BMJ Open

Public acceptability of financial incentives for smoking cessation in pregnancy and breastfeeding

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2014-005524
Article Type:	Research
Date Submitted by the Author:	21-Apr-2014
Complete List of Authors:	Hoddinott, Pat; University of Stirling, Nursing, Midwifery and Allied Health Professional Research Unit Morgan, Heather; University of Aberdeen, Health Services Research Unit Maclennan, Graeme; University of Aberdeen, Health Services Research Unit; University of Aberdeen Sewel, Kate; Ipsos MORI Scotland, Thomson, Gillian; University of Central Lancashire, Maternal and Infant Nutrition and Nurture Unit Bauld, Linda; University of Stirling, Health Policy and Social Marketing Yi, Deokhee; University of Aberdeen, Health Economics Research Unit Ludbrook, Anne; University of Aberdeen, Health Economics Research Unit Campbell, Marion; University of Aberdeen, Health Services Research Unit
Primary Subject Heading:	Public health
Secondary Subject Heading:	Public health, Smoking and tobacco, Paediatrics, Obstetrics and gynaecology, Nutrition and metabolism
Keywords:	PREVENTIVE MEDICINE, PUBLIC HEALTH, SOCIAL MEDICINE

Title: **Public acceptability of financial incentives for smoking cessation in pregnancy and breastfeeding**

Authors: Pat Hoddinott, Heather Morgan, Graeme MacLennan, Kate Sewel, Gill Thomson, Linda Bauld, Deokhee Yi, Anne Ludbrook, Marion K Campbell.

Nursing, Midwifery and Allied Health Professions Research Unit, University of Stirling, Stirling FK9 4LA, UK.
Pat Hoddinott, Chair in Primary Care
Health Services Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK.
Heather Morgan, Research Fellow in Social Science
Health Services Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK.
Graeme MacLennan, Senior Research Fellow in Statistics
Ipsos MORI Scotland, Edinburgh, EH3 6DH, UK.
Kate Sewel, Senior Researcher
Maternal and Infant Nutrition and Nurture Unit, University of Central Lancashire, Preston PR1 2HE, UK
Gill Thomson, Senior Research Fellow in Social Science
Health Policy and Social Marketing, University of Stirling, Stirling FK9 4LA, UK
Linda Bauld, Professor of Health Policy
Health Economics Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK
Deokhee Yi, Research Fellow in Health Economics
Health Economics Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK
Anne Ludbrook, Professor of Health Economics
Health Services Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK.
Marion K Campbell, Director & Professor of Health Services Research

Correspondence to: p.m.hoddinott@stir.ac.uk

Abstract

Objective

To survey public attitudes about incentives for smoking cessation in pregnancy and breastfeeding to inform trial design

Design

Cross sectional survey

Setting and participants

UK general public

Methods

Seven promising incentive strategies had been identified from evidence syntheses and qualitative interview data from service users and providers. These were shopping vouchers for: (i) validated smoking cessation in pregnancy and (ii) after birth; (iii) for a smoke-free home; (iv) for proven breastfeeding; (v) a free breast pump; (vi) payments to health services for reaching smoking cessation in pregnancy targets and (vii) breastfeeding targets. Ipsos MORI used area quota sampling and home-administered computer-assisted questionnaires, with randomised question order to assess agreement with different incentives (measured on a 5-point scale). Demographic data and target behaviour experience were recorded. Analysis used multivariable ordered logit models.

Results

Agreement with incentives was mixed (ranging from 34-46%) among a representative sample of 1144 UK adults. Mean agreement score was highest for a free breast pump; and lowest for incentives for smoking abstinence after birth. More women disagreed with shopping vouchers than men. Those with lower levels of education disagreed more with smoking cessation incentives and a breast pump. Those aged 44 or under agreed more with all incentive strategies compared to those aged 65 and over, particularly provider targets for smoking cessation. Non-white ethnic groups agreed particularly with breastfeeding incentives. Current smokers with previous stop attempts and respondents who had breastfed children agreed with providing vouchers for the respective behaviours. Up to £40 per month vouchers for behaviour change were acceptable (>85%).

Conclusion

Women and the less educated were more likely to disagree, but those of child-bearing age to agree, with incentives designed for their benefit. Trials evaluating reach, impact on health inequalities and ethnic groups are required prior to implementing incentive interventions.

Prospero Registration: CRD42012001980

Article summary

Strengths and limitations of this study

This large cross sectional survey of attitudes to incentives for smoking cessation around pregnancy and breastfeeding was conducted by an internationally recognised independent company using rigorous methods to achieve a representative sample of the UK general public.

Our multi-disciplinary mixed methods approach to survey design and to investigating two behaviours concurrently, used an innovative participatory approach to incorporate service user perspectives.

Original findings show that women and those with fewer educational qualifications are more likely to disagree with incentives, raising concerns about the implications for health inequalities, as these are intended target populations for behaviour change.

Important limitations relate to the unknown generalisability to other countries; non-responder and selection biases; and other unknown confounders.

Although we randomised the order of smoking and breastfeeding questions, further framing effects are possible particularly for the introductory statements.

Introduction

Government interventions to change lifestyle behaviours are increasingly incorporating incentives to encourage healthy choices[1], but directly paying people is seen to be the least acceptable approach[2], with minimally intrusive interventions deemed more acceptable.[1] Experimental studies investigating incentives for smoking cessation in a general population show that incentive acceptability increases with effectiveness.[3] Media coverage of incentive interventions tends to focus on a range of concerns including perceived unfairness to those who already make healthy choices; appearing to reward unhealthy behaviours; potential for abuse; opportunity costs; the need to monitor and safeguard; and "Big Brother" or "nanny state" authoritarianism. However, incentives can demonstrate to people that they are worthy of being helped and can facilitate connections between recipients and care providers.[4] Incentives addressing outcomes for children appear more acceptable than outcomes for adults.[1,5]

In the UK there are marked inequalities in health between social groups. Incentives are one strategy that could be used to redistribute resources through targeting or proportionate universalism,[6] as lifestyle behaviours that compromise health around childbirth are socially patterned[7] and cluster in more disadvantaged communities.[8] For example, pregnant mothers aged 20 or under are: more than five times less likely to be breastfeeding at four months; three times more likely to smoke before or during pregnancy and are less likely to stop smoking compared to mothers aged 35 or over.[7] In 2010 in the UK, the breastfeeding initiation rate was 90% for mothers in managerial and professional occupations, compared with 74% of mothers in routine and manual occupations, with a difference in smoking before or during pregnancy of 14% and 40% respectively.[7] In 2010, 32% of pregnant women lived in a household where at least one other person smoked during pregnancy.[7]

There is promising evidence supporting financial incentives for smoking cessation in pregnancy:[9-11] interventions that include incentives are more effective than pharmacotherapy and/or psycho-social interventions alone.[9] However, the level of the incentive and the nature of accompanying behaviour change techniques provided alongside incentives, are likely to be confounders.[9,11] Reported trials to date have small samples.[9-11] In addition, important concerns about limited reach, particularly to the more marginalised in society, have been raised.[12,13] There are fewer incentive trials of interventions to initiate or maintain breastfeeding[14] and generalisability of support interventions to predominantly formula feeding cultures like the UK is uncertain.[15]

This survey aimed to investigate the public acceptability of a shortlist of promising incentive strategies for stopping smoking in pregnancy or breastfeeding. This is particularly important in countries where health care is state funded. The ultimate study aim was to inform the design of incentive intervention trials for smoking in pregnancy and breastfeeding and to improve understanding of the mechanisms of action of incentives. As this is a relatively new field of research, a broad definition of incentive was applied (Panel 1).

Methods

Survey design

A shortlist of seven promising incentive strategies (Panel 2) had been developed prior to the survey administration, informed by evidence syntheses, input from mother and baby group members who were partners in the research and qualitative research with a range of stakeholders.[16] In the survey (Web1, p1-4), acceptability of the shortlisted interventions was measured on a 5-point Likert style scale from strongly agree to strongly disagree. Those responding strongly agree, agree or neither agree nor disagree to voucher incentives were asked whether incentives should be universally provided or to low income women only and to choose an acceptable value (£2, £10, £20, £40, £60, £80) for shopping vouchers provided monthly to women who prove that they have stopped smoking or are breastfeeding. The values were selected to represent the range identified in the evidence syntheses. Careful consideration was given to framing effects, as greater acceptability is reported for a *reward* rather than *payment*[17] and with increased effectiveness.[3]

Data collection

Ipsos MORI used a controlled form of random location sampling to identify 161 geographical sites (Web2, p5-6). Trained field researchers were asked to interview five people at home from 250 addresses at each site, to obtain a nationally and regionally representative sample of adults aged 18 or over between 22 March 2013 – 15 April 2013. Quotas were set for age, sex, and region and the data weighted to the known profile of Great Britain using age, sex, government office region, social grade, taken a foreign holiday in the last three years, housing tenure, working status, and the number of cars in the household. Interviewers used Computer Assisted Personal Interviewing (CAPI) with randomisation of the order for smoking and breastfeeding incentive questions generated independently and automated using CAPI software, to investigate question order framing effects. Incentive questions were asked after the demographic questions, but before the parent, smoking and breastfeeding status questions.

Statistical analysis

An *a priori* target sample size of 1000 was set to allow us to estimate proportions to within 3% with 95% confidence. A priori questions asked:

1. Is the acceptability of the seven shortlisted incentive strategies influenced according to age (categories 18-24, 25-34, 35-44, 45-54, 55-59, 60-64, 65 and over); sex; social grade (A and B, C1, C2, D, E); region (North, North West, Yorkshire and Humberside, East Midlands, West Midlands, East Anglia, South East, South West, London, Wales, Scotland); ethnicity (White British, Other Ethnicity); education (University, GCSE or equivalent, A-level or equivalent, no formal qualifications, still studying or other qualifications, or don't know); having children (yes, no); personal experience of smoking (never smoked, ex-smoker, current smoker - failed to stop, or no attempts to stop); had a child ever been breastfed (even if for only a day or two)?
2. What are the independent predictors of acceptability of the shortlist of incentive strategies?
3. What value of incentive is most acceptable and what are the independent predictors of the preferred incentive value?
4. Are universal incentives preferred to incentives targeted at low income women and what are the independent predictors for preference?

Data were described using the appropriate summary statistics where relevant. Responses to the Likert style outcome survey items were summarised by number, percentage and mean, and graphed using bar charts. Responses to these outcome items were tabulated, broken down by the independent predictor variables specified above. Net agreement (agree and strongly agree) and net disagreement (disagree and strongly disagree) were also reported as number and percentage. Simple and multiple ordered logit regression models were used to determine the independent predictors of acceptability for the shortlist. The relationship between predictor and outcomes variables was summarised using the odds ratio and 95% confidence intervals. For the financial value and targeting of incentives to low income women only (research questions 3 and 4) two part models were used. For research question 3, the value of incentives, a probit model was used to estimate a 'positive' response (i.e. strongly agree, agree, or neither agree nor disagree) and then linear regression was used to model the amount of shopping voucher acceptable conditional on a positive response. For research question 4, targeting low income women only, a similar model was used but as the conditional response here was dichotomous a probit model was used instead of linear regression. In all models the most affluent status was used as the reference category where appropriate (i.e. male; white ethnicity; university qualification; Social grade A or B; resident in London; no children; never smoked; child breastfed). Age was entered as 5-year categories. All analyses were done in Stata 13 (StataCorp. 2013. Stata Statistical Software: Release 13. College Station, TX: StataCorp LP).

Role of the funding source

The funders had no role in the data collection, analysis, interpretation, the writing of the manuscript or the decision to submit.

Findings

The characteristics of the 1144 representatives of the UK public who participated in the CAPIBUS survey and any variables with missing data are detailed in Table 1.

Overall acceptability of incentives

The acceptability of the seven promising incentive strategies was mixed (Figure 1 and Table 2). Between 34-46% agreed with these incentives. Overall, the most acceptable incentive, with net agreement of 46% and net disagreement of 28%, was to provide a breast pump worth £40 to help women continue breastfeeding. The least acceptable incentives were shopping vouchers given to women who continue to stop smoking after birth (net agreement 37% and net disagreement 47%) or given to women to maintain a smoke-free home (net agreement 34% and net disagreement 46%). The general public expressed collective uncertainty about providing funding to local health service providers to meet smoking cessation in pregnancy or breastfeeding targets: just over a third of the respondents agreed and a third disagreed. Framing effects with question randomisation were observed (Web3, p7-8). Significantly higher agreement with all breastfeeding incentive strategies was observed when breastfeeding questions were asked before the smoking questions: vouchers for breastfeeding OR 2.00 (95% CI 1.61, 2.46; p< 0.001); a free breast pump OR 1.32 (95% CI, 1.08, 1.62; p<0.008); and provider incentives for breastfeeding targets OR 1.44 (95% CI, 1.17, 1.77; p<0.001). Differences in agreement for all smoking cessation incentive strategies were non-significant when the smoking questions were asked before the breastfeeding questions.

Independent predictors of agreement with incentives

Table 3 describes the independent predictors of agreement with incentives. For aid of interpretation and comparison, we have summarised the odds ratios (ORs) into groups (OR <0.5, >=0.5 to <1.0, >=1.0 to <1.5, >=1.5 to <2.0, and >=2.0). Full results tables are available (Web4, p9-44). Being of childbearing age (44 and under) was an independent predictor of agreement with all seven incentive strategies, with agreement generally decreasing with increased age. Agreement amongst the 44 and under age group compared to the 65 and over age group was strongest for provider targets for smoking cessation in pregnancy (OR>=2.0).

Women who are (or would have been when younger) the intended recipients of the vouchers, were less likely to agree with any shopping vouchers for: smoking cessation during pregnancy OR 0.71 (95% CI 0.57, 0.88; p = 0.002), after birth OR 0.68 (95% CI 0.55, 0.85; p=0.001), smoke-free homes OR 0.72 (95% CI 0.58, 0.90; p=0.003) or breastfeeding OR 0.77 (95% CI 0.62, 0.95; p = 0.016) when compared to men.

Respondents with lower educational level, when compared to those with degree level qualifications, were more likely to disagree (0.5<=OR<1.0) with shopping voucher incentives given to women for smoking cessation before or after birth, a free breast pump, or for additional funding to local health services for meeting smoking cessation targets. There was no evidence of difference across education groups for vouchers for breastfeeding or additional payments to local health services for meeting breastfeeding targets.

The associations with lower social grade when compared to social grade A and B combined were less clear. Social grade E predicted agreement with shopping vouchers for smoking cessation in pregnancy (OR 1.74; 95% CI 1.12, 2.70; p = 0.014) and a free breast pump (OR 1.57; 95% CI 1.00, 2.46; p = 0.05); social grade C2 predicted agreement with vouchers for continued smoking cessation after birth (OR 1.64; 95% CI 1.18, 2.27 p = 0.003); but in contrast social grade C1 predicted disagreement with additional funding to local health services for meeting smoking cessation targets (OR 0.68; 95% CI 0.50, 0.94 p = 0.019).

Being from a non-white British ethnic group, when compared to being white British, was a strong predictor of agreeing with breastfeeding vouchers (OR 2.03; 95% CI 1.43, 2.88; p< 0.001) and with additional funding to local health services for meeting breastfeeding targets (OR 2.31; 95% CI 1.63, 3.29; p< 0.001) but not for a free breast pump. Being from a non-white British group also predicted agreement with vouchers for stopping smoking in pregnancy (OR 1.42; 95% CI 1.01, 1.99; p = 0.047) and a smoke-free home (OR 1.49; 95% CI 1.06, 2.08; p = 0.021).

Current smokers who had tried stopping in the past were more likely to agree with vouchers for stopping smoking in pregnancy (OR 1.63; 95% CI 1.18, 2.26; p = 0.003) and for maintaining a smoke-free home after birth (OR 1.48; 95% CI 1.08, 2.04; p = 0.016), but not for continued smoking cessation after birth, or provider incentives to meet smoking cessation targets. Those with a breastfed child were more likely to agree with vouchers for breastfeeding OR 1.67 (95% CI 1.24, 2.25; p = 0.001) and with a free breast pump OR 1.84

(95% CI 1.36, 2.49; p = <0.001), but not with provider incentives for meeting breastfeeding targets, when compared to those with children that had not been breastfed.

Where respondents did not disagree with providing shopping vouchers as an incentive, up to £40 per month vouchers for behaviour change were acceptable (>85%) (Table 4), for both smoking cessation and breastfeeding. For smoking cessation in pregnancy, being a current smoker who has tried to stop (compared to never smoked), or having a child previously breastfed (compared to no breastfed children) was correlated with a higher value of shopping voucher (Web 4, Table 15). For breastfeeding, having a child previously breastfed (compared to no breastfed children) was correlated with an increased value of shopping voucher (Web 4, Table 17).

Universal provision rather than targeting low income women was preferred by 364 (55%) of the 660 who did not disagree with vouchers for smoking cessation in pregnancy, compared with 296 (44.9%) who thought that vouchers should be targeted at low income women only. Agreement with universal provision of vouchers for breastfeeding was similar: 367 (52.3%) compared to 330 (47.4%) thought that incentives should be provided to low income women only. Disagreement with vouchers being given to low income women only was associated with being a woman (Web 4, Tables 16 and 18) but this was only significant for breastfeeding.

Discussion

In this representative UK sample, public opinion regarding the acceptability of incentives for smoking cessation in pregnancy and breastfeeding was mixed. Being of child-bearing age (44 or under), and therefore a representative of the target population for this behaviour change strategy, was the only independent predictor of agreement with all seven incentive strategies. Of concern, women were significantly more likely to disagree with any of the shopping voucher incentive strategies compared to men. General public respondents with lower educational level were more likely to disagree with any voucher incentives to women for smoking cessation, or with a free breast pump. Agreement appears to be strongest in non-white ethnic groups. As reported by others,[1] people with direct experiences of attempting the target behaviours were more likely to agree with incentives.

This is the largest survey of public attitudes to incentive provision aiming to change lifestyle behaviours and was conducted by an independent company with an international reputation for conducting surveys of this type. Our multi-disciplinary mixed methods approach to survey design and investigating two behaviours concurrently, with an innovative participatory

approach to incorporating service user perspectives through co-applicant mother and baby groups located in disadvantaged areas, are novel.[16,18] Important limitations relate to the unknown generalisability to other countries; non-responder and selection biases; and other potential confounders. The framing effects observed by randomising question order are important and further unknown framing effects could be present. In particular the introduction contained a stronger statement about the evidence for incentives changing smoking behaviour than for breastfeeding, as is consistent with current evidence[9-11,14] and evidence of effectiveness has been shown to impact on acceptability.[3]

The implications of our findings for efforts to reduce health inequalities are important. The disagreement with incentive strategies amongst those with lower educational level, which is considered the strongest predictor of disadvantage,[6] is unexpected and a concern as addressing health inequalities is a government priority. Smoking in pregnancy and not breastfeeding are highest amongst the less educated, the younger aged and white British women.[7] This data adds to reports of poor reach of incentive interventions, particularly to the most marginalised individuals.[12,13] Universal incentives were preferred to incentives targeted at low income women, with concerns about unintended consequences such as stigma and value judgments raised in linked qualitative data.[16] Differential uptake across educational groups and the potential for health inequalities to increase is a concern, as noted for lifestyle behaviour change interventions.[19] Any assumption that incentives might redistribute resources and/or help to reduce health inequalities requires further testing.

Women's disagreement with incentive strategies is particularly problematic due to the onus currently placed on women by health services and governments to change their health related behaviours. Some understanding of women's disagreement with shopping voucher incentives for individual or household behaviour change, which may seem counter-intuitive, is revealed in narratives of blame, pressure and stigma.[16, 20-21] In addition, psychological theory suggests that providing extrinsic motivation through financial incentives alone might be insufficient and meet with resistance, with intrinsic motivation required for more sustained behaviour change.[23,24] Qualitative data from this study highlights that the real life barriers and facilitators to living healthy lives need to be addressed concurrently with incentive interventions to optimise the likelihood of effectiveness.[16] For example, current smokers who reported failed attempts to stop were more likely to agree with shopping voucher incentives for a smoke-free home, but disagree with providing vouchers if the mother continues to abstain from smoking after birth. This fits with the evidence on relapse being associated with whether the partner and/or social network of a pregnant woman smokes.[22] Similarly, linked qualitative data suggest that a free breast pump is perceived to address more intrinsic and

extrinsic barriers to continued breastfeeding than shopping vouchers, such as overcoming embarrassment with performing in public; resuming social lives; sharing the feeding-bonding experience with partners and relieving the mother as the sole supplier on demand.[16] However, breast pumps are an uncertain proxy outcome as the relationship between characteristics, use and feeding outcomes are uncertain.[25]

Robust randomised controlled trials reporting reach, impact on health inequalities, ethnic groups, experience outcomes and any unintended consequences, in addition to the target behaviours, are required prior to any implementation or introduction of policy decisions around incentive interventions for smoking cessation in pregnancy, or breastfeeding.

Acknowledgements:

We would like to thank our co-applicants and research team: Mastrick Café Crèche, Aberdeen and St Cuthbert's and Palatine Children's Centre, Blackpool. Shelley Farrar and Nicola Crossland contributed to the survey design. Grant co-applicants Professor Fiona Dykes, Professor David Tappin and Dr Falko Sniehotta for their collaboration and input to the overall BIBS study design. We would like to thank the members of the public, the women, families and staff from health services, local government, voluntary sector and other organisations, who generously provided their time by participating in the BIBS study. Other members of the BIBS study team, in particular, Fiona Stewart and Cynthia Fraser for providing guidance with literature searching and reference management; Lara Kemp for providing secretarial support.

Conflicts of interest

All authors have completed the Unified Competing Interest form at www.icmje.org/coi_disclosure.pdf (available on request from the corresponding author) and declare that (1) no authors have support from any company for the submitted work; (2) no authors have relationships with companies that might have an interest in the submitted work in the previous 3 years; (3) their spouses, partners, or children have no financial relationships that may be relevant to the submitted work; and (4) LB has non-financial interests that may be relevant to the submitted work. Ipsos Mori were commissioned to work with the research team by the University of Aberdeen.

Contributions

Pat Hoddinott wrote the first draft of this paper and led the BIBS study. All co-authors have contributed to the design, analysis and paper writing and meet the ICMJE criteria for authorship. Heather Morgan co-ordinated service user co-applicant mother and baby group involvement in Aberdeen; contributed to the survey design, piloting, analysis decisions and wrote the first draft of the results. Graeme MacLennan led the statistical analysis of the survey data and contributed to writing the methods and results sections. Gill Thomson co-ordinated service user co-applicant mother and baby group involvement in Blackpool and contributed to the survey design, piloting and reporting of the results. Linda Bauld contributed to the survey design and reporting of the results. Kate Sewel, Lorraine Murray and their colleagues at Ipsos MORI, contributed to the survey design, collected the survey data, and provided the data as an SPSS file for further analysis. Anne Ludbrook contributed to the survey design and, with Deokhee Yi, analysed the incentive value and targeting questions in the survey and reported these sections of the results. Marion Campbell provided methodological and statistical input to the survey design, analysis and reporting of results.

Ethics approvals

Full ethical approval for this study, including service user involvement, was obtained from the North of Scotland Research Ethics Committee (NOSRES, reference number: 12/NS/0041, 12th April 2012) and the BUSH (Built & Natural Environment, Sport and Health) Ethics Committee, University of Central Lancashire (BUSH064, 8th May 2012).

Sources of funding

This project was commissioned by the NIHR Health Technology Assessment Programme (10/31/02) and will be published in full in *Health Technology Assessment*. Further information including the protocol is available at:

http://www.nets.nihr.ac.uk/projects/hta/103102. This report presents independent research commissioned by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, MRC, CCF, NETSCC, the HTA programme or the Department of Health

The Nursing, Midwifery and Allied Health Professions Research Unit, University of Stirling, the Health Services Research Unit, and Health Economics Research Unit, Institute of Applied Health Sciences, University of Aberdeen are all core-funded by the Chief Scientist Office of the Scottish Government Health and Social Care Directorates.

Transparency statement

All authors are independent of the funding bodies, had full access to all of the data reported in this paper and take responsibility for the integrity of the data and the accuracy of the data analysis. PH took the decision to submit for publication and is the guarantor. She affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; and that no important aspects of the study have been omitted.

Data sharing

The full dataset is available from the corresponding author: p.m.hoddinott@stir.ac.uk.

References

1. Diepeveen S, Ling T, Suhrcke M, Roland M, Marteau T. Public acceptability of government intervention to change health-related behaviours: A systematic review and narrative synthesis. *BMC Public Health*. 2013;13(1):756.

2. Park JD, Mitra N, Asch DA. Public opinion about financial incentives for smoking cessation. *Prev Med*. 2012;55, Supplement:S41-S45.

3. Promberger M, Dolan P, Marteau T. “Pay them if it works”: Discrete choice experiments on the acceptability of financial incentives to change health related behaviour. *Soc Sci Med*. 2012;75(12):2509-2514.

4. Thomson G, Dykes F, Hurley M, Hoddinott P. Incentives as connectors: Insights into a breastfeeding incentive intervention in a disadvantaged area of North-West England. *BMC Pregnancy and Childbirth*. 2012;12(1):22.

5. Jeffery RW. Financial incentives and weight control. *Prev Med*. 2012;55, Supplement:S61-S67.

6. Marmot M. *Fair society, healthy lives: The Marmot review. Strategic review of health inequalities in England post 2010.* [accessed March 2014]. Available from URL: http://www.marmotreview.org/.

7. McAndrew F, Thompson J, Fellows L, Large A, Speed M, Renfrew MJ. *Infant feeding survey 2010.* [accessed March 2014]. Available from URL: http://www.hscic.gov.uk/catalogue/PUB08694/ifs-uk-2010-sum.pdf

8. Buck D, Frosini F. *Clustering of unhealthy behaviours over time: Implications for policy and practice.* London: The Kings Fund; 2012..

9. Chamberlain C, O'Mara-Eves A, Oliver S, et al. Psychosocial interventions for supporting women to stop smoking in pregnancy. *Cochrane Database of Syst Rev,* 2013;Issue10:CD001055.

10. Higgins ST, Washio Y, Heil SH, et al. Financial incentives for smoking cessation among pregnant and newly postpartum women. *Prev Med*. 2012;55, Supplement(0):S33-S40.

11. Hoddinott P, Hislop J, Morgan H, et al. Incentive interventions for smoking cessation in pregnancy: A mixed methods evidence synthesis. *The Lancet*. 2012;380, Supplement 3(0):S48.

12. Radley A, Ballard P, Eadie D, MacAskill S, Donnelly L, Tappin D. Give it up for baby: Outcomes and factors influencing uptake of a pilot smoking cessation incentive scheme for pregnant women. *BMC Public Health*. 2013;13(1):343.

13. Schmidt H, Voigt K, Wikler D. Carrots, sticks, and health care reform — problems with wellness incentives. *N Engl J Med*. 2010;362(2):e3.

14. Renfrew MJ, McCormick FM, Wade A, Quinn B, Dowswell T. Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database of Syst Rev*. 2012;Issue 5:CD001141

15. Hoddinott P, Seyara R, Marais D. Global evidence synthesis and UK idiosyncrasy: Why have recent UK trials had no significant effects on breastfeeding rates? *Maternal & Child Nutrition*. 2011;7:221-227.

16. HTA - 10/31/02. *BIBS: Benefits of incentives for breastfeeding and smoking cessation: A platform study for a trial.* [accessed March 2014]. Available from URL http://www.nets.nihr.ac.uk/projects/hta/103102.

17. Eunson J, Murray L. *The acceptability of carrots.* Edinburgh: Ipsos MORI Scotland; 2012 [accessed March 2014]. Available from URL: http://www.ipsos-mori.com/newsevents/ca/1233/The-acceptability-of-carrots.aspx.

18. Morgan H, **Hoddinott P**, Thomson G, Crossland N, Dykes F, McCann S, Campbell MK. Service user groups as co-applicants on a platform study for a trial. Trials: 2013, 14(Suppl 1):O35.

19. Jepson R, Harris F, Platt S, Tannahill C. The effectiveness of interventions to change six health behaviours: A review of reviews. *BMC Public Health*. 2010;10(1):538.

20. Ingall G, Cropley M. Exploring the barriers of quitting smoking during pregnancy: A systematic review of qualitative studies. *Women and Birth*. 2010;23(2):45-52.

21. Hoddinott P, Craig LCA, Britten J, McInnes RM. A serial qualitative interview study of infant feeding experiences: Idealism meets realism. *BMJ Open* 2012;2:e000504.

22. Graham H, Sowden A, Flemming K, Heirs M, Fox D. *Using qualitative research to inform interventions to reduce smoking in pregnancy in England: A systematic review of qualitative studies.* Public Health Research Consortium; 2012.

23. Frey B. *Not just for the money. An economic theory of personal motivation.* Brookfield VT: Edward Elgar Publishing; 1997.

24. Deci EL, Koestner R, Ryan RM. A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological bulletin*. 1999;125:627-668.

25. Becker GE, Cooney F, Smith HA. Methods of milk expression for lactating women. *Cochrane Database Syst Rev* 2011;Issue 12:CD006170.

Panel 1. Definition of an incentive

Incentives include financial (positive or negative) and non-financial tangible incentives or rewards. This includes free or reduced cost items that have a monetary value or an exchange value, like refreshments, baby products or services like child care or ironing. The definition excludes intangible incentives such as supportive, motivational or persuasive relationships with professionals or peers. Incentives may be delivered directly or indirectly at local, regional or national level by organisations.

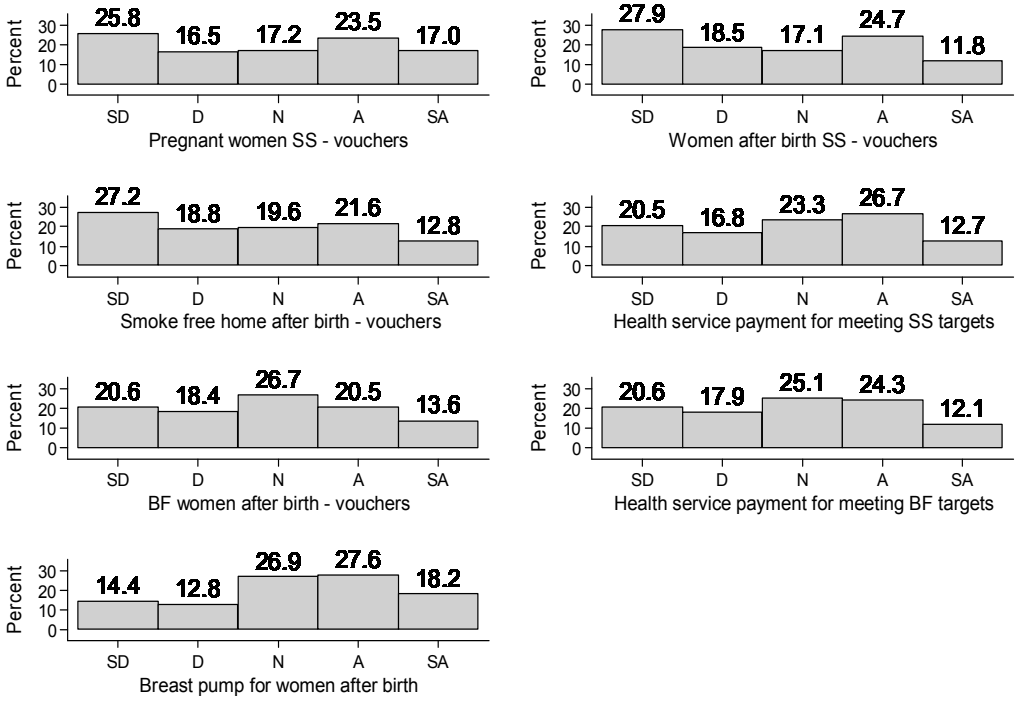
Panel 2. Shortlist of seven promising incentive strategies

1. Shopping vouchers for women who prove that they have stopped smoking during pregnancy
2. Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking
3. Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home
4. Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth
5. A breast pump costing around £40 provided for free by the health service
6. Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy
7. Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding

Table 1. Characteristics of the general public sample (n=1144)

Variable	Categories	Sample (%)
Sex	Male	540 (47.2)
	Female	604 (52.7)
Age	18-24	170 (14.9)
	25-34	175 (15.3)
	35-44	181 (15.8)
	45-54	159 (13.9)
	55-59	72 (6.3)
	60-64	94 (8.2)
	65<	293 (25.6)
Ethnicity	White	985 (86.1)
	BME	151 (13.2)
	Refused to answer	8 (0.7)
	White British	*914 (79.9)*
	White Irish	*11 (1.0)*
	White Gypsy/Traveller	-
	White Other	*60 (5.2)*
	Mixed W/B Caribbean	*3 (0.3)*
	Mixed W/B African	*1 (<0.1)*
	Mixed White and Asian	*3 (0.3)*
	Mixed Other	*2 (0.2)*
	Asian Indian	*19 (1.7)*
	Asian Pakistani	*47 (4.1)*
	Asian Bangladeshi	*12 (1.1)*
	Asian Chinese	*7 (0.6)*
	Asian Other	*13 (1.1)*
	Black African	*26 (2.3)*
	Black Caribbean	*7 (0.6)*
	Black Other	*2 (0.2)*
	Arab	*4 (0.4)*
	Other	*5 (0.4)*
	Refused	*8 (0.7)*
Smoking status	Never smoked	573 (50.1)
	Current smoker, tried to stop smoking	175 (15.3)
	Current smoker, not tried to stop smoking	63 (5.5)
	Ex-smoker	281 (24.6)
	Declined to answer	52 (4.6)
Any children	Yes	742 (64.9)
	No	402 (35.1)
Breastfeeding	Any children breastfed	512 (47.3)
	No children breastfed	632 (52.5)
Education	GCSE/O-level/CSE/NVQ	342 (29.9)
	A-level or equivalent	193 (16.9)
	Degree/Masters/PhD	295 (25.9)
	No formal qualifications	197 (17.2)
	Other/Don't know/ Still studying	117 (10.2)
Social grade	A	36 (3.2)
	B	203 (17.7)
	C1	370 (32.3)
	C2	236 (20.6)
	D	162 (14.2)
	E	137 (12.0)
Survey region	North	77 (6.7)
	North West	142 (12.4)
	Yorks & Humberside	104 (9.1)
	West Midlands	109 (6.5)
	East Midlands	66 (5.8)
	East Anglia	41 (3.6)
	South West	81 (7.1)
	South East	200 (17.5)
	Greater London	149 (13)
	Wales	66 (5.8)
	Scotland	109 (9.3)

Figure 1. Bar charts of general public agreement with the shortlist of incentive strategies



SD: Strongly disagree
D: Disagree
N: Neither agree nor disagree
A: Agree
SA: Strongly agree
BF: Breastfeeding
SS: Stop smoking

Table 2. Summary of general public agreement with seven incentive strategies

Incentive strategy	% Disagree	% Neither	% Agree	Mean
Shopping vouchers for women who prove that they have stopped smoking during pregnancy	42.3	17.2	40.5	2.9
Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking	46.4	17.3	36.5	2.7
Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home	46.0	19.6	34.4	2.7
Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth	39.1	26.8	34.2	2.9
A breast pump costing around £40 provided for free on the NHS	27.8	27.0	45.8	3.2
Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy	37.2	23.3	39.4	2.9
Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding	38.6	25.1	36.4	2.9

Table 3. Summary of the independent predictors of general public agreement and disagreement with incentive strategies

	Age <= 44	Female	Lower education level	Social grade C or below	Non-white ethnicity	Current smokers who have attempted to stop	Children breastfed
Shopping vouchers for women who prove that they have stopped smoking during pregnancy	*1.5<=OR<2.0*	*0.5<=OR<1.0*	*0.5<=OR<1.0*	*1.5<=OR<2.0* (Grade E)	*1.0<=OR<1.5*	*1.5<=OR<2.0*	
Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking	*1.5<=OR<2.0*	*0.5<=OR<1.0*	*0.5<=OR<1.0*	*1.5<=OR<2.0* (Grade C2)			
Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home	*1.5<=OR<2.0*	*0.5<=OR<1.0*	*0.5<=OR<1.0*		*1.0<=OR<1.5*	*1.0<=OR<1.5*	
Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth	*1.5<=OR<2.0*	*0.5<=OR<1.0*			*OR>=2.0*		*1.5<=OR<2.0*
A breast pump costing around £40 provided for free on the NHS	*1.5<=OR<2.0*		*0.5<=OR<1.0*	*1.5<=OR<2.0* (Grade E)			*1.5<=OR<2.0*
Additional funding for local health services if they reach targets stopping smoking during pregnancy	*OR>=2.0*		*0.5<=OR<1.0*	*0.5<=OR<1.0* (Grade C1)			
Additional funding for local health services if they reach targets for breastfeeding	*1.5<=OR<2*				*OR>=2.0*		

Table 4. Highest acceptable value of shopping voucher for women who stop smoking during pregnancy or are breastfeeding

Value	Smoking in pregnancy		Breastfeeding	
	Number (N = 660*)	Percent	Number (N = 697*)	Percent
£2	116	17.6	146	20.95
£10	146	22.1	150	21.52
£20	193	29.2	199	28.55
£40	115	17.4	110	15.78
£60	36	5.5	36	5.16
£80	54	8.2	56	8.03

* Respondents from the 1144 UK public participants who strongly agreed, agreed or neither agreed nor disagreed with shopping vouchers incentives

WEB 1 MORI survey of the general public

LIFESTYLE SURVEY – CS MODULE CAPIBUS WEEK 12

(SAMPLE = ADULTS AGED 18+)

(COMPUTING, PLEASE ROTATE SO THAT ½ SAMPLE ARE ASKED SMOKING QUESTIONS (SMOKING INTRO PLUS CS01 – 05) FIRST AND ½ SAMPLE ARE ASKED BREASTFEEDING QUESTIONS (BREASTFEEDING INTRO PLUS CS06 – CS10) FIRST)

(COMPUTING: PLEASE ENSURE ALL DK, REF AND NULL ARE TREATED AS HIDDEN RESPONSES)

INTERVIEWER THIS SECTION DOES NOT HAVE SHOWCARDS. ON SCREEN INSTRUCTIONS WILL INDICATE WHEN TO SHOW AND WHEN NOT TO SHOW SCREEN TO THE RESPONDENT. PLEASE NOTE: THERE MAY BE QUESTIONS THAT ALLOW DON'T KNOW, NONE OF THESE OR REFUSED. PLEASE TYPE DK FOR DON'T KNOW, REF FOR REFUSED AND NULL FOR NONE OF THESE

(New Screen)
INTERVIEWER: PLEASE SHOW SCREEN UNTIL OTHERWISE INSTRUCTED.

