

Benefits of Incentives for Breastfeeding and Smoking cessation in pregnancy (BIBS): a mixed-methods study to inform trial design

Heather Morgan,¹ Pat Hoddinott,^{1,2*} Gill Thomson,³
Nicola Crossland,³ Shelley Farrar,⁴ Deokhee Yi,⁴
Jenni Hislop,^{1,5} Victoria Hall Moran,³
Graeme MacLennan,¹ Stephan U Dombrowski,^{5,6}
Kieran Rothnie,^{1,7} Fiona Stewart,^{1,8} Linda Bauld,⁹
Anne Ludbrook,⁴ Fiona Dykes,³ Falko F Sniehotta,⁵
David Tappin¹⁰ and Marion Campbell¹

¹Health Services Research Unit, University of Aberdeen, Aberdeen, UK

²Nursing, Midwifery and Allied Health Professions Research Unit, University of Stirling, Stirling, UK

³Maternal and Infant Nutrition and Nurture Unit, University of Central Lancashire, Preston, UK

⁴Health Economics Research Unit, University of Aberdeen, Aberdeen, UK

⁵Institute of Health and Society, University of Newcastle, Newcastle, UK

⁶Psychology, University of Stirling, Stirling, UK

⁷London School of Hygiene and Tropical Medicine, London, UK

⁸Academic Urology, University of Aberdeen, Aberdeen, UK

⁹The Institute of Social Marketing, University of Stirling, Stirling, UK

¹⁰Perinatal Epidemiology and Child Health Unit, School of Medicine, University of Glasgow, Glasgow, UK

*Corresponding author

Declared competing interests of authors: Professor Sniehotta is a co-applicant on a National Institute for Health Research (NIHR) Career Development Fellowship for Jean Adams, University of Newcastle (title: Financial incentives for health promoting behaviours). Professor Sniehotta is also a co-applicant on a related grant from the NIHR Health Technology Assessment (HTA) programme [title: Parental incentives and quasi-mandatory schemes for increasing uptake of immunisations in pre-school children (September 2012–July 2014). J Adams, B Bateman, B Gardner Sood, S Michie, J Shucksmith, FF Sniehotta, T Cresswell, L Ternant. Value: £275,419.00]. Professor Linda Bauld is chief investigator on a NIHR HTA grant [title: Facilitators and barriers to smoking cessation in pregnancy (May 2013–April 2015). Bauld L, Graham H, Sinclair L, Flemming K, Naughton F, Tappin D, Gorman D. Value: £250,753.00]. Professor Bauld is also coprincipal investigator on a study funded by the Chief Scientist Office, Scottish Government Health and Social Care Directorates, and the Glasgow Centre for Population Health and NHS Greater Glasgow and Clyde [title: Cessation in Pregnancy Incentives Trial (CPIT) (February 2011–December 2013). Tappin D, Bauld L, Briggs A and colleagues. Value: £850,000.00]. Professor David Tappin is co-applicant on a NIHR HTA grant [title: Facilitators and barriers to smoking cessation in pregnancy (May 2013–April 2015). Bauld L, Graham H, Sinclair L, Flemming K, Naughton F, Tappin D, Gorman D. Value: £250,753.00]. Professor Tappin is also coprincipal investigator on a study funded by the Chief Scientist Office, Scottish Government Health and Social Care Directorates, and the Glasgow Centre for Population Health and NHS Greater Glasgow and Clyde [title: Cessation in Pregnancy Incentives Trial: The CPIT (February 2011–December 2013). Tappin D, Bauld L, Briggs A and colleagues. Value: £850,000.00].

Published April 2015

DOI: 10.3310/hta19300

Plain English summary

Incentives for breastfeeding and smoking cessation in pregnancy

Health Technology Assessment 2015; Vol. 19: No. 30

DOI: 10.3310/hta19300

NIHR Journals Library www.journalslibrary.nihr.ac.uk

Plain English summary

We reviewed the evidence on incentives to help women stop smoking in pregnancy or to breastfeed. We interviewed 88 women/partners, 53 health professionals, 24 experts/service managers and 63 conference attendees to discuss how incentives might work and features of incentive services. We surveyed 1144 members of the general public, 497 health professionals and 320 women who smoke or who smoked.

Voucher incentives of > £20.00 per month, with regular check-ups to prove that smoking has stopped, increase the likelihood that women will stop smoking in pregnancy. Opinion on the acceptability of incentives was mixed. Agreement was more likely in adults aged ≤ 44 years and ethnic minorities (for breastfeeding). Disagreement was more likely among women and the less educated. Incentives for all, regardless of income, were preferred. Of seven potential incentives, a free breast pump worth £40.00 was most acceptable. People supported giving shopping vouchers for stopping smoking in pregnancy more than giving shopping vouchers for (1) stopping smoking after birth, (2) a smoke-free home or (3) breastfeeding. Additional funding for local health services who meet targets had similar support, but doctors disagreed. Concerns included cheating, stigma and wasting money.

