individual characteristics, we found that an increase in TVRs was associated with a statistically significant reduction in average consumption in the following month and smoking prevalence two months later.
- Over the period 2002-2009, 11.2% of the decline in cigarette consumption and 13.5% of the decline in prevalence was attributable to the impact of these mass media campaigns.
- Our results suggest that mass media campaigns are at least as cost-effective as the NHS Stop Smoking Services.

Conclusions

- Our findings add to the international evidence base that mass media campaigns are associated with reductions in tobacco use.
- Our study builds on previous work by being the first evaluation in Europe to show that campaigns may be effective when run as part of a comprehensive set of tobacco control policies.

PAPER 4: Langley, T., Lewis, S., McNeill, A., Gilmore, A., Szatkowski, L., West, R., Sims, M. Characterising tobacco control media campaigns in England. *Addiction* 2013 Nov;108(11):2001-8.

Brief outline and study aims

International evidence suggests that campaigns which warn of the negative consequences of smoking and feature testimonials from real-life smokers are most effective, and that four exposures per head per month are required to reduce smoking prevalence. This study characterises tobacco control campaigns televised in England between 2004 and 2010 and explores whether they were in line with recommendations from the literature in terms of their content and intensity.

Key findings

- Half of all tobacco control advertisements evoked negative emotions, 45% evoked positive emotions.
- 17% of tobacco control advertisements contained negative health effects messages and testimonials from real-life smokers.
- In most months, there were fewer than 4 exposures to tobacco control adverts per head.

Conclusions

- Our findings suggest that although many elements of recent tobacco control campaigns are likely to have been effective, based on existing recommendations from the literature, televised tobacco control campaigns may not have been maximally effective.

NOTE: This study was conducted prior to subsequent studies (described below) which suggest that, in England, both positive and negative emotive campaigns are effective. Therefore, the mix in emotional content identified in Paper 4 seems likely to have been effective.

PAPER 5: Richardson, S., McNeill, A., Langley, T., Sims M., Gilmore, A., Szatkowski, L., Heath, R., Fong, GT., Lewis, S. The impact of televised tobacco control advertising content on campaign recall: Evidence from the International Tobacco Control (ITC) United Kingdom Survey *BMC Public Health*. 2014 May 7;14:432.

Brief outline and study aims

Based on data on adult smokers collected in the International Tobacco Control Four Country Survey from 2005 to 2009, this study examines whether greater exposure to advertising with different types of emotive content results in higher rates and longer durations of recall.

Key findings

- Increased exposure to televised tobacco control campaigns (positive and negative emotive campaigns combined) in the 6 months prior to each survey was associated with statistically significant higher recall.
- Exposure to campaigns with negative emotive content in the 6 months prior to each survey was associated with statistically significant higher recall, while exposure to positive emotive campaigns did not result in increased recall.
- Negative campaigns were also found to achieve longer durations of recall.

Conclusions

- Campaigns designed to elicit negative emotions towards smoking achieved higher rates and longer durations of recall than all other campaign types.
- However, further research needs to establish whether the stronger effect of negative campaigns on recall translates into quitting behaviour.

PAPER 6: Richardson, S., Langley, T., Sims, M., Gilmore, A., Szatkowski, L., McNeill, A., Lewis, S. How does the emotive content of televised anti-smoking mass media campaigns influence monthly calls to the NHS Stop Smoking helpline in England? *Prev Med.* 2014 Dec;69:43-8

Brief outline and study aims

This study examines whether exposure to advertising with different types of emotive content had differential effects on calls to the NHS quitline.

Key findings

- Both campaigns with positive and negative emotive content significantly increased calls to the helpline, but positive emotive campaigns had a greater effect.
- The effects were not linear; the rate of calls increased 58% as exposure to positive campaigns increased from 0 to 400 GRPs (rate ratio: 1.58, 95% CI: 1.25–2.01). An increase in calls in response to negative emotive campaigns was only apparent after monthly exposure exceeded 400 GRPs.

Conclusions

- Contrary to our findings for recall, campaigns with positive emotive content were most effective at increasing quitline calls.
- Our findings suggest that negative and positive emotive campaigns may have different consequences, with both contributing to positive changes in smokers' responses. Understanding the mix of campaign messages needed to change smokers' attitudes and behavior will necessitate investigating their impacts on a wide range of outcomes.

PAPER 7: Richardson, S., Langley, T., Szatkowski, L., Sims, M., Gilmore, A., McNeill, A., West, R., Brown, J., Lewis, S. The effectiveness of different types of televised anti-tobacco campaign content in promoting quit attempts in England, 2006-2010: Evidence from the Smoking Toolkit Study (Published as an abstract)

Brief outline and study aims

This study explores the impact of positive and negative emotive campaigns on quit attempts in England. It uses data on self-reported quit attempts from the Smoking Toolkit Study, a repeat cross-sectional survey of current and recent ex-smokers in England, from 2006 to 2010.