I would now like to ask you some questions about smoking during pregnancy…

CS01. Stopping smoking in pregnancy benefits the health of the baby and the mother. Research shows that providing shopping vouchers to women who prove that they have stopped smoking during pregnancy increases the number of women who stop. While some people feel that providing vouchers is appropriate, others feel that it is wrong or unfair.
Do you agree or disagree that shopping vouchers should be provided to women who prove that they have stopped smoking during pregnancy?
(SINGLE CODE; REVERSE ORDER BETWEEN INTERVIEWS)

Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

IF CODE STRONGLY AGREE, TEND TO AGREE OR NEITHER AGREE NOR DISAGREE AT CS01, ASK:
CS02. What is the highest amount of shopping voucher you think it would be acceptable to provide a woman who proves that she has stopped smoking during pregnancy?
(SINGLE CODE; REVERSE ORDER BETWEEN INTERVIEWS)

A. £2 per month
B. £10 per month
C. £20 per month
D. £40 per month
E. £60 per month
F. £80 per month

IF CODE STRONGLY AGREE, TEND TO AGREE OR NEITHER AGREE NOR DISAGREE AT CS01, ASK:
CS03. Do you think that it is acceptable to provide shopping vouchers to women who prove that they have stopped smoking during pregnancy, regardless of their income, or only to women on low incomes?
(SINGLE CODE)

To all women, regardless of income
Only to women on low incomes

ASK ALL
CS04. Some women start smoking again after the birth of their baby, particularly if their partner or someone at home smokes. Please tell me whether you agree or disagree with each of the following statements.

Statements:
It is acceptable to provide shopping vouchers to a woman for two months after the birth of her baby if she proves that she is still not smoking
It is acceptable to provide shopping vouchers to a woman for two months after the birth of her baby if she never lets anyone smoke in her home
(SINGLE CODE FOR EACH STATEMENT. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

CS05. Do you agree or disagree that local health services should receive additional funding if they reach targets for the number of women who prove that they have stopped smoking during pregnancy?
(SINGLE CODE. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

I would now like to ask you some questions about breastfeeding…

CS06. Breastfeeding benefits the health of the baby and the mother. While some people feel it is appropriate to provide shopping vouchers to encourage breastfeeding, other people feel it is wrong or unfair.
Do you agree or disagree that shopping vouchers should be provided to women who breastfeed for the first six months after the birth of their child?
(SINGLE CODE. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

IF CODE STRONGLY AGREE, TEND TO AGREE OR NEITHER AGREE NOR DISAGREE AT CS06, ASK:
CS07. What is the highest amount of shopping voucher you would consider acceptable for women who breastfeed? (SINGLE CODE; REVERSE ORDER BETWEEN INTERVIEWS)

A. £2 per month
B. £10 per month
C. £20 per month
D. £40 per month
E. £60 per month
F. £80 per month

IF CODE STRONGLY AGREE, TEND TO AGREE OR NEITHER AGREE NOR DISAGREE AT CS06, ASK:

CS08. Do you agree or disagree that shopping vouchers should be provided to all women who breastfeed, regardless of their income, or only to women on low incomes?
(SINGLE CODE)

To all women, regardless of income
Only to women on low incomes

ASK ALL
CS09. Do you agree or disagree that local health services should receive additional funding if they reach targets for the number of women who breastfeed?
(SINGLE CODE. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

NEW SCREEN
INTERVIEWER: THE WORDING OF THE NEXT QUESTION IS A BIT SENSITIVE, ABOUT BREASTFEEDING. PLEASE COULD YOU TURN THE NEXT SCREEN TO THE RESPONDENT AND ASK THEM TO READ THE QUESTION THEMSELVES. THEY CAN JUST GIVE YOU THEIR ANSWER FOR YOU TO INPUT.

ASK ALL
CS10. Some women who breastfeed like to express milk. This allows babies to receive breast milk when mother and baby are apart.
To express milk, some women find a breast pump useful. Women can buy breast pumps ranging from £20 to over £100. Do you agree or disagree that a breast pump costing around £40 should be available for free on the NHS, to help women to continue breastfeeding?
(SINGLE CODE. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

TO FIT WITH OMNIBUS DEMOG QUESTIONS, IF NOT RECORDED ANY CHILDREN IN OMNIBUS DEMOG QUESTIONS, ASK...
CS11. Do you have any children? Please include any children who are grown up now, and any children who do not live with you.
(SINGLE CODE)

Yes
No

IF HAVE CHILDREN (FROM OMNIBUS DEMOGS OR CS11), ASK:
CS12. Have any of your children ever been breastfed or received breast milk, even if only for a day or two?
(SINGLE CODE, ALLOW DK AND REF)

Yes
No

ASK ALL
CS13. Do you currently smoke or have you ever smoked?

Yes, I currently smoke every day
Yes, I currently smoke, but not every day
Yes, I used to smoke but have quit
No, I have never smoked
I prefer not to answer

IF CODE 1 OR 2 AT CS13:
CS14. Have you ever tried to stop smoking?
(SINGLE CODE)

Yes
No

CLOSE

Web 2. Ipsos MORI Computer Assisted Personal Interviewing (CAPI) background

Ipsos MORI
Global Omnibus Services

Background to Capibus

Ipsos MORI's weekly face-to-face omnibus, *Capibus,* is well-established; it was launched in 1992 and was the **first omnibus** of its kind to use 'computer assisted personal interviewing' (CAPI) to administer the questionnaire. This new approach instantly improved the quality and accuracy of the information collected and has become a quality standard in the omnibus industry worldwide.

Capibus is run every week with fieldwork lasting one week in total. The length of time allocated to complete Ipsos MORI's omnibus, combined with the Capibus interviewing style of completing the survey **in home** instead of the on the doorstep, or in a hall, ensures that interviewers spend time with the respondents, building a rapport. This in turn engages respondents and fundamentally improves the quality of responses.

The key advantages that Capibus has over other face-to-face omnibus surveys are available in Britain is the high quality sample design which incorporates a range of variables to ensure a robust, representative and consistent sample is achieved on a weekly basis. Factored in to the design is the larger number of sampling points to underpin coverage, the week's fieldwork allocated to the interviewing period and the interviewing style. Our demographics are also designed to enhance any research required by both our public and private sector clients - to do this we are pleased to be able to offer a comprehensive list of more than 30 demographics free of charge.

Capibus therefore provides you with **considerable flexibility** and means that we have no problem whatsoever in running tracker questions when required nor ad hoc needs as and when they may potentially arise.

The Sample

Capibus uses a unique and rigorous sampling method - a controlled form of random location sampling (known as 'random locale', a dual stage sampling design). Ipsos MORI uses a control method applied to field region and sub-region over a robust number of sample points (typically 155-180) to ensure we get a good geographical spread. We then set our interviewer quotas for sex, age, working status and tenure to ensure our sample is nationally representative - we use the CACI ACORN geo-demographic system in the selection process.

The use of ACORN ensures all types of area are fully represented and that selection of respondents is largely taken out of the hands of the interviewers, helping to eliminate any possible bias in the sample caused by interviewing people all with the same background.

On Ipsos MORI Face-to-Face Omnibus the interviewer is required to achieve interviews with respondents from a small set of homogenous streets, selected with probability proportional to population after stratification by ACORN characteristics and region

Ipsos MORI
Global Omnibus Services

Because the sampling process is repeated every week, the Capibus sample is matched wave on wave, making it ideal for taking successive measurements on the same issue so there should be no concerns about running questions over a number of weeks.

Ipsos MORI's reputation has largely been built on our high-profile political and other opinion research over several decades. We have a strong image among the public, the media and other key opinion formers for conducting rigorous, independent research to high standards. As a result, we do believe that the Ipsos MORI name adds value to the research projects we conduct and assists significantly in maximising response rates and in the publication and dissemination of findings.

Quality Plan

There are dozens of quality issues which make the difference between robust and unreliable data. These will have a direct impact on your ability to make the right decisions with confidence and to maximise the value of the resources you invest in the research you have in mind.

Ipsos MORI can guarantee securing robust data because we have to undergo stringent independent audits of our quality systems. As a result, we have a proven record on **quality and industry leadership** in this area. Our clients tell us that this is what sets us apart from other agencies and this is upheld by our record in terms of independent assessments.

MRS Company Partnership - In 2005 we were the first market research company to sign our organisation up to the rigours of the Market Research Society (MRS) Code. With the increasing importance of self-regulation, we wanted to be at the forefront of supporting the ethics and quality of our industry by applying the industry's professional Code to our entire organisation including all our interviewers. Previous to this, the Code applied solely to individuals who are members.

There are now over 350 MRS company partners who have followed our lead.

In 1996, MORI became **one of just two** companies to achieve accreditation under MRQSA (Market Research Quality Standards Association). This sets out minimum standards for each stage of a market research project and is designed to enable accredited companies to provide a superior service to their clients. We have passed a series of inspections since then with flying colours.

We are also a member of the Market Research Society and ESOMAR (the European Society for Opinion and Marketing Research), and as such, adhere to their Codes of Conduct.

Ipsos MORI was the **first company in the world to** gain ISO 20252:2006 accreditation - the international market research specific standard that supersedes BS 7911 / MRQSA and incorporates IQCS (Interviewer Quality Control Scheme); it covers the five stages of a Market Research project.

ISO 27001:2005 - International standard for information security designed to ensure the selection of adequate and proportionate security controls. Ipsos MORI was the **first research company in the UK** to be awarded this in August 2008.

Web 3 Framing effects in the MORI survey

Variable	Topic covered first	SD	D	N	A	SA
Pregnant women SC – vouchers	Smoking	154 (26.3)	94 (16.0)	103 (17.6)	131 (22.4)	104 (17.7)
	Breastfeeding	141 (25.3)	95 (17.0)	94 (16.8)	138 (24.7)	90 (16.1)
	OR (95%CI) p value	1.00	(0.82, 1.23)	0.98		
Women after birth SC – vouchers	Smoking	167 (28.5)	113 (19.3)	98 (16.7)	135 (23.0)	73 (12.5)
	Breastfeeding	152 (27.2)	99 (17.7)	98 (17.6)	147 (26.3)	62 (11.1)
	OR (95%CI; p value)	1.06	(0.86, 1.31)	0.57		
Smoke free home after birth – vouchers	Smoking	162 (27.6)	113 (19.3)	113 (19.3)	121 (20.6)	77 (13.1)
	Breastfeeding	149 (26.7)	102 (18.3)	111 (19.9)	126 (22.6)	70 (12.5)
	OR (95%CI; p value)	1.05	(0.85, 1.29)	0.65		
Health service payment for meeting SC targets	Smoking	127 (21.7)	95 (16.2)	130 (22.2)	155 (26.5)	79 (13.5)
	Breastfeeding	107 (19.2)	97 (17.4)	137 (24.6)	151 (27.1)	66 (11.8)
	OR (95%CI; p value)	1.01	(0.82, 1.24)	0.93		

Variable	Topic covered first	SD	D	N	A	SA
BF women after birth – vouchers	Smoking	152 (25.9)	134 (22.9)	138 (23.5)	99 (16.9)	63 (10.8)
	Breastfeeding	84 (15.1)	77 (13.8)	168 (30.1)	136 (24.4)	93 (16.7)
	OR (95%CI; p value)	2.00	(1.61, 2.46)	<0.001		
Health service payment for meeting BF targets	Smoking	145 (24.7)	113 (19.3)	134 (22.9)	125 (21.3)	69 (11.8)
	Breastfeeding	91 (16.3)	92 (16.5)	153 (27.4)	153 (27.4)	69 (12.4)
	OR (95%CI; p value)	1.44	(1.17, 1.77)	0.001		
Breast pumps	Smoking	105 (17.9)	76 (13.0)	150 (25.6)	157 (26.8)	98 (16.7)
	Breastfeeding	60 (10.8)	71 (12.7)	158 (28.3)	159 (28.5)	110 (19.7)
	OR (95%CI; p value)	1.32	(1.08, 1.62)	0.008		

Note: An odds ratio >1indicates that respondents asked the about breastfeeding incentive first were more likely to agree than respondents asked about smoking cessation incentives first.

SC = smoking cessation; BF = breastfeeding

Web 4. Detailed results tables

Table 1 **Response to "Shopping vouchers for women who prove that they have stopped smoking during pregnancy" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	30 (17.6)	34 (20.0)	34 (20.0)	48 (28.2)	24 (14.1)
25 – 34	32 (18.3)	32 (18.3)	27 (15.4)	50 (28.6)	34 (19.4)
35 – 44	31 (17.1)	29 (16.0)	33 (18.2)	46 (25.4)	42 (23.2)
45 – 54	44 (27.7)	28 (17.6)	29 (18.2)	32 (20.1)	26 (16.4)
55 – 59	23 (31.9)	13 (18.1)	12 (16.7)	16 (22.2)	8 (11.1)
60 – 64	28 (29.8)	13 (13.8)	13 (13.8)	24 (25.5)	16 (17.0)
65+	107 (36.5)	40 (13.7)	49 (16.7)	53 (18.1)	44 (15.0)
Breastfeeding					
Children not breastfed	154 (24.4)	113 (17.9)	135 (21.4)	138 (21.8)	92 (14.6)
Children breastfed	141 (27.5)	76 (14.8)	62 (12.1)	131 (25.6)	102 (19.9)
Children					
No children	90 (22.4)	79 (19.7)	81 (20.1)	98 (24.4)	54 (13.4)
Have children	205 (27.6)	110 (14.8)	116 (15.6)	171 (23.0)	140 (18.9)
Ethnicity					
White	280 (28.4)	163 (16.5)	167 (17.0)	212 (21.5)	163 (16.5)
Other ethnicity	15 (9.4)	26 (16.4)	30 (18.9)	57 (35.8)	31 (19.5)
Sex					
Male	120 (22.2)	83 (15.4)	106 (19.6)	128 (23.7)	103 (19.1)
Female	175 (29.0)	106 (17.5)	91 (15.1)	141 (23.3)	91 (15.1)
Education					
University	65 (22.0)	46 (15.6)	44 (14.9)	77 (26.1)	63 (21.4)
GCSE	98 (28.7)	54 (15.8)	57 (16.7)	80 (23.4)	53 (15.5)
A-level	48 (24.9)	43 (22.3)	32 (16.6)	36 (18.7)	34 (17.6)
No Formal qualification	59 (29.9)	24 (12.2)	47 (23.9)	45 (22.8)	22 (11.2)
Other, still studying, don't know	25 (21.4)	22 (18.8)	17 (14.5)	31 (26.5)	22 (18.8)

Variable	SD	D	N	A	SA
Social Grade					
AB	71 (29.7)	37 (15.5)	30 (12.6)	59 (24.7)	42 (17.6)
C1	103 (27.8)	67 (18.1)	68 (18.4)	73 (19.7)	59 (15.9)
C2	57 (24.2)	38 (16.1)	44 (18.6)	55 (23.3)	42 (17.8)
D	40 (24.7)	29 (17.9)	28 (17.3)	38 (23.5)	27 (16.7)
E	24 (17.5)	18 (13.1)	27 (19.7)	44 (32.1)	24 (17.5)
Smoking Status					
Never smoked	147 (25.7)	102 (17.8)	97 (16.9)	144 (25.1)	83 (14.5)
Previous smoker	84 (29.9)	49 (17.4)	43 (15.3)	64 (22.8)	41 (14.6)
Current (tried quitting)	38 (21.7)	22 (12.6)	31 (17.7)	34 (19.4)	50 (28.6)
Current (not tried quitting)	15 (23.8)	9 (14.3)	10 (15.9)	16 (25.4)	13 (20.6)
Refused to answer	11 (21.2)	7 (13.5)	16 (30.8)	11 (21.2)	7 (13.5)
Area					
North	24 (31.2)	17 (22.1)	11 (14.3)	10 (13.0)	15 (19.5)
North West	19 (13.4)	25 (17.6)	38 (26.8)	41 (28.9)	19 (13.4)
Yorks Hum	40 (38.5)	11 (10.6)	13 (12.5)	22 (21.2)	18 (17.3)
East Midlands	25 (22.9)	28 (25.7)	14 (12.8)	29 (26.6)	13 (11.9)
West Midlands	22 (33.3)	10 (15.2)	12 (18.2)	12 (18.2)	10 (15.2)
East Anglia	10 (24.4)	6 (14.6)	5 (12.2)	10 (24.4)	10 (24.4)
South East	20 (24.7)	9 (11.1)	17 (21.0)	15 (18.5)	20 (24.7)
South West	55 (27.5)	26 (13.0)	40 (20.0)	47 (23.5)	32 (16.0)
London	17 (11.4)	31 (20.8)	19 (12.8)	59 (39.6)	23 (15.4)
Wales	29 (43.9)	9 (13.6)	6 (9.1)	10 (15.2)	12 (18.2)
Scotland	34 (31.2)	17 (15.6)	22 (20.2)	14 (12.8)	22 (20.2)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 2 **Simple univariable and multiple ordered logit regression models for response to "Shopping vouchers for women who prove that they have stopped smoking during pregnancy"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.66	(1.19, 2.31)	0.003	1.67	(1.10, 2.54)	0.016
25 - 34	1.92	(1.37, 2.69)	< 0.001	1.71	(1.17, 2.49)	0.006
35 - 44	2.15	(1.54, 3.00)	< 0.001	1.88	(1.30, 2.72)	0.001
45 - 54	1.29	(0.91, 1.82)	0.16	1.27	(0.87, 1.84)	0.21
55 - 59	1.04	(0.66, 1.65)	0.87	1.03	(0.63, 1.66)	0.91
60 - 64	1.39	(0.91, 2.12)	0.13	1.42	(0.92, 2.20)	0.12
Breastfeeding						
Children breastfed	1.15	(0.94, 1.42)	0.18	1.26	(0.94, 1.69)	0.12
Children						
Have children	1.05	(0.85, 1.30)	0.67	1.17	(0.86, 1.59)	0.33
Ethnicity						
Other ethnicity	1.94	(1.46, 2.59)	< 0.001	1.42	(1.01, 1.99)	0.047
Sex						
Female	0.75	(0.61, 0.92)	0.006	0.71	(0.57, 0.88)	0.002
Education						
GCSE	0.70	(0.53, 0.93)	0.014	0.59	(0.43, 0.81)	0.001
A-level	0.72	(0.52, 0.99)	0.042	0.63	(0.44, 0.90)	0.010
No Formal qualification	0.64	(0.46, 0.87)	0.005	0.63	(0.42, 0.95)	0.029
Other, still studying, don't know	0.92	(0.63, 1.34)	0.66	0.84	(0.55, 1.28)	0.41
Social Grade						
C1	0.92	(0.68, 1.23)	0.57	1.03	(0.75, 1.42)	0.87

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
C2	1.12	(0.81, 1.55)	0.48	1.25	(0.85, 1.83)	0.26
D	1.06	(0.74, 1.51)	0.75	1.27	(0.83, 1.94)	0.27
E	1.48	(1.03, 2.15)	0.036	1.74	(1.12, 2.70)	0.014
Smoking Status						
Previous smoker	0.88	(0.68, 1.13)	0.32	0.97	(0.74, 1.28)	0.83
Current (tried quitting)	1.59	(1.17, 2.16)	0.003	1.63	(1.18, 2.26)	0.003
Current (not tried quitting)	1.28	(0.80, 2.04)	0.30	1.31	(0.81, 2.12)	0.28
Refused to answer	1.08	(0.66, 1.74)	0.77	0.93	(0.56, 1.55)	0.78
Area						
North	0.50	(0.30, 0.81)	0.005	0.66	(0.39, 1.10)	0.11
North West	0.82	(0.56, 1.21)	0.33	1.03	(0.69, 1.56)	0.87
Yorks Hum	0.49	(0.31, 0.76)	0.002	0.62	(0.38, 1.01)	0.054
East Midlands	0.58	(0.38, 0.89)	0.012	0.70	(0.45, 1.09)	0.12
West Midlands	0.49	(0.29, 0.81)	0.006	0.68	(0.39, 1.16)	0.16
East Anglia	0.86	(0.46, 1.60)	0.63	1.06	(0.56, 2.01)	0.86
South East	0.82	(0.51, 1.33)	0.42	1.26	(0.75, 2.11)	0.38
South West	0.63	(0.44, 0.92)	0.015	0.97	(0.64, 1.45)	0.86
Wales	0.37	(0.22, 0.64)	< 0.001	0.55	(0.31, 0.97)	0.040
Scotland	0.54	(0.35, 0.84)	0.006	0.78	(0.49, 1.26)	0.31

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 3 **Responses to "Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking" broken down by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	31 (18.2)	36 (21.2)	37 (21.8)	47 (27.6)	19 (11.2)
25 – 34	33 (18.9)	41 (23.4)	32 (18.3)	46 (26.3)	23 (13.1)
35 – 44	36 (19.9)	38 (21.0)	28 (15.5)	52 (28.7)	27 (14.9)
45 – 54	44 (27.7)	33 (20.8)	26 (16.4)	40 (25.2)	16 (10.1)
55 – 59	29 (40.3)	14 (19.4)	6 (8.3)	16 (22.2)	7 (9.7)
60 – 64	28 (29.8)	12 (12.8)	15 (16.0)	25 (26.6)	14 (14.9)
65+	118 (40.3)	38 (13.0)	52 (17.7)	56 (19.1)	29 (9.9)
Breastfeeding					
Children not breastfed	160 (25.3)	123 (19.5)	141 (22.3)	138 (21.8)	70 (11.1)
Children breastfed	159 (31.1)	89 (17.4)	55 (10.7)	144 (28.1)	65 (12.7)
Children					
No children	89 (22.1)	82 (20.4)	91 (22.6)	100 (24.9)	40 (10.0)
Have children	230 (31.0)	130 (17.5)	105 (14.2)	182 (24.5)	95 (12.8)
Ethnicity					
White	302 (30.7)	184 (18.7)	162 (16.4)	227 (23.0)	110 (11.2)
Other ethnicity	17 (10.7)	28 (17.6)	34 (21.4)	55 (34.6)	25 (15.7)
Sex					
Male	123 (22.8)	97 (18.0)	109 (20.2)	138 (25.6)	73 (13.5)
Female	196 (32.5)	115 (19.0)	87 (14.4)	144 (23.8)	62 (10.3)
Education					
University	68 (23.1)	54 (18.3)	49 (16.6)	79 (26.8)	45 (15.3)
GCSE	102 (29.8)	68 (19.9)	57 (16.7)	75 (21.9)	40 (11.7)
A-level	55 (28.5)	37 (19.2)	30 (15.5)	52 (26.9)	19 (9.8)
No Formal qualification	67 (34.0)	29 (14.7)	44 (22.3)	43 (21.8)	14 (7.1)
Other, still studying, don't know	27 (23.1)	24 (20.5)	16 (13.7)	33 (28.2)	17 (14.5)

Variable	SD	D	N	A	SA
Social Grade					
AB	71 (29.7)	41 (17.2)	36 (15.1)	59 (24.7)	32 (13.4)
C1	110 (29.7)	85 (23.0)	52 (14.1)	83 (22.4)	40 (10.8)
C2	58 (24.6)	41 (17.4)	47 (19.9)	57 (24.2)	33 (14.0)
D	48 (29.6)	26 (16.0)	32 (19.8)	42 (25.9)	14 (8.6)
E	32 (23.4)	19 (13.9)	29 (21.2)	41 (29.9)	16 (11.7)
Smoking Status					
Never smoked	154 (26.9)	110 (19.2)	100 (17.5)	151 (26.4)	58 (10.1)
Previous smoker	100 (35.6)	54 (19.2)	41 (14.6)	58 (20.6)	28 (10.0)
Current (tried quitting)	39 (22.3)	31 (17.7)	28 (16.0)	41 (23.4)	36 (20.6)
Current (not tried quitting)	13 (20.6)	11 (17.5)	15 (23.8)	17 (27.0)	7 (11.1)
Refused to answer	13 (25.0)	6 (11.5)	12 (23.1)	15 (28.8)	6 (11.5)
Area					
North	24 (31.2)	18 (23.4)	11 (14.3)	13 (16.9)	11 (14.3)
North West	21 (14.8)	22 (15.5)	40 (28.2)	41 (28.9)	18 (12.7)
Yorks Hum	42 (40.4)	11 (10.6)	15 (14.4)	21 (20.2)	15 (14.4)
East Midlands	30 (27.5)	27 (24.8)	18 (16.5)	26 (23.9)	8 (7.3)
West Midlands	25 (37.9)	14 (21.2)	6 (9.1)	16 (24.2)	5 (7.6)
East Anglia	10 (24.4)	7 (17.1)	4 (9.8)	11 (26.8)	9 (22.0)
South East	24 (29.6)	7 (8.6)	17 (21.0)	20 (24.7)	13 (16.0)
South West	56 (28.0)	36 (18.0)	43 (21.5)	47 (23.5)	18 (9.0)
London	16 (10.7)	38 (25.5)	17 (11.4)	55 (36.9)	23 (15.4)
Wales	29 (43.9)	9 (13.6)	5 (7.6)	15 (22.7)	8 (12.1)
Scotland	42 (38.5)	23 (21.1)	20 (18.3)	17 (15.6)	7 (6.4)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 4 **Simple univariable and multiple ordered logit regression models for response to "Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.89	(1.35, 2.64)	< 0.001	1.51	(1.00, 2.30)	0.053
25 - 34	1.88	(1.34, 2.62)	< 0.001	1.42	(0.97, 2.08)	0.068
35 - 44	2.04	(1.46, 2.85)	< 0.001	1.65	(1.14, 2.39)	0.007
45 - 54	1.42	(1.00, 2.01)	0.048	1.26	(0.87, 1.84)	0.23
55 - 59	0.95	(0.59, 1.54)	0.85	0.95	(0.58, 1.56)	0.83
60 - 64	1.70	(1.11, 2.61)	0.015	1.65	(1.05, 2.57)	0.028
Breastfeeding						
Children breastfed	1.00	(0.81, 1.23)	0.98	1.16	(0.86, 1.56)	0.34
Children						
Have children	0.88	(0.71, 1.09)	0.24	1.02	(0.75, 1.39)	0.90
Ethnicity						
Other ethnicity	2.12	(1.59, 2.83)	< 0.001	1.39	(0.98, 1.95)	0.062
Sex						
Female	0.69	(0.56, 0.85)	0.001	0.68	(0.55, 0.85)	0.001
Education						
GCSE	0.71	(0.53, 0.93)	0.014	0.62	(0.45, 0.85)	0.003
A-level	0.75	(0.55, 1.04)	0.084	0.68	(0.48, 0.96)	0.028
No Formal qualification	0.60	(0.44, 0.83)	0.002	0.64	(0.42, 0.96)	0.032
Other, still studying, don't know	0.98	(0.67, 1.43)	0.90	0.93	(0.61, 1.43)	0.75

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.73	(0.56, 0.94)	0.016	0.87	(0.66, 1.14)	0.32
C2	1.45	(1.07, 1.97)	0.017	1.64	(1.18, 2.27)	0.003
D	1.22	(0.78, 1.92)	0.38	1.31	(0.82, 2.10)	0.26
E	1.22	(0.74, 2.01)	0.43	1.18	(0.70, 1.99)	0.54
Smoking Status						
Previous smoker	0.85	(0.64, 1.14)	0.28	0.94	(0.68, 1.29)	0.69
Current (tried quitting)	1.15	(0.83, 1.58)	0.40	1.23	(0.84, 1.81)	0.28
Current (not tried quitting)	0.92	(0.64, 1.31)	0.64	1.11	(0.73, 1.70)	0.62
Refused to answer	1.25	(0.86, 1.81)	0.24	1.37	(0.87, 2.15)	0.17
Area						
North	0.46	(0.28, 0.75)	0.002	0.60	(0.36, 1.01)	0.054
North West	0.84	(0.57, 1.25)	0.38	1.02	(0.67, 1.55)	0.92
Yorks Hum	0.42	(0.27, 0.67)	< 0.001	0.51	(0.31, 0.83)	0.007
East Midlands	0.46	(0.30, 0.71)	< 0.001	0.56	(0.36, 0.88)	0.012
West Midlands	0.36	(0.21, 0.61)	< 0.001	0.49	(0.28, 0.85)	0.011
East Anglia	0.85	(0.45, 1.61)	0.62	1.13	(0.58, 2.20)	0.71
South East	0.67	(0.41, 1.08)	0.10	1.01	(0.60, 1.70)	0.97
South West	0.51	(0.35, 0.74)	< 0.001	0.73	(0.49, 1.10)	0.14
Wales	0.35	(0.21, 0.61)	< 0.001	0.51	(0.29, 0.91)	0.022
Scotland	0.31	(0.20, 0.49)	< 0.001	0.44	(0.28, 0.71)	0.001

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 5 **Response to "Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	27 (15.9)	35 (20.6)	43 (25.3)	49 (28.8)	16 (9.4)
25 – 34	31 (17.7)	38 (21.7)	41 (23.4)	44 (25.1)	21 (12.0)
35 – 44	38 (21.0)	37 (20.4)	35 (19.3)	41 (22.7)	30 (16.6)
45 – 54	43 (27.0)	33 (20.8)	25 (15.7)	42 (26.4)	16 (10.1)
55 – 59	30 (41.7)	14 (19.4)	6 (8.3)	11 (15.3)	11 (15.3)
60 – 64	32 (34.0)	11 (11.7)	16 (17.0)	22 (23.4)	13 (13.8)
65+	110 (37.5)	47 (16.0)	58 (19.8)	38 (13.0)	40 (13.7)
Breastfeeding					
Children not breastfed	161 (25.5)	124 (19.6)	146 (23.1)	127 (20.1)	74 (11.7)
Children breastfed	150 (29.3)	91 (17.8)	78 (15.2)	120 (23.4)	73 (14.3)
Children					
No children	90 (22.4)	81 (20.1)	94 (23.4)	91 (22.6)	46 (11.4)
Have children	221 (29.8)	134 (18.1)	130 (17.5)	156 (21.0)	101 (13.6)
Ethnicity					
White	296 (30.1)	192 (19.5)	183 (18.6)	191 (19.4)	123 (12.5)
Other ethnicity	15 (9.4)	23 (14.5)	41 (25.8)	56 (35.2)	24 (15.1)
Sex					
Male	128 (23.7)	92 (17.0)	125 (23.1)	116 (21.5)	79 (14.6)
Female	183 (30.3)	123 (20.4)	99 (16.4)	131 (21.7)	68 (11.3)
Education					
University	66 (22.4)	50 (16.9)	58 (19.7)	74 (25.1)	47 (15.9)
GCSE	102 (29.8)	62 (18.1)	63 (18.4)	75 (21.9)	40 (11.7)
A-level	55 (28.5)	42 (21.8)	40 (20.7)	37 (19.2)	19 (9.8)
No Formal qualification	64 (32.5)	32 (16.2)	44 (22.3)	36 (18.3)	21 (10.7)
Other, still studying, don't know	24 (20.5)	29 (24.8)	19 (16.2)	25 (21.4)	20 (17.1)

Variable	SD	D	N	A	SA
Social Grade					
AB	66 (27.6)	48 (20.1)	39 (16.3)	49 (20.5)	37 (15.5)
C1	111 (30.0)	81 (21.9)	68 (18.4)	73 (19.7)	37 (10.0)
C2	57 (24.2)	41 (17.4)	48 (20.3)	56 (23.7)	34 (14.4)
D	48 (29.6)	24 (14.8)	39 (24.1)	32 (19.8)	19 (11.7)
E	29 (21.2)	21 (15.3)	30 (21.9)	37 (27.0)	20 (14.6)
Smoking Status					
Never smoked	147 (25.7)	108 (18.8)	112 (19.5)	142 (24.8)	64 (11.2)
Previous smoker	100 (35.6)	55 (19.6)	48 (17.1)	48 (17.1)	30 (10.7)
Current (tried quitting)	38 (21.7)	33 (18.9)	32 (18.3)	36 (20.6)	36 (20.6)
Current (not tried quitting)	13 (20.6)	10 (15.9)	19 (30.2)	10 (15.9)	11 (17.5)
Refused to answer	13 (25.0)	9 (17.3)	13 (25.0)	11 (21.2)	6 (11.5)
Area					
North	21 (27.3)	19 (24.7)	10 (13.0)	14 (18.2)	13 (16.9)
North West	21 (14.8)	21 (14.8)	44 (31.0)	35 (24.6)	21 (14.8)
Yorks Hum	38 (36.5)	15 (14.4)	23 (22.1)	14 (13.5)	14 (13.5)
East Midlands	29 (26.6)	30 (27.5)	22 (20.2)	19 (17.4)	9 (8.3)
West Midlands	28 (42.4)	11 (16.7)	8 (12.1)	11 (16.7)	8 (12.1)
East Anglia	10 (24.4)	7 (17.1)	6 (14.6)	9 (22.0)	9 (22.0)
South East	23 (28.4)	8 (9.9)	18 (22.2)	22 (27.2)	10 (12.3)
South West	54 (27.0)	41 (20.5)	47 (23.5)	35 (17.5)	23 (11.5)
London	15 (10.1)	35 (23.5)	22 (14.8)	55 (36.9)	22 (14.8)
Wales	29 (43.9)	9 (13.6)	6 (9.1)	12 (18.2)	10 (15.2)
Scotland	43 (39.4)	19 (17.4)	18 (16.5)	21 (19.3)	8 (7.3)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 6 **Simple univariable and multiple ordered logit regression models for response to "Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.87	(1.34, 2.60)	< 0.001	1.55	(1.02, 2.35)	0.040
25 - 34	1.80	(1.29, 2.50)	0.001	1.42	(0.97, 2.07)	0.068
35 - 44	1.83	(1.31, 2.56)	< 0.001	1.51	(1.04, 2.17)	0.028
45 - 54	1.40	(0.99, 1.98)	0.058	1.26	(0.86, 1.83)	0.23
55 - 59	0.89	(0.54, 1.44)	0.63	0.88	(0.53, 1.46)	0.62
60 - 64	1.36	(0.88, 2.09)	0.16	1.28	(0.82, 2.00)	0.28
Breastfeeding						
Children breastfed	1.03	(0.83, 1.26)	0.81	1.27	(0.95, 1.71)	0.11
Children						
Have children	0.87	(0.70, 1.08)	0.21	0.96	(0.70, 1.31)	0.78
Ethnicity						
Other ethnicity	2.26	(1.70, 3.01)	< 0.001	1.49	(1.06, 2.08)	0.021
Sex						
Female	0.75	(0.61, 0.92)	0.005	0.72	(0.58, 0.90)	0.003
Education						
GCSE	0.70	(0.53, 0.92)	0.012	0.60	(0.44, 0.83)	0.002
A-level	0.64	(0.47, 0.89)	0.007	0.56	(0.39, 0.79)	0.001
No Formal qualification	0.62	(0.45, 0.86)	0.004	0.66	(0.44, 1.00)	0.048
Other, still studying, don't know	0.93	(0.64, 1.37)	0.73	0.90	(0.59, 1.38)	0.64