Personal difficulties, emotions, socialising and attitudes of family and friends are all challenges in stopping smoking and breastfeeding. An incentive service might address these challenges by including regular telephone, text or face-to-face support; setting goals; including check-ups; providing a buddy; and providing non-judgemental, continuous care from someone with expertise.

Research is needed into whether incentives work on their own and/or with support and the costs compared with the benefits.

ISSN 1366-5278 (Print)

ISSN 2046-4924 (Online)

Impact factor: 5.116

Health Technology Assessment is indexed in MEDLINE, CINAHL, EMBASE, The Cochrane Library and the ISI Science Citation Index and is assessed for inclusion in the Database of Abstracts of Reviews of Effects.

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) (www.publicationethics.org/).

Editorial contact: nihredit@southampton.ac.uk

The full HTA archive is freely available to view online at www.journalslibrary.nihr.ac.uk/hta. Print-on-demand copies can be purchased from the report pages of the NIHR Journals Library website: www.journalslibrary.nihr.ac.uk

Criteria for inclusion in the *Health Technology Assessment* journal

Reports are published in *Health Technology Assessment* (HTA) if (1) they have resulted from work for the HTA programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors.

Reviews in *Health Technology Assessment* are termed 'systematic' when the account of the search appraisal and synthesis methods (to minimise biases and random errors) would, in theory, permit the replication of the review by others.

HTA programme

The HTA programme, part of the National Institute for Health Research (NIHR), was set up in 1993. It produces high-quality research information on the effectiveness, costs and broader impact of health technologies for those who use, manage and provide care in the NHS. 'Health technologies' are broadly defined as all interventions used to promote health, prevent and treat disease, and improve rehabilitation and long-term care.

The journal is indexed in NHS Evidence via its abstracts included in MEDLINE and its Technology Assessment Reports inform National Institute for Health and Care Excellence (NICE) guidance. HTA research is also an important source of evidence for National Screening Committee (NSC) policy decisions.

For more information about the HTA programme please visit the website: <http://www.nets.nihr.ac.uk/programmes/hta>

This report

The research reported in this issue of the journal was funded by the HTA programme as project number 10/31/02. The contractual start date was in February 2012. The draft report began editorial review in October 2013 and was accepted for publication in April 2014. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded 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, NETSCC, the HTA programme or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health.

© Queen's Printer and Controller of HMSO 2015. This work was produced by Morgan *et al.* under the terms of a commissioning contract issued by the Secretary of State for Health. This issue may be freely reproduced for the purposes of private research and study and extracts (or indeed, the full report) may be included in professional journals provided that suitable acknowledgement is made and the reproduction is not associated with any form of advertising. Applications for commercial reproduction should be addressed to: NIHR Journals Library, National Institute for Health Research, Evaluation, Trials and Studies Coordinating Centre, Alpha House, University of Southampton Science Park, Southampton SO16 7NS, UK.

Published by the NIHR Journals Library (www.journalslibrary.nihr.ac.uk), produced by Prepress Projects Ltd, Perth, Scotland (www.prepress-projects.co.uk).

Editor-in-Chief of *Health Technology Assessment* and NIHR Journals Library

Professor Tom Walley Director, NIHR Evaluation, Trials and Studies and Director of the HTA Programme, UK

NIHR Journals Library Editors

Professor Ken Stein Chair of HTA Editorial Board and Professor of Public Health, University of Exeter Medical School, UK

Professor Andree Le May Chair of NIHR Journals Library Editorial Group (EME, HS&DR, PGfAR, PHR journals)

Dr Martin Ashton-Key Consultant in Public Health Medicine/Consultant Advisor, NETSCC, UK

Professor Matthias Beck Chair in Public Sector Management and Subject Leader (Management Group), Queen's University Management School, Queen's University Belfast, UK

Professor Aileen Clarke Professor of Public Health and Health Services Research, Warwick Medical School, University of Warwick, UK

Dr Tessa Crilly Director, Crystal Blue Consulting Ltd, UK

Dr Peter Davidson Director of NETSCC, HTA, UK

Ms Tara Lamont Scientific Advisor, NETSCC, UK

Professor Elaine McColl Director, Newcastle Clinical Trials Unit, Institute of Health and Society, Newcastle University, UK

Professor William McGuire Professor of Child Health, Hull York Medical School, University of York, UK

Professor Geoffrey Meads Professor of Health Sciences Research, Faculty of Education, University of Winchester, UK

Professor John Powell Consultant Clinical Adviser, National Institute for Health and Care Excellence (NICE), UK

Professor James Raftery Professor of Health Technology Assessment, Wessex Institute, Faculty of Medicine, University of Southampton, UK

Dr Rob Riemsma Reviews Manager, Kleijnen Systematic Reviews Ltd, UK

Professor Helen Roberts Professor of Child Health Research, UCL Institute of Child Health, UK

Professor Helen Snooks Professor of Health Services Research, Institute of Life Science, College of Medicine, Swansea University, UK

Please visit the website for a list of members of the NIHR Journals Library Board:
www.journalslibrary.nihr.ac.uk/about/editors

Editorial contact: nihredit@southampton.ac.uk