Key findings

- Both positive and negative emotive campaign exposures were associated with increased reporting of quit attempts.
- Negative campaigns had little impact up to 600 GRPs over a 3 month period (200 per month), but higher levels of exposure resulted in increased quit attempts.
- By contrast, an increase from 0 to 600 GRPs in exposure to positive campaigns over a 3 month period was associated with an increase in the odds of making a quit attempt, whilst an increase in exposure beyond 600 GRPs was associated with little further change.

Conclusions

- Both positive and negative emotive televised tobacco control campaigns can play a role in promoting smoking cessation.

- Our results also suggest the existence of a certain threshold exposure above which exposure to negative emotive campaigns becomes effective, as well as a threshold above which increased exposure to positive campaigns becomes less effective.

PAPER 8: Sims, M., Langley, T., Lewis, S., Richardson, S., Szatkowski, L., McNeill, A., Gilmore, A. Effectiveness of tobacco control television advertisements with different types of emotional content on tobacco use in England, 2004–2010. Tobacco Control. 2014. (Epub ahead of print)

Brief outline and study aims

This study examines the effects of tobacco control television advertisements with positive and negative emotional content on adult smoking prevalence and cigarette consumption using data from the Opinions and Lifestyle Survey from 2004 to 2010.

Key findings

- After adjusting for cigarette costliness, other tobacco control policies and individual characteristics, we found that positive emotive campaigns were associated with lower odds of smoking one month later and negative emotive GRPs were associated with lower odds of smoking two months later.
- An increase in negative emotive GRPs was also associated with a decrease in average cigarette consumption.

Conclusions

- This study suggests that both types of campaign (positive and negative) are effective in reducing smoking prevalence, whereas consumption among smokers was only affected by campaigns evoking negative emotions.

PAPER 9: Lewis S, Sims M, Richardson S, Langley T, Szatkowski L, McNeill A, Gilmore AB. The effectiveness of anti-smoking television advertisements in increasing the prevalence of smoke-free homes. BMC Public Health. 2015 Sep 8;15(1):869.

Brief outline and study aims

This study examines the effects of tobacco control television advertisements, overall and those specifically with a second hand smoke theme, on whether adult smokers have a smoke-free home using data from the Health Survey for England from 2004 to 2010.

Key findings

- The level of exposure to television campaigns overall in each month was not associated with whether smokers reported having a smoke-free home.
- Campaigns with a specific second-hand smoke theme were associated with an increase in smokers reporting having a smoke-free home in the following month; the odds of smokers having a smoke-free home increased 7% for every 100 GRPs (95% CI 1.01, 1.13)

Conclusions

- This study suggests that campaigns with a specific second-hand smoke theme may be effective, and a necessary component of anti-smoking campaigns, to change smoking behaviour in the home.

PAPER 10: Atusingwize, E., Lewis, S., Langley, T. Economic evaluations of tobacco control mass media campaigns: a systematic review. Tobacco Control. 2015 Jul;24(4):320-7.

Brief outline and study aims

Numerous studies have shown that mass media campaigns are effective tobacco control interventions; however, they require substantial investment. The aim of this study was to explore whether their costs are justified by their benefits by systematically and comprehensively reviewing economic evaluations of tobacco control mass media campaigns.

Key findings

- Few studies on the cost-effectiveness of campaigns have been conducted.
- All studies made favourable conclusions regarding the cost-effectiveness of mass media campaigns.
- Generally, studies were well-conducted, but the methods were highly heterogeneous.
- Interventions were often poorly described in terms of campaign content and intensity, and cost information was frequently inadequate.

Conclusions

- Existing studies are of acceptable quality and consistently suggest that such campaigns offer good value for money.
- There is scope for further studies, particularly outside of the UK and the USA.

Overall conclusions

- Mass media campaigns in England have been effective in triggering quitting behaviour and have been responsible for a significant proportion of the reduction in smoking prevalence and consumption in recent years.
- Conversely, the freeze on mass media campaigns was associated with reduction in quitting behaviour
- In recent years a combination of positive and negative emotive campaigns has been employed; both types are likely to have been effective.
- However, tobacco control campaigns in England may not have been maximally effective in terms of the use of hard-hitting testimonial-style campaigns and the intensity of campaigns.
- Our findings on the recall of campaigns are in line with existing evidence that negative emotive campaigns are most effective; however, recall does not necessarily translate into quitting behaviour.
- Rather, our analyses suggest that both types of campaign have an effect on important measures of quitting behaviour – quitline calls, quit attempts and prevalence.
- Campaigns with a specific second-hand smoking theme may be important to change smoking behaviour in the home.
- Although an economic evaluation of recent English campaigns was not possible as part of this project, a comprehensive review of existing studies suggests that mass media campaigns offer good value for money.
- Future campaigns should take into account this new evidence and need to be sustained over time.