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.80	(0.60, 1.07)	0.13	0.84	(0.61, 1.16)	0.29
C2	1.15	(0.83, 1.59)	0.39	1.22	(0.83, 1.79)	0.30
D	0.91	(0.64, 1.31)	0.62	1.05	(0.69, 1.61)	0.81
E	1.33	(0.92, 1.93)	0.13	1.37	(0.88, 2.15)	0.17
Smoking Status						
Previous smoker	0.67	(0.52, 0.87)	0.002	0.79	(0.60, 1.04)	0.089
Current (tried quitting)	1.33	(0.98, 1.80)	0.065	1.48	(1.08, 2.04)	0.016
Current (not tried quitting)	1.22	(0.77, 1.92)	0.40	1.31	(0.81, 2.11)	0.27
Refused to answer	1.00	(0.61, 1.64)	0.99	0.95	(0.57, 1.59)	0.85
Area						
North	0.53	(0.32, 0.87)	0.012	0.74	(0.44, 1.24)	0.25
North West	0.84	(0.57, 1.25)	0.39	1.06	(0.70, 1.60)	0.80
Yorks Hum	0.40	(0.26, 0.63)	< 0.001	0.50	(0.31, 0.81)	0.005
East Midlands	0.43	(0.28, 0.65)	< 0.001	0.53	(0.34, 0.82)	0.004
West Midlands	0.32	(0.19, 0.55)	< 0.001	0.47	(0.27, 0.82)	0.009
East Anglia	0.77	(0.41, 1.45)	0.42	1.08	(0.57, 2.06)	0.82
South East	0.63	(0.39, 1.01)	0.057	1.06	(0.64, 1.75)	0.84
South West	0.49	(0.34, 0.71)	< 0.001	0.77	(0.51, 1.15)	0.20
Wales	0.35	(0.20, 0.60)	< 0.001	0.56	(0.32, 1.01)	0.054
Scotland	0.33	(0.21, 0.52)	< 0.001	0.52	(0.32, 0.83)	0.006

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 7 **Response to "Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	20 (11.8)	32 (18.8)	58 (34.1)	42 (24.7)	18 (10.6)
25 – 34	23 (13.1)	30 (17.1)	45 (25.7)	47 (26.9)	30 (17.1)
35 – 44	25 (13.8)	36 (19.9)	46 (25.4)	39 (21.5)	35 (19.3)
45 – 54	32 (20.1)	34 (21.4)	40 (25.2)	34 (21.4)	19 (11.9)
55 – 59	18 (25.0)	20 (27.8)	16 (22.2)	7 (9.7)	11 (15.3)
60 – 64	31 (33.0)	15 (16.0)	19 (20.2)	18 (19.1)	11 (11.7)
65+	87 (29.7)	44 (15.0)	82 (28.0)	48 (16.4)	32 (10.9)
Breastfeeding					
Children not breastfed	114 (18.0)	120 (19.0)	216 (34.2)	128 (20.3)	54 (8.5)
Children breastfed	122 (23.8)	91 (17.8)	90 (17.6)	107 (20.9)	102 (19.9)
Children					
No children	61 (15.2)	73 (18.2)	138 (34.3)	93 (23.1)	37 (9.2)
Have children	175 (23.6)	138 (18.6)	168 (22.6)	142 (19.1)	119 (16.0)
Ethnicity					
White	226 (22.9)	194 (19.7)	265 (26.9)	184 (18.7)	116 (11.8)
Other ethnicity	10 (6.3)	17 (10.7)	41 (25.8)	51 (32.1)	40 (25.2)
Sex					
Male	93 (17.2)	84 (15.6)	180 (33.3)	115 (21.3)	68 (12.6)
Female	143 (23.7)	127 (21.0)	126 (20.9)	120 (19.9)	88 (14.6)
Education					
University	58 (19.7)	59 (20.0)	72 (24.4)	61 (20.7)	45 (15.3)
GCSE	66 (19.3)	63 (18.4)	90 (26.3)	72 (21.1)	51 (14.9)
A-level	47 (24.4)	40 (20.7)	52 (26.9)	29 (15.0)	25 (13.0)
No Formal qualification	43 (21.8)	28 (14.2)	66 (33.5)	37 (18.8)	23 (11.7)
Other, still studying, don't know	22 (18.8)	21 (17.9)	26 (22.2)	36 (30.8)	12 (10.3)

Variable	SD	D	N	A	SA
Social Grade					
AB	59 (24.7)	40 (16.7)	61 (25.5)	45 (18.8)	34 (14.2)
C1	82 (22.2)	86 (23.2)	85 (23.0)	74 (20.0)	43 (11.6)
C2	41 (17.4)	40 (16.9)	73 (30.9)	50 (21.2)	32 (13.6)
D	31 (19.1)	26 (16.0)	52 (32.1)	33 (20.4)	20 (12.3)
E	23 (16.8)	19 (13.9)	35 (25.5)	33 (24.1)	27 (19.7)
Smoking Status					
Never smoked	113 (19.7)	104 (18.2)	142 (24.8)	139 (24.3)	75 (13.1)
Previous smoker	70 (24.9)	59 (21.0)	72 (25.6)	45 (16.0)	35 (12.5)
Current (tried quitting)	27 (15.4)	33 (18.9)	53 (30.3)	26 (14.9)	36 (20.6)
Current (not tried quitting)	14 (22.2)	11 (17.5)	19 (30.2)	16 (25.4)	3 (4.8)
Refused to answer	12 (23.1)	4 (7.7)	20 (38.5)	9 (17.3)	7 (13.5)
Area					
North	16 (20.8)	16 (20.8)	19 (24.7)	8 (10.4)	18 (23.4)
North West	15 (10.6)	26 (18.3)	41 (28.9)	36 (25.4)	24 (16.9)
Yorks Hum	28 (26.9)	15 (14.4)	32 (30.8)	21 (20.2)	8 (7.7)
East Midlands	22 (20.2)	26 (23.9)	33 (30.3)	22 (20.2)	6 (5.5)
West Midlands	23 (34.8)	14 (21.2)	15 (22.7)	7 (10.6)	7 (10.6)
East Anglia	4 (9.8)	11 (26.8)	8 (19.5)	10 (24.4)	8 (19.5)
South East	14 (17.3)	11 (13.6)	28 (34.6)	15 (18.5)	13 (16.0)
South West	52 (26.0)	37 (18.5)	61 (30.5)	33 (16.5)	17 (8.5)
London	14 (9.4)	25 (16.8)	27 (18.1)	56 (37.6)	27 (18.1)
Wales	23 (34.8)	13 (19.7)	10 (15.2)	9 (13.6)	11 (16.7)
Scotland	25 (22.9)	17 (15.6)	32 (29.4)	18 (16.5)	17 (15.6)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 8 **Simple univariable and multiple ordered logit regression models for response to "Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.71	(1.23, 2.37)	0.001	1.71	(1.13, 2.60)	0.012
25 - 34	2.09	(1.49, 2.92)	< 0.001	1.91	(1.31, 2.80)	0.001
35 - 44	1.94	(1.39, 2.71)	< 0.001	1.73	(1.20, 2.50)	0.003
45 - 54	1.32	(0.94, 1.86)	0.11	1.38	(0.95, 2.01)	0.090
55 - 59	0.96	(0.60, 1.52)	0.85	1.02	(0.63, 1.64)	0.95
60 - 64	0.94	(0.61, 1.44)	0.78	1.01	(0.65, 1.59)	0.95
Breastfeeding						
Children breastfed	1.19	(0.96, 1.46)	0.11	1.67	(1.24, 2.25)	0.001
Children						
Have children	0.90	(0.73, 1.11)	0.31	0.80	(0.59, 1.08)	0.15
Ethnicity						
Other ethnicity	3.04	(2.26, 4.10)	< 0.001	2.03	(1.43, 2.88)	< 0.001
Sex						
Female	0.80	(0.65, 0.99)	0.037	0.77	(0.62, 0.95)	0.016
Education						
GCSE	1.03	(0.78, 1.36)	0.84	1.01	(0.74, 1.40)	0.93
A-level	0.76	(0.55, 1.04)	0.089	0.71	(0.50, 1.02)	0.061
No Formal qualification	0.91	(0.66, 1.25)	0.56	1.22	(0.82, 1.82)	0.33
Other, still studying, don't know	1.07	(0.74, 1.57)	0.71	1.10	(0.72, 1.67)	0.67

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.93	(0.70, 1.25)	0.63	0.84	(0.61, 1.16)	0.29
C2	1.23	(0.90, 1.70)	0.20	0.96	(0.66, 1.40)	0.83
D	1.14	(0.80, 1.63)	0.46	0.92	(0.60, 1.40)	0.69
E	1.62	(1.11, 2.37)	0.012	1.21	(0.77, 1.89)	0.41
Smoking Status						
Previous smoker	0.73	(0.56, 0.94)	0.014	0.89	(0.67, 1.17)	0.40
Current (tried quitting)	1.17	(0.87, 1.58)	0.31	1.17	(0.85, 1.61)	0.34
Current (not tried quitting)	0.78	(0.50, 1.23)	0.29	0.75	(0.47, 1.19)	0.22
Refused to answer	0.97	(0.59, 1.59)	0.89	0.91	(0.55, 1.51)	0.71
Area						
North	0.53	(0.32, 0.88)	0.014	0.79	(0.47, 1.35)	0.39
North West	0.76	(0.51, 1.13)	0.18	1.01	(0.66, 1.55)	0.95
Yorks Hum	0.38	(0.25, 0.60)	< 0.001	0.56	(0.35, 0.90)	0.016
East Midlands	0.38	(0.25, 0.59)	< 0.001	0.46	(0.29, 0.71)	< 0.001
West Midlands	0.25	(0.15, 0.42)	< 0.001	0.40	(0.23, 0.69)	0.001
East Anglia	0.73	(0.40, 1.35)	0.32	0.98	(0.52, 1.85)	0.94
South East	0.60	(0.38, 0.97)	0.039	1.01	(0.61, 1.69)	0.96
South West	0.36	(0.25, 0.52)	< 0.001	0.62	(0.41, 0.93)	0.021
Wales	0.30	(0.18, 0.52)	< 0.001	0.53	(0.30, 0.94)	0.029
Scotland	0.48	(0.31, 0.75)	0.001	0.84	(0.52, 1.36)	0.47

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 9 **Response to "A breast pump costing around £40 provided for free on the NHS" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	10 (5.9)	21 (12.4)	58 (34.1)	52 (30.6)	29 (17.1)
25 – 34	18 (10.3)	17 (9.7)	48 (27.4)	57 (32.6)	35 (20.0)
35 – 44	22 (12.2)	24 (13.3)	37 (20.4)	57 (31.5)	41 (22.7)
45 – 54	27 (17.0)	24 (15.1)	34 (21.4)	44 (27.7)	30 (18.9)
55 – 59	10 (13.9)	13 (18.1)	19 (26.4)	22 (30.6)	8 (11.1)
60 – 64	22 (23.4)	10 (10.6)	23 (24.5)	21 (22.3)	18 (19.1)
65+	56 (19.1)	38 (13.0)	89 (30.4)	63 (21.5)	47 (16.0)
Breastfeeding					
Children not breastfed	93 (14.7)	79 (12.5)	210 (33.2)	164 (25.9)	86 (13.6)
Children breastfed	72 (14.1)	68 (13.3)	98 (19.1)	152 (29.7)	122 (23.8)
Children					
No children	49 (12.2)	50 (12.4)	132 (32.8)	119 (29.6)	52 (12.9)
Have children	116 (15.6)	97 (13.1)	176 (23.7)	197 (26.5)	156 (21.0)
Ethnicity					
White	158 (16.0)	132 (13.4)	252 (25.6)	265 (26.9)	178 (18.1)
Other ethnicity	7 (4.4)	15 (9.4)	56 (35.2)	51 (32.1)	30 (18.9)
Sex					
Male	70 (13.0)	62 (11.5)	174 (32.2)	142 (26.3)	92 (17.0)
Female	95 (15.7)	85 (14.1)	134 (22.2)	174 (28.8)	116 (19.2)
Education					
University	31 (10.5)	36 (12.2)	75 (25.4)	87 (29.5)	66 (22.4)
GCSE	54 (15.8)	40 (11.7)	98 (28.7)	89 (26.0)	61 (17.8)
A-level	30 (15.5)	25 (13.0)	51 (26.4)	49 (25.4)	38 (19.7)
No Formal qualification	36 (18.3)	29 (14.7)	56 (28.4)	51 (25.9)	25 (12.7)
Other, still studying, don't know	14 (12.0)	17 (14.5)	28 (23.9)	40 (34.2)	18 (15.4)

Variable	SD	D	N	A	SA
Social Grade					
AB	36 (15.1)	32 (13.4)	55 (23.0)	59 (24.7)	57 (23.8)
C1	57 (15.4)	58 (15.7)	98 (26.5)	99 (26.8)	58 (15.7)
C2	33 (14.0)	23 (9.7)	76 (32.2)	71 (30.1)	33 (14.0)
D	26 (16.0)	20 (12.3)	43 (26.5)	44 (27.2)	29 (17.9)
E	13 (9.5)	14 (10.2)	36 (26.3)	43 (31.4)	31 (22.6)
Smoking Status					
Never smoked	71 (12.4)	68 (11.9)	167 (29.1)	173 (30.2)	94 (16.4)
Previous smoker	50 (17.8)	43 (15.3)	64 (22.8)	76 (27.0)	48 (17.1)
Current (tried quitting)	27 (15.4)	22 (12.6)	40 (22.9)	38 (21.7)	48 (27.4)
Current (not tried quitting)	8 (12.7)	7 (11.1)	17 (27.0)	19 (30.2)	12 (19.0)
Refused to answer	9 (17.3)	7 (13.5)	20 (38.5)	10 (19.2)	6 (11.5)
Area					
North	14 (18.2)	11 (14.3)	13 (16.9)	21 (27.3)	18 (23.4)
North West	7 (4.9)	14 (9.9)	46 (32.4)	49 (34.5)	26 (18.3)
Yorks Hum	21 (20.2)	3 (2.9)	25 (24.0)	28 (26.9)	27 (26.0)
East Midlands	18 (16.5)	28 (25.7)	32 (29.4)	20 (18.3)	11 (10.1)
West Midlands	9 (13.6)	12 (18.2)	13 (19.7)	21 (31.8)	11 (16.7)
East Anglia	5 (12.2)	6 (14.6)	10 (24.4)	13 (31.7)	7 (17.1)
South East	5 (6.2)	8 (9.9)	26 (32.1)	20 (24.7)	22 (27.2)
South West	36 (18.0)	23 (11.5)	70 (35.0)	39 (19.5)	32 (16.0)
London	7 (4.7)	15 (10.1)	37 (24.8)	68 (45.6)	22 (14.8)
Wales	21 (31.8)	13 (19.7)	7 (10.6)	13 (19.7)	12 (18.2)
Scotland	22 (20.2)	14 (12.8)	29 (26.6)	24 (22.0)	20 (18.3)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 10 **Simple univariable and multiple ordered logit regression models for response to "A breast pump costing around £40 provided for free on the NHS"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.60	(1.15, 2.22)	0.005	1.74	(1.14, 2.63)	0.010
25 - 34	1.73	(1.24, 2.41)	0.001	1.63	(1.11, 2.37)	0.012
35 - 44	1.72	(1.23, 2.40)	0.002	1.57	(1.08, 2.27)	0.017
45 - 54	1.24	(0.88, 1.76)	0.22	1.22	(0.84, 1.78)	0.30
55 - 59	1.06	(0.68, 1.67)	0.79	0.92	(0.57, 1.48)	0.74
60 - 64	1.04	(0.68, 1.59)	0.87	0.90	(0.58, 1.41)	0.65
Breastfeeding						
Children breastfed	1.49	(1.21, 1.84)	< 0.001	1.84	(1.36, 2.49)	< 0.001
Children						
Have children	1.13	(0.91, 1.39)	0.27	0.95	(0.70, 1.30)	0.75
Ethnicity						
Other ethnicity	1.46	(1.10, 1.95)	0.009	1.07	(0.76, 1.51)	0.70
Sex						
Female	1.02	(0.83, 1.26)	0.84	0.95	(0.77, 1.18)	0.66
Education						
GCSE	0.73	(0.55, 0.97)	0.028	0.70	(0.51, 0.96)	0.026
A-level	0.76	(0.55, 1.05)	0.099	0.73	(0.52, 1.04)	0.085
No Formal qualification	0.57	(0.41, 0.78)	0.001	0.62	(0.41, 0.93)	0.020
Other, still studying, don't know	0.82	(0.56, 1.19)	0.29	0.87	(0.57, 1.33)	0.53

Social Grade						
C1	0.77	(0.57, 1.03)	0.076	0.84	(0.61, 1.15)	0.28
C2	0.86	(0.62, 1.18)	0.34	0.92	(0.63, 1.34)	0.67
D	0.85	(0.59, 1.22)	0.38	1.02	(0.67, 1.55)	0.93
E	1.25	(0.86, 1.82)	0.24	1.57	(1.00, 2.46)	0.050
Smoking Status						
Previous smoker	0.82	(0.64, 1.06)	0.14	0.93	(0.71, 1.23)	0.62
Current (tried quitting)	1.16	(0.85, 1.59)	0.35	1.13	(0.81, 1.57)	0.47
Current (not tried quitting)	1.09	(0.69, 1.73)	0.71	1.25	(0.78, 2.01)	0.36
Refused to answer	0.64	(0.39, 1.05)	0.076	0.67	(0.41, 1.12)	0.12
Area						
North	0.71	(0.43, 1.18)	0.19	0.86	(0.51, 1.45)	0.56
North West	0.93	(0.63, 1.38)	0.73	1.15	(0.77, 1.74)	0.49
Yorks Hum	0.87	(0.56, 1.37)	0.55	1.05	(0.65, 1.70)	0.84
East Midlands	0.36	(0.24, 0.55)	< 0.001	0.41	(0.26, 0.64)	< 0.001
West Midlands	0.65	(0.39, 1.08)	0.096	0.81	(0.47, 1.41)	0.46
East Anglia	0.71	(0.39, 1.30)	0.26	0.78	(0.42, 1.48)	0.45
South East	1.04	(0.65, 1.68)	0.86	1.40	(0.85, 2.31)	0.19
South West	0.51	(0.35, 0.73)	< 0.001	0.68	(0.45, 1.02)	0.065
Wales	0.32	(0.19, 0.55)	< 0.001	0.44	(0.25, 0.79)	0.006
Scotland	0.53	(0.34, 0.82)	0.004	0.73	(0.45, 1.18)	0.20

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 11 **Response to "Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	19 (11.2)	29 (17.1)	40 (23.5)	61 (35.9)	21 (12.4)
25 – 34	22 (12.6)	32 (18.3)	42 (24.0)	57 (32.6)	22 (12.6)
35 – 44	23 (12.7)	32 (17.7)	43 (23.8)	56 (30.9)	27 (14.9)
45 – 54	32 (20.1)	28 (17.6)	40 (25.2)	35 (22.0)	24 (15.1)
55 – 59	17 (23.6)	15 (20.8)	10 (13.9)	20 (27.8)	10 (13.9)
60 – 64	29 (30.9)	10 (10.6)	22 (23.4)	24 (25.5)	9 (9.6)
65+	92 (31.4)	46 (15.7)	70 (23.9)	53 (18.1)	32 (10.9)
Breastfeeding					
Children not breastfed	125 (19.8)	111 (17.6)	151 (23.9)	168 (26.6)	77 (12.2)
Children breastfed	109 (21.3)	81 (15.8)	116 (22.7)	138 (27.0)	68 (13.3)
Children					
No children	75 (18.7)	66 (16.4)	97 (24.1)	117 (29.1)	47 (11.7)
Have children	159 (21.4)	126 (17.0)	170 (22.9)	189 (25.5)	98 (13.2)
Ethnicity					
White	224 (22.7)	169 (17.2)	223 (22.6)	248 (25.2)	121 (12.3)
Other ethnicity	10 (6.3)	23 (14.5)	44 (27.7)	58 (36.5)	24 (15.1)
Sex					
Male	101 (18.7)	91 (16.9)	130 (24.1)	149 (27.6)	69 (12.8)
Female	133 (22.0)	101 (16.7)	137 (22.7)	157 (26.0)	76 (12.6)
Education					
University	51 (17.3)	45 (15.3)	68 (23.1)	87 (29.5)	44 (14.9)
GCSE	75 (21.9)	59 (17.3)	83 (24.3)	86 (25.1)	39 (11.4)
A-level	39 (20.2)	41 (21.2)	39 (20.2)	48 (24.9)	26 (13.5)
No Formal qualification	48 (24.4)	28 (14.2)	50 (25.4)	51 (25.9)	20 (10.2)
Other, still studying, don't know	21 (17.9)	19 (16.2)	27 (23.1)	34 (29.1)	16 (13.7)

Variable	SD	D	N	A	SA
Social Grade					
AB	50 (20.9)	34 (14.2)	51 (21.3)	70 (29.3)	34 (14.2)
C1	88 (23.8)	76 (20.5)	76 (20.5)	91 (24.6)	39 (10.5)
C2	41 (17.4)	42 (17.8)	59 (25.0)	62 (26.3)	32 (13.6)
D	29 (17.9)	23 (14.2)	44 (27.2)	42 (25.9)	24 (14.8)
E	26 (19.0)	17 (12.4)	37 (27.0)	41 (29.9)	16 (11.7)
Smoking Status					
Never smoked	104 (18.2)	99 (17.3)	135 (23.6)	167 (29.1)	68 (11.9)
Previous smoker	75 (26.7)	48 (17.1)	66 (23.5)	62 (22.1)	30 (10.7)
Current (tried quitting)	32 (18.3)	27 (15.4)	37 (21.1)	43 (24.6)	36 (20.6)
Current (not tried quitting)	13 (20.6)	13 (20.6)	14 (22.2)	16 (25.4)	7 (11.1)
Refused to answer	10 (19.2)	5 (9.6)	15 (28.8)	18 (34.6)	4 (7.7)
Area					
North	19 (24.7)	18 (23.4)	11 (14.3)	17 (22.1)	12 (15.6)
North West	15 (10.6)	26 (18.3)	42 (29.6)	42 (29.6)	17 (12.0)
Yorks Hum	30 (28.8)	11 (10.6)	20 (19.2)	26 (25.0)	17 (16.3)
East Midlands	24 (22.0)	24 (22.0)	25 (22.9)	28 (25.7)	8 (7.3)
West Midlands	19 (28.8)	9 (13.6)	15 (22.7)	17 (25.8)	6 (9.1)
East Anglia	10 (24.4)	6 (14.6)	8 (19.5)	9 (22.0)	8 (19.5)
South East	9 (11.1)	8 (9.9)	25 (30.9)	23 (28.4)	16 (19.8)
South West	53 (26.5)	35 (17.5)	56 (28.0)	43 (21.5)	13 (6.5)
London	8 (5.4)	25 (16.8)	34 (22.8)	59 (39.6)	23 (15.4)
Wales	20 (30.3)	7 (10.6)	9 (13.6)	17 (25.8)	13 (19.7)
Scotland	27 (24.8)	23 (21.1)	22 (20.2)	25 (22.9)	12 (11.0)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 12 **Simple univariable and multiple ordered logit regression models for response to "Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	2.24	(1.60, 3.14)	< 0.001	2.28	(1.50, 3.49)	< 0.001
25 - 34	2.05	(1.47, 2.86)	< 0.001	1.83	(1.26, 2.67)	0.002
35 - 44	2.15	(1.54, 3.00)	< 0.001	1.90	(1.32, 2.74)	0.001
45 - 54	1.58	(1.11, 2.23)	0.010	1.57	(1.08, 2.28)	0.017
55 - 59	1.46	(0.91, 2.35)	0.11	1.43	(0.87, 2.34)	0.16
60 - 64	1.18	(0.77, 1.80)	0.44	1.05	(0.68, 1.63)	0.82
Breastfeeding						
Children breastfed	1.02	(0.83, 1.26)	0.83	1.12	(0.83, 1.50)	0.45
Children						
Have children	0.92	(0.74, 1.13)	0.42	1.08	(0.79, 1.49)	0.62
Ethnicity						
Other ethnicity	1.91	(1.43, 2.56)	< 0.001	1.27	(0.90, 1.79)	0.18
Sex						
Female	0.90	(0.73, 1.10)	0.30	0.85	(0.69, 1.06)	0.16
Education						
GCSE	0.74	(0.56, 0.97)	0.030	0.71	(0.51, 0.97)	0.033
A-level	0.77	(0.56, 1.06)	0.11	0.68	(0.48, 0.97)	0.032
No Formal qualification	0.70	(0.51, 0.97)	0.032	0.90	(0.60, 1.35)	0.60
Other, still studying, don't know	0.93	(0.64, 1.36)	0.71	1.12	(0.73, 1.70)	0.60

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.72	(0.54, 0.96)	0.025	0.68	(0.50, 0.94)	0.019
C2	0.97	(0.70, 1.34)	0.86	0.88	(0.60, 1.28)	0.49
D	1.03	(0.72, 1.47)	0.85	0.97	(0.64, 1.47)	0.88
E	1.00	(0.69, 1.46)	0.99	0.94	(0.60, 1.47)	0.78
Smoking Status						
Previous smoker	0.70	(0.54, 0.90)	0.006	0.86	(0.65, 1.13)	0.27
Current (tried quitting)	1.24	(0.91, 1.68)	0.18	1.26	(0.91, 1.75)	0.16
Current (not tried quitting)	0.83	(0.53, 1.32)	0.44	0.87	(0.54, 1.41)	0.58
Refused to answer	1.04	(0.63, 1.69)	0.89	0.96	(0.57, 1.59)	0.86
Area						
North	0.45	(0.27, 0.73)	0.001	0.57	(0.34, 0.96)	0.036
North West	0.68	(0.46, 1.01)	0.058	0.83	(0.55, 1.27)	0.39
Yorks Hum	0.51	(0.32, 0.81)	0.004	0.60	(0.37, 0.98)	0.040
East Midlands	0.42	(0.27, 0.64)	< 0.001	0.47	(0.30, 0.74)	0.001
West Midlands	0.40	(0.24, 0.68)	0.001	0.56	(0.32, 0.96)	0.037
East Anglia	0.57	(0.30, 1.08)	0.086	0.72	(0.37, 1.39)	0.33
South East	0.93	(0.58, 1.48)	0.75	1.42	(0.86, 2.35)	0.17
South West	0.36	(0.25, 0.52)	< 0.001	0.53	(0.35, 0.80)	0.002
Wales	0.56	(0.32, 0.96)	0.035	0.81	(0.46, 1.45)	0.48
Scotland	0.41	(0.27, 0.64)	< 0.001	0.55	(0.34, 0.88)	0.014

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 13 **Response to "Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	19 (11.2)	33 (19.4)	46 (27.1)	56 (32.9)	16 (9.4)
25 – 34	22 (12.6)	27 (15.4)	55 (31.4)	49 (28.0)	22 (12.6)
35 – 44	25 (13.8)	35 (19.3)	37 (20.4)	52 (28.7)	32 (17.7)
45 – 54	32 (20.1)	32 (20.1)	39 (24.5)	36 (22.6)	20 (12.6)
55 – 59	18 (25.0)	16 (22.2)	12 (16.7)	17 (23.6)	9 (12.5)
60 – 64	34 (36.2)	14 (14.9)	21 (22.3)	15 (16.0)	10 (10.6)
65+	86 (29.4)	48 (16.4)	77 (26.3)	53 (18.1)	29 (9.9)
Breastfeeding					
Children not breastfed	117 (18.5)	115 (18.2)	192 (30.4)	146 (23.1)	62 (9.8)
Children breastfed	119 (23.2)	90 (17.6)	95 (18.6)	132 (25.8)	76 (14.8)
Children					
No children	63 (15.7)	72 (17.9)	123 (30.6)	107 (26.6)	37 (9.2)
Have children	173 (23.3)	133 (17.9)	164 (22.1)	171 (23.0)	101 (13.6)
Ethnicity					
White	229 (23.2)	189 (19.2)	249 (25.3)	214 (21.7)	104 (10.6)
Other ethnicity	7 (4.4)	16 (10.1)	38 (23.9)	64 (40.3)	34 (21.4)
Sex					
Male	97 (18.0)	85 (15.7)	163 (30.2)	131 (24.3)	64 (11.9)
Female	139 (23.0)	120 (19.9)	124 (20.5)	147 (24.3)	74 (12.3)
Education					
University	58 (19.7)	52 (17.6)	70 (23.7)	79 (26.8)	36 (12.2)
GCSE	69 (20.2)	65 (19.0)	89 (26.0)	79 (23.1)	40 (11.7)
A-level	47 (24.4)	29 (15.0)	49 (25.4)	43 (22.3)	25 (13.0)
No Formal qualification	42 (21.3)	34 (17.3)	58 (29.4)	41 (20.8)	22 (11.2)
Other, still studying, don't know	20 (17.1)	25 (21.4)	21 (17.9)	36 (30.8)	15 (12.8)

Variable	SD	D	N	A	SA
Social Grade					
AB	54 (22.6)	40 (16.7)	59 (24.7)	53 (22.2)	33 (13.8)
C1	84 (22.7)	73 (19.7)	91 (24.6)	89 (24.1)	33 (8.9)
C2	46 (19.5)	37 (15.7)	71 (30.1)	55 (23.3)	27 (11.4)
D	27 (16.7)	29 (17.9)	37 (22.8)	44 (27.2)	25 (15.4)
E	25 (18.2)	26 (19.0)	29 (21.2)	37 (27.0)	20 (14.6)
Smoking Status					
Never smoked	108 (18.8)	99 (17.3)	137 (23.9)	166 (29.0)	63 (11.0)
Previous smoker	73 (26.0)	57 (20.3)	70 (24.9)	52 (18.5)	29 (10.3)
Current (tried quitting)	32 (18.3)	31 (17.7)	48 (27.4)	29 (16.6)	35 (20.0)
Current (not tried quitting)	12 (19.0)	13 (20.6)	17 (27.0)	15 (23.8)	6 (9.5)
Refused to answer	11 (21.2)	5 (9.6)	15 (28.8)	16 (30.8)	5 (9.6)
Area					
North	14 (18.2)	21 (27.3)	17 (22.1)	15 (19.5)	10 (13.0)
North West	17 (12.0)	26 (18.3)	44 (31.0)	35 (24.6)	20 (14.1)
Yorks Hum	25 (24.0)	15 (14.4)	26 (25.0)	24 (23.1)	14 (13.5)
East Midlands	21 (19.3)	21 (19.3)	31 (28.4)	30 (27.5)	6 (5.5)
West Midlands	17 (25.8)	15 (22.7)	16 (24.2)	14 (21.2)	4 (6.1)
East Anglia	6 (14.6)	7 (17.1)	7 (17.1)	10 (24.4)	11 (26.8)
South East	15 (18.5)	8 (9.9)	23 (28.4)	23 (28.4)	12 (14.8)
South West	56 (28.0)	33 (16.5)	61 (30.5)	32 (16.0)	18 (9.0)
London	13 (8.7)	26 (17.4)	26 (17.4)	65 (43.6)	19 (12.8)
Wales	20 (30.3)	11 (16.7)	14 (21.2)	10 (15.2)	11 (16.7)
Scotland	32 (29.4)	22 (20.2)	22 (20.2)	20 (18.3)	13 (11.9)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 14 **Simple univariable and multiple ordered logit regression models for response to "Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.90	(1.36, 2.64)	< 0.001	1.63	(1.07, 2.49)	0.022
25 - 34	1.96	(1.41, 2.72)	< 0.001	1.64	(1.13, 2.38)	0.010
35 - 44	2.14	(1.53, 3.00)	< 0.001	1.91	(1.32, 2.76)	0.001
45 - 54	1.41	(1.00, 1.99)	0.051	1.38	(0.95, 2.00)	0.088
55 - 59	1.21	(0.76, 1.94)	0.43	1.23	(0.76, 2.01)	0.40
60 - 64	0.81	(0.53, 1.25)	0.34	0.79	(0.50, 1.23)	0.30
Breastfeeding						
Children breastfed	1.07	(0.87, 1.32)	0.54	1.20	(0.89, 1.61)	0.24
Children						
Have children	0.88	(0.71, 1.09)	0.23	0.97	(0.71, 1.33)	0.86
Ethnicity						
Other ethnicity	3.23	(2.40, 4.35)	< 0.001	2.31	(1.63, 3.29)	< 0.001
Sex						
Female	0.84	(0.68, 1.03)	0.099	0.85	(0.69, 1.06)	0.15
Education						
GCSE	0.90	(0.68, 1.19)	0.47	0.92	(0.67, 1.25)	0.58
A-level	0.87	(0.63, 1.21)	0.41	0.86	(0.61, 1.22)	0.40
No Formal qualification	0.85	(0.62, 1.18)	0.33	1.13	(0.76, 1.67)	0.56
Other, still studying, don't know	1.10	(0.75, 1.61)	0.62	1.24	(0.81, 1.89)	0.32

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.87	(0.65, 1.16)	0.33	0.76	(0.55, 1.04)	0.086
C2	1.05	(0.76, 1.44)	0.77	0.84	(0.57, 1.22)	0.35
D	1.30	(0.91, 1.86)	0.15	1.07	(0.70, 1.62)	0.77
E	1.20	(0.82, 1.75)	0.34	0.96	(0.62, 1.50)	0.86
Smoking Status						
Previous smoker	0.66	(0.52, 0.86)	0.002	0.83	(0.63, 1.09)	0.18
Current (tried quitting)	1.07	(0.79, 1.45)	0.67	1.08	(0.78, 1.49)	0.64
Current (not tried quitting)	0.85	(0.54, 1.33)	0.47	0.80	(0.50, 1.28)	0.34
Refused to answer	1.04	(0.63, 1.71)	0.89	0.87	(0.52, 1.45)	0.60
Area						
North	0.48	(0.30, 0.78)	0.003	0.76	(0.46, 1.27)	0.29
North West	0.71	(0.47, 1.05)	0.086	1.00	(0.66, 1.53)	0.98
Yorks Hum	0.53	(0.34, 0.83)	0.005	0.79	(0.49, 1.29)	0.35
East Midlands	0.49	(0.32, 0.75)	0.001	0.62	(0.40, 0.97)	0.036
West Midlands	0.36	(0.22, 0.60)	< 0.001	0.64	(0.37, 1.10)	0.11
East Anglia	1.03	(0.54, 1.95)	0.93	1.55	(0.79, 3.02)	0.20
South East	0.74	(0.46, 1.19)	0.21	1.31	(0.79, 2.19)	0.30
South West	0.37	(0.25, 0.53)	< 0.001	0.65	(0.43, 0.99)	0.044
Wales	0.41	(0.24, 0.69)	0.001	0.75	(0.42, 1.31)	0.31
Scotland	0.37	(0.24, 0.58)	< 0.001	0.61	(0.37, 0.99)	0.046

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 15 **Results from the two part model to estimate the acceptable values for shopping voucher among those who agreed with providing vouchers to mothers for smoking cessation**

	Probit (Agree or not)				Amount of shopping voucher			
	β	95% CI		*p*-value	*β*	95% CI		*p*-value
AGE	–0.01	–0.02	0.00	0.10	–0.09	–0.27	0.09	0.33
Region (base category: Greater London)								
North	–0.40	–0.77	–0.03	0.04	–4.07	–13.28	5.15	0.39
North West	0.17	–0.15	0.48	0.30	–0.59	–7.31	6.13	0.86
Yorks and Humberside	–0.27	–0.61	0.08	0.13	–3.80	–12.28	4.69	0.38
West Midlands	–0.31	–0.63	0.02	0.07	–3.65	–11.57	4.27	0.37
East Midlands	–0.18	–0.56	0.21	0.38	–8.59	–18.26	1.08	0.08
East Anglia	–0.02	–0.48	0.43	0.92	5.56	–4.82	15.94	0.29
South West	0.22	–0.15	0.59	0.24	–9.13	–16.14	–2.12	0.01
South East	0.07	–0.23	0.37	0.64	–8.80	–15.09	–2.51	0.01
Wales	–0.40	–0.79	–0.01	0.05	–2.82	–12.40	6.76	0.56
Scotland	–0.14	–0.49	0.20	0.42	–6.43	–14.83	1.97	0.13
Education (base category: University)								
GCSE	–0.30	–0.53	–0.07	0.01	–2.03	–6.74	2.68	0.40
A–level	–0.35	–0.60	–0.10	0.01	–4.07	–9.35	1.22	0.13
No formal qualification	–0.07	–0.36	0.21	0.62	2.20	–3.95	8.35	0.48
Other, still studying, do not know	–0.12	–0.42	0.18	0.42	–3.97	–10.24	2.30	0.21
Smoking status (base category: Never smoker)								
Previous smoker	–0.02	–0.22	0.17	0.81	–1.04	–5.16	3.08	0.62
Current (tried quitting)	0.24	0.01	0.47	0.04	5.27	0.00	10.54	0.05
Current (not tried quitting)	0.05	–0.30	0.41	0.76	3.53	–5.31	12.37	0.43
Refused to answer	0.14	–0.25	0.52	0.49	–3.26	–9.64	3.12	0.32
Breastfeeding experience (base category: no child)								
Yes	0.22	0.03	0.42	0.02	4.59	0.46	8.73	0.03
No	0.17	–0.05	0.39	0.14	–0.55	–5.57	4.47	0.83

	Probit (Agree or not)				Amount of shopping voucher			
	β	**95% CI**		***p*-value**	***β***	**95% CI**		***p*-value**
Social grade (base category: A or B)								
C1	0.01	–0.21	0.24	0.90	–0.21	–5.02	4.60	0.93
C2	0.13	–0.14	0.40	0.35	3.77	–2.03	9.57	0.20
D	0.09	–0.21	0.39	0.55	–1.06	–7.35	5.24	0.74
E	0.41	0.09	0.73	0.01	1.35	–5.56	8.25	0.70
Childbearing age (=1 if age<45)	0.08	–0.22	0.38	0.62	1.96	–4.80	8.71	0.57
Female (=1 if female)	–0.27	–0.43	–0.11	0.00	0.79	–2.59	4.18	0.64
White (=1 if ethnic origin is white)	–0.31	–0.57	–0.05	0.02	–5.21	–10.87	0.44	0.07
Constant	0.90	0.31	1.48	0.00	34.22	21.52	46.92	0.00
R^2					0.1065			
Pseudo R^2	0.0598							
N	1,144				660			

Table 16 **Results from the two part model to estimate the acceptability of targeting incentives to low income women only among those who agreed with providing vouchers to mothers for smoking cessation**

	Probit (Agree or not)				Probit (Women on low income or all)			
	β	95% CI		*p*-value	*β*	95% CI		*p*-value
AGE	–0.01	–0.02	0.00	0.10	0.00	–0.01	0.01	0.66
Region (base category: Greater London)								
North	–0.40	–0.77	–0.03	0.04	–0.19	–0.71	0.34	0.48
North West	0.17	–0.15	0.48	0.30	0.12	–0.25	0.48	0.52
Yorks and Humberside	–0.27	–0.61	0.08	0.13	–0.09	–0.55	0.36	0.69
West Midlands	–0.31	–0.63	0.02	0.07	–0.01	–0.44	0.43	0.97
East Midlands	–0.18	–0.56	0.21	0.38	–0.43	–0.98	0.12	0.13
East Anglia	–0.02	–0.48	0.43	0.92	0.35	–0.22	0.92	0.23
South West	0.22	–0.15	0.59	0.24	0.48	0.02	0.93	0.04
South East	0.07	–0.23	0.37	0.64	0.17	–0.21	0.54	0.38
Wales	–0.40	–0.79	–0.01	0.05	–0.12	–0.70	0.46	0.68
Scotland	–0.14	–0.49	0.20	0.42	0.81	0.34	1.27	0.00
Education (base category: University)								
GCSE	–0.30	–0.53	–0.07	0.01	–0.22	–0.52	0.09	0.16
A–level	–0.35	–0.60	–0.10	0.01	0.09	–0.24	0.42	0.59
No formal qualification	–0.07	–0.36	0.21	0.62	–0.28	–0.66	0.09	0.14
Other, still studying, do not know	–0.12	–0.42	0.18	0.42	–0.14	–0.52	0.25	0.49
Smoking status (base category: Never smoker)								
Previous smoker	–0.02	–0.22	0.17	0.81	–0.08	–0.35	0.19	0.57
Current (tried quitting)	0.24	0.01	0.47	0.04	–0.04	–0.33	0.24	0.77
Current (not tried quitting)	0.05	–0.30	0.41	0.76	–0.12	–0.57	0.32	0.59
Refused to answer	0.14	–0.25	0.52	0.49	–0.00	–0.46	0.46	0.99
Breastfeeding experience (base category: no child)								
Yes	0.22	0.03	0.42	0.02	0.08	–0.17	0.33	0.53

	Probit (Agree or not)				Probit (Women on low income or all)			
	β	**95% CI**		***p*-value**	***β***	**95% CI**		***p*-value**
No	0.17	–0.05	0.39	0.14	0.20	–0.09	0.49	0.18
Social grade (base category: A or B)								
C1	0.01	–0.21	0.24	0.90	0.15	–0.15	0.46	0.32
C2	0.13	–0.14	0.40	0.35	0.12	–0.24	0.49	0.51
D	0.09	–0.21	0.39	0.55	0.23	–0.16	0.63	0.25
E	0.41	0.09	0.73	0.01	0.18	–0.23	0.59	0.38
Childbearing age (=1 if age<45)	0.08	–0.22	0.38	0.62	–0.00	–0.40	0.39	0.99
Female (=1 if female)	–0.27	–0.43	–0.11	0.00	–0.17	–0.37	0.04	0.11
White (=1 if ethnic origin is white)	–0.31	–0.57	–0.05	0.02	0.12	–0.18	0.43	0.43
Constant	0.90	0.31	1.48	0.00	–0.46	–1.23	0.32	0.25
Pseudo R^2	0.0598				0.0523			
N	1,144				660			

Table 17 **Results from the two part model to estimate the acceptable value for shopping voucher among those who agreed with providing vouchers for breastfeeding**

	Probit (Agree or not)				Amount of shopping voucher			
	β	95% CI		*p*-value	*β*	95% CI		*p*-value
AGE	–0.01	–0.01	0.00	0.18	–0.12	–0.29	0.05	0.17
Region (base category: Greater London)								
North	–0.21	–0.60	0.17	0.27	–2.26	–10.77	6.25	0.60
North West	0.00	–0.32	0.33	0.98	–1.36	–7.96	5.23	0.69
Yorks and Humberside	–0.25	–0.60	0.10	0.17	–4.08	–12.30	4.13	0.33
West Midlands	–0.39	–0.73	–0.06	0.02	–4.02	–11.15	3.10	0.27
East Midlands	–0.53	–0.93	–0.13	0.01	–12.68	–21.34	–4.02	0.00
East Anglia	–0.09	–0.57	0.38	0.70	–1.73	–12.38	8.92	0.75
South West	0.23	–0.16	0.61	0.24	–7.50	–14.56	–0.45	0.04
South East	–0.17	–0.47	0.14	0.29	–11.37	–17.49	–5.26	0.00
Wales	–0.45	–0.85	–0.05	0.03	–10.66	–19.14	–2.18	0.01
Scotland	–0.05	–0.41	0.31	0.78	–11.57	–18.62	–4.52	0.00
Education (base category: University)								
GCSE	0.05	–0.19	0.29	0.67	2.31	–2.32	6.93	0.33
A–level	–0.20	–0.45	0.05	0.11	1.74	–3.76	7.25	0.53
No formal qualification	0.31	0.01	0.61	0.04	5.43	–0.47	11.34	0.07
Other, still studying, do not know	0.10	–0.21	0.40	0.54	–0.13	–5.48	5.23	0.96
Smoking status (base category: Never smoker)								
Previous smoker	–0.10	–0.29	0.10	0.33	0.39	–3.85	4.64	0.86
Current (tried quitting)	0.06	–0.17	0.30	0.61	4.70	–0.40	9.81	0.07
Current (not tried quitting)	–0.23	–0.58	0.12	0.19	–1.66	–8.43	5.11	0.63
Refused to answer	0.09	–0.30	0.48	0.65	–2.39	–9.95	5.16	0.53
Breastfeeding experience (base category: no child)								
Yes	–0.01	–0.20	0.18	0.91	6.88	2.77	10.99	0.00
No	–0.16	–0.38	0.06	0.16	–0.54	–4.87	3.79	0.81

	Probit (Agree or not)				Amount of shopping voucher			
	β	**95% CI**		***p*-value**	***β***	**95% CI**		***p*-value**
Social grade (base category: A or B)								
C1	–0.20	–0.42	0.03	0.09	–3.85	–8.80	1.09	0.13
C2	0.02	–0.26	0.29	0.91	–5.36	–10.64	–0.07	0.05
D	–0.01	–0.31	0.30	0.95	–5.43	–11.37	0.51	0.07
E	0.06	–0.26	0.39	0.70	–3.42	–10.14	3.30	0.32
Childbearing age (=1 if age<45)	0.10	–0.20	0.40	0.52	0.35	–6.30	6.99	0.92
Female (=1 if female)	–0.33	–0.49	–0.17	0.00	2.95	–0.38	6.27	0.08
White (=1 if ethnic origin is white)	–0.52	–0.81	–0.23	0.00	–8.44	–13.82	–3.06	0.00
Constant	1.38	0.77	1.99	0.00	38.66	26.40	50.92	0.00
R^2					0.1390			
Pseudo R^2	0.0750							
N	1,144				697			

Table 18 **Results from the two part model to estimate the acceptability of targeting to low income women only among those who agreed with providing vouchers for breastfeeding**

	Probit (Agree or not)				Probit (Women on low income or all)			
	β	**95% CI**		***p*-value**	***β***	**95% CI**		***p*-value**
AGE	–0.01	–0.01	0.00	0.18	0.01	-0.00	0.02	0.10
Region (base category: Greater London)								
North	–0.21	–0.60	0.17	0.27	–0.05	–0.53	0.43	0.84
North West	0.00	–0.32	0.33	0.98	0.18	–0.18	0.54	0.33
Yorks and Humberside	–0.25	–0.60	0.10	0.17	0.18	–0.25	0.61	0.41
West Midlands	–0.39	–0.73	–0.06	0.02	–0.07	–0.49	0.34	0.73
East Midlands	–0.53	–0.93	–0.13	0.01	–0.01	–0.58	0.55	0.96
East Anglia	–0.09	–0.57	0.38	0.70	0.53	–0.04	1.10	0.07
South West	0.23	–0.16	0.61	0.24	0.65	0.21	1.10	0.00
South East	–0.17	–0.47	0.14	0.29	0.18	–0.19	0.55	0.34
Wales	–0.45	–0.85	–0.05	0.03	0.31	–0.24	0.86	0.27
Scotland	–0.05	–0.41	0.31	0.78	0.60	0.18	1.03	0.01
Education (base category: University)								
GCSE	0.05	–0.19	0.29	0.67	0.06	–0.23	0.35	0.68
A–level	–0.20	–0.45	0.05	0.11	–0.00	–0.32	0.32	1.00
No formal qualification	0.31	0.01	0.61	0.04	0.11	–0.26	0.49	0.55
Other, still studying, do not know	0.10	–0.21	0.40	0.54	0.24	–0.14	0.62	0.22
Smoking status (base category: Never smoker)								
Previous smoker	–0.10	–0.29	0.10	0.33	–0.07	–0.34	0.19	0.59
Current (tried quitting)	0.06	–0.17	0.30	0.61	–0.10	–0.38	0.19	0.50
Current (not tried quitting)	–0.23	–0.58	0.12	0.19	–0.13	–0.56	0.30	0.56
Refused to answer	0.09	–0.30	0.48	0.65	0.13	–0.31	0.57	0.56
Breastfeeding experience (base category: no child)								
Yes	–0.01	–0.20	0.18	0.91	–0.06	–0.30	0.18	0.62

	Probit (Agree or not)				Probit (Women on low income or all)			
	β	**95% CI**		***p*-value**	***β***	**95% CI**		***p*-value**
No	–0.16	–0.38	0.06	0.16	0.04	–0.24	0.33	0.76
Social grade (base category: A or B)								
C1	–0.20	–0.42	0.03	0.09	–0.20	–0.49	0.10	0.19
C2	0.02	–0.26	0.29	0.91	–0.09	–0.44	0.25	0.60
D	–0.01	–0.31	0.30	0.95	–0.11	–0.48	0.27	0.58
E	0.06	–0.26	0.39	0.70	–0.15	–0.55	0.25	0.45
Childbearing age (=1 if age<45)	0.10	–0.20	0.40	0.52	0.23	–0.16	0.61	0.25
Female (=1 if female)	–0.33	–0.49	–0.17	0.00	–0.28	–0.48	–0.08	0.01
White (=1 if ethnic origin is white)	–0.52	–0.81	–0.23	0.00	–0.13	–0.42	0.16	0.37
Constant	1.38	0.77	1.99	0.00	–0.47	–1.21	0.27	0.21
Pseudo R^2	0.0750				0.0416			
N	1,144				660			

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation	
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	P1/2
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	P2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	P3/4
Objectives	3	State specific objectives, including any prespecified hypotheses	P4
Methods			
Study design	4	Present key elements of study design early in the paper	P4
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	P4
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants	P4/5
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case	P4/5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	P5
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	P4/5
Bias	9	Describe any efforts to address potential sources of bias	P5
Study size	10	Explain how the study size was arrived at	P5
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	P5
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	P5/6
		(*b*) Describe any methods used to examine subgroups and interactions	P5
		(*c*) Explain how missing data were addressed	P5/6
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy	P5
		(*e*) Describe any sensitivity analyses	N/A

Continued on next page

Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	P6, Table 1
		(b) Give reasons for non-participation at each stage	N/A
		(c) Consider use of a flow diagram	
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	P6. Table 1
		(b) Indicate number of participants with missing data for each variable of interest	P6. Table 1
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)	N/A
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time	
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	
		Cross-sectional study—Report numbers of outcome events or summary measures	*P6-8*
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	P6-8.Tables 2-4. Figure 1. Web appendices of full results
		(*b*) Report category boundaries when continuous variables were categorized	
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	N/A
Discussion			
Key results	18	Summarise key results with reference to study objectives	P8
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	P9
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	P9
Generalisability	21	Discuss the generalisability (external validity) of the study results	P9
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	P12/13

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

BMJ Open

Public acceptability of financial incentives for smoking cessation in pregnancy and breastfeeding: a survey of the British public

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2014-005524.R1
Article Type:	Research
Date Submitted by the Author:	22-Jun-2014
Complete List of Authors:	Hoddinott, Pat; University of Stirling, Nursing, Midwifery and Allied Health Professional Research Unit Morgan, Heather; University of Aberdeen, Health Services Research Unit Maclennan, Graeme; University of Aberdeen; University of Aberdeen, Health Services Research Unit Sewel, Kate; Ipsos MORI Scotland, Thomson, Gillian; University of Central Lancashire, Maternal and Infant Nutrition and Nurture Unit Bauld, Linda; University of Stirling, Health Policy and Social Marketing Yi, Deokhee; University of Aberdeen, Health Economics Research Unit Ludbrook, Anne; University of Aberdeen, Health Economics Research Unit Campbell, Marion; University of Aberdeen, Health Services Research Unit
Primary Subject Heading:	Public health
Secondary Subject Heading:	Public health, Smoking and tobacco, Paediatrics, Obstetrics and gynaecology, Nutrition and metabolism
Keywords:	PREVENTIVE MEDICINE, PUBLIC HEALTH, SOCIAL MEDICINE

Title: **Public acceptability of financial incentives for smoking cessation in pregnancy and breastfeeding: a survey of the British public**

Authors: Pat Hoddinott, Heather Morgan, Graeme MacLennan, Kate Sewel, Gill Thomson, Linda Bauld, Deokhee Yi, Anne Ludbrook, Marion K Campbell.

Nursing, Midwifery and Allied Health Professions Research Unit, University of Stirling, Stirling FK9 4LA, UK.
Pat Hoddinott, Chair in Primary Care
Health Services Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK.
Heather Morgan, Research Fellow in Social Science
Health Services Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK.
Graeme MacLennan, Senior Research Fellow in Statistics
Ipsos MORI Scotland, Edinburgh**,** EH3 6DH, UK.
Kate Sewel, Senior Researcher
Maternal and Infant Nutrition and Nurture Unit, University of Central Lancashire, Preston PR1 2HE, UK
Gill Thomson, Senior Research Fellow in Social Science
Health Policy and Social Marketing, University of Stirling, Stirling FK9 4LA, UK
Linda Bauld, Professor of Health Policy
Health Economics Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK
Deokhee Yi, Research Fellow in Health Economics
Health Economics Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK
Anne Ludbrook, Professor of Health Economics
Health Services Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK.
Marion K Campbell, Director & Professor of Health Services Research

Correspondence to: p.m.hoddinott@stir.ac.uk

Abstract

Objective

To survey public attitudes about incentives for smoking cessation in pregnancy and for breastfeeding to inform trial design

Design

Cross sectional survey

Setting and participants

British general public

Methods

Seven promising incentive strategies had been identified from evidence syntheses and qualitative interview data from service users and providers. These were shopping vouchers for: (i) validated smoking cessation in pregnancy and (ii) after birth; (iii) for a smoke-free home; (iv) for proven breastfeeding; (v) a free breast pump; (vi) payments to health services for reaching smoking cessation in pregnancy targets and (vii) breastfeeding targets. Ipsos MORI used area quota sampling and home-administered computer-assisted questionnaires, with randomised question order to assess agreement with different incentives (measured on a 5-point scale). Demographic data and target behaviour experience were recorded. Analysis used multivariable ordered logit models.

Results

Agreement with incentives was mixed (ranging from 34-46%) among a representative sample of 1144 British adults. Mean agreement score was highest for a free breast pump; and lowest for incentives for smoking abstinence after birth. More women disagreed with shopping vouchers than men. Those with lower levels of education disagreed more with smoking cessation incentives and a breast pump. Those aged 44 or under agreed more with all incentive strategies compared to those aged 65 and over, particularly provider targets for smoking cessation. Non-white ethnic groups agreed particularly with breastfeeding incentives. Current smokers with previous stop attempts and respondents who had breastfed children agreed with providing vouchers for the respective behaviours. Up to £40 per month vouchers for behaviour change were acceptable (>85%).

Conclusion

Women and the less educated were more likely to disagree, but men and women of child-bearing age to agree, with incentives designed for their benefit. Trials evaluating reach, impact on health inequalities and ethnic groups are required prior to implementing incentive interventions.

Prospero Registration: CRD42012001980 for the systematic reviews informing the survey design.

Article summary

Strengths and limitations of this study

- This large cross sectional survey of attitudes to incentives for smoking cessation around pregnancy and for breastfeeding was conducted by an internationally recognised independent company using rigorous methods to achieve a representative sample of the British general public.
- Our multi-disciplinary mixed methods approach to survey design and to investigating two behaviours concurrently, used an innovative participatory approach to incorporate service user perspectives.
- Original findings show that women and those with fewer educational qualifications are more likely to disagree with incentives, raising concerns about the implications for health inequalities, as these are intended target populations for behaviour change.
- Important limitations relate to the unknown generalisability to other countries; non-responder and selection biases; potential confounding between smoking cessation and breastfeeding and other unknown confounders.
- Although we randomised the order of smoking and breastfeeding questions, further framing effects are possible particularly for the introductory statements.

Introduction

Government interventions to change lifestyle behaviours are increasingly incorporating incentives to encourage healthy choices[1], but directly paying people is seen to be the least acceptable approach[2], with minimally intrusive interventions deemed more acceptable.[1] Experimental studies investigating incentives for smoking cessation in a general population show that incentive acceptability increases with effectiveness.[3] Media coverage of incentive interventions tends to focus on a range of concerns including perceived unfairness to those who already make healthy choices; appearing to reward unhealthy behaviours; potential for abuse; opportunity costs; the need to monitor and safeguard; and "Big Brother" or "nanny state" authoritarianism. However, incentives can demonstrate to people that they are worthy of being helped and can facilitate connections between recipients and care providers.[4] Incentives addressing outcomes for children appear more acceptable than outcomes for adults.[1,5]

In the UK there are marked inequalities in health between social groups. Incentives are one strategy that could be used to redistribute resources through targeting or proportionate universalism,[6] as lifestyle behaviours that compromise health around childbirth are socially patterned[7] and cluster in more disadvantaged communities.[8] For example, pregnant mothers aged 20 or under are: more than five times less likely to be breastfeeding at four months; three times more likely to smoke before or during pregnancy and are less likely to stop smoking compared to mothers aged 35 or over.[7] In 2010 in the UK, the breastfeeding initiation rate was 90% for mothers in managerial and professional occupations, compared with 74% of mothers in routine and manual occupations, with a difference in smoking before or during pregnancy of 14% and 40% respectively.[7] In 2010, 32% of pregnant women lived in a household where at least one other person smoked during pregnancy.[7]

There is promising evidence supporting financial incentives for smoking cessation in pregnancy:[9-11] interventions that include incentives are more effective than pharmacotherapy and/or psycho-social interventions alone.[9] However, the level of the incentive and the nature of accompanying behaviour change techniques provided alongside incentives, are likely to be confounders.[9,11] Reported trials to date have small samples.[9-11] In addition, important concerns about limited reach, particularly to the more marginalised in society, have been raised.[12,13] There are fewer incentive trials of interventions to initiate or maintain breastfeeding[14] and generalisability of support interventions to predominantly formula feeding cultures like the UK is uncertain.[15]

This survey aimed to investigate the public acceptability of a shortlist of promising incentive strategies for stopping smoking in pregnancy or for breastfeeding. This is particularly important in countries where health care is state funded. The ultimate study aim was to inform the design of incentive intervention trials for smoking in pregnancy and for breastfeeding and to improve understanding of the mechanisms of action of incentives. As this is a relatively new field of research, a broad definition of incentive was applied (Box 1).

Methods

Survey design

A shortlist of seven promising incentive strategies (Box 2) had been developed prior to the survey administration, informed by evidence syntheses, input from mother and baby group members who were partners in the research and qualitative research with a range of stakeholders.[16] A wide range of incentives were considered to inform the shortlist, including food vouchers, baby related items, such as diapers, gifts, beauty treatments for the mother and incentives aimed at the partner e.g football tickets. Incentives provided for preparatory behaviours, for example, attending a support group or one-to-one session, and unpredictable incentives like raffles, were also considered. A justification for our selected shortlist is described in detail elsewhere.[16] In the survey (Web 1, p1-4), acceptability of the shortlisted interventions was measured on a 5-point Likert style scale from strongly agree to strongly disagree. The subgroup responding strongly agree, agree or neither agree nor disagree to voucher incentives were asked whether incentives should be universally provided or to low income women only and to choose an acceptable value (£2, £10, £20, £40, £60, £80) for shopping vouchers provided monthly to women who prove that they have stopped smoking or are breastfeeding. The values were selected to represent the range identified in the evidence syntheses. Careful consideration was given to framing effects, as greater acceptability is reported for a *reward* rather than *payment*[17] and with increased effectiveness.[3]

Data collection

Ipsos MORI used a controlled form of random location sampling to identify 161 geographical sites (Web 2, p5-6) using a method of quota sampling which has been independently evaluated[18]. Trained field researchers were asked to interview five people at home from 250 addresses at each site, to obtain a nationally and regionally representative sample of adults aged 18 or over between 22 March 2013 – 15 April 2013. Interlocking quotas were set for age, sex, working status, and tenure based on the known profile of Great Britain (from ONS 2011 estimates for England and Wales and from General Register Office for Scotland 2011 mid-year estimates, and from National Readership Survey data. National Readership Survey

profiles are commonly used for this purpose they provide a basis for interlocking quotas e.g. sex within working status. Interviewers used Computer Assisted Personal Interviewing (CAPI) with randomisation of the order for smoking and breastfeeding incentive questions generated independently and automated using CAPI software, to investigate question order framing effects. Incentive questions were asked after the demographic questions, but before the parent, smoking and breastfeeding status questions.

Statistical analysis

An *a priori* target sample size of 1000 was set to allow us to estimate proportions to within 3% margin of error with 95% level of confidence. A priori questions asked:

1. Is the acceptability of the seven shortlisted incentive strategies influenced according to age (categories 18-24, 25-34, 35-44, 45-54, 55-59, 60-64, 65 and over); sex; social grade (A and B, C1, C2, D, E); region (North, North West, Yorkshire and Humberside, East Midlands, West Midlands, East Anglia, South East, South West, London, Wales, Scotland); ethnicity (White British, Other Ethnicity); education (University, GCSE or equivalent, A-level or equivalent, no formal qualifications, still studying or other qualifications, or don't know); having children (yes, no); personal experience of smoking (never smoked, ex-smoker, current smoker - failed to stop, or no attempts to stop); had a child ever been breastfed (even if for only a day or two)?
2. What are the independent predictors of acceptability of the shortlist of incentive strategies?
3. What value of incentive is most acceptable and what are the independent predictors of the preferred incentive value?
4. Are universal incentives preferred to incentives targeted at low income women and what are the independent predictors for preference?

Data were described using the appropriate summary statistics where relevant. Responses to the Likert style outcome survey items were summarised by number, percentage and mean, and graphed using bar charts. Responses to these outcome items were tabulated, broken down by the independent predictor variables specified above. Net agreement (agree and strongly agree) and net disagreement (disagree and strongly disagree) were also reported as number and percentage. Simple and multiple ordered logit regression models were used to determine the independent predictors of acceptability for the shortlist. The relationship between predictor and outcomes variables was summarised using the odds ratio and 95% confidence intervals. For the financial value and targeting of incentives to low income women only (research questions 3 and 4) two part models were used. For research question 3, the value of incentives, a probit model was used to estimate a 'positive' response (i.e. strongly agree, agree, or neither agree nor disagree) and then linear regression was used to model

the amount of shopping voucher acceptable conditional on a positive response. For research question 4, targeting low income women only, a similar model was used but as the conditional response here was dichotomous a probit model was used instead of linear regression. In all models the most affluent status was used as the reference category where appropriate (i.e. male; white ethnicity; university qualification; Social grade A or B; resident in London; no children; never smoked; child breastfed). Age was entered as 5-year categories. All analyses were done in Stata 13 (StataCorp. 2013. Stata Statistical Software: Release 13. College Station, TX: StataCorp LP).

Role of the funding source

The funders had no role in the data collection, analysis, interpretation, the writing of the manuscript or the decision to submit.

Findings

The characteristics of the 1144 representatives of the British public who participated in the CAPIBUS survey and any variables with missing data are detailed in Table 1. Detailed tables reporting weighted with un-weighted data are available (Web 3).

Overall acceptability of incentives

The acceptability of the seven promising incentive strategies was mixed (Figure 1 and Table 2). Between 34-46% agreed with these incentives. Overall, the most acceptable incentive, with net agreement of 46% and net disagreement of 28%, was to provide a breast pump worth £40 to help women continue breastfeeding. The least acceptable incentives were shopping vouchers given to women who continue to stop smoking after birth (net agreement 37% and net disagreement 47%) or given to women to maintain a smoke-free home (net agreement 34% and net disagreement 46%). The general public expressed collective uncertainty about providing funding to local health service providers to meet smoking cessation in pregnancy or breastfeeding targets: just over a third of the respondents agreed and a third disagreed. Framing effects with question randomisation were observed (Web 4, p7-8). Significantly higher agreement with all breastfeeding incentive strategies was observed when breastfeeding questions were asked before the smoking questions: vouchers for breastfeeding OR 2.00 (95% CI 1.61, 2.46; $p< 0.001$); a free breast pump OR 1.32 (95% CI, 1.08, 1.62; $p<0.008$); and provider incentives for breastfeeding targets OR 1.44 (95% CI, 1.17, 1.77; $p<0.001$). Differences in agreement for all smoking cessation incentive strategies were non-significant when the smoking questions were asked before the breastfeeding questions.

Independent predictors of agreement with incentives

Table 3 describes the independent predictors of agreement with incentives. For aid of interpretation and comparison, we have summarised the odds ratios (ORs) into groups (OR <0.5, >=0.5 to <1.0, >=1.0 to <1.5, >=1.5 to <2.0, and >=2.0). Full results tables are available (Web 5, p9-44). Being of childbearing age (44 and under) was an independent predictor of agreement with all seven incentive strategies, with agreement generally decreasing with increased age. Agreement amongst the 44 and under age group compared to the 65 and over age group was strongest for provider targets for smoking cessation in pregnancy (OR>=2.0).

Women who are (or would have been when younger) the intended recipients of the vouchers, were less likely to agree with any shopping vouchers for: smoking cessation during pregnancy OR 0.71 (95% CI 0.57, 0.88; p = 0.002), after birth OR 0.68 (95% CI 0.55, 0.85; p=0.001), smoke-free homes OR 0.72 (95% CI 0.58, 0.90; p=0.003) or breastfeeding OR 0.77 (95% CI 0.62, 0.95; p = 0.016) when compared to men.

Respondents with lower educational level, when compared to those with degree level qualifications, were more likely to disagree (0.5<=OR<1.0) with shopping voucher incentives given to women for smoking cessation before or after birth, a free breast pump, or for additional funding to local health services for meeting smoking cessation targets. There was no evidence of difference across education groups for vouchers for breastfeeding or additional payments to local health services for meeting breastfeeding targets.

The associations with lower social grade when compared to social grade A and B combined were less clear. Social grade E predicted agreement with shopping vouchers for smoking cessation in pregnancy (OR 1.74; 95% CI 1.12, 2.70; p = 0.014) and a free breast pump (OR 1.57; 95% CI 1.00, 2.46; p = 0.05); social grade C2 predicted agreement with vouchers for continued smoking cessation after birth (OR 1.64; 95% CI 1.18, 2.27 p = 0.003); but in contrast social grade C1 predicted disagreement with additional funding to local health services for meeting smoking cessation targets (OR 0.68; 95% CI 0.50, 0.94 p = 0.019).

Being from a non-white British ethnic group, when compared to being white British, was a strong predictor of agreeing with breastfeeding vouchers (OR 2.03; 95% CI 1.43, 2.88; p< 0.001) and with additional funding to local health services for meeting breastfeeding targets (OR 2.31; 95% CI 1.63, 3.29; p< 0.001) but not for a free breast pump. Being from a non-white British group also predicted agreement with vouchers for stopping smoking in

pregnancy (OR 1.42; 95% CI 1.01, 1.99; p = 0.047) and a smoke-free home (OR 1.49; 95% CI 1.06, 2.08; p = 0.021).

Current smokers who had tried stopping in the past were more likely to agree with vouchers for stopping smoking in pregnancy (OR 1.63; 95% CI 1.18, 2.26; p = 0.003) and for maintaining a smoke-free home after birth (OR 1.48; 95% CI 1.08, 2.04; p = 0.016), but not for continued smoking cessation after birth, or provider incentives to meet smoking cessation targets. Those with a breastfed child were more likely to agree with vouchers for breastfeeding OR 1.67 (95% CI 1.24, 2.25; p = 0.001) and with a free breast pump OR 1.84 (95% CI 1.36, 2.49; p = <0.001), but not with provider incentives for meeting breastfeeding targets, when compared to those with children that had not been breastfed.

Where respondents did not disagree (i.e. answered strongly agree, agree or neither agree nor disagree) with providing shopping vouchers as an incentive, up to £40 per month vouchers for behaviour change were acceptable (>85%) (Table 4). This was consistent for both smoking cessation and breastfeeding. For smoking cessation in pregnancy, being a current smoker who has tried to stop (compared to never smoked), or having a child previously breastfed (compared to no breastfed children) was correlated with a higher value of shopping voucher (Web 5, Table 15). For breastfeeding, having a child previously breastfed (compared to no breastfed children) was correlated with an increased value of shopping voucher (Web 5, Table 17).

Universal provision rather than targeting low income women was preferred by 364 (55%) of the 660 who did not disagree with vouchers for smoking cessation in pregnancy, compared with 296 (44.9%) who thought that vouchers should be targeted at low income women only. Agreement with universal provision of vouchers for breastfeeding was similar: 367 (52.3%) compared to 330 (47.4%) thought that incentives should be provided to low income women only. Disagreement with vouchers being given to low income women only was associated with being a woman (Web 5, Tables 16 and 18) but this was only significant for breastfeeding.

Discussion

In this representative British sample, public opinion regarding the acceptability of incentives for smoking cessation in pregnancy and breastfeeding was mixed. Men and women of child-bearing age (44 or under), and therefore a representative of the target population for this behaviour change strategy, was the only independent predictor of agreement with all seven incentive strategies. Of concern, women were significantly more likely to disagree with any of

the shopping voucher incentive strategies compared to men. General public respondents with lower educational level were more likely to disagree with any voucher incentives to women for smoking cessation, or with a free breast pump. Agreement appears to be strongest in non-white ethnic groups. As reported by others,[1] people with direct experiences of attempting the target behaviours were more likely to agree with incentives.

This is the largest survey of public attitudes to incentive provision aiming to change lifestyle behaviours and was conducted by an independent company with an international reputation for conducting surveys of this type. Methodological research indicates that high quality, well controlled quota sampling in survey design has a negligible impact on the bias and precision of estimates compared to that in a simple random sample.[18] Our multi-disciplinary mixed methods approach to survey design and investigating two behaviours concurrently, with an innovative participatory approach to incorporating service user perspectives through co-applicant mother and baby groups located in disadvantaged areas, are novel.[16,19] Important limitations relate to the unknown generalisability to other countries; non-responder and selection biases; and other potential confounders. This research was commissioned to investigate two behaviours concurrently, and this may be considered as either a strength or a limitation. There is a tradition of researching lifestyle behaviours separately, but from an individual and a social network perspective they are often complexly inter-related.[7,16] In addition, smoking cessation and breastfeeding are associated and may confound each other, as women who stop smoking are more likely to breastfeed than those who continue to smoke.[20,21] The framing effects observed by randomising question order are important and further unknown framing effects could be present. In particular the introduction contained a stronger statement about the evidence for incentives changing smoking behaviour than for breastfeeding, as is consistent with current evidence[9-11,14] and evidence of effectiveness has been shown to impact on acceptability.[3] We propose that more research should investigate health related behaviours concurrently to understand their complex inter-relationships.

The implications of our findings for efforts to reduce health inequalities are important. The disagreement with incentive strategies amongst those with lower educational level, which is considered the strongest predictor of disadvantage,[6] is unexpected and a concern as addressing health inequalities is a government priority. Smoking in pregnancy and not breastfeeding are highest amongst the less educated, the younger aged and white British women.[7] This data adds to reports of poor reach of incentive interventions, particularly to the most marginalised individuals.[12,13] Universal incentives were preferred to incentives targeted at low income women, with concerns about unintended consequences such as stigma and value judgments raised in linked qualitative data.[16] Differential uptake across educational

groups and the potential for health inequalities to increase is a concern, as noted for lifestyle behaviour change interventions.[22] Any assumption that incentives might redistribute resources and/or help to reduce health inequalities requires further testing.

Women's disagreement with incentive strategies is particularly problematic due to the onus currently placed on women by health services and governments to change their health related behaviours. Similar disagreement with paying women to stop smoking in pregnancy was reported for a convenience sample of pregnant women attending an Australian antenatal clinic.[23] Some understanding of women's disagreement with shopping voucher incentives for individual or household behaviour change, which may seem counter-intuitive, is revealed in narratives of blame, pressure and stigma.[16, 24-25] In addition, psychological theory suggests that providing extrinsic motivation through financial incentives alone might be insufficient and meet with resistance, with intrinsic motivation required for more sustained behaviour change.[26,27] Qualitative data from this study highlights that the real life barriers and facilitators to living healthy lives need to be addressed concurrently with incentive interventions to optimise the likelihood of effectiveness.[16] For example, current smokers who reported failed attempts to stop were more likely to agree with shopping voucher incentives for a smoke-free home, but disagree with providing vouchers if the mother continues to abstain from smoking after birth. This fits with the evidence on relapse being associated with whether the partner and/or social network of a pregnant woman smokes.[28] Similarly, linked qualitative data suggest that a free breast pump is perceived to address more intrinsic and extrinsic barriers to continued breastfeeding than shopping vouchers, such as overcoming embarrassment with performing in public; resuming social lives; sharing the feeding-bonding experience with partners and relieving the mother as the sole supplier on demand.[16] However, breast pumps are an uncertain proxy outcome as the relationship between characteristics, use and feeding outcomes are uncertain.[29]

Robust randomised controlled trials reporting reach, impact on health inequalities, ethnic groups, experience outcomes and any unintended consequences, in addition to the target behaviours, are required prior to any implementation or introduction of policy decisions around incentive interventions for smoking cessation in pregnancy, or breastfeeding.

Acknowledgements:

We would like to thank our co-applicants and research team: Mastrick Café Crèche, Aberdeen and St Cuthbert's and Palatine Children's Centre, Blackpool. Shelley Farrar and Nicola Crossland contributed to the survey design. Grant co-applicants Professor Fiona Dykes, Professor David Tappin and Dr Falko Sniehotta for their collaboration and input to

the overall BIBS study design. We would like to thank the members of the public, the women, families and staff from health services, local government, voluntary sector and other organisations, who generously provided their time by participating in the BIBS study. Other members of the BIBS study team, in particular, Fiona Stewart and Cynthia Fraser for providing guidance with literature searching and reference management; Lara Kemp for providing secretarial support.

Prospero Registration: CRD42012001980 for the systematic reviews informing the survey design.

Conflicts of interest

All authors have completed the Unified Competing Interest form at www.icmje.org/coi_disclosure.pdf (available on request from the corresponding author) and declare that (1) no authors have support from any company for the submitted work; (2) no authors have relationships with companies that might have an interest in the submitted work in the previous 3 years; (3) their spouses, partners, or children have no financial relationships that may be relevant to the submitted work; and (4) LB has non-financial interests that may be relevant to the submitted work. Ipsos Mori were commissioned to work with the research team by the University of Aberdeen.

Contributions

Pat Hoddinott wrote the first draft of this paper and led the BIBS study. All co-authors have contributed to the design, analysis and paper writing and meet the ICMJE criteria for authorship. Heather Morgan co-ordinated service user co-applicant mother and baby group involvement in Aberdeen; contributed to the survey design, piloting, analysis decisions and wrote the first draft of the results. Graeme MacLennan led the statistical analysis of the survey data and contributed to writing the methods and results sections. Gill Thomson co-ordinated service user co-applicant mother and baby group involvement in Blackpool and contributed to the survey design, piloting and reporting of the results. Linda Bauld contributed to the survey design and reporting of the results. Kate Sewel, Lorraine Murray and their colleagues at Ipsos MORI, contributed to the survey design, collected the survey data, and provided the data as an SPSS file for further analysis. Anne Ludbrook contributed to the survey design and, with Deokhee Yi, analysed the incentive value and targeting questions in the survey and reported these sections of the results. Marion Campbell provided methodological and statistical input to the survey design, analysis and reporting of results.

Ethics approvals

Full ethical approval for this study, including service user involvement, was obtained from the North of Scotland Research Ethics Committee (NOSRES, reference number: 12/NS/0041, 12th April 2012) and the BUSH (Built & Natural Environment, Sport and Health) Ethics Committee, University of Central Lancashire (BUSH064, 8th May 2012).

Sources of funding

This project was commissioned by the NIHR Health Technology Assessment Programme (10/31/02) and will be published in full in *Health Technology Assessment*. Further information including the protocol is available at:

http://www.nets.nihr.ac.uk/projects/hta/103102. This report presents independent research commissioned by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, MRC, CCF, NETSCC, the HTA programme or the Department of Health

The Nursing, Midwifery and Allied Health Professions Research Unit, University of Stirling, the Health Services Research Unit, and Health Economics Research Unit, Institute of Applied Health Sciences, University of Aberdeen are all core-funded by the Chief Scientist Office of the Scottish Government Health and Social Care Directorates.

Transparency statement

All authors are independent of the funding bodies, had full access to all of the data reported in this paper and take responsibility for the integrity of the data and the accuracy of the data analysis. PH took the decision to submit for publication and is the guarantor. She affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; and that no important aspects of the study have been omitted.

Data sharing

The full dataset is available from the corresponding author: p.m.hoddinott@stir.ac.uk.

References

1. Diepeveen S, Ling T, Suhrcke M, et al. Public acceptability of government intervention to change health-related behaviours: A systematic review and narrative synthesis. *BMC Public Health*. 2013;13(1):756.

2. Park JD, Mitra N, Asch DA. Public opinion about financial incentives for smoking cessation. *Prev Med*. 2012;55, Supplement:S41-S45.

3. Promberger M, Dolan P, Marteau T. "Pay them if it works": Discrete choice experiments on the acceptability of financial incentives to change health related behaviour. *Soc Sci Med*. 2012;75(12):2509-2514.

4. Thomson G, Dykes F, Hurley M, et al. Incentives as connectors: Insights into a breastfeeding incentive intervention in a disadvantaged area of North-West England. *BMC Pregnancy and Childbirth*. 2012;12(1):22.

5. Jeffery RW. Financial incentives and weight control. *Prev Med*. 2012;55, Supplement:S61-S67.

6. Marmot M. *Fair society, healthy lives: The Marmot review. Strategic review of health inequalities in England post 2010*. [accessed March 2014]. Available from URL: http://www.marmotreview.org/.

7. McAndrew F, Thompson J, Fellows L, et al. *Infant feeding survey 2010*. [accessed March 2014]. Available from URL: http://www.hscic.gov.uk/catalogue/PUB08694/ifs-uk-2010-sum.pdf

8. Buck D, Frosini F. *Clustering of unhealthy behaviours over time: Implications for policy and practice*. London: The Kings Fund; 2012..

9. Chamberlain C, O'Mara-Eves A, Oliver S, et al. Psychosocial interventions for supporting women to stop smoking in pregnancy. *Cochrane Database of Syst Rev*, 2013;Issue10:CD001055.

10. Higgins ST, Washio Y, Heil SH, et al. Financial incentives for smoking cessation among pregnant and newly postpartum women. *Prev Med*. 2012;55, Supplement(0):S33-S40.

11. Hoddinott P, Hislop J, Morgan H, et al. Incentive interventions for smoking cessation in pregnancy: A mixed methods evidence synthesis. *The Lancet*. 2012;380, Supplement 3(0):S48.

12. Radley A, Ballard P, Eadie D, et al. Give it up for baby: Outcomes and factors influencing uptake of a pilot smoking cessation incentive scheme for pregnant women. *BMC Public Health*. 2013;13(1):343.

13. Schmidt H, Voigt K, Wikler D. Carrots, sticks, and health care reform — problems with wellness incentives. *N Engl J Med*. 2010;362(2):e3.

14. Renfrew MJ, McCormick FM, Wade A, et al. Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database of Syst Rev*. 2012;Issue 5:CD001141

15. Hoddinott P, Seyara R, Marais D. Global evidence synthesis and UK idiosyncrasy: Why have recent UK trials had no significant effects on breastfeeding rates? *Maternal & Child Nutrition*. 2011;7:221-227.

16. Morgan H, Hoddinott P, Thomson G, et al. Benefits of incentives for breastfeeding and smoking cessation in pregnancy (BIBS): a mixed methods study to inform trial design. [in press]. *Health Technology Assessment* 2014.
[accessed March 2014]. Available from URL http://www.nets.nihr.ac.uk/projects/hta/103102.

17. Eunson J, Murray L. *The acceptability of carrots.* Edinburgh: Ipsos MORI Scotland; 2012 [accessed March 2014]. Available from URL: http://www.ipsos-mori.com/newsevents/ca/1233/The-acceptability-of-carrots.aspx.

18. Raab, G. (2009). Technical Annex to Davidson S., Martin C., Treanor S. Scottish Environmental Attitudes and Behaviours Survey 2008: Technical Report. Scottish Executive. [Accessed June 2014]. Available from URL: http://www.scotland.gov.uk/Resource/Doc/265441/0079493.pdf

19. Morgan H, Hoddinott P, Thomson G, et al.Service user groups as co-applicants on a platform study for a trial. Trials: 2013, 14(Suppl 1):O35.

20. Higgins TM, Higgins ST, Heil SH, et al. Effects of cigarette smoking cessation on breastfeeding duration. *Nicotine Tobacco Res* 2010;**12**:483-8.

21. Kendzor DE, Businelle MS, Costello TJ, et al. Breast feeding is associated with postpartum smoking abstinence among women who quit smoking due to pregnancy. *Nicotine Tobacco Res* 2010;**12**:983-8.

22. Jepson R, Harris F, Platt S, et al. The effectiveness of interventions to change six health behaviours: A review of reviews. *BMC Public Health*. 2010;10(1):538.

23. Lynagh M, Bonevski B, Symonds I, et al.Paying women to quit smoking during pregnancy? Acceptability among pregnant women. *Nicotine Tobacco Res* 2011;13:1029-36.

24. Ingall G, Cropley M. Exploring the barriers of quitting smoking during pregnancy: A systematic review of qualitative studies. *Women and Birth*. 2010;23(2):45-52.

25. Hoddinott P, Craig LCA, Britten J, et al. A serial qualitative interview study of infant feeding experiences: Idealism meets realism. *BMJ Open* 2012;2:e000504.

26. Frey B. *Not just for the money. An economic theory of personal motivation.* Brookfield VT: Edward Elgar Publishing; 1997.

27. Deci EL, Koestner R, Ryan RM. A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological bulletin*. 1999;125:627-668.

28. Graham H, Sowden A, Flemming K, et al. *Using qualitative research to inform interventions to reduce smoking in pregnancy in England: A systematic review of qualitative studies.* Public Health Research Consortium; 2012.

29. Becker GE, Cooney F, Smith HA. Methods of milk expression for lactating women. *Cochrane Database Syst Rev* 2011;Issue 12:CD006170.

Box 1 (to go in main paper). Definition of an incentive

Incentives include financial (positive or negative) and non-financial tangible incentives or rewards. This includes free or reduced cost items that have a monetary value or an exchange value, like refreshments, baby products or services like child care or ironing. The definition excludes intangible incentives such as supportive, motivational or persuasive relationships with professionals or peers. Incentives may be delivered directly or indirectly at local, regional or national level by organisations.

Box 2 (to go in main paper). Shortlist of seven promising incentive strategies

1. Shopping vouchers for women who prove that they have stopped smoking during pregnancy
2. Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking
3. Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home
4. Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth
5. A breast pump costing around £40 provided for free by the health service
6. Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy
7. Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding

Table 1. Characteristics of the general public sample (n=1144)

Variable	Categories	Sample (%)
Sex	Male	540 (47.2)
	Female	604 (52.7)
Age	18-24	170 (14.9)
	25-34	175 (15.3)
	35-44	181 (15.8)
	45-54	159 (13.9)
	55-59	72 (6.3)
	60-64	94 (8.2)
	65<	293 (25.6)
Ethnicity	White	985 (86.1)
	BME	151 (13.2)
	Refused to answer	8 (0.7)
	White British	*914 (79.9)*
	White Irish	*11 (1.0)*
	White Gypsy/Traveller	-
	White Other	*60 (5.2)*
	Mixed W/B Caribbean	*3 (0.3)*
	Mixed W/B African	*1 (<0.1)*
	Mixed White and Asian	*3 (0.3)*
	Mixed Other	*2 (0.2)*
	Asian Indian	*19 (1.7)*
	Asian Pakistani	*47 (4.1)*
	Asian Bangladeshi	*12 (1.1)*
	Asian Chinese	*7 (0.6)*
	Asian Other	*13 (1.1)*
	Black African	*26 (2.3)*
	Black Caribbean	*7 (0.6)*
	Black Other	*2 (0.2)*
	Arab	*4 (0.4)*
	Other	*5 (0.4)*
	Refused	*8 (0.7)*
Smoking status	Never smoked	573 (50.1)
	Current smoker, tried to stop smoking	175 (15.3)
	Current smoker, not tried to stop smoking	63 (5.5)
	Ex-smoker	281 (24.6)
	Declined to answer	52 (4.6)
Any children	Yes	742 (64.9)
	No	402 (35.1)
Breastfeeding	Any children breastfed	512 (47.3)
	No children breastfed	632 (52.5)
Education	GCSE/O-level/CSE/NVQ	342 (29.9)
	A-level or equivalent	193 (16.9)
	Degree/Masters/PhD	295 (25.9)
	No formal qualifications	197 (17.2)
	Other/Don't know/ Still studying	117 (10.2)
Social grade	A	36 (3.2)
	B	203 (17.7)
	C1	370 (32.3)
	C2	236 (20.6)
	D	162 (14.2)
	E	137 (12.0)
Survey region	North	77 (6.7)
	North West	142 (12.4)
	Yorks & Humberside	104 (9.1)
	West Midlands	109 (6.5)
	East Midlands	66 (5.8)
	East Anglia	41 (3.6)
	South West	81 (7.1)
	South East	200 (17.5)
	Greater London	149 (13)
	Wales	66 (5.8)
	Scotland	109 (9.3)

Table 2. Summary of general public agreement with seven incentive strategies

Incentive strategy	% Disagree	% Neither	% Agree	Mean
Shopping vouchers for women who prove that they have stopped smoking during pregnancy	42.3	17.2	40.5	2.9
Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking	46.4	17.3	36.5	2.7
Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home	46.0	19.6	34.4	2.7
Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth	39.1	26.8	34.2	2.9
A breast pump costing around £40 provided for free on the NHS	27.8	27.0	45.8	3.2
Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy	37.2	23.3	39.4	2.9
Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding	38.6	25.1	36.4	2.9

Table 3 alternative. Summary of the independent predictors of general public agreement with incentive strategies

	Age <=44	Female	Lower education level	Social grade C or below	Non white ethnicity	Current smoker who have attempted to stop	Children breastfed
Shopping vouchers should be provided to women who prove that they have stopped smoking during pregnancy	++	-	-	++ (Grade E)	+	++	
It is acceptable to provide shopping vouchers to a woman for two months after the birth of her baby if she proves that she is still not smoking	++	-	-	++ (Grade C2)			
It is acceptable to provide shopping vouchers to a woman for two months after the birth of her baby if she never lets anyone smoke in her home	++	-	-		+	+	
Shopping vouchers should be provided to women who breastfeed for the first six months after the birth of their child	++	-			+++		++
A breast pump costing around £40 should be available for free on the NHS, to help women to continue breastfeeding.	++		-	++ (Grade E)			++
Local health services should receive additional funding if they reach targets for the number of women who prove that they have stopped smoking during pregnancy	+++		-	- (Grade C1)			
Local health services should receive additional funding if they reach targets for the number of women who reach targets for the number of women who breastfeed	++				+++		

Odds Ratios (OR) for agreement: + represents 1.0<=OR<1.5; ++ represents 1.5<=OR<2.0; +++ represents OR>=2.0; - represents 0.5<=OR<1.0.

Table 4. Highest acceptable value of shopping voucher for women who stop smoking during pregnancy or are breastfeeding

Value	Smoking in pregnancy		Breastfeeding	
	Number (N = 660*)	Percent	Number (N = 697*)	Percent
£2	116	17.6	146	20.95
£10	146	22.1	150	21.52
£20	193	29.2	199	28.55
£40	115	17.4	110	15.78
£60	36	5.5	36	5.16
£80	54	8.2	56	8.03

* Respondents from the 1144 British public participants who strongly agreed, agreed or neither agreed nor disagreed with shopping vouchers incentives

Figure 1. Bar charts of general public agreement with the shortlist of incentive strategies

SD: Strongly disagree
D: Disagree
N: Neither agree nor disagree
A: Agree
SA: Strongly agree
BF: Breastfeeding
SS: Stop smoking

Title: **Public acceptability of financial incentives for smoking cessation in pregnancy and breastfeeding: a survey of the British public**

Authors: Pat Hoddinott, Heather Morgan, Graeme MacLennan, Kate Sewel, Gill Thomson, Linda Bauld, Deokhee Yi, Anne Ludbrook, Marion K Campbell.

Nursing, Midwifery and Allied Health Professions Research Unit, University of Stirling, Stirling FK9 4LA, UK.
Pat Hoddinott, Chair in Primary Care
Health Services Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK.
Heather Morgan, Research Fellow in Social Science
Health Services Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK.
Graeme MacLennan, Senior Research Fellow in Statistics
Ipsos MORI Scotland, Edinburgh, EH3 6DH, UK.
Kate Sewel, Senior Researcher
Maternal and Infant Nutrition and Nurture Unit, University of Central Lancashire, Preston PR1 2HE, UK
Gill Thomson, Senior Research Fellow in Social Science
Health Policy and Social Marketing, University of Stirling, Stirling FK9 4LA, UK
Linda Bauld, Professor of Health Policy
Health Economics Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK
Deokhee Yi, Research Fellow in Health Economics
Health Economics Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK
Anne Ludbrook, Professor of Health Economics
Health Services Research Unit, University of Aberdeen, Aberdeen AB25 2ZD, UK.
Marion K Campbell, Director & Professor of Health Services Research

Correspondence to: p.m.hoddinott@stir.ac.uk

Abstract

Objective

To survey public attitudes about incentives for smoking cessation in pregnancy and for breastfeeding to inform trial design

Design

Cross sectional survey

Setting and participants

~~UK~~ British general public

Methods

Seven promising incentive strategies had been identified from evidence syntheses and qualitative interview data from service users and providers. These were shopping vouchers for: (i) validated smoking cessation in pregnancy and (ii) after birth; (iii) for a smoke-free home; (iv) for proven breastfeeding; (v) a free breast pump; (vi) payments to health services for reaching smoking cessation in pregnancy targets and (vii) breastfeeding targets. Ipsos MORI used area quota sampling and home-administered computer-assisted questionnaires, with randomised question order to assess agreement with different incentives (measured on a 5-point scale). Demographic data and target behaviour experience were recorded. Analysis used multivariable ordered logit models.

Results

Agreement with incentives was mixed (ranging from 34-46%) among a representative sample of 1144 ~~UK~~ British adults. Mean agreement score was highest for a free breast pump; and lowest for incentives for smoking abstinence after birth. More women disagreed with shopping vouchers than men. Those with lower levels of education disagreed more with smoking cessation incentives and a breast pump. Those aged 44 or under agreed more with all incentive strategies compared to those aged 65 and over, particularly provider targets for smoking cessation. Non-white ethnic groups agreed particularly with breastfeeding incentives. Current smokers with previous stop attempts and respondents who had breastfed children agreed with providing vouchers for the respective behaviours. Up to £40 per month vouchers for behaviour change were acceptable (>85%).

Conclusion

Women and the less educated were more likely to disagree, but ~~those~~ men and women of child-bearing age to agree, with incentives designed for their benefit. Trials evaluating reach, impact on health inequalities and ethnic groups are required prior to implementing incentive interventions.

Prospero Registration: CRD42012001980 for the systematic reviews informing the survey design.

Article summary

Strengths and limitations of this study

- This large cross sectional survey of attitudes to incentives for smoking cessation around pregnancy and for breastfeeding was conducted by an internationally recognised independent company using rigorous methods to achieve a representative sample of the ~~UK~~ British general public.
- Our multi-disciplinary mixed methods approach to survey design and to investigating two behaviours concurrently, used an innovative participatory approach to incorporate service user perspectives.
- Original findings show that women and those with fewer educational qualifications are more likely to disagree with incentives, raising concerns about the implications for health inequalities, as these are intended target populations for behaviour change.
- Important limitations relate to the unknown generalisability to other countries; non-responder and selection biases; potential confounding between smoking cessation and breastfeeding and other unknown confounders.
- Although we randomised the order of smoking and breastfeeding questions, further framing effects are possible particularly for the introductory statements.

Introduction

Government interventions to change lifestyle behaviours are increasingly incorporating incentives to encourage healthy choices[1], but directly paying people is seen to be the least acceptable approach[2], with minimally intrusive interventions deemed more acceptable.[1] Experimental studies investigating incentives for smoking cessation in a general population show that incentive acceptability increases with effectiveness.[3] Media coverage of incentive interventions tends to focus on a range of concerns including perceived unfairness to those who already make healthy choices; appearing to reward unhealthy behaviours; potential for abuse; opportunity costs; the need to monitor and safeguard; and "Big Brother" or "nanny state" authoritarianism. However, incentives can demonstrate to people that they are worthy of being helped and can facilitate connections between recipients and care providers.[4] Incentives addressing outcomes for children appear more acceptable than outcomes for adults.[1,5]

In the UK there are marked inequalities in health between social groups. Incentives are one strategy that could be used to redistribute resources through targeting or proportionate universalism,[6] as lifestyle behaviours that compromise health around childbirth are socially patterned[7] and cluster in more disadvantaged communities.[8] For example, pregnant mothers aged 20 or under are: more than five times less likely to be breastfeeding at four months; three times more likely to smoke before or during pregnancy and are less likely to stop smoking compared to mothers aged 35 or over.[7] In 2010 in the UK, the breastfeeding initiation rate was 90% for mothers in managerial and professional occupations, compared with 74% of mothers in routine and manual occupations, with a difference in smoking before or during pregnancy of 14% and 40% respectively.[7] In 2010, 32% of pregnant women lived in a household where at least one other person smoked during pregnancy.[7]

There is promising evidence supporting financial incentives for smoking cessation in pregnancy:[9-11] interventions that include incentives are more effective than pharmacotherapy and/or psycho-social interventions alone.[9] However, the level of the incentive and the nature of accompanying behaviour change techniques provided alongside incentives, are likely to be confounders.[9,11] Reported trials to date have small samples.[9-11] In addition, important concerns about limited reach, particularly to the more marginalised in society, have been raised.[12,13] There are fewer incentive trials of interventions to initiate or maintain breastfeeding[14] and generalisability of support interventions to predominantly formula feeding cultures like the UK is uncertain.[15]

This survey aimed to investigate the public acceptability of a shortlist of promising incentive strategies for stopping smoking in pregnancy or for breastfeeding. This is particularly important in countries where health care is state funded. The ultimate study aim was to inform the design of incentive intervention trials for smoking in pregnancy and for breastfeeding and to improve understanding of the mechanisms of action of incentives. As this is a relatively new field of research, a broad definition of incentive was applied (Panel 1).

Methods

Survey design

A shortlist of seven promising incentive strategies (Panel 2) had been developed prior to the survey administration, informed by evidence syntheses, input from mother and baby group members who were partners in the research and qualitative research with a range of stakeholders.[16] A wide range of incentives were considered to inform the shortlist, including food vouchers, baby related items, such as diapers, gifts, beauty treatments for the mother and incentives aimed at the partner e.g football tickets. Incentives provided for preparatory behaviours, for example, attending a support group or one-to-one session, and unpredictable incentives like raffles, were also considered. A justification for our selected shortlist is described in detail elsewhere.[16] In the survey (Web 1, p1-4), acceptability of the shortlisted interventions was measured on a 5-point Likert style scale from strongly agree to strongly disagree. Th~~ese~~ subgroup responding strongly agree, agree or neither agree nor disagree to voucher incentives were asked whether incentives should be universally provided or to low income women only and to choose an acceptable value (£2, £10, £20, £40, £60, £80) for shopping vouchers provided monthly to women who prove that they have stopped smoking or are breastfeeding. The values were selected to represent the range identified in the evidence syntheses. Careful consideration was given to framing effects, as greater acceptability is reported for a *reward* rather than *payment*[17] and with increased effectiveness.[3]

Data collection

Ipsos MORI used a controlled form of random location sampling to identify 161 geographical sites (Web 2, p5-6) using a method of quota sampling which has been independently evaluated[18]. Trained field researchers were asked to interview five people at home from 250 addresses at each site, to obtain a nationally and regionally representative sample of adults aged 18 or over between 22 March 2013 – 15 April 2013. Interlocking quotas were set for age, sex, working status, and tenure based on the known profile of Great Britain (from ONS 2011 estimates for England and Wales and from General Register Office for Scotland 2011 mid-year estimates, and from National Readership Survey data. National Readership Survey

profiles are commonly used for this purpose they provide a basis for interlocking quotas e.g. sex within working status. ~~Quotas were set for age, sex, and region and the data weighted to the known profile of Great Britain using age, sex, government office region, social grade, taken a foreign holiday in the last three years, housing tenure, working status, and the number of cars in the household~~ Interviewers used Computer Assisted Personal Interviewing (CAPI) with randomisation of the order for smoking and breastfeeding incentive questions generated independently and automated using CAPI software, to investigate question order framing effects. Incentive questions were asked after the demographic questions, but before the parent, smoking and breastfeeding status questions.

Statistical analysis

An *a priori* target sample size of 1000 was set to allow us to estimate proportions to within 3% margin of error with 95% level of confidence. A priori questions asked:

1. Is the acceptability of the seven shortlisted incentive strategies influenced according to age (categories 18-24, 25-34, 35-44, 45-54, 55-59, 60-64, 65 and over); sex; social grade (A and B, C1, C2, D, E); region (North, North West, Yorkshire and Humberside, East Midlands, West Midlands, East Anglia, South East, South West, London, Wales, Scotland); ethnicity (White British, Other Ethnicity); education (University, GCSE or equivalent, A-level or equivalent, no formal qualifications, still studying or other qualifications, or don't know); having children (yes, no); personal experience of smoking (never smoked, ex-smoker, current smoker - failed to stop, or no attempts to stop); had a child ever been breastfed (even if for only a day or two)?
2. What are the independent predictors of acceptability of the shortlist of incentive strategies?
3. What value of incentive is most acceptable and what are the independent predictors of the preferred incentive value?
4. Are universal incentives preferred to incentives targeted at low income women and what are the independent predictors for preference?

Data were described using the appropriate summary statistics where relevant. Responses to the Likert style outcome survey items were summarised by number, percentage and mean, and graphed using bar charts. Responses to these outcome items were tabulated, broken down by the independent predictor variables specified above. Net agreement (agree and strongly agree) and net disagreement (disagree and strongly disagree) were also reported as number and percentage. Simple and multiple ordered logit regression models were used to determine the independent predictors of acceptability for the shortlist. The relationship between predictor and outcomes variables was summarised using the odds ratio and 95% confidence intervals. For the financial value and targeting of incentives to low income women

only (research questions 3 and 4) two part models were used. For research question 3, the value of incentives, a probit model was used to estimate a 'positive' response (i.e. strongly agree, agree, or neither agree nor disagree) and then linear regression was used to model the amount of shopping voucher acceptable conditional on a positive response. For research question 4, targeting low income women only, a similar model was used but as the conditional response here was dichotomous a probit model was used instead of linear regression. In all models the most affluent status was used as the reference category where appropriate (i.e. male; white ethnicity; university qualification; Social grade A or B; resident in London; no children; never smoked; child breastfed). Age was entered as 5-year categories. All analyses were done in Stata 13 (StataCorp. 2013. Stata Statistical Software: Release 13. College Station, TX: StataCorp LP).

Role of the funding source

The funders had no role in the data collection, analysis, interpretation, the writing of the manuscript or the decision to submit.

Findings

The characteristics of the 1144 representatives of the ~~UK~~ British public who participated in the CAPIBUS survey and any variables with missing data are detailed in Table 1. Detailed tables reporting weighted with un-weighted data are available (Web 3).

Overall acceptability of incentives

The acceptability of the seven promising incentive strategies was mixed (Figure 1 and Table 2). Between 34-46% agreed with these incentives. Overall, the most acceptable incentive, with net agreement of 46% and net disagreement of 28%, was to provide a breast pump worth £40 to help women continue breastfeeding. The least acceptable incentives were shopping vouchers given to women who continue to stop smoking after birth (net agreement 37% and net disagreement 47%) or given to women to maintain a smoke-free home (net agreement 34% and net disagreement 46%). The general public expressed collective uncertainty about providing funding to local health service providers to meet smoking cessation in pregnancy or breastfeeding targets: just over a third of the respondents agreed and a third disagreed. Framing effects with question randomisation were observed (Web~~3~~ 4, p7-8). Significantly higher agreement with all breastfeeding incentive strategies was observed when breastfeeding questions were asked before the smoking questions: vouchers for breastfeeding OR 2.00 (95% CI 1.61, 2.46; p< 0.001); a free breast pump OR 1.32 (95% CI, 1.08, 1.62; p<0.008); and provider incentives for breastfeeding targets OR 1.44 (95% CI, 1.17, 1.77; p<0.001). Differences in agreement for all smoking cessation incentive strategies

were non-significant when the smoking questions were asked before the breastfeeding questions.

Independent predictors of agreement with incentives

Table 3 describes the independent predictors of agreement with incentives. For aid of interpretation and comparison, we have summarised the odds ratios (ORs) into groups (OR <0.5, >=0.5 to <1.0, >=1.0 to <1.5, >=1.5 to <2.0, and >=2.0). Full results tables are available (~~Web4~~Web 5, p9-44). Being of childbearing age (44 and under) was an independent predictor of agreement with all seven incentive strategies, with agreement generally decreasing with increased age. Agreement amongst the 44 and under age group compared to the 65 and over age group was strongest for provider targets for smoking cessation in pregnancy (OR>=2.0).

Women who are (or would have been when younger) the intended recipients of the vouchers, were less likely to agree with any shopping vouchers for: smoking cessation during pregnancy OR 0.71 (95% CI 0.57, 0.88; p = 0.002), after birth OR 0.68 (95% CI 0.55, 0.85; p=0.001), smoke-free homes OR 0.72 (95% CI 0.58, 0.90; p=0.003) or breastfeeding OR 0.77 (95% CI 0.62, 0.95; p = 0.016) when compared to men.

Respondents with lower educational level, when compared to those with degree level qualifications, were more likely to disagree (0.5<=OR<1.0) with shopping voucher incentives given to women for smoking cessation before or after birth, a free breast pump, or for additional funding to local health services for meeting smoking cessation targets. There was no evidence of difference across education groups for vouchers for breastfeeding or additional payments to local health services for meeting breastfeeding targets.

The associations with lower social grade when compared to social grade A and B combined were less clear. Social grade E predicted agreement with shopping vouchers for smoking cessation in pregnancy (OR 1.74; 95% CI 1.12, 2.70; p = 0.014) and a free breast pump (OR 1.57; 95% CI 1.00, 2.46; p = 0.05); social grade C2 predicted agreement with vouchers for continued smoking cessation after birth (OR 1.64; 95% CI 1.18, 2.27 p = 0.003); but in contrast social grade C1 predicted disagreement with additional funding to local health services for meeting smoking cessation targets (OR 0.68; 95% CI 0.50, 0.94 p = 0.019).

Being from a non-white British ethnic group, when compared to being white British, was a strong predictor of agreeing with breastfeeding vouchers (OR 2.03; 95% CI 1.43, 2.88; p< 0.001) and with additional funding to local health services for meeting breastfeeding targets

(OR 2.31; 95% CI 1.63, 3.29; p< 0.001) but not for a free breast pump. Being from a non-white British group also predicted agreement with vouchers for stopping smoking in pregnancy (OR 1.42; 95% CI 1.01, 1.99; p = 0.047) and a smoke-free home (OR 1.49; 95% CI 1.06, 2.08; p = 0.021).

Current smokers who had tried stopping in the past were more likely to agree with vouchers for stopping smoking in pregnancy (OR 1.63; 95% CI 1.18, 2.26; p = 0.003) and for maintaining a smoke-free home after birth (OR 1.48; 95% CI 1.08, 2.04; p = 0.016), but not for continued smoking cessation after birth, or provider incentives to meet smoking cessation targets. Those with a breastfed child were more likely to agree with vouchers for breastfeeding OR 1.67 (95% CI 1.24, 2.25; p = 0.001) and with a free breast pump OR 1.84 (95% CI 1.36, 2.49; p = <0.001), but not with provider incentives for meeting breastfeeding targets, when compared to those with children that had not been breastfed.

Where respondents did not disagree (i.e. answered strongly agree, agree or neither agree nor disagree) with providing shopping vouchers as an incentive, up to £40 per month vouchers for behaviour change were acceptable (>85%) (Table 4). ~~,~~ This was consistent for both smoking cessation and breastfeeding. For smoking cessation in pregnancy, being a current smoker who has tried to stop (compared to never smoked), or having a child previously breastfed (compared to no breastfed children) was correlated with a higher value of shopping voucher (Web ~~4~~5, Table 15). For breastfeeding, having a child previously breastfed (compared to no breastfed children) was correlated with an increased value of shopping voucher (Web ~~4~~5, Table 17).

Universal provision rather than targeting low income women was preferred by 364 (55%) of the 660 who did not disagree with vouchers for smoking cessation in pregnancy, compared with 296 (44.9%) who thought that vouchers should be targeted at low income women only. Agreement with universal provision of vouchers for breastfeeding was similar: 367 (52.3%) compared to 330 (47.4%) thought that incentives should be provided to low income women only. Disagreement with vouchers being given to low income women only was associated with being a woman (Web ~~4~~5, Tables 16 and 18) but this was only significant for breastfeeding.

Discussion

In this representative ~~UK~~ British sample, public opinion regarding the acceptability of incentives for smoking cessation in pregnancy and breastfeeding was mixed. ~~Being~~ Men and women of child-bearing age (44 or under), and therefore a representative of the target

population for this behaviour change strategy, was the only independent predictor of agreement with all seven incentive strategies. Of concern, women were significantly more likely to disagree with any of the shopping voucher incentive strategies compared to men. General public respondents with lower educational level were more likely to disagree with any voucher incentives to women for smoking cessation, or with a free breast pump. Agreement appears to be strongest in non-white ethnic groups. As reported by others,[1] people with direct experiences of attempting the target behaviours were more likely to agree with incentives.

This is the largest survey of public attitudes to incentive provision aiming to change lifestyle behaviours and was conducted by an independent company with an international reputation for conducting surveys of this type. Methodological research indicates that high quality, well controlled quota sampling in survey design has a negligible impact on the bias and precision of estimates compared to that in a simple random sample.[18] Our multi-disciplinary mixed methods approach to survey design and investigating two behaviours concurrently, with an innovative participatory approach to incorporating service user perspectives through co-applicant mother and baby groups located in disadvantaged areas, are novel.[16,19~~8~~] Important limitations relate to the unknown generalisability to other countries; non-responder and selection biases; and other potential confounders. This research was commissioned to investigate two behaviours concurrently, and this may be considered as either a strength or a limitation. There is a tradition of researching lifestyle behaviours separately, but from an individual and a social network perspective they are often complexly inter-related.[7,16] In addition, smoking cessation and breastfeeding are associated and may confound each other, as women who stop smoking are more likely to breastfeed than those who continue to smoke.[20,21] The framing effects observed by randomising question order are important and further unknown framing effects could be present. In particular the introduction contained a stronger statement about the evidence for incentives changing smoking behaviour than for breastfeeding, as is consistent with current evidence[9-11,14] and evidence of effectiveness has been shown to impact on acceptability.[3] We propose that more research should investigate health related behaviours concurrently to understand their complex inter-relationships.

The implications of our findings for efforts to reduce health inequalities are important. The disagreement with incentive strategies amongst those with lower educational level, which is considered the strongest predictor of disadvantage,[6] is unexpected and a concern as addressing health inequalities is a government priority. Smoking in pregnancy and not breastfeeding are highest amongst the less educated, the younger aged and white British women.[7] This data adds to reports of poor reach of incentive interventions, particularly to the

most marginalised individuals.[12,13] Universal incentives were preferred to incentives targeted at low income women, with concerns about unintended consequences such as stigma and value judgments raised in linked qualitative data.[16] Differential uptake across educational groups and the potential for health inequalities to increase is a concern, as noted for lifestyle behaviour change interventions.[19,22] Any assumption that incentives might redistribute resources and/or help to reduce health inequalities requires further testing.

Women's disagreement with incentive strategies is particularly problematic due to the onus currently placed on women by health services and governments to change their health related behaviours. Similar disagreement with paying women to stop smoking in pregnancy was reported for a convenience sample of pregnant women attending an Australian antenatal clinic.[23] Some understanding of women's disagreement with shopping voucher incentives for individual or household behaviour change, which may seem counter-intuitive, is revealed in narratives of blame, pressure and stigma.[16, 24,0-25,1] In addition, psychological theory suggests that providing extrinsic motivation through financial incentives alone might be insufficient and meet with resistance, with intrinsic motivation required for more sustained behaviour change.[26,3,24,7] Qualitative data from this study highlights that the real life barriers and facilitators to living healthy lives need to be addressed concurrently with incentive interventions to optimise the likelihood of effectiveness.[16] For example, current smokers who reported failed attempts to stop were more likely to agree with shopping voucher incentives for a smoke-free home, but disagree with providing vouchers if the mother continues to abstain from smoking after birth. This fits with the evidence on relapse being associated with whether the partner and/or social network of a pregnant woman smokes.[28,2] Similarly, linked qualitative data suggest that a free breast pump is perceived to address more intrinsic and extrinsic barriers to continued breastfeeding than shopping vouchers, such as overcoming embarrassment with performing in public; resuming social lives; sharing the feeding-bonding experience with partners and relieving the mother as the sole supplier on demand.[16] However, breast pumps are an uncertain proxy outcome as the relationship between characteristics, use and feeding outcomes are uncertain.[29,5]

Robust randomised controlled trials reporting reach, impact on health inequalities, ethnic groups, experience outcomes and any unintended consequences, in addition to the target behaviours, are required prior to any implementation or introduction of policy decisions around incentive interventions for smoking cessation in pregnancy, or breastfeeding.

Acknowledgements:

We would like to thank our co-applicants and research team: Mastrick Café Crèche, Aberdeen and St Cuthbert's and Palatine Children's Centre, Blackpool. Shelley Farrar and Nicola Crossland contributed to the survey design. Grant co-applicants Professor Fiona Dykes, Professor David Tappin and Dr Falko Sniehotta for their collaboration and input to the overall BIBS study design. We would like to thank the members of the public, the women, families and staff from health services, local government, voluntary sector and other organisations, who generously provided their time by participating in the BIBS study. Other members of the BIBS study team, in particular, Fiona Stewart and Cynthia Fraser for providing guidance with literature searching and reference management; Lara Kemp for providing secretarial support.

Prospero Registration: CRD42012001980 for the systematic reviews informing the survey design.

Conflicts of interest

All authors have completed the Unified Competing Interest form at www.icmje.org/coi_disclosure.pdf (available on request from the corresponding author) and declare that (1) no authors have support from any company for the submitted work; (2) no authors have relationships with companies that might have an interest in the submitted work in the previous 3 years; (3) their spouses, partners, or children have no financial relationships that may be relevant to the submitted work; and (4) LB has non-financial interests that may be relevant to the submitted work. Ipsos Mori were commissioned to work with the research team by the University of Aberdeen.

Contributions

Pat Hoddinott wrote the first draft of this paper and led the BIBS study. All co-authors have contributed to the design, analysis and paper writing and meet the ICMJE criteria for authorship. Heather Morgan co-ordinated service user co-applicant mother and baby group involvement in Aberdeen; contributed to the survey design, piloting, analysis decisions and wrote the first draft of the results. Graeme MacLennan led the statistical analysis of the survey data and contributed to writing the methods and results sections. Gill Thomson co-ordinated service user co-applicant mother and baby group involvement in Blackpool and contributed to the survey design, piloting and reporting of the results. Linda Bauld contributed to the survey design and reporting of the results. Kate Sewel, Lorraine Murray and their colleagues at Ipsos MORI, contributed to the survey design, collected the survey data, and provided the data as an SPSS file for further analysis. Anne Ludbrook contributed to the survey design and, with Deokhee Yi, analysed the incentive value and targeting questions in the survey and reported these sections of the results. Marion Campbell provided methodological and statistical input to the survey design, analysis and reporting of results.

Ethics approvals

Full ethical approval for this study, including service user involvement, was obtained from the North of Scotland Research Ethics Committee (NOSRES, reference number: 12/NS/0041, 12th April 2012) and the BUSH (Built & Natural Environment, Sport and Health) Ethics Committee, University of Central Lancashire (BUSH064, 8th May 2012).

Sources of funding

This project was commissioned by the NIHR Health Technology Assessment Programme (10/31/02) and will be published in full in *Health Technology Assessment*. Further information including the protocol is available at:

http://www.nets.nihr.ac.uk/projects/hta/103102. This report presents independent research commissioned by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, MRC, CCF, NETSCC, the HTA programme or the Department of Health

The Nursing, Midwifery and Allied Health Professions Research Unit, University of Stirling, the Health Services Research Unit, and Health Economics Research Unit, Institute of Applied Health Sciences, University of Aberdeen are all core-funded by the Chief Scientist Office of the Scottish Government Health and Social Care Directorates.

Transparency statement

All authors are independent of the funding bodies, had full access to all of the data reported in this paper and take responsibility for the integrity of the data and the accuracy of the data analysis. PH took the decision to submit for publication and is the guarantor. She affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; and that no important aspects of the study have been omitted.

Data sharing

The full dataset is available from the corresponding author: p.m.hoddinott@stir.ac.uk.

Figure 1. Bar charts of general public agreement with the shortlist of incentive strategies

SD: Strongly disagree
D: Disagree
N: Neither agree nor disagree
A: Agree
SA: Strongly agree
BF: Breastfeeding
SS: Stop smoking

References

1. Diepeveen S, Ling T, Suhrcke M, Roland M, Marteau T. Public acceptability of government intervention to change health-related behaviours: A systematic review and narrative synthesis. *BMC Public Health*. 2013;13(1):756.

2. Park JD, Mitra N, Asch DA. Public opinion about financial incentives for smoking cessation. *Prev Med*. 2012;55, Supplement:S41-S45.

3. Promberger M, Dolan P, Marteau T. "Pay them if it works": Discrete choice experiments on the acceptability of financial incentives to change health related behaviour. *Soc Sci Med*. 2012;75(12):2509-2514.

4. Thomson G, Dykes F, Hurley M, Hoddinott P. Incentives as connectors: Insights into a breastfeeding incentive intervention in a disadvantaged area of North-West England. *BMC Pregnancy and Childbirth*. 2012;12(1):22.

5. Jeffery RW. Financial incentives and weight control. *Prev Med*. 2012;55, Supplement:S61-S67.

6. Marmot M. *Fair society, healthy lives: The Marmot review. Strategic review of health inequalities in England post 2010.* [accessed March 2014]. Available from URL: http://www.marmotreview.org/.

7. McAndrew F, Thompson J, Fellows L, Large A, Speed M, Renfrew MJ. *Infant feeding survey 2010.* [accessed March 2014]. Available from URL: http://www.hscic.gov.uk/catalogue/PUB08694/ifs-uk-2010-sum.pdf

8. Buck D, Frosini F. *Clustering of unhealthy behaviours over time: Implications for policy and practice.* London: The Kings Fund; 2012..

9. Chamberlain C, O'Mara-Eves A, Oliver S, et al. Psychosocial interventions for supporting women to stop smoking in pregnancy. *Cochrane Database of Syst Rev,* 2013;Issue10:CD001055.

10. Higgins ST, Washio Y, Heil SH, et al. Financial incentives for smoking cessation among pregnant and newly postpartum women. *Prev Med*. 2012;55, Supplement(0):S33-S40.

11. Hoddinott P, Hislop J, Morgan H, et al. Incentive interventions for smoking cessation in pregnancy: A mixed methods evidence synthesis. *The Lancet*. 2012;380, Supplement 3(0):S48.

12. Radley A, Ballard P, Eadie D, MacAskill S, Donnelly L, Tappin D. Give it up for baby: Outcomes and factors influencing uptake of a pilot smoking cessation incentive scheme for pregnant women. *BMC Public Health*. 2013;13(1):343.

13. Schmidt H, Voigt K, Wikler D. Carrots, sticks, and health care reform — problems with wellness incentives. *N Engl J Med*. 2010;362(2):e3.

14. Renfrew MJ, McCormick FM, Wade A, Quinn B, Dowswell T. Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database of Syst Rev*. 2012;Issue 5:CD001141

15. Hoddinott P, Seyara R, Marais D. Global evidence synthesis and UK idiosyncrasy: Why have recent UK trials had no significant effects on breastfeeding rates? *Maternal & Child Nutrition*. 2011;7:221-227.

16. Morgan H, Hoddinott P, Thomson G, Crossland N, Farrar S, Yi D, Hislop J, Hall Moran V, MacLennan G, Dombrowski SU, Rothnie K, Stewart F, Bauld L, Ludbrook A, Dykes F, Sniehotta FF, Tappin D, Campbell M. Benefits of incentives for breastfeeding and smoking cessation in pregnancy (BIBS): a mixed methods study to inform trial design. [in press]. *Health Technology Assessment* 2014.
~~HTA - 10/31/02. *BIBS: Benefits of incentives for breastfeeding and smoking cessation: A platform study for a trial.* [accessed March 2014]. Available from URL http://www.nets.nihr.ac.uk/projects/hta/103102.~~

17. Eunson J, Murray L. *The acceptability of carrots.* Edinburgh: Ipsos MORI Scotland; 2012 [accessed March 2014]. Available from URL: http://www.ipsos-mori.com/newsevents/ca/1233/The-acceptability-of-carrots.aspx.

18. Raab, G. (2009). Technical Annex to Davidson S., Martin C., Treanor S. Scottish Environmental Attitudes and Behaviours Survey 2008: Technical Report. Scottish Executive. [Accessed June 2014]. Available from URL: http://www.scotland.gov.uk/Resource/Doc/265441/0079493.pdf

1~~8~~9. Morgan H, **Hoddinott P**, Thomson G, Crossland N, Dykes F, McCann S, Campbell MK. Service user groups as co-applicants on a platform study for a trial. Trials: 2013, 14(Suppl 1):O35.

20. Higgins TM, Higgins ST, Heil SH, Badger GJ, Skelly JM, Bernstein IM et al. Effects of cigarette smoking cessation on breastfeeding duration. *Nicotine Tobacco Res* 2010;**12**:483-8.

21. Kendzor DE, Businelle MS, Costello TJ, Castro Y, Reitzel LR, Vidrine JI et al. Breast feeding is associated with postpartum smoking abstinence among women who quit smoking due to pregnancy. *Nicotine Tobacco Res* 2010;**12**:983-8.

~~19~~22. Jepson R, Harris F, Platt S, Tannahill C. The effectiveness of interventions to change six health behaviours: A review of reviews. *BMC Public Health*. 2010;10(1):538.

203. Lynagh M, Bonevski B, Symonds I, Sanson-Fisher RW. Paying women to quit smoking during pregnancy? Acceptability among pregnant women. *Nicotine Tobacco Res* 2011;13:1029-36.

24. Ingall G, Cropley M. Exploring the barriers of quitting smoking during pregnancy: A systematic review of qualitative studies. *Women and Birth*. 2010;23(2):45-52.

215. Hoddinott P, Craig LCA, Britten J, McInnes RM. A serial qualitative interview study of infant feeding experiences: Idealism meets realism. *BMJ Open* 2012;2:e000504.

236. Frey B. *Not just for the money. An economic theory of personal motivation.* Brookfield VT: Edward Elgar Publishing; 1997.

247. Deci EL, Koestner R, Ryan RM. A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological bulletin*. 1999;125:627-668.

228. Graham H, Sowden A, Flemming K, Heirs M, Fox D. *Using qualitative research to inform interventions to reduce smoking in pregnancy in England: A systematic review of qualitative studies.* Public Health Research Consortium; 2012.

259. Becker GE, Cooney F, Smith HA. Methods of milk expression for lactating women. *Cochrane Database Syst Rev* 2011;Issue 12:CD006170.

~~Panel~~ Box 1 (to be included in main paper). **Definition of an incentive**

Incentives include financial (positive or negative) and non-financial tangible incentives or rewards. This includes free or reduced cost items that have a monetary value or an exchange value, like refreshments, baby products or services like child care or ironing. The definition excludes intangible incentives such as supportive, motivational or persuasive relationships with professionals or peers. Incentives may be delivered directly or indirectly at local, regional or national level by organisations.

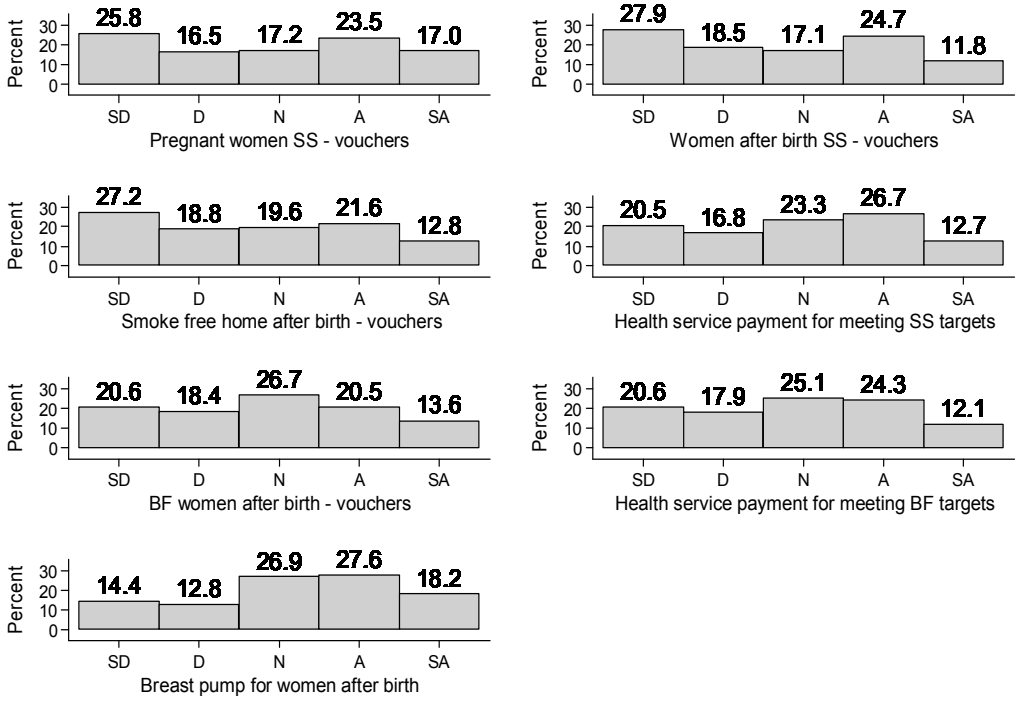
~~Panel~~ Box 2. (to be included in main paper) **Shortlist of seven promising incentive strategies**

1. Shopping vouchers for women who prove that they have stopped smoking during pregnancy 2. Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking 3. Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home 4. Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth 5. A breast pump costing around £40 provided for free by the health service 6. Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy 7. Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding

Table 1. Characteristics of the general public sample (n=1144)

Variable	Categories	Sample (%)
Sex	Male	540 (47.2)
	Female	604 (52.7)
Age	18-24	170 (14.9)
	25-34	175 (15.3)
	35-44	181 (15.8)
	45-54	159 (13.9)
	55-59	72 (6.3)
	60-64	94 (8.2)
	65<	293 (25.6)
Ethnicity	White	985 (86.1)
	BME	151 (13.2)
	Refused to answer	8 (0.7)
	White British	*914 (79.9)*
	White Irish	*11 (1.0)*
	White Gypsy/Traveller	-
	White Other	*60 (5.2)*
	Mixed W/B Caribbean	*3 (0.3)*
	Mixed W/B African	*1 (<0.1)*
	Mixed White and Asian	*3 (0.3)*
	Mixed Other	*2 (0.2)*
	Asian Indian	*19 (1.7)*
	Asian Pakistani	*47 (4.1)*
	Asian Bangladeshi	*12 (1.1)*
	Asian Chinese	*7 (0.6)*
	Asian Other	*13 (1.1)*
	Black African	*26 (2.3)*
	Black Caribbean	*7 (0.6)*
	Black Other	*2 (0.2)*
	Arab	*4 (0.4)*
	Other	*5 (0.4)*
	Refused	*8 (0.7)*
Smoking status	Never smoked	573 (50.1)
	Current smoker, tried to stop smoking	175 (15.3)
	Current smoker, not tried to stop smoking	63 (5.5)
	Ex-smoker	281 (24.6)
	Declined to answer	52 (4.6)
Any children	Yes	742 (64.9)
	No	402 (35.1)
Breastfeeding	Any children breastfed	512 (47.3)
	No children breastfed	632 (52.5)
Education	GCSE/O-level/CSE/NVQ	342 (29.9)
	A-level or equivalent	193 (16.9)
	Degree/Masters/PhD	295 (25.9)
	No formal qualifications	197 (17.2)
	Other/Don't know/ Still studying	117 (10.2)
Social grade	A	36 (3.2)
	B	203 (17.7)
	C1	370 (32.3)
	C2	236 (20.6)
	D	162 (14.2)
	E	137 (12.0)
Survey region	North	77 (6.7)
	North West	142 (12.4)
	Yorks & Humberside	104 (9.1)
	West Midlands	109 (6.5)
	East Midlands	66 (5.8)
	East Anglia	41 (3.6)
	South West	81 (7.1)
	South East	200 (17.5)
	Greater London	149 (13)
	Wales	66 (5.8)
	Scotland	109 (9.3)

Figure 1. Bar charts of general public agreement with the shortlist of incentive strategies



SD: Strongly disagree
D: Disagree
N: Neither agree nor disagree
A: Agree
SA: Strongly agree
BF: Breastfeeding
SS: Stop smoking

Table 2. Summary of general public agreement with seven incentive strategies

Incentive strategy	% Disagree	% Neither	% Agree	Mean
Shopping vouchers for women who prove that they have stopped smoking during pregnancy	42.3	17.2	40.5	2.9
Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking	46.4	17.3	36.5	2.7
Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home	46.0	19.6	34.4	2.7
Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth	39.1	26.8	34.2	2.9
A breast pump costing around £40 provided for free on the NHS	27.8	27.0	45.8	3.2
Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy	37.2	23.3	39.4	2.9
Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding	38.6	25.1	36.4	2.9

Table 3. Summary of the independent predictors of general public agreement ~~and disagreement~~ with incentive strategies

	Age <= 44	Female	Lower education level	Social grade C or below	Non-white ethnicity	Current smokers who have attempted to stop	Children breastfed
Shopping vouchers for women who prove that they have stopped smoking during pregnancy	*1.5<=OR<2.0*	*0.5<=OR<1.0*	*0.5<=OR<1.0*	*1.5<=OR<2.0* (Grade E)	*1.0<=OR<1.5*	*1.5<=OR<2.0*	
Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking	*1.5<=OR<2.0*	*0.5<=OR<1.0*	*0.5<=OR<1.0*	*1.5<=OR<2.0* (Grade C2)			
Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home	*1.5<=OR<2.0*	*0.5<=OR<1.0*	*0.5<=OR<1.0*		*1.0<=OR<1.5*	*1.0<=OR<1.5*	
Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth	*1.5<=OR<2.0*	*0.5<=OR<1.0*			*OR>=2.0*		*1.5<=OR<2.0*
A breast pump costing around £40 provided for free on the NHS	*1.5<=OR<2.0*		*0.5<=OR<1.0*	*1.5<=OR<2.0* (Grade E)			*1.5<=OR<2.0*
Additional funding for local health services if they reach targets stopping smoking during pregnancy	*OR>=2.0*		*0.5<=OR<1.0*	*0.5<=OR<1.0* (Grade C1)			
Additional funding for local health services if they reach targets for breastfeeding	*1.5<=OR<2*				*OR>=2.0*		

Table 3 alternative. Summary of the independent predictors of general public agreement with incentive strategies

	Age <=44	Female	Lower education level	Social grade C or below	Non white ethnicity	Current smoker who have attempted to stop	Children breastfed
Shopping vouchers should be provided to women who prove that they have stopped smoking during pregnancy	++	-	-	++ (Grade E)	+	++	
It is acceptable to provide shopping vouchers to a woman for two months after the birth of her baby if she proves that she is still not smoking	++	-	-	++ (Grade C2)			
It is acceptable to provide shopping vouchers to a woman for two months after the birth of her baby if she never lets anyone smoke in her home	++	-	-		+	+	
Shopping vouchers should be provided to women who breastfeed for the first six months after the birth of their child	++	-			+++		++
A breast pump costing around £40 should be available for free on the NHS, to help women to continue breastfeeding.	++		-	++ (Grade E)			++
Local health services should receive additional funding if they reach targets for the number of women who prove that they have stopped smoking during pregnancy	+++		-	- (Grade C1)			
Local health services should receive additional funding if they reach targets for the number of women who reach targets for the number of women who breastfeed	++				+++		

Odds Ratios (OR) for agreement: + represents 1.0<=OR<1.5; ++ represents 1.5<=OR<2.0; +++ represents OR>=2.0; - represents 0.5<=OR<1.0.

Table 4. Highest acceptable value of shopping voucher for women who stop smoking during pregnancy or are breastfeeding

Value	Smoking in pregnancy		Breastfeeding	
	Number (N = 660*)	Percent	Number (N = 697*)	Percent
£2	116	17.6	146	20.95
£10	146	22.1	150	21.52
£20	193	29.2	199	28.55
£40	115	17.4	110	15.78
£60	36	5.5	36	5.16
£80	54	8.2	56	8.03

* Respondents from the 1144 ~~UK~~ British public participants who strongly agreed, agreed or neither agreed nor disagreed with shopping vouchers incentives

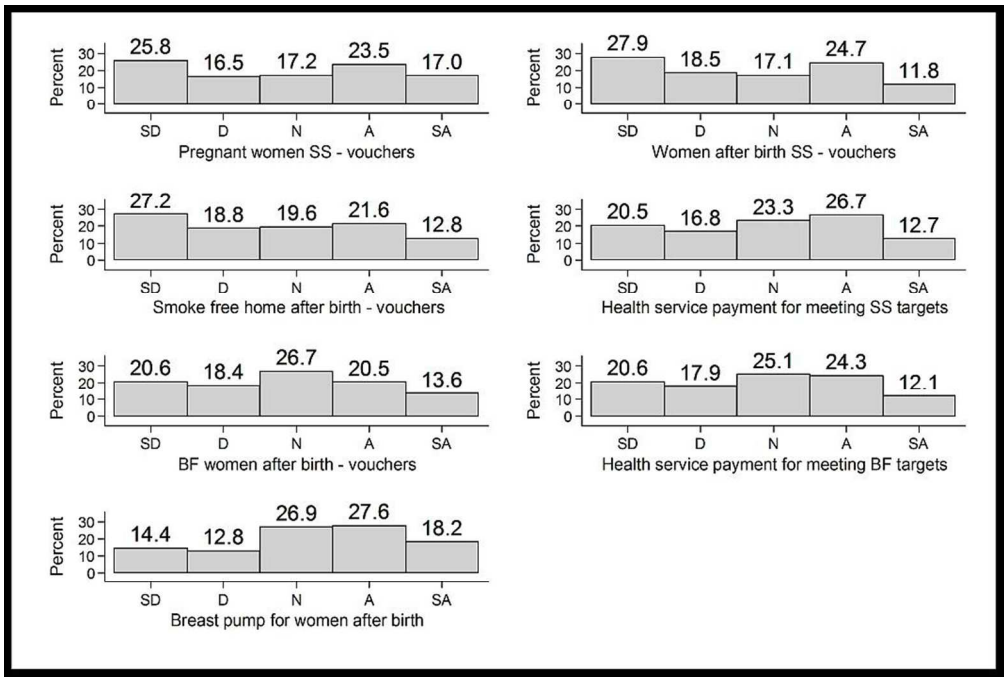


Figure 1. Bar charts of general public agreement with the shortlist of incentive strategies

Footnote:
SD: Strongly disagree
D: Disagree
N: Neither agree nor disagree
A: Agree
SA: Strongly agree
BF: Breastfeeding
SS: Stop smoking

90x60mm (300 x 300 DPI)

WEB 1 MORI survey of the general public

LIFESTYLE SURVEY – CS MODULE CAPIBUS WEEK 12

(SAMPLE = ADULTS AGED 18+)

(COMPUTING, PLEASE ROTATE SO THAT ½ SAMPLE ARE ASKED SMOKING QUESTIONS (SMOKING INTRO PLUS CS01 – 05) FIRST AND ½ SAMPLE ARE ASKED BREASTFEEDING QUESTIONS (BREASTFEEDING INTRO PLUS CS06 – CS10) FIRST)

(COMPUTING: PLEASE ENSURE ALL DK, REF AND NULL ARE TREATED AS HIDDEN RESPONSES)

INTERVIEWER THIS SECTION DOES NOT HAVE SHOWCARDS. ON SCREEN INSTRUCTIONS WILL INDICATE WHEN TO SHOW AND WHEN NOT TO SHOW SCREEN TO THE RESPONDENT. PLEASE NOTE: THERE MAY BE QUESTIONS THAT ALLOW DON'T KNOW, NONE OF THESE OR REFUSED. PLEASE TYPE DK FOR DON'T KNOW, REF FOR REFUSED AND NULL FOR NONE OF THESE

(New Screen)
INTERVIEWER: PLEASE SHOW SCREEN UNTIL OTHERWISE INSTRUCTED.

I would now like to ask you some questions about smoking during pregnancy…

CS01. Stopping smoking in pregnancy benefits the health of the baby and the mother. Research shows that providing shopping vouchers to women who prove that they have stopped smoking during pregnancy increases the number of women who stop. While some people feel that providing vouchers is appropriate, others feel that it is wrong or unfair.
Do you agree or disagree that shopping vouchers should be provided to women who prove that they have stopped smoking during pregnancy?
(SINGLE CODE; REVERSE ORDER BETWEEN INTERVIEWS)

Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

IF CODE STRONGLY AGREE, TEND TO AGREE OR NEITHER AGREE NOR DISAGREE AT CS01, ASK:
CS02. What is the highest amount of shopping voucher you think it would be acceptable to provide a woman who proves that she has stopped smoking during pregnancy?
(SINGLE CODE; REVERSE ORDER BETWEEN INTERVIEWS)

A. £2 per month
B. £10 per month
C. £20 per month
D. £40 per month
E. £60 per month
F. £80 per month

IF CODE STRONGLY AGREE, TEND TO AGREE OR NEITHER AGREE NOR DISAGREE AT CS01, ASK:
CS03. Do you think that it is acceptable to provide shopping vouchers to women who prove that they have stopped smoking during pregnancy, regardless of their income, or only to women on low incomes?
(SINGLE CODE)

To all women, regardless of income
Only to women on low incomes

ASK ALL
CS04. Some women start smoking again after the birth of their baby, particularly if their partner or someone at home smokes. Please tell me whether you agree or disagree with each of the following statements.

Statements:
It is acceptable to provide shopping vouchers to a woman for two months after the birth of her baby if she proves that she is still not smoking
It is acceptable to provide shopping vouchers to a woman for two months after the birth of her baby if she never lets anyone smoke in her home
(SINGLE CODE FOR EACH STATEMENT. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

CS05. Do you agree or disagree that local health services should receive additional funding if they reach targets for the number of women who prove that they have stopped smoking during pregnancy?
(SINGLE CODE. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

I would now like to ask you some questions about breastfeeding…

CS06. Breastfeeding benefits the health of the baby and the mother. While some people feel it is appropriate to provide shopping vouchers to encourage breastfeeding, other people feel it is wrong or unfair.
Do you agree or disagree that shopping vouchers should be provided to women who breastfeed for the first six months after the birth of their child?
(SINGLE CODE. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

IF CODE STRONGLY AGREE, TEND TO AGREE OR NEITHER AGREE NOR DISAGREE AT CS06, ASK:
CS07. What is the highest amount of shopping voucher you would consider acceptable for women who breastfeed? (SINGLE CODE; REVERSE ORDER BETWEEN INTERVIEWS)

A. £2 per month
B. £10 per month
C. £20 per month
D. £40 per month
E. £60 per month
F. £80 per month

IF CODE STRONGLY AGREE, TEND TO AGREE OR NEITHER AGREE NOR DISAGREE AT CS06, ASK:

CS08. Do you agree or disagree that shopping vouchers should be provided to all women who breastfeed, regardless of their income, or only to women on low incomes?
(SINGLE CODE)

To all women, regardless of income
Only to women on low incomes

ASK ALL
CS09. Do you agree or disagree that local health services should receive additional funding if they reach targets for the number of women who breastfeed?
(SINGLE CODE. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

NEW SCREEN
INTERVIEWER: THE WORDING OF THE NEXT QUESTION IS A BIT SENSITIVE, ABOUT BREASTFEEDING. PLEASE COULD YOU TURN THE NEXT SCREEN TO THE RESPONDENT AND ASK THEM TO READ THE QUESTION THEMSELVES. THEY CAN JUST GIVE YOU THEIR ANSWER FOR YOU TO INPUT.

ASK ALL
CS10. Some women who breastfeed like to express milk. This allows babies to receive breast milk when mother and baby are apart.
To express milk, some women find a breast pump useful. Women can buy breast pumps ranging from £20 to over £100. Do you agree or disagree that a breast pump costing around £40 should be available for free on the NHS, to help women to continue breastfeeding?
(SINGLE CODE. REVERSE ORDER OF LIST BETWEEN INTERVIEWS.)

Precode list:
Strongly agree
Tend to agree
Neither agree nor disagree
Tend to disagree
Strongly disagree

TO FIT WITH OMNIBUS DEMOG QUESTIONS, IF NOT RECORDED ANY CHILDREN IN OMNIBUS DEMOG QUESTIONS, ASK...
CS11. Do you have any children? Please include any children who are grown up now, and any children who do not live with you.
(SINGLE CODE)

Yes
No

IF HAVE CHILDREN (FROM OMNIBUS DEMOGS OR CS11), ASK:
CS12. Have any of your children ever been breastfed or received breast milk, even if only for a day or two?
(SINGLE CODE, ALLOW DK AND REF)

Yes
No

ASK ALL
CS13. Do you currently smoke or have you ever smoked?

Yes, I currently smoke every day
Yes, I currently smoke, but not every day
Yes, I used to smoke but have quit
No, I have never smoked
I prefer not to answer

IF CODE 1 OR 2 AT CS13:
CS14. Have you ever tried to stop smoking?
(SINGLE CODE)

Yes
No

CLOSE

Web 2. Ipsos MORI Computer Assisted Personal Interviewing (CAPI) background

Ipsos MORI
Global Omnibus Services

Background to Capibus

Ipsos MORI's weekly face-to-face omnibus, *Capibus,* is well-established; it was launched in 1992 and was the **first omnibus** of its kind to use 'computer assisted personal interviewing' (CAPI) to administer the questionnaire. This new approach instantly improved the quality and accuracy of the information collected and has become a quality standard in the omnibus industry worldwide.

Capibus is run every week with fieldwork lasting one week in total. The length of time allocated to complete Ipsos MORI's omnibus, combined with the Capibus interviewing style of completing the survey **in home** instead of the on the doorstep, or in a hall, ensures that interviewers spend time with the respondents, building a rapport. This in turn engages respondents and fundamentally improves the quality of responses.

The key advantages that Capibus has over other face-to-face omnibus surveys are available in Britain is the high quality sample design which incorporates a range of variables to ensure a robust, representative and consistent sample is achieved on a weekly basis. Factored in to the design is the larger number of sampling points to underpin coverage, the week's fieldwork allocated to the interviewing period and the interviewing style. Our demographics are also designed to enhance any research required by both our public and private sector clients - to do this we are pleased to be able to offer a comprehensive list of more than 30 demographics free of charge.

Capibus therefore provides you with **considerable flexibility** and means that we have no problem whatsoever in running tracker questions when required nor ad hoc needs as and when they may potentially arise.

The Sample

Capibus uses a unique and rigorous sampling method - a controlled form of random location sampling (known as 'random locale', a dual stage sampling design). Ipsos MORI uses a control method applied to field region and sub-region over a robust number of sample points (typically 155-180) to ensure we get a good geographical spread. We then set our interviewer quotas for sex, age, working status and tenure to ensure our sample is nationally representative - we use the CACI ACORN geo-demographic system in the selection process.

The use of ACORN ensures all types of area are fully represented and that selection of respondents is largely taken out of the hands of the interviewers, helping to eliminate any possible bias in the sample caused by interviewing people all with the same background.

On Ipsos MORI Face-to-Face Omnibus the interviewer is required to achieve interviews with respondents from a small set of homogenous streets, selected with probability proportional to population after stratification by ACORN characteristics and region

Ipsos MORI
Global Omnibus Services

Because the sampling process is repeated every week, the Capibus sample is matched wave on wave, making it ideal for taking successive measurements on the same issue so there should be no concerns about running questions over a number of weeks.

Ipsos MORI's reputation has largely been built on our high-profile political and other opinion research over several decades. We have a strong image among the public, the media and other key opinion formers for conducting rigorous, independent research to high standards. As a result, we do believe that the Ipsos MORI name adds value to the research projects we conduct and assists significantly in maximising response rates and in the publication and dissemination of findings.

Quality Plan

There are dozens of quality issues which make the difference between robust and unreliable data. These will have a direct impact on your ability to make the right decisions with confidence and to maximise the value of the resources you invest in the research you have in mind.

Ipsos MORI can guarantee securing robust data because we have to undergo stringent independent audits of our quality systems. As a result, we have a proven record on **quality and industry leadership** in this area. Our clients tell us that this is what sets us apart from other agencies and this is upheld by our record in terms of independent assessments.

MRS Company Partnership - In 2005 we were the first market research company to sign our organisation up to the rigours of the Market Research Society (MRS) Code. With the increasing importance of self-regulation, we wanted to be at the forefront of supporting the ethics and quality of our industry by applying the industry's professional Code to our entire organisation including all our interviewers. Previous to this, the Code applied solely to individuals who are members.

There are now over 350 MRS company partners who have followed our lead.

In 1996, MORI became **one of just two** companies to achieve accreditation under MRQSA (Market Research Quality Standards Association). This sets out minimum standards for each stage of a market research project and is designed to enable accredited companies to provide a superior service to their clients. We have passed a series of inspections since then with flying colours.

We are also a member of the Market Research Society and ESOMAR (the European Society for Opinion and Marketing Research), and as such, adhere to their Codes of Conduct.

Ipsos MORI was the **first company in the world to** gain ISO 20252:2006 accreditation - the international market research specific standard that supersedes BS 7911 / MRQSA and incorporates IQCS (Interviewer Quality Control Scheme); it covers the five stages of a Market Research project.

ISO 27001:2005 - International standard for information security designed to ensure the selection of adequate and proportionate security controls. Ipsos MORI was the **first research company in the UK** to be awarded this in August 2008.

Web 3

The data was weighted to correct for the minor differences between the achieved sample and the target sample. A ‘rim weighting’ system was used to provide the 'best weighting', or least distorting, by using a weighting matrix to run a large number of solutions from which the best is chosen. Thus ‘Rim weighting’ is superior to the more common system of ‘Cell weighting’. The data required minimal weighting and the differences between the unweighted and weighted sample are shown in theTable 3.1 below.

Table 3.1. Weighted and unweighted sample characteristics

		COUNTS			
	SEX	UNWEIGHTED	WEIGHTED	UNWEIGHTED	WEIGHTED
SEX	**BASE**	**1144**	**1164**	**1144**	**1164**
	MALE	540	542	*47%*	*47%*
	FEMALE	604	622	*53%*	*53%*
	AGE				
	BASE	**1144**	**1164**	**1144**	**1164**
	15 - 17	-	-	-	-
AGE	18 - 24	170	179	*15%*	*15%*
	25 - 34	175	193	*15%*	*17%*
	35 - 44	181	207	*16%*	*18%*
	45 - 54	159	174	*14%*	*15%*
	55 - 64	166	157	*15%*	*14%*
	65+	293	253	*26%*	*22%*
	BASE	**1144**	**1164**	**1144**	**1164**
	EAST MIDLANDS	80	91	*7%*	*8%*
	EASTERN	78	89	*7%*	*8%*
	LONDON	162	162	*14%*	*14%*
	NORTH EAST	57	49	*5%*	*4%*
GOVERNMENT OFFICE REGION	NORTH WEST	156	113	*14%*	*10%*
	SCOTLAND	109	105	*10%*	*9%*
	SOUTH EAST	137	151	*12%*	*13%*
	SOUTH WEST	94	126	*8%*	*11%*
	WALES	66	63	*6%*	*5%*
	WEST MIDLANDS	95	107	*8%*	*9%*
	YORKS AND HUMBR	110	107	*10%*	*9%*
	WORKING STATUS RESPONDENT				
WORKING STATUS RESPONDENT	**BASE**	**1144**	**1164**	**1144**	**1164**
	HAVE PAID JOB - FULL TIME (30+ HOURS PER WEEK)	354	430	*31%*	*37%*
	HAVE PAID JOB - PART TIME (8-29 HOURS PER WEEK)	111	131	*10%*	*11%*

	HAVE PAID JOB - PART TIME (UNDER 8 HOURS PER WEEK)	11	14	*1%*	*1%*
	SELF-EMPLOYED	49	60	*4%*	*5%*
	FULL TIME STUDENT	83	75	*7%*	*6%*
	STILL AT SCHOOL	-	-	-	-
	UNEMPLOYED AND SEEKING WORK	74	56	*6%*	*5%*
	RETIRED	339	287	*30%*	*25%*
	NOT IN PAID WORK FOR OTHER REASON	25	22	*2%*	*2%*
	NOT IN PAID WORK BECAUSE OF LONG TERM ILLNESS OR DISABILITY	36	27	*3%*	*2%*
	NOT WORKING - HOUSEWIFE	62	62	*5%*	*5%*
TENURE	TENURE				
	BASE	**1144**	**1164**	**1144**	**1164**
	BEING BOUGHT ON A MORTGAGE	260	374	*23%*	*32%*
	OWNED OUTRIGHT BY HOUSEHOLD	426	398	*37%*	*34%*
	RENTED FROM LOCAL AUTHORITY	138	87	*12%*	*7%*
	RENTED FROM A PRIVATE LANDLORD	230	239	*20%*	*21%*
	BELONGS TO HOUSING ASSOCIATION	83	57	*7%*	*5%*
	OTHER	2	3	*	*
	OWNED NET	686	773	*60%*	*66%*
	RENTED NET	451	383	*39%*	*33%*
	REFUSED	5	5	*	*
ETHNICITY	ETHNICITY				
	BASE	**1144**	**1164**	**1144**	**1164**
	WHITE	985	1032	*86%*	*89%*
	NON- WHITE	151	121	*13%*	*10%*

Web 4 Framing effects in the MORI survey

Variable	Topic covered first	SD	D	N	A	SA
Pregnant women SC – vouchers	Smoking	154 (26.3)	94 (16.0)	103 (17.6)	131 (22.4)	104 (17.7)
	Breastfeeding	141 (25.3)	95 (17.0)	94 (16.8)	138 (24.7)	90 (16.1)
	OR (95%CI) p value	1.00	(0.82, 1.23)	0.98		
Women after birth SC – vouchers	Smoking	167 (28.5)	113 (19.3)	98 (16.7)	135 (23.0)	73 (12.5)
	Breastfeeding	152 (27.2)	99 (17.7)	98 (17.6)	147 (26.3)	62 (11.1)
	OR (95%CI; p value)	1.06	(0.86, 1.31)	0.57		
Smoke free home after birth – vouchers	Smoking	162 (27.6)	113 (19.3)	113 (19.3)	121 (20.6)	77 (13.1)
	Breastfeeding	149 (26.7)	102 (18.3)	111 (19.9)	126 (22.6)	70 (12.5)
	OR (95%CI; p value)	1.05	(0.85, 1.29)	0.65		
Health service payment for meeting SC targets	Smoking	127 (21.7)	95 (16.2)	130 (22.2)	155 (26.5)	79 (13.5)
	Breastfeeding	107 (19.2)	97 (17.4)	137 (24.6)	151 (27.1)	66 (11.8)
	OR (95%CI; p value)	1.01	(0.82, 1.24)	0.93		
BF women after	Smoking	152	134	138	99	63

Variable	Topic covered first	SD	D	N	A	SA
birth – vouchers		(25.9)	(22.9)	(23.5)	(16.9)	(10.8)
	Breastfeeding	84	77	168	136	93
		(15.1)	(13.8)	(30.1)	(24.4)	(16.7)
	OR (95%CI; p value)	2.00	(1.61, 2.46)	<0.001		
Health service payment for meeting BF targets	Smoking	145	113	134	125	69
		(24.7)	(19.3)	(22.9)	(21.3)	(11.8)
	Breastfeeding	91	92	153	153	69
		(16.3)	(16.5)	(27.4)	(27.4)	(12.4)
	OR (95%CI; p value)	1.44	(1.17, 1.77)	0.001		
Breast pumps	Smoking	105	76	150	157	98
		(17.9)	(13.0)	(25.6)	(26.8)	(16.7)
	Breastfeeding	60	71	158	159	110
		(10.8)	(12.7)	(28.3)	(28.5)	(19.7)
	OR (95%CI; p value)	1.32	(1.08, 1.62)	0.008		

Note: An odds ratio >1indicates that respondents asked the about breastfeeding incentive first were more likely to agree than respondents asked about smoking cessation incentives first.
SC = smoking cessation; BF = breastfeeding

Web 5. Detailed results tables

Table 1 **Response to "Shopping vouchers for women who prove that they have stopped smoking during pregnancy" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	30 (17.6)	34 (20.0)	34 (20.0)	48 (28.2)	24 (14.1)
25 – 34	32 (18.3)	32 (18.3)	27 (15.4)	50 (28.6)	34 (19.4)
35 – 44	31 (17.1)	29 (16.0)	33 (18.2)	46 (25.4)	42 (23.2)
45 – 54	44 (27.7)	28 (17.6)	29 (18.2)	32 (20.1)	26 (16.4)
55 – 59	23 (31.9)	13 (18.1)	12 (16.7)	16 (22.2)	8 (11.1)
60 – 64	28 (29.8)	13 (13.8)	13 (13.8)	24 (25.5)	16 (17.0)
65+	107 (36.5)	40 (13.7)	49 (16.7)	53 (18.1)	44 (15.0)
Breastfeeding					
Children not breastfed	154 (24.4)	113 (17.9)	135 (21.4)	138 (21.8)	92 (14.6)
Children breastfed	141 (27.5)	76 (14.8)	62 (12.1)	131 (25.6)	102 (19.9)
Children					
No children	90 (22.4)	79 (19.7)	81 (20.1)	98 (24.4)	54 (13.4)
Have children	205 (27.6)	110 (14.8)	116 (15.6)	171 (23.0)	140 (18.9)
Ethnicity					
White	280 (28.4)	163 (16.5)	167 (17.0)	212 (21.5)	163 (16.5)
Other ethnicity	15 (9.4)	26 (16.4)	30 (18.9)	57 (35.8)	31 (19.5)
Sex					
Male	120 (22.2)	83 (15.4)	106 (19.6)	128 (23.7)	103 (19.1)
Female	175 (29.0)	106 (17.5)	91 (15.1)	141 (23.3)	91 (15.1)
Education					
University	65 (22.0)	46 (15.6)	44 (14.9)	77 (26.1)	63 (21.4)
GCSE	98 (28.7)	54 (15.8)	57 (16.7)	80 (23.4)	53 (15.5)
A-level	48 (24.9)	43 (22.3)	32 (16.6)	36 (18.7)	34 (17.6)
No Formal qualification	59 (29.9)	24 (12.2)	47 (23.9)	45 (22.8)	22 (11.2)
Other, still studying, don't know	25 (21.4)	22 (18.8)	17 (14.5)	31 (26.5)	22 (18.8)

Variable	SD	D	N	A	SA
Social Grade					
AB	71 (29.7)	37 (15.5)	30 (12.6)	59 (24.7)	42 (17.6)
C1	103 (27.8)	67 (18.1)	68 (18.4)	73 (19.7)	59 (15.9)
C2	57 (24.2)	38 (16.1)	44 (18.6)	55 (23.3)	42 (17.8)
D	40 (24.7)	29 (17.9)	28 (17.3)	38 (23.5)	27 (16.7)
E	24 (17.5)	18 (13.1)	27 (19.7)	44 (32.1)	24 (17.5)
Smoking Status					
Never smoked	147 (25.7)	102 (17.8)	97 (16.9)	144 (25.1)	83 (14.5)
Previous smoker	84 (29.9)	49 (17.4)	43 (15.3)	64 (22.8)	41 (14.6)
Current (tried quitting)	38 (21.7)	22 (12.6)	31 (17.7)	34 (19.4)	50 (28.6)
Current (not tried quitting)	15 (23.8)	9 (14.3)	10 (15.9)	16 (25.4)	13 (20.6)
Refused to answer	11 (21.2)	7 (13.5)	16 (30.8)	11 (21.2)	7 (13.5)
Area					
North	24 (31.2)	17 (22.1)	11 (14.3)	10 (13.0)	15 (19.5)
North West	19 (13.4)	25 (17.6)	38 (26.8)	41 (28.9)	19 (13.4)
Yorks Hum	40 (38.5)	11 (10.6)	13 (12.5)	22 (21.2)	18 (17.3)
East Midlands	25 (22.9)	28 (25.7)	14 (12.8)	29 (26.6)	13 (11.9)
West Midlands	22 (33.3)	10 (15.2)	12 (18.2)	12 (18.2)	10 (15.2)
East Anglia	10 (24.4)	6 (14.6)	5 (12.2)	10 (24.4)	10 (24.4)
South East	20 (24.7)	9 (11.1)	17 (21.0)	15 (18.5)	20 (24.7)
South West	55 (27.5)	26 (13.0)	40 (20.0)	47 (23.5)	32 (16.0)
London	17 (11.4)	31 (20.8)	19 (12.8)	59 (39.6)	23 (15.4)
Wales	29 (43.9)	9 (13.6)	6 (9.1)	10 (15.2)	12 (18.2)
Scotland	34 (31.2)	17 (15.6)	22 (20.2)	14 (12.8)	22 (20.2)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 2 **Simple univariable and multiple ordered logit regression models for response to "Shopping vouchers for women who prove that they have stopped smoking during pregnancy"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.66	(1.19, 2.31)	0.003	1.67	(1.10, 2.54)	0.016
25 - 34	1.92	(1.37, 2.69)	< 0.001	1.71	(1.17, 2.49)	0.006
35 - 44	2.15	(1.54, 3.00)	< 0.001	1.88	(1.30, 2.72)	0.001
45 - 54	1.29	(0.91, 1.82)	0.16	1.27	(0.87, 1.84)	0.21
55 - 59	1.04	(0.66, 1.65)	0.87	1.03	(0.63, 1.66)	0.91
60 - 64	1.39	(0.91, 2.12)	0.13	1.42	(0.92, 2.20)	0.12
Breastfeeding						
Children breastfed	1.15	(0.94, 1.42)	0.18	1.26	(0.94, 1.69)	0.12
Children						
Have children	1.05	(0.85, 1.30)	0.67	1.17	(0.86, 1.59)	0.33
Ethnicity						
Other ethnicity	1.94	(1.46, 2.59)	< 0.001	1.42	(1.01, 1.99)	0.047
Sex						
Female	0.75	(0.61, 0.92)	0.006	0.71	(0.57, 0.88)	0.002
Education						
GCSE	0.70	(0.53, 0.93)	0.014	0.59	(0.43, 0.81)	0.001
A-level	0.72	(0.52, 0.99)	0.042	0.63	(0.44, 0.90)	0.010
No Formal qualification	0.64	(0.46, 0.87)	0.005	0.63	(0.42, 0.95)	0.029
Other, still studying, don't know	0.92	(0.63, 1.34)	0.66	0.84	(0.55, 1.28)	0.41
Social Grade						
C1	0.92	(0.68, 1.23)	0.57	1.03	(0.75, 1.42)	0.87

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
C2	1.12	(0.81, 1.55)	0.48	1.25	(0.85, 1.83)	0.26
D	1.06	(0.74, 1.51)	0.75	1.27	(0.83, 1.94)	0.27
E	1.48	(1.03, 2.15)	0.036	1.74	(1.12, 2.70)	0.014
Smoking Status						
Previous smoker	0.88	(0.68, 1.13)	0.32	0.97	(0.74, 1.28)	0.83
Current (tried quitting)	1.59	(1.17, 2.16)	0.003	1.63	(1.18, 2.26)	0.003
Current (not tried quitting)	1.28	(0.80, 2.04)	0.30	1.31	(0.81, 2.12)	0.28
Refused to answer	1.08	(0.66, 1.74)	0.77	0.93	(0.56, 1.55)	0.78
Area						
North	0.50	(0.30, 0.81)	0.005	0.66	(0.39, 1.10)	0.11
North West	0.82	(0.56, 1.21)	0.33	1.03	(0.69, 1.56)	0.87
Yorks Hum	0.49	(0.31, 0.76)	0.002	0.62	(0.38, 1.01)	0.054
East Midlands	0.58	(0.38, 0.89)	0.012	0.70	(0.45, 1.09)	0.12
West Midlands	0.49	(0.29, 0.81)	0.006	0.68	(0.39, 1.16)	0.16
East Anglia	0.86	(0.46, 1.60)	0.63	1.06	(0.56, 2.01)	0.86
South East	0.82	(0.51, 1.33)	0.42	1.26	(0.75, 2.11)	0.38
South West	0.63	(0.44, 0.92)	0.015	0.97	(0.64, 1.45)	0.86
Wales	0.37	(0.22, 0.64)	< 0.001	0.55	(0.31, 0.97)	0.040
Scotland	0.54	(0.35, 0.84)	0.006	0.78	(0.49, 1.26)	0.31

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 3 **Responses to "Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking" broken down by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	31 (18.2)	36 (21.2)	37 (21.8)	47 (27.6)	19 (11.2)
25 – 34	33 (18.9)	41 (23.4)	32 (18.3)	46 (26.3)	23 (13.1)
35 – 44	36 (19.9)	38 (21.0)	28 (15.5)	52 (28.7)	27 (14.9)
45 – 54	44 (27.7)	33 (20.8)	26 (16.4)	40 (25.2)	16 (10.1)
55 – 59	29 (40.3)	14 (19.4)	6 (8.3)	16 (22.2)	7 (9.7)
60 – 64	28 (29.8)	12 (12.8)	15 (16.0)	25 (26.6)	14 (14.9)
65+	118 (40.3)	38 (13.0)	52 (17.7)	56 (19.1)	29 (9.9)
Breastfeeding					
Children not breastfed	160 (25.3)	123 (19.5)	141 (22.3)	138 (21.8)	70 (11.1)
Children breastfed	159 (31.1)	89 (17.4)	55 (10.7)	144 (28.1)	65 (12.7)
Children					
No children	89 (22.1)	82 (20.4)	91 (22.6)	100 (24.9)	40 (10.0)
Have children	230 (31.0)	130 (17.5)	105 (14.2)	182 (24.5)	95 (12.8)
Ethnicity					
White	302 (30.7)	184 (18.7)	162 (16.4)	227 (23.0)	110 (11.2)
Other ethnicity	17 (10.7)	28 (17.6)	34 (21.4)	55 (34.6)	25 (15.7)
Sex					
Male	123 (22.8)	97 (18.0)	109 (20.2)	138 (25.6)	73 (13.5)
Female	196 (32.5)	115 (19.0)	87 (14.4)	144 (23.8)	62 (10.3)
Education					
University	68 (23.1)	54 (18.3)	49 (16.6)	79 (26.8)	45 (15.3)
GCSE	102 (29.8)	68 (19.9)	57 (16.7)	75 (21.9)	40 (11.7)
A-level	55 (28.5)	37 (19.2)	30 (15.5)	52 (26.9)	19 (9.8)
No Formal qualification	67 (34.0)	29 (14.7)	44 (22.3)	43 (21.8)	14 (7.1)
Other, still studying, don't know	27 (23.1)	24 (20.5)	16 (13.7)	33 (28.2)	17 (14.5)

Variable	SD	D	N	A	SA
Social Grade					
AB	71 (29.7)	41 (17.2)	36 (15.1)	59 (24.7)	32 (13.4)
C1	110 (29.7)	85 (23.0)	52 (14.1)	83 (22.4)	40 (10.8)
C2	58 (24.6)	41 (17.4)	47 (19.9)	57 (24.2)	33 (14.0)
D	48 (29.6)	26 (16.0)	32 (19.8)	42 (25.9)	14 (8.6)
E	32 (23.4)	19 (13.9)	29 (21.2)	41 (29.9)	16 (11.7)
Smoking Status					
Never smoked	154 (26.9)	110 (19.2)	100 (17.5)	151 (26.4)	58 (10.1)
Previous smoker	100 (35.6)	54 (19.2)	41 (14.6)	58 (20.6)	28 (10.0)
Current (tried quitting)	39 (22.3)	31 (17.7)	28 (16.0)	41 (23.4)	36 (20.6)
Current (not tried quitting)	13 (20.6)	11 (17.5)	15 (23.8)	17 (27.0)	7 (11.1)
Refused to answer	13 (25.0)	6 (11.5)	12 (23.1)	15 (28.8)	6 (11.5)
Area					
North	24 (31.2)	18 (23.4)	11 (14.3)	13 (16.9)	11 (14.3)
North West	21 (14.8)	22 (15.5)	40 (28.2)	41 (28.9)	18 (12.7)
Yorks Hum	42 (40.4)	11 (10.6)	15 (14.4)	21 (20.2)	15 (14.4)
East Midlands	30 (27.5)	27 (24.8)	18 (16.5)	26 (23.9)	8 (7.3)
West Midlands	25 (37.9)	14 (21.2)	6 (9.1)	16 (24.2)	5 (7.6)
East Anglia	10 (24.4)	7 (17.1)	4 (9.8)	11 (26.8)	9 (22.0)
South East	24 (29.6)	7 (8.6)	17 (21.0)	20 (24.7)	13 (16.0)
South West	56 (28.0)	36 (18.0)	43 (21.5)	47 (23.5)	18 (9.0)
London	16 (10.7)	38 (25.5)	17 (11.4)	55 (36.9)	23 (15.4)
Wales	29 (43.9)	9 (13.6)	5 (7.6)	15 (22.7)	8 (12.1)
Scotland	42 (38.5)	23 (21.1)	20 (18.3)	17 (15.6)	7 (6.4)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 4 **Simple univariable and multiple ordered logit regression models for response to "Shopping vouchers for a woman for two months after the birth of her baby if she proves that she is still not smoking"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.89	(1.35, 2.64)	< 0.001	1.51	(1.00, 2.30)	0.053
25 - 34	1.88	(1.34, 2.62)	< 0.001	1.42	(0.97, 2.08)	0.068
35 - 44	2.04	(1.46, 2.85)	< 0.001	1.65	(1.14, 2.39)	0.007
45 - 54	1.42	(1.00, 2.01)	0.048	1.26	(0.87, 1.84)	0.23
55 - 59	0.95	(0.59, 1.54)	0.85	0.95	(0.58, 1.56)	0.83
60 - 64	1.70	(1.11, 2.61)	0.015	1.65	(1.05, 2.57)	0.028
Breastfeeding						
Children breastfed	1.00	(0.81, 1.23)	0.98	1.16	(0.86, 1.56)	0.34
Children						
Have children	0.88	(0.71, 1.09)	0.24	1.02	(0.75, 1.39)	0.90
Ethnicity						
Other ethnicity	2.12	(1.59, 2.83)	< 0.001	1.39	(0.98, 1.95)	0.062
Sex						
Female	0.69	(0.56, 0.85)	0.001	0.68	(0.55, 0.85)	0.001
Education						
GCSE	0.71	(0.53, 0.93)	0.014	0.62	(0.45, 0.85)	0.003
A-level	0.75	(0.55, 1.04)	0.084	0.68	(0.48, 0.96)	0.028
No Formal qualification	0.60	(0.44, 0.83)	0.002	0.64	(0.42, 0.96)	0.032
Other, still studying, don't know	0.98	(0.67, 1.43)	0.90	0.93	(0.61, 1.43)	0.75

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.73	(0.56, 0.94)	0.016	0.87	(0.66, 1.14)	0.32
C2	1.45	(1.07, 1.97)	0.017	1.64	(1.18, 2.27)	0.003
D	1.22	(0.78, 1.92)	0.38	1.31	(0.82, 2.10)	0.26
E	1.22	(0.74, 2.01)	0.43	1.18	(0.70, 1.99)	0.54
Smoking Status						
Previous smoker	0.85	(0.64, 1.14)	0.28	0.94	(0.68, 1.29)	0.69
Current (tried quitting)	1.15	(0.83, 1.58)	0.40	1.23	(0.84, 1.81)	0.28
Current (not tried quitting)	0.92	(0.64, 1.31)	0.64	1.11	(0.73, 1.70)	0.62
Refused to answer	1.25	(0.86, 1.81)	0.24	1.37	(0.87, 2.15)	0.17
Area						
North	0.46	(0.28, 0.75)	0.002	0.60	(0.36, 1.01)	0.054
North West	0.84	(0.57, 1.25)	0.38	1.02	(0.67, 1.55)	0.92
Yorks Hum	0.42	(0.27, 0.67)	< 0.001	0.51	(0.31, 0.83)	0.007
East Midlands	0.46	(0.30, 0.71)	< 0.001	0.56	(0.36, 0.88)	0.012
West Midlands	0.36	(0.21, 0.61)	< 0.001	0.49	(0.28, 0.85)	0.011
East Anglia	0.85	(0.45, 1.61)	0.62	1.13	(0.58, 2.20)	0.71
South East	0.67	(0.41, 1.08)	0.10	1.01	(0.60, 1.70)	0.97
South West	0.51	(0.35, 0.74)	< 0.001	0.73	(0.49, 1.10)	0.14
Wales	0.35	(0.21, 0.61)	< 0.001	0.51	(0.29, 0.91)	0.022
Scotland	0.31	(0.20, 0.49)	< 0.001	0.44	(0.28, 0.71)	0.001

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 5 **Response to "Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	27 (15.9)	35 (20.6)	43 (25.3)	49 (28.8)	16 (9.4)
25 – 34	31 (17.7)	38 (21.7)	41 (23.4)	44 (25.1)	21 (12.0)
35 – 44	38 (21.0)	37 (20.4)	35 (19.3)	41 (22.7)	30 (16.6)
45 – 54	43 (27.0)	33 (20.8)	25 (15.7)	42 (26.4)	16 (10.1)
55 – 59	30 (41.7)	14 (19.4)	6 (8.3)	11 (15.3)	11 (15.3)
60 – 64	32 (34.0)	11 (11.7)	16 (17.0)	22 (23.4)	13 (13.8)
65+	110 (37.5)	47 (16.0)	58 (19.8)	38 (13.0)	40 (13.7)
Breastfeeding					
Children not breastfed	161 (25.5)	124 (19.6)	146 (23.1)	127 (20.1)	74 (11.7)
Children breastfed	150 (29.3)	91 (17.8)	78 (15.2)	120 (23.4)	73 (14.3)
Children					
No children	90 (22.4)	81 (20.1)	94 (23.4)	91 (22.6)	46 (11.4)
Have children	221 (29.8)	134 (18.1)	130 (17.5)	156 (21.0)	101 (13.6)
Ethnicity					
White	296 (30.1)	192 (19.5)	183 (18.6)	191 (19.4)	123 (12.5)
Other ethnicity	15 (9.4)	23 (14.5)	41 (25.8)	56 (35.2)	24 (15.1)
Sex					
Male	128 (23.7)	92 (17.0)	125 (23.1)	116 (21.5)	79 (14.6)
Female	183 (30.3)	123 (20.4)	99 (16.4)	131 (21.7)	68 (11.3)
Education					
University	66 (22.4)	50 (16.9)	58 (19.7)	74 (25.1)	47 (15.9)
GCSE	102 (29.8)	62 (18.1)	63 (18.4)	75 (21.9)	40 (11.7)
A-level	55 (28.5)	42 (21.8)	40 (20.7)	37 (19.2)	19 (9.8)
No Formal qualification	64 (32.5)	32 (16.2)	44 (22.3)	36 (18.3)	21 (10.7)
Other, still studying, don't know	24 (20.5)	29 (24.8)	19 (16.2)	25 (21.4)	20 (17.1)

Variable	SD	D	N	A	SA
Social Grade					
AB	66 (27.6)	48 (20.1)	39 (16.3)	49 (20.5)	37 (15.5)
C1	111 (30.0)	81 (21.9)	68 (18.4)	73 (19.7)	37 (10.0)
C2	57 (24.2)	41 (17.4)	48 (20.3)	56 (23.7)	34 (14.4)
D	48 (29.6)	24 (14.8)	39 (24.1)	32 (19.8)	19 (11.7)
E	29 (21.2)	21 (15.3)	30 (21.9)	37 (27.0)	20 (14.6)
Smoking Status					
Never smoked	147 (25.7)	108 (18.8)	112 (19.5)	142 (24.8)	64 (11.2)
Previous smoker	100 (35.6)	55 (19.6)	48 (17.1)	48 (17.1)	30 (10.7)
Current (tried quitting)	38 (21.7)	33 (18.9)	32 (18.3)	36 (20.6)	36 (20.6)
Current (not tried quitting)	13 (20.6)	10 (15.9)	19 (30.2)	10 (15.9)	11 (17.5)
Refused to answer	13 (25.0)	9 (17.3)	13 (25.0)	11 (21.2)	6 (11.5)
Area					
North	21 (27.3)	19 (24.7)	10 (13.0)	14 (18.2)	13 (16.9)
North West	21 (14.8)	21 (14.8)	44 (31.0)	35 (24.6)	21 (14.8)
Yorks Hum	38 (36.5)	15 (14.4)	23 (22.1)	14 (13.5)	14 (13.5)
East Midlands	29 (26.6)	30 (27.5)	22 (20.2)	19 (17.4)	9 (8.3)
West Midlands	28 (42.4)	11 (16.7)	8 (12.1)	11 (16.7)	8 (12.1)
East Anglia	10 (24.4)	7 (17.1)	6 (14.6)	9 (22.0)	9 (22.0)
South East	23 (28.4)	8 (9.9)	18 (22.2)	22 (27.2)	10 (12.3)
South West	54 (27.0)	41 (20.5)	47 (23.5)	35 (17.5)	23 (11.5)
London	15 (10.1)	35 (23.5)	22 (14.8)	55 (36.9)	22 (14.8)
Wales	29 (43.9)	9 (13.6)	6 (9.1)	12 (18.2)	10 (15.2)
Scotland	43 (39.4)	19 (17.4)	18 (16.5)	21 (19.3)	8 (7.3)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 6 **Simple univariable and multiple ordered logit regression models for response to "Shopping vouchers for a woman for two months after the birth of her baby if she never lets anyone smoke in her home"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.87	(1.34, 2.60)	< 0.001	1.55	(1.02, 2.35)	0.040
25 - 34	1.80	(1.29, 2.50)	0.001	1.42	(0.97, 2.07)	0.068
35 - 44	1.83	(1.31, 2.56)	< 0.001	1.51	(1.04, 2.17)	0.028
45 - 54	1.40	(0.99, 1.98)	0.058	1.26	(0.86, 1.83)	0.23
55 - 59	0.89	(0.54, 1.44)	0.63	0.88	(0.53, 1.46)	0.62
60 - 64	1.36	(0.88, 2.09)	0.16	1.28	(0.82, 2.00)	0.28
Breastfeeding						
Children breastfed	1.03	(0.83, 1.26)	0.81	1.27	(0.95, 1.71)	0.11
Children						
Have children	0.87	(0.70, 1.08)	0.21	0.96	(0.70, 1.31)	0.78
Ethnicity						
Other ethnicity	2.26	(1.70, 3.01)	< 0.001	1.49	(1.06, 2.08)	0.021
Sex						
Female	0.75	(0.61, 0.92)	0.005	0.72	(0.58, 0.90)	0.003
Education						
GCSE	0.70	(0.53, 0.92)	0.012	0.60	(0.44, 0.83)	0.002
A-level	0.64	(0.47, 0.89)	0.007	0.56	(0.39, 0.79)	0.001
No Formal qualification	0.62	(0.45, 0.86)	0.004	0.66	(0.44, 1.00)	0.048
Other, still studying, don't know	0.93	(0.64, 1.37)	0.73	0.90	(0.59, 1.38)	0.64

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.80	(0.60, 1.07)	0.13	0.84	(0.61, 1.16)	0.29
C2	1.15	(0.83, 1.59)	0.39	1.22	(0.83, 1.79)	0.30
D	0.91	(0.64, 1.31)	0.62	1.05	(0.69, 1.61)	0.81
E	1.33	(0.92, 1.93)	0.13	1.37	(0.88, 2.15)	0.17
Smoking Status						
Previous smoker	0.67	(0.52, 0.87)	0.002	0.79	(0.60, 1.04)	0.089
Current (tried quitting)	1.33	(0.98, 1.80)	0.065	1.48	(1.08, 2.04)	0.016
Current (not tried quitting)	1.22	(0.77, 1.92)	0.40	1.31	(0.81, 2.11)	0.27
Refused to answer	1.00	(0.61, 1.64)	0.99	0.95	(0.57, 1.59)	0.85
Area						
North	0.53	(0.32, 0.87)	0.012	0.74	(0.44, 1.24)	0.25
North West	0.84	(0.57, 1.25)	0.39	1.06	(0.70, 1.60)	0.80
Yorks Hum	0.40	(0.26, 0.63)	< 0.001	0.50	(0.31, 0.81)	0.005
East Midlands	0.43	(0.28, 0.65)	< 0.001	0.53	(0.34, 0.82)	0.004
West Midlands	0.32	(0.19, 0.55)	< 0.001	0.47	(0.27, 0.82)	0.009
East Anglia	0.77	(0.41, 1.45)	0.42	1.08	(0.57, 2.06)	0.82
South East	0.63	(0.39, 1.01)	0.057	1.06	(0.64, 1.75)	0.84
South West	0.49	(0.34, 0.71)	< 0.001	0.77	(0.51, 1.15)	0.20
Wales	0.35	(0.20, 0.60)	< 0.001	0.56	(0.32, 1.01)	0.054
Scotland	0.33	(0.21, 0.52)	< 0.001	0.52	(0.32, 0.83)	0.006

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 7 **Response to "Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	20 (11.8)	32 (18.8)	58 (34.1)	42 (24.7)	18 (10.6)
25 – 34	23 (13.1)	30 (17.1)	45 (25.7)	47 (26.9)	30 (17.1)
35 – 44	25 (13.8)	36 (19.9)	46 (25.4)	39 (21.5)	35 (19.3)
45 – 54	32 (20.1)	34 (21.4)	40 (25.2)	34 (21.4)	19 (11.9)
55 – 59	18 (25.0)	20 (27.8)	16 (22.2)	7 (9.7)	11 (15.3)
60 – 64	31 (33.0)	15 (16.0)	19 (20.2)	18 (19.1)	11 (11.7)
65+	87 (29.7)	44 (15.0)	82 (28.0)	48 (16.4)	32 (10.9)
Breastfeeding					
Children not breastfed	114 (18.0)	120 (19.0)	216 (34.2)	128 (20.3)	54 (8.5)
Children breastfed	122 (23.8)	91 (17.8)	90 (17.6)	107 (20.9)	102 (19.9)
Children					
No children	61 (15.2)	73 (18.2)	138 (34.3)	93 (23.1)	37 (9.2)
Have children	175 (23.6)	138 (18.6)	168 (22.6)	142 (19.1)	119 (16.0)
Ethnicity					
White	226 (22.9)	194 (19.7)	265 (26.9)	184 (18.7)	116 (11.8)
Other ethnicity	10 (6.3)	17 (10.7)	41 (25.8)	51 (32.1)	40 (25.2)
Sex					
Male	93 (17.2)	84 (15.6)	180 (33.3)	115 (21.3)	68 (12.6)
Female	143 (23.7)	127 (21.0)	126 (20.9)	120 (19.9)	88 (14.6)
Education					
University	58 (19.7)	59 (20.0)	72 (24.4)	61 (20.7)	45 (15.3)
GCSE	66 (19.3)	63 (18.4)	90 (26.3)	72 (21.1)	51 (14.9)
A-level	47 (24.4)	40 (20.7)	52 (26.9)	29 (15.0)	25 (13.0)
No Formal qualification	43 (21.8)	28 (14.2)	66 (33.5)	37 (18.8)	23 (11.7)
Other, still studying, don't know	22 (18.8)	21 (17.9)	26 (22.2)	36 (30.8)	12 (10.3)

Variable	SD	D	N	A	SA
Social Grade					
AB	59 (24.7)	40 (16.7)	61 (25.5)	45 (18.8)	34 (14.2)
C1	82 (22.2)	86 (23.2)	85 (23.0)	74 (20.0)	43 (11.6)
C2	41 (17.4)	40 (16.9)	73 (30.9)	50 (21.2)	32 (13.6)
D	31 (19.1)	26 (16.0)	52 (32.1)	33 (20.4)	20 (12.3)
E	23 (16.8)	19 (13.9)	35 (25.5)	33 (24.1)	27 (19.7)
Smoking Status					
Never smoked	113 (19.7)	104 (18.2)	142 (24.8)	139 (24.3)	75 (13.1)
Previous smoker	70 (24.9)	59 (21.0)	72 (25.6)	45 (16.0)	35 (12.5)
Current (tried quitting)	27 (15.4)	33 (18.9)	53 (30.3)	26 (14.9)	36 (20.6)
Current (not tried quitting)	14 (22.2)	11 (17.5)	19 (30.2)	16 (25.4)	3 (4.8)
Refused to answer	12 (23.1)	4 (7.7)	20 (38.5)	9 (17.3)	7 (13.5)
Area					
North	16 (20.8)	16 (20.8)	19 (24.7)	8 (10.4)	18 (23.4)
North West	15 (10.6)	26 (18.3)	41 (28.9)	36 (25.4)	24 (16.9)
Yorks Hum	28 (26.9)	15 (14.4)	32 (30.8)	21 (20.2)	8 (7.7)
East Midlands	22 (20.2)	26 (23.9)	33 (30.3)	22 (20.2)	6 (5.5)
West Midlands	23 (34.8)	14 (21.2)	15 (22.7)	7 (10.6)	7 (10.6)
East Anglia	4 (9.8)	11 (26.8)	8 (19.5)	10 (24.4)	8 (19.5)
South East	14 (17.3)	11 (13.6)	28 (34.6)	15 (18.5)	13 (16.0)
South West	52 (26.0)	37 (18.5)	61 (30.5)	33 (16.5)	17 (8.5)
London	14 (9.4)	25 (16.8)	27 (18.1)	56 (37.6)	27 (18.1)
Wales	23 (34.8)	13 (19.7)	10 (15.2)	9 (13.6)	11 (16.7)
Scotland	25 (22.9)	17 (15.6)	32 (29.4)	18 (16.5)	17 (15.6)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 8 **Simple univariable and multiple ordered logit regression models for response to "Shopping vouchers for women who prove that they are breastfeeding for the first 6 months after birth"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.71	(1.23, 2.37)	0.001	1.71	(1.13, 2.60)	0.012
25 - 34	2.09	(1.49, 2.92)	< 0.001	1.91	(1.31, 2.80)	0.001
35 - 44	1.94	(1.39, 2.71)	< 0.001	1.73	(1.20, 2.50)	0.003
45 - 54	1.32	(0.94, 1.86)	0.11	1.38	(0.95, 2.01)	0.090
55 - 59	0.96	(0.60, 1.52)	0.85	1.02	(0.63, 1.64)	0.95
60 - 64	0.94	(0.61, 1.44)	0.78	1.01	(0.65, 1.59)	0.95
Breastfeeding						
Children breastfed	1.19	(0.96, 1.46)	0.11	1.67	(1.24, 2.25)	0.001
Children						
Have children	0.90	(0.73, 1.11)	0.31	0.80	(0.59, 1.08)	0.15
Ethnicity						
Other ethnicity	3.04	(2.26, 4.10)	< 0.001	2.03	(1.43, 2.88)	< 0.001
Sex						
Female	0.80	(0.65, 0.99)	0.037	0.77	(0.62, 0.95)	0.016
Education						
GCSE	1.03	(0.78, 1.36)	0.84	1.01	(0.74, 1.40)	0.93
A-level	0.76	(0.55, 1.04)	0.089	0.71	(0.50, 1.02)	0.061
No Formal qualification	0.91	(0.66, 1.25)	0.56	1.22	(0.82, 1.82)	0.33
Other, still studying, don't know	1.07	(0.74, 1.57)	0.71	1.10	(0.72, 1.67)	0.67

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.93	(0.70, 1.25)	0.63	0.84	(0.61, 1.16)	0.29
C2	1.23	(0.90, 1.70)	0.20	0.96	(0.66, 1.40)	0.83
D	1.14	(0.80, 1.63)	0.46	0.92	(0.60, 1.40)	0.69
E	1.62	(1.11, 2.37)	0.012	1.21	(0.77, 1.89)	0.41
Smoking Status						
Previous smoker	0.73	(0.56, 0.94)	0.014	0.89	(0.67, 1.17)	0.40
Current (tried quitting)	1.17	(0.87, 1.58)	0.31	1.17	(0.85, 1.61)	0.34
Current (not tried quitting)	0.78	(0.50, 1.23)	0.29	0.75	(0.47, 1.19)	0.22
Refused to answer	0.97	(0.59, 1.59)	0.89	0.91	(0.55, 1.51)	0.71
Area						
North	0.53	(0.32, 0.88)	0.014	0.79	(0.47, 1.35)	0.39
North West	0.76	(0.51, 1.13)	0.18	1.01	(0.66, 1.55)	0.95
Yorks Hum	0.38	(0.25, 0.60)	< 0.001	0.56	(0.35, 0.90)	0.016
East Midlands	0.38	(0.25, 0.59)	< 0.001	0.46	(0.29, 0.71)	< 0.001
West Midlands	0.25	(0.15, 0.42)	< 0.001	0.40	(0.23, 0.69)	0.001
East Anglia	0.73	(0.40, 1.35)	0.32	0.98	(0.52, 1.85)	0.94
South East	0.60	(0.38, 0.97)	0.039	1.01	(0.61, 1.69)	0.96
South West	0.36	(0.25, 0.52)	< 0.001	0.62	(0.41, 0.93)	0.021
Wales	0.30	(0.18, 0.52)	< 0.001	0.53	(0.30, 0.94)	0.029
Scotland	0.48	(0.31, 0.75)	0.001	0.84	(0.52, 1.36)	0.47

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 9 **Response to "A breast pump costing around £40 provided for free on the NHS" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	10 (5.9)	21 (12.4)	58 (34.1)	52 (30.6)	29 (17.1)
25 – 34	18 (10.3)	17 (9.7)	48 (27.4)	57 (32.6)	35 (20.0)
35 – 44	22 (12.2)	24 (13.3)	37 (20.4)	57 (31.5)	41 (22.7)
45 – 54	27 (17.0)	24 (15.1)	34 (21.4)	44 (27.7)	30 (18.9)
55 – 59	10 (13.9)	13 (18.1)	19 (26.4)	22 (30.6)	8 (11.1)
60 – 64	22 (23.4)	10 (10.6)	23 (24.5)	21 (22.3)	18 (19.1)
65+	56 (19.1)	38 (13.0)	89 (30.4)	63 (21.5)	47 (16.0)
Breastfeeding					
Children not breastfed	93 (14.7)	79 (12.5)	210 (33.2)	164 (25.9)	86 (13.6)
Children breastfed	72 (14.1)	68 (13.3)	98 (19.1)	152 (29.7)	122 (23.8)
Children					
No children	49 (12.2)	50 (12.4)	132 (32.8)	119 (29.6)	52 (12.9)
Have children	116 (15.6)	97 (13.1)	176 (23.7)	197 (26.5)	156 (21.0)
Ethnicity					
White	158 (16.0)	132 (13.4)	252 (25.6)	265 (26.9)	178 (18.1)
Other ethnicity	7 (4.4)	15 (9.4)	56 (35.2)	51 (32.1)	30 (18.9)
Sex					
Male	70 (13.0)	62 (11.5)	174 (32.2)	142 (26.3)	92 (17.0)
Female	95 (15.7)	85 (14.1)	134 (22.2)	174 (28.8)	116 (19.2)
Education					
University	31 (10.5)	36 (12.2)	75 (25.4)	87 (29.5)	66 (22.4)
GCSE	54 (15.8)	40 (11.7)	98 (28.7)	89 (26.0)	61 (17.8)
A-level	30 (15.5)	25 (13.0)	51 (26.4)	49 (25.4)	38 (19.7)
No Formal qualification	36 (18.3)	29 (14.7)	56 (28.4)	51 (25.9)	25 (12.7)
Other, still studying, don't know	14 (12.0)	17 (14.5)	28 (23.9)	40 (34.2)	18 (15.4)

Variable	SD	D	N	A	SA
Social Grade					
AB	36 (15.1)	32 (13.4)	55 (23.0)	59 (24.7)	57 (23.8)
C1	57 (15.4)	58 (15.7)	98 (26.5)	99 (26.8)	58 (15.7)
C2	33 (14.0)	23 (9.7)	76 (32.2)	71 (30.1)	33 (14.0)
D	26 (16.0)	20 (12.3)	43 (26.5)	44 (27.2)	29 (17.9)
E	13 (9.5)	14 (10.2)	36 (26.3)	43 (31.4)	31 (22.6)
Smoking Status					
Never smoked	71 (12.4)	68 (11.9)	167 (29.1)	173 (30.2)	94 (16.4)
Previous smoker	50 (17.8)	43 (15.3)	64 (22.8)	76 (27.0)	48 (17.1)
Current (tried quitting)	27 (15.4)	22 (12.6)	40 (22.9)	38 (21.7)	48 (27.4)
Current (not tried quitting)	8 (12.7)	7 (11.1)	17 (27.0)	19 (30.2)	12 (19.0)
Refused to answer	9 (17.3)	7 (13.5)	20 (38.5)	10 (19.2)	6 (11.5)
Area					
North	14 (18.2)	11 (14.3)	13 (16.9)	21 (27.3)	18 (23.4)
North West	7 (4.9)	14 (9.9)	46 (32.4)	49 (34.5)	26 (18.3)
Yorks Hum	21 (20.2)	3 (2.9)	25 (24.0)	28 (26.9)	27 (26.0)
East Midlands	18 (16.5)	28 (25.7)	32 (29.4)	20 (18.3)	11 (10.1)
West Midlands	9 (13.6)	12 (18.2)	13 (19.7)	21 (31.8)	11 (16.7)
East Anglia	5 (12.2)	6 (14.6)	10 (24.4)	13 (31.7)	7 (17.1)
South East	5 (6.2)	8 (9.9)	26 (32.1)	20 (24.7)	22 (27.2)
South West	36 (18.0)	23 (11.5)	70 (35.0)	39 (19.5)	32 (16.0)
London	7 (4.7)	15 (10.1)	37 (24.8)	68 (45.6)	22 (14.8)
Wales	21 (31.8)	13 (19.7)	7 (10.6)	13 (19.7)	12 (18.2)
Scotland	22 (20.2)	14 (12.8)	29 (26.6)	24 (22.0)	20 (18.3)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 10 **Simple univariable and multiple ordered logit regression models for response to "A breast pump costing around £40 provided for free on the NHS"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.60	(1.15, 2.22)	0.005	1.74	(1.14, 2.63)	0.010
25 - 34	1.73	(1.24, 2.41)	0.001	1.63	(1.11, 2.37)	0.012
35 - 44	1.72	(1.23, 2.40)	0.002	1.57	(1.08, 2.27)	0.017
45 - 54	1.24	(0.88, 1.76)	0.22	1.22	(0.84, 1.78)	0.30
55 - 59	1.06	(0.68, 1.67)	0.79	0.92	(0.57, 1.48)	0.74
60 - 64	1.04	(0.68, 1.59)	0.87	0.90	(0.58, 1.41)	0.65
Breastfeeding						
Children breastfed	1.49	(1.21, 1.84)	< 0.001	1.84	(1.36, 2.49)	< 0.001
Children						
Have children	1.13	(0.91, 1.39)	0.27	0.95	(0.70, 1.30)	0.75
Ethnicity						
Other ethnicity	1.46	(1.10, 1.95)	0.009	1.07	(0.76, 1.51)	0.70
Sex						
Female	1.02	(0.83, 1.26)	0.84	0.95	(0.77, 1.18)	0.66
Education						
GCSE	0.73	(0.55, 0.97)	0.028	0.70	(0.51, 0.96)	0.026
A-level	0.76	(0.55, 1.05)	0.099	0.73	(0.52, 1.04)	0.085
No Formal qualification	0.57	(0.41, 0.78)	0.001	0.62	(0.41, 0.93)	0.020
Other, still studying, don't know	0.82	(0.56, 1.19)	0.29	0.87	(0.57, 1.33)	0.53

Social Grade						
C1	0.77	(0.57, 1.03)	0.076	0.84	(0.61, 1.15)	0.28
C2	0.86	(0.62, 1.18)	0.34	0.92	(0.63, 1.34)	0.67
D	0.85	(0.59, 1.22)	0.38	1.02	(0.67, 1.55)	0.93
E	1.25	(0.86, 1.82)	0.24	1.57	(1.00, 2.46)	0.050
Smoking Status						
Previous smoker	0.82	(0.64, 1.06)	0.14	0.93	(0.71, 1.23)	0.62
Current (tried quitting)	1.16	(0.85, 1.59)	0.35	1.13	(0.81, 1.57)	0.47
Current (not tried quitting)	1.09	(0.69, 1.73)	0.71	1.25	(0.78, 2.01)	0.36
Refused to answer	0.64	(0.39, 1.05)	0.076	0.67	(0.41, 1.12)	0.12
Area						
North	0.71	(0.43, 1.18)	0.19	0.86	(0.51, 1.45)	0.56
North West	0.93	(0.63, 1.38)	0.73	1.15	(0.77, 1.74)	0.49
Yorks Hum	0.87	(0.56, 1.37)	0.55	1.05	(0.65, 1.70)	0.84
East Midlands	0.36	(0.24, 0.55)	< 0.001	0.41	(0.26, 0.64)	< 0.001
West Midlands	0.65	(0.39, 1.08)	0.096	0.81	(0.47, 1.41)	0.46
East Anglia	0.71	(0.39, 1.30)	0.26	0.78	(0.42, 1.48)	0.45
South East	1.04	(0.65, 1.68)	0.86	1.40	(0.85, 2.31)	0.19
South West	0.51	(0.35, 0.73)	< 0.001	0.68	(0.45, 1.02)	0.065
Wales	0.32	(0.19, 0.55)	< 0.001	0.44	(0.25, 0.79)	0.006
Scotland	0.53	(0.34, 0.82)	0.004	0.73	(0.45, 1.18)	0.20

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 11 **Response to "Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	19 (11.2)	29 (17.1)	40 (23.5)	61 (35.9)	21 (12.4)
25 – 34	22 (12.6)	32 (18.3)	42 (24.0)	57 (32.6)	22 (12.6)
35 – 44	23 (12.7)	32 (17.7)	43 (23.8)	56 (30.9)	27 (14.9)
45 – 54	32 (20.1)	28 (17.6)	40 (25.2)	35 (22.0)	24 (15.1)
55 – 59	17 (23.6)	15 (20.8)	10 (13.9)	20 (27.8)	10 (13.9)
60 – 64	29 (30.9)	10 (10.6)	22 (23.4)	24 (25.5)	9 (9.6)
65+	92 (31.4)	46 (15.7)	70 (23.9)	53 (18.1)	32 (10.9)
Breastfeeding					
Children not breastfed	125 (19.8)	111 (17.6)	151 (23.9)	168 (26.6)	77 (12.2)
Children breastfed	109 (21.3)	81 (15.8)	116 (22.7)	138 (27.0)	68 (13.3)
Children					
No children	75 (18.7)	66 (16.4)	97 (24.1)	117 (29.1)	47 (11.7)
Have children	159 (21.4)	126 (17.0)	170 (22.9)	189 (25.5)	98 (13.2)
Ethnicity					
White	224 (22.7)	169 (17.2)	223 (22.6)	248 (25.2)	121 (12.3)
Other ethnicity	10 (6.3)	23 (14.5)	44 (27.7)	58 (36.5)	24 (15.1)
Sex					
Male	101 (18.7)	91 (16.9)	130 (24.1)	149 (27.6)	69 (12.8)
Female	133 (22.0)	101 (16.7)	137 (22.7)	157 (26.0)	76 (12.6)
Education					
University	51 (17.3)	45 (15.3)	68 (23.1)	87 (29.5)	44 (14.9)
GCSE	75 (21.9)	59 (17.3)	83 (24.3)	86 (25.1)	39 (11.4)
A-level	39 (20.2)	41 (21.2)	39 (20.2)	48 (24.9)	26 (13.5)
No Formal qualification	48 (24.4)	28 (14.2)	50 (25.4)	51 (25.9)	20 (10.2)
Other, still studying, don't know	21 (17.9)	19 (16.2)	27 (23.1)	34 (29.1)	16 (13.7)

Variable	SD	D	N	A	SA
Social Grade					
AB	50 (20.9)	34 (14.2)	51 (21.3)	70 (29.3)	34 (14.2)
C1	88 (23.8)	76 (20.5)	76 (20.5)	91 (24.6)	39 (10.5)
C2	41 (17.4)	42 (17.8)	59 (25.0)	62 (26.3)	32 (13.6)
D	29 (17.9)	23 (14.2)	44 (27.2)	42 (25.9)	24 (14.8)
E	26 (19.0)	17 (12.4)	37 (27.0)	41 (29.9)	16 (11.7)
Smoking Status					
Never smoked	104 (18.2)	99 (17.3)	135 (23.6)	167 (29.1)	68 (11.9)
Previous smoker	75 (26.7)	48 (17.1)	66 (23.5)	62 (22.1)	30 (10.7)
Current (tried quitting)	32 (18.3)	27 (15.4)	37 (21.1)	43 (24.6)	36 (20.6)
Current (not tried quitting)	13 (20.6)	13 (20.6)	14 (22.2)	16 (25.4)	7 (11.1)
Refused to answer	10 (19.2)	5 (9.6)	15 (28.8)	18 (34.6)	4 (7.7)
Area					
North	19 (24.7)	18 (23.4)	11 (14.3)	17 (22.1)	12 (15.6)
North West	15 (10.6)	26 (18.3)	42 (29.6)	42 (29.6)	17 (12.0)
Yorks Hum	30 (28.8)	11 (10.6)	20 (19.2)	26 (25.0)	17 (16.3)
East Midlands	24 (22.0)	24 (22.0)	25 (22.9)	28 (25.7)	8 (7.3)
West Midlands	19 (28.8)	9 (13.6)	15 (22.7)	17 (25.8)	6 (9.1)
East Anglia	10 (24.4)	6 (14.6)	8 (19.5)	9 (22.0)	8 (19.5)
South East	9 (11.1)	8 (9.9)	25 (30.9)	23 (28.4)	16 (19.8)
South West	53 (26.5)	35 (17.5)	56 (28.0)	43 (21.5)	13 (6.5)
London	8 (5.4)	25 (16.8)	34 (22.8)	59 (39.6)	23 (15.4)
Wales	20 (30.3)	7 (10.6)	9 (13.6)	17 (25.8)	13 (19.7)
Scotland	27 (24.8)	23 (21.1)	22 (20.2)	25 (22.9)	12 (11.0)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 12 **Simple univariable and multiple ordered logit regression models for response to "Additional funding for local health services if they reach targets for the number of women who prove that they have stopped smoking during pregnancy"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	2.24	(1.60, 3.14)	< 0.001	2.28	(1.50, 3.49)	< 0.001
25 - 34	2.05	(1.47, 2.86)	< 0.001	1.83	(1.26, 2.67)	0.002
35 - 44	2.15	(1.54, 3.00)	< 0.001	1.90	(1.32, 2.74)	0.001
45 - 54	1.58	(1.11, 2.23)	0.010	1.57	(1.08, 2.28)	0.017
55 - 59	1.46	(0.91, 2.35)	0.11	1.43	(0.87, 2.34)	0.16
60 - 64	1.18	(0.77, 1.80)	0.44	1.05	(0.68, 1.63)	0.82
Breastfeeding						
Children breastfed	1.02	(0.83, 1.26)	0.83	1.12	(0.83, 1.50)	0.45
Children						
Have children	0.92	(0.74, 1.13)	0.42	1.08	(0.79, 1.49)	0.62
Ethnicity						
Other ethnicity	1.91	(1.43, 2.56)	< 0.001	1.27	(0.90, 1.79)	0.18
Sex						
Female	0.90	(0.73, 1.10)	0.30	0.85	(0.69, 1.06)	0.16
Education						
GCSE	0.74	(0.56, 0.97)	0.030	0.71	(0.51, 0.97)	0.033
A-level	0.77	(0.56, 1.06)	0.11	0.68	(0.48, 0.97)	0.032
No Formal qualification	0.70	(0.51, 0.97)	0.032	0.90	(0.60, 1.35)	0.60
Other, still studying, don't know	0.93	(0.64, 1.36)	0.71	1.12	(0.73, 1.70)	0.60

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.72	(0.54, 0.96)	0.025	0.68	(0.50, 0.94)	0.019
C2	0.97	(0.70, 1.34)	0.86	0.88	(0.60, 1.28)	0.49
D	1.03	(0.72, 1.47)	0.85	0.97	(0.64, 1.47)	0.88
E	1.00	(0.69, 1.46)	0.99	0.94	(0.60, 1.47)	0.78
Smoking Status						
Previous smoker	0.70	(0.54, 0.90)	0.006	0.86	(0.65, 1.13)	0.27
Current (tried quitting)	1.24	(0.91, 1.68)	0.18	1.26	(0.91, 1.75)	0.16
Current (not tried quitting)	0.83	(0.53, 1.32)	0.44	0.87	(0.54, 1.41)	0.58
Refused to answer	1.04	(0.63, 1.69)	0.89	0.96	(0.57, 1.59)	0.86
Area						
North	0.45	(0.27, 0.73)	0.001	0.57	(0.34, 0.96)	0.036
North West	0.68	(0.46, 1.01)	0.058	0.83	(0.55, 1.27)	0.39
Yorks Hum	0.51	(0.32, 0.81)	0.004	0.60	(0.37, 0.98)	0.040
East Midlands	0.42	(0.27, 0.64)	< 0.001	0.47	(0.30, 0.74)	0.001
West Midlands	0.40	(0.24, 0.68)	0.001	0.56	(0.32, 0.96)	0.037
East Anglia	0.57	(0.30, 1.08)	0.086	0.72	(0.37, 1.39)	0.33
South East	0.93	(0.58, 1.48)	0.75	1.42	(0.86, 2.35)	0.17
South West	0.36	(0.25, 0.52)	< 0.001	0.53	(0.35, 0.80)	0.002
Wales	0.56	(0.32, 0.96)	0.035	0.81	(0.46, 1.45)	0.48
Scotland	0.41	(0.27, 0.64)	< 0.001	0.55	(0.34, 0.88)	0.014

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 13 **Response to "Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding" by independent variables**

Variable	SD	D	N	A	SA
Age category					
18 – 24	19 (11.2)	33 (19.4)	46 (27.1)	56 (32.9)	16 (9.4)
25 – 34	22 (12.6)	27 (15.4)	55 (31.4)	49 (28.0)	22 (12.6)
35 – 44	25 (13.8)	35 (19.3)	37 (20.4)	52 (28.7)	32 (17.7)
45 – 54	32 (20.1)	32 (20.1)	39 (24.5)	36 (22.6)	20 (12.6)
55 – 59	18 (25.0)	16 (22.2)	12 (16.7)	17 (23.6)	9 (12.5)
60 – 64	34 (36.2)	14 (14.9)	21 (22.3)	15 (16.0)	10 (10.6)
65+	86 (29.4)	48 (16.4)	77 (26.3)	53 (18.1)	29 (9.9)
Breastfeeding					
Children not breastfed	117 (18.5)	115 (18.2)	192 (30.4)	146 (23.1)	62 (9.8)
Children breastfed	119 (23.2)	90 (17.6)	95 (18.6)	132 (25.8)	76 (14.8)
Children					
No children	63 (15.7)	72 (17.9)	123 (30.6)	107 (26.6)	37 (9.2)
Have children	173 (23.3)	133 (17.9)	164 (22.1)	171 (23.0)	101 (13.6)
Ethnicity					
White	229 (23.2)	189 (19.2)	249 (25.3)	214 (21.7)	104 (10.6)
Other ethnicity	7 (4.4)	16 (10.1)	38 (23.9)	64 (40.3)	34 (21.4)
Sex					
Male	97 (18.0)	85 (15.7)	163 (30.2)	131 (24.3)	64 (11.9)
Female	139 (23.0)	120 (19.9)	124 (20.5)	147 (24.3)	74 (12.3)
Education					
University	58 (19.7)	52 (17.6)	70 (23.7)	79 (26.8)	36 (12.2)
GCSE	69 (20.2)	65 (19.0)	89 (26.0)	79 (23.1)	40 (11.7)
A-level	47 (24.4)	29 (15.0)	49 (25.4)	43 (22.3)	25 (13.0)
No Formal qualification	42 (21.3)	34 (17.3)	58 (29.4)	41 (20.8)	22 (11.2)
Other, still studying, don't know	20 (17.1)	25 (21.4)	21 (17.9)	36 (30.8)	15 (12.8)

Variable	SD	D	N	A	SA
Social Grade					
AB	54 (22.6)	40 (16.7)	59 (24.7)	53 (22.2)	33 (13.8)
C1	84 (22.7)	73 (19.7)	91 (24.6)	89 (24.1)	33 (8.9)
C2	46 (19.5)	37 (15.7)	71 (30.1)	55 (23.3)	27 (11.4)
D	27 (16.7)	29 (17.9)	37 (22.8)	44 (27.2)	25 (15.4)
E	25 (18.2)	26 (19.0)	29 (21.2)	37 (27.0)	20 (14.6)
Smoking Status					
Never smoked	108 (18.8)	99 (17.3)	137 (23.9)	166 (29.0)	63 (11.0)
Previous smoker	73 (26.0)	57 (20.3)	70 (24.9)	52 (18.5)	29 (10.3)
Current (tried quitting)	32 (18.3)	31 (17.7)	48 (27.4)	29 (16.6)	35 (20.0)
Current (not tried quitting)	12 (19.0)	13 (20.6)	17 (27.0)	15 (23.8)	6 (9.5)
Refused to answer	11 (21.2)	5 (9.6)	15 (28.8)	16 (30.8)	5 (9.6)
Area					
North	14 (18.2)	21 (27.3)	17 (22.1)	15 (19.5)	10 (13.0)
North West	17 (12.0)	26 (18.3)	44 (31.0)	35 (24.6)	20 (14.1)
Yorks Hum	25 (24.0)	15 (14.4)	26 (25.0)	24 (23.1)	14 (13.5)
East Midlands	21 (19.3)	21 (19.3)	31 (28.4)	30 (27.5)	6 (5.5)
West Midlands	17 (25.8)	15 (22.7)	16 (24.2)	14 (21.2)	4 (6.1)
East Anglia	6 (14.6)	7 (17.1)	7 (17.1)	10 (24.4)	11 (26.8)
South East	15 (18.5)	8 (9.9)	23 (28.4)	23 (28.4)	12 (14.8)
South West	56 (28.0)	33 (16.5)	61 (30.5)	32 (16.0)	18 (9.0)
London	13 (8.7)	26 (17.4)	26 (17.4)	65 (43.6)	19 (12.8)
Wales	20 (30.3)	11 (16.7)	14 (21.2)	10 (15.2)	11 (16.7)
Scotland	32 (29.4)	22 (20.2)	22 (20.2)	20 (18.3)	13 (11.9)

SD = strongly disagree, D = disagree, N = neither agree not disagree, A = agree, SA = strongly agree; cells are number (row percentages).

Table 14 **Simple univariable and multiple ordered logit regression models for response to "Additional funding for local health services if they reach targets for the number of women who prove that they are breastfeeding"**

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Age category						
18 - 24	1.90	(1.36, 2.64)	< 0.001	1.63	(1.07, 2.49)	0.022
25 - 34	1.96	(1.41, 2.72)	< 0.001	1.64	(1.13, 2.38)	0.010
35 - 44	2.14	(1.53, 3.00)	< 0.001	1.91	(1.32, 2.76)	0.001
45 - 54	1.41	(1.00, 1.99)	0.051	1.38	(0.95, 2.00)	0.088
55 - 59	1.21	(0.76, 1.94)	0.43	1.23	(0.76, 2.01)	0.40
60 - 64	0.81	(0.53, 1.25)	0.34	0.79	(0.50, 1.23)	0.30
Breastfeeding						
Children breastfed	1.07	(0.87, 1.32)	0.54	1.20	(0.89, 1.61)	0.24
Children						
Have children	0.88	(0.71, 1.09)	0.23	0.97	(0.71, 1.33)	0.86
Ethnicity						
Other ethnicity	3.23	(2.40, 4.35)	< 0.001	2.31	(1.63, 3.29)	< 0.001
Sex						
Female	0.84	(0.68, 1.03)	0.099	0.85	(0.69, 1.06)	0.15
Education						
GCSE	0.90	(0.68, 1.19)	0.47	0.92	(0.67, 1.25)	0.58
A-level	0.87	(0.63, 1.21)	0.41	0.86	(0.61, 1.22)	0.40
No Formal qualification	0.85	(0.62, 1.18)	0.33	1.13	(0.76, 1.67)	0.56
Other, still studying, don't know	1.10	(0.75, 1.61)	0.62	1.24	(0.81, 1.89)	0.32

	Simple regression model			Multiple regression model		
Variable	**OR**	**95% CI**	**P value**	**OR**	**95% CI**	**P value**
Social Grade						
C1	0.87	(0.65, 1.16)	0.33	0.76	(0.55, 1.04)	0.086
C2	1.05	(0.76, 1.44)	0.77	0.84	(0.57, 1.22)	0.35
D	1.30	(0.91, 1.86)	0.15	1.07	(0.70, 1.62)	0.77
E	1.20	(0.82, 1.75)	0.34	0.96	(0.62, 1.50)	0.86
Smoking Status						
Previous smoker	0.66	(0.52, 0.86)	0.002	0.83	(0.63, 1.09)	0.18
Current (tried quitting)	1.07	(0.79, 1.45)	0.67	1.08	(0.78, 1.49)	0.64
Current (not tried quitting)	0.85	(0.54, 1.33)	0.47	0.80	(0.50, 1.28)	0.34
Refused to answer	1.04	(0.63, 1.71)	0.89	0.87	(0.52, 1.45)	0.60
Area						
North	0.48	(0.30, 0.78)	0.003	0.76	(0.46, 1.27)	0.29
North West	0.71	(0.47, 1.05)	0.086	1.00	(0.66, 1.53)	0.98
Yorks Hum	0.53	(0.34, 0.83)	0.005	0.79	(0.49, 1.29)	0.35
East Midlands	0.49	(0.32, 0.75)	0.001	0.62	(0.40, 0.97)	0.036
West Midlands	0.36	(0.22, 0.60)	< 0.001	0.64	(0.37, 1.10)	0.11
East Anglia	1.03	(0.54, 1.95)	0.93	1.55	(0.79, 3.02)	0.20
South East	0.74	(0.46, 1.19)	0.21	1.31	(0.79, 2.19)	0.30
South West	0.37	(0.25, 0.53)	< 0.001	0.65	(0.43, 0.99)	0.044
Wales	0.41	(0.24, 0.69)	0.001	0.75	(0.42, 1.31)	0.31
Scotland	0.37	(0.24, 0.58)	< 0.001	0.61	(0.37, 0.99)	0.046

OR is odds ratio; CI is confidence interval; simple univariable regression models included only the categories for that variable; multiple regression include all variables. Reference categories were 65 and over (age), no children breastfed, no children, white ethnicity, male sex, university education social grade A and B combined, never smoked, and London.

Table 15 **Results from the two part model to estimate the acceptable values for shopping voucher among those who agreed with providing vouchers to mothers for smoking cessation**

	Probit (Agree or not)				Amount of shopping voucher			
	β	95% CI		*p*-value	*β*	95% CI		*p*-value
AGE	–0.01	–0.02	0.00	0.10	–0.09	–0.27	0.09	0.33
Region (base category: Greater London)								
North	–0.40	–0.77	–0.03	0.04	–4.07	–13.28	5.15	0.39
North West	0.17	–0.15	0.48	0.30	–0.59	–7.31	6.13	0.86
Yorks and Humberside	–0.27	–0.61	0.08	0.13	–3.80	–12.28	4.69	0.38
West Midlands	–0.31	–0.63	0.02	0.07	–3.65	–11.57	4.27	0.37
East Midlands	–0.18	–0.56	0.21	0.38	–8.59	–18.26	1.08	0.08
East Anglia	–0.02	–0.48	0.43	0.92	5.56	–4.82	15.94	0.29
South West	0.22	–0.15	0.59	0.24	–9.13	–16.14	–2.12	0.01
South East	0.07	–0.23	0.37	0.64	–8.80	–15.09	–2.51	0.01
Wales	–0.40	–0.79	–0.01	0.05	–2.82	–12.40	6.76	0.56
Scotland	–0.14	–0.49	0.20	0.42	–6.43	–14.83	1.97	0.13
Education (base category: University)								
GCSE	–0.30	–0.53	–0.07	0.01	–2.03	–6.74	2.68	0.40
A–level	–0.35	–0.60	–0.10	0.01	–4.07	–9.35	1.22	0.13
No formal qualification	–0.07	–0.36	0.21	0.62	2.20	–3.95	8.35	0.48
Other, still studying, do not know	–0.12	–0.42	0.18	0.42	–3.97	–10.24	2.30	0.21
Smoking status (base category: Never smoker)								
Previous smoker	–0.02	–0.22	0.17	0.81	–1.04	–5.16	3.08	0.62
Current (tried quitting)	0.24	0.01	0.47	0.04	5.27	0.00	10.54	0.05
Current (not tried quitting)	0.05	–0.30	0.41	0.76	3.53	–5.31	12.37	0.43
Refused to answer	0.14	–0.25	0.52	0.49	–3.26	–9.64	3.12	0.32
Breastfeeding experience (base category: no child)								
Yes	0.22	0.03	0.42	0.02	4.59	0.46	8.73	0.03
No	0.17	–0.05	0.39	0.14	–0.55	–5.57	4.47	0.83

	Probit (Agree or not)				Amount of shopping voucher			
	β	**95% CI**		***p*-value**	***β***	**95% CI**		***p*-value**
Social grade (base category: A or B)								
C1	0.01	–0.21	0.24	0.90	–0.21	–5.02	4.60	0.93
C2	0.13	–0.14	0.40	0.35	3.77	–2.03	9.57	0.20
D	0.09	–0.21	0.39	0.55	–1.06	–7.35	5.24	0.74
E	0.41	0.09	0.73	0.01	1.35	–5.56	8.25	0.70
Childbearing age (=1 if age<45)	0.08	–0.22	0.38	0.62	1.96	–4.80	8.71	0.57
Female (=1 if female)	–0.27	–0.43	–0.11	0.00	0.79	–2.59	4.18	0.64
White (=1 if ethnic origin is white)	–0.31	–0.57	–0.05	0.02	–5.21	–10.87	0.44	0.07
Constant	0.90	0.31	1.48	0.00	34.22	21.52	46.92	0.00
R^2					0.1065			
Pseudo R^2	0.0598							
N	1,144				660			

Table 16 **Results from the two part model to estimate the acceptability of targeting incentives to low income women only among those who agreed with providing vouchers to mothers for smoking cessation**

	Probit (Agree or not)				Probit (Women on low income or all)			
	β	95% CI		*p*-value	*β*	95% CI		*p*-value
AGE	–0.01	–0.02	0.00	0.10	0.00	–0.01	0.01	0.66
Region (base category: Greater London)								
North	–0.40	–0.77	–0.03	0.04	–0.19	–0.71	0.34	0.48
North West	0.17	–0.15	0.48	0.30	0.12	–0.25	0.48	0.52
Yorks and Humberside	–0.27	–0.61	0.08	0.13	–0.09	–0.55	0.36	0.69
West Midlands	–0.31	–0.63	0.02	0.07	–0.01	–0.44	0.43	0.97
East Midlands	–0.18	–0.56	0.21	0.38	–0.43	–0.98	0.12	0.13
East Anglia	–0.02	–0.48	0.43	0.92	0.35	–0.22	0.92	0.23
South West	0.22	–0.15	0.59	0.24	0.48	0.02	0.93	0.04
South East	0.07	–0.23	0.37	0.64	0.17	–0.21	0.54	0.38
Wales	–0.40	–0.79	–0.01	0.05	–0.12	–0.70	0.46	0.68
Scotland	–0.14	–0.49	0.20	0.42	0.81	0.34	1.27	0.00
Education (base category: University)								
GCSE	–0.30	–0.53	–0.07	0.01	–0.22	–0.52	0.09	0.16
A–level	–0.35	–0.60	–0.10	0.01	0.09	–0.24	0.42	0.59
No formal qualification	–0.07	–0.36	0.21	0.62	–0.28	–0.66	0.09	0.14
Other, still studying, do not know	–0.12	–0.42	0.18	0.42	–0.14	–0.52	0.25	0.49
Smoking status (base category: Never smoker)								
Previous smoker	–0.02	–0.22	0.17	0.81	–0.08	–0.35	0.19	0.57
Current (tried quitting)	0.24	0.01	0.47	0.04	–0.04	–0.33	0.24	0.77
Current (not tried quitting)	0.05	–0.30	0.41	0.76	–0.12	–0.57	0.32	0.59
Refused to answer	0.14	–0.25	0.52	0.49	–0.00	–0.46	0.46	0.99
Breastfeeding experience (base category: no child)								
Yes	0.22	0.03	0.42	0.02	0.08	–0.17	0.33	0.53

	Probit (Agree or not)				Probit (Women on low income or all)			
	β	**95% CI**		***p*-value**	***β***	**95% CI**		***p*-value**
No	0.17	–0.05	0.39	0.14	0.20	–0.09	0.49	0.18
Social grade (base category: A or B)								
C1	0.01	–0.21	0.24	0.90	0.15	–0.15	0.46	0.32
C2	0.13	–0.14	0.40	0.35	0.12	–0.24	0.49	0.51
D	0.09	–0.21	0.39	0.55	0.23	–0.16	0.63	0.25
E	0.41	0.09	0.73	0.01	0.18	–0.23	0.59	0.38
Childbearing age (=1 if age<45)	0.08	–0.22	0.38	0.62	–0.00	–0.40	0.39	0.99
Female (=1 if female)	–0.27	–0.43	–0.11	0.00	–0.17	–0.37	0.04	0.11
White (=1 if ethnic origin is white)	–0.31	–0.57	–0.05	0.02	0.12	–0.18	0.43	0.43
Constant	0.90	0.31	1.48	0.00	–0.46	–1.23	0.32	0.25
Pseudo R^2	0.0598				0.0523			
N	1,144				660			

Table 17 **Results from the two part model to estimate the acceptable value for shopping voucher among those who agreed with providing vouchers for breastfeeding**

	Probit (Agree or not)				Amount of shopping voucher			
	β	95% CI		*p*-value	*β*	95% CI		*p*-value
AGE	–0.01	–0.01	0.00	0.18	–0.12	–0.29	0.05	0.17
Region (base category: Greater London)								
North	–0.21	–0.60	0.17	0.27	–2.26	–10.77	6.25	0.60
North West	0.00	–0.32	0.33	0.98	–1.36	–7.96	5.23	0.69
Yorks and Humberside	–0.25	–0.60	0.10	0.17	–4.08	–12.30	4.13	0.33
West Midlands	–0.39	–0.73	–0.06	0.02	–4.02	–11.15	3.10	0.27
East Midlands	–0.53	–0.93	–0.13	0.01	–12.68	–21.34	–4.02	0.00
East Anglia	–0.09	–0.57	0.38	0.70	–1.73	–12.38	8.92	0.75
South West	0.23	–0.16	0.61	0.24	–7.50	–14.56	–0.45	0.04
South East	–0.17	–0.47	0.14	0.29	–11.37	–17.49	–5.26	0.00
Wales	–0.45	–0.85	–0.05	0.03	–10.66	–19.14	–2.18	0.01
Scotland	–0.05	–0.41	0.31	0.78	–11.57	–18.62	–4.52	0.00
Education (base category: University)								
GCSE	0.05	–0.19	0.29	0.67	2.31	–2.32	6.93	0.33
A–level	–0.20	–0.45	0.05	0.11	1.74	–3.76	7.25	0.53
No formal qualification	0.31	0.01	0.61	0.04	5.43	–0.47	11.34	0.07
Other, still studying, do not know	0.10	–0.21	0.40	0.54	–0.13	–5.48	5.23	0.96
Smoking status (base category: Never smoker)								
Previous smoker	–0.10	–0.29	0.10	0.33	0.39	–3.85	4.64	0.86
Current (tried quitting)	0.06	–0.17	0.30	0.61	4.70	–0.40	9.81	0.07
Current (not tried quitting)	–0.23	–0.58	0.12	0.19	–1.66	–8.43	5.11	0.63
Refused to answer	0.09	–0.30	0.48	0.65	–2.39	–9.95	5.16	0.53
Breastfeeding experience (base category: no child)								
Yes	–0.01	–0.20	0.18	0.91	6.88	2.77	10.99	0.00
No	–0.16	–0.38	0.06	0.16	–0.54	–4.87	3.79	0.81

	Probit (Agree or not)				Amount of shopping voucher			
	β	**95% CI**		***p*-value**	***β***	**95% CI**		***p*-value**
Social grade (base category: A or B)								
C1	–0.20	–0.42	0.03	0.09	–3.85	–8.80	1.09	0.13
C2	0.02	–0.26	0.29	0.91	–5.36	–10.64	–0.07	0.05
D	–0.01	–0.31	0.30	0.95	–5.43	–11.37	0.51	0.07
E	0.06	–0.26	0.39	0.70	–3.42	–10.14	3.30	0.32
Childbearing age (=1 if age<45)	0.10	–0.20	0.40	0.52	0.35	–6.30	6.99	0.92
Female (=1 if female)	–0.33	–0.49	–0.17	0.00	2.95	–0.38	6.27	0.08
White (=1 if ethnic origin is white)	–0.52	–0.81	–0.23	0.00	–8.44	–13.82	–3.06	0.00
Constant	1.38	0.77	1.99	0.00	38.66	26.40	50.92	0.00
R^2					0.1390			
Pseudo R^2	0.0750							
N	1,144				697			

Table 18 **Results from the two part model to estimate the acceptability of targeting to low income women only among those who agreed with providing vouchers for breastfeeding**

	Probit (Agree or not)				Probit (Women on low income or all)			
	β	95% CI		*p*-value	*β*	95% CI		*p*-value
AGE	–0.01	–0.01	0.00	0.18	0.01	-0.00	0.02	0.10
Region (base category: Greater London)								
North	–0.21	–0.60	0.17	0.27	–0.05	–0.53	0.43	0.84
North West	0.00	–0.32	0.33	0.98	0.18	–0.18	0.54	0.33
Yorks and Humberside	–0.25	–0.60	0.10	0.17	0.18	–0.25	0.61	0.41
West Midlands	–0.39	–0.73	–0.06	0.02	–0.07	–0.49	0.34	0.73
East Midlands	–0.53	–0.93	–0.13	0.01	–0.01	–0.58	0.55	0.96
East Anglia	–0.09	–0.57	0.38	0.70	0.53	–0.04	1.10	0.07
South West	0.23	–0.16	0.61	0.24	0.65	0.21	1.10	0.00
South East	–0.17	–0.47	0.14	0.29	0.18	–0.19	0.55	0.34
Wales	–0.45	–0.85	–0.05	0.03	0.31	–0.24	0.86	0.27
Scotland	–0.05	–0.41	0.31	0.78	0.60	0.18	1.03	0.01
Education (base category: University)								
GCSE	0.05	–0.19	0.29	0.67	0.06	–0.23	0.35	0.68
A–level	–0.20	–0.45	0.05	0.11	–0.00	–0.32	0.32	1.00
No formal qualification	0.31	0.01	0.61	0.04	0.11	–0.26	0.49	0.55
Other, still studying, do not know	0.10	–0.21	0.40	0.54	0.24	–0.14	0.62	0.22
Smoking status (base category: Never smoker)								
Previous smoker	–0.10	–0.29	0.10	0.33	–0.07	–0.34	0.19	0.59
Current (tried quitting)	0.06	–0.17	0.30	0.61	–0.10	–0.38	0.19	0.50
Current (not tried quitting)	–0.23	–0.58	0.12	0.19	–0.13	–0.56	0.30	0.56
Refused to answer	0.09	–0.30	0.48	0.65	0.13	–0.31	0.57	0.56
Breastfeeding experience (base category: no child)								
Yes	–0.01	–0.20	0.18	0.91	–0.06	–0.30	0.18	0.62

	Probit (Agree or not)				Probit (Women on low income or all)			
	β	**95% CI**		***p*-value**	***β***	**95% CI**		***p*-value**
No	–0.16	–0.38	0.06	0.16	0.04	–0.24	0.33	0.76
Social grade (base category: A or B)								
C1	–0.20	–0.42	0.03	0.09	–0.20	–0.49	0.10	0.19
C2	0.02	–0.26	0.29	0.91	–0.09	–0.44	0.25	0.60
D	–0.01	–0.31	0.30	0.95	–0.11	–0.48	0.27	0.58
E	0.06	–0.26	0.39	0.70	–0.15	–0.55	0.25	0.45
Childbearing age (=1 if age<45)	0.10	–0.20	0.40	0.52	0.23	–0.16	0.61	0.25
Female (=1 if female)	–0.33	–0.49	–0.17	0.00	–0.28	–0.48	–0.08	0.01
White (=1 if ethnic origin is white)	–0.52	–0.81	–0.23	0.00	–0.13	–0.42	0.16	0.37
Constant	1.38	0.77	1.99	0.00	–0.47	–1.21	0.27	0.21
Pseudo R^2	0.0750				0.0416			
N	1,144				660			

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation	
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	P1/2
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	P2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	P3/4
Objectives	3	State specific objectives, including any prespecified hypotheses	P4
Methods			
Study design	4	Present key elements of study design early in the paper	P4
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	P4
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants	P4/5
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case	P4/5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	P5
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	P4/5
Bias	9	Describe any efforts to address potential sources of bias	P5
Study size	10	Explain how the study size was arrived at	P5
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	P5
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	P5/6
		(*b*) Describe any methods used to examine subgroups and interactions	P5
		(*c*) Explain how missing data were addressed	P5/6
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy	P5
		(*e*) Describe any sensitivity analyses	N/A

Continued on next page

Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	P6, Table 1
		(b) Give reasons for non-participation at each stage	N/A
		(c) Consider use of a flow diagram	
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	P6. Table 1
		(b) Indicate number of participants with missing data for each variable of interest	P6. Table 1
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)	N/A
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time	
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	
		Cross-sectional study—Report numbers of outcome events or summary measures	*P6-8*
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	P6-8.Tables 2-4. Figure 1. Web appendices of full results
		(*b*) Report category boundaries when continuous variables were categorized	
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	N/A
Discussion			
Key results	18	Summarise key results with reference to study objectives	P8
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	P9
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	P9
Generalisability	21	Discuss the generalisability (external validity) of the study results	P9
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	P12/13

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.