Incentives in Diabetic Eye Assessment by Screening (IDEAS) trial: a three-armed randomised controlled trial of financial incentives

Gaby Judah,¹ Ara Darzi,¹ Ivo Vlaev,² Laura Gunn,³ Derek King,⁴ Dominic King,¹ Jonathan Valabhji,⁵ Lisa Bishop,⁶ Adrian Brown,⁷ Grant Duncan,⁶ Anna Fogg,⁶ Gemma Harris,⁷ Peter Tyacke⁶ and Colin Bicknell¹*

¹Department of Surgery and Cancer, Imperial College London, London, UK ²Warwick Business School, University of Warwick, Coventry, UK ³Public Health Program, Stetson University, DeLand, FL, USA ⁴Personal Social Services Research Unit, London School of Economics and Political Science, London, UK ⁵Imperial College Healthcare NHS Trust, St Mary's Hospital, London, UK ⁶1st Retinal Screen Ltd, Sandbach, UK ⁷Public Health England, London, UK

*Corresponding author

Declared competing interests of authors: Colin Bicknell has received unrelated fees for consultancy and speaker honoraria from Hansen Medical, Medtronic and Bolton Medical, during the conduct of the study.

Published March 2017 DOI: 10.3310/hsdr05150

Plain English summary

Incentives in Diabetic Eye Assessment by Screening Trial (IDEAS) Health Services and Delivery Research 2017; Vol. 5: No. 15 DOI: 10.3310/hsdr05150

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

Plain English summary

One of the common complications of diabetes is diabetic retinopathy. This is caused by the formation of new, fragile blood vessels in the eye, which can bleed and cause damage, and can even lead to blindness. If retinopathy is detected early, it can be treated more effectively. Therefore, people in England with diabetes are offered annual eye screening. Eighty-one per cent of those invited attend, with lower attendance in poorer areas, and so many are at risk of preventable sight loss. Effective and affordable ways are needed to encourage more people to come to screening, in order to prevent avoidable blindness.

Financial incentives have been used to promote healthy behaviours, such as quitting smoking or having vaccinations. This research tests whether or not different types of incentives can encourage people to attend diabetic eye screening (DES).

Diabetic patients who had not attended screening for at least 2 years were included in the trial, and split into three groups randomly:

- 1. control sent the usual appointment invitation letter
- 2. fixed group sent the usual letter, including a voucher for £10 if they attended their appointment
- 3. lottery group sent the usual letter, including a voucher promising a 1 in 100 chance of winning £1000 if they attended their appointment.

The study found that only 7.8% of control participants (5.5% from the fixed group and 3.3% from the lottery group) attended screening. Therefore, incentives, and the lottery incentive in particular, when compared with control, were not found to be effective ways to increase attendance at DES, and they may even reduce the numbers of people attending.

Health Services and Delivery Research

ISSN 2050-4349 (Print)

ISSN 2050-4357 (Online)

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

Editorial contact: journals.library@nihr.ac.uk

The full HS&DR archive is freely available to view online at www.journalslibrary.nihr.ac.uk/hsdr. 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 Services and Delivery Research journal

Reports are published in *Health Services and Delivery Research* (HS&DR) if (1) they have resulted from work for the HS&DR programme or programmes which preceded the HS&DR programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors.

HS&DR programme

The Health Services and Delivery Research (HS&DR) programme, part of the National Institute for Health Research (NIHR), was established to fund a broad range of research. It combines the strengths and contributions of two previous NIHR research programmes: the Health Services Research (HSR) programme and the Service Delivery and Organisation (SDO) programme, which were merged in January 2012.

The HS&DR programme aims to produce rigorous and relevant evidence on the quality, access and organisation of health services including costs and outcomes, as well as research on implementation. The programme will enhance the strategic focus on research that matters to the NHS and is keen to support ambitious evaluative research to improve health services.

For more information about the HS&DR programme please visit the website: http://www.nets.nihr.ac.uk/programmes/hsdr

This report

The research reported in this issue of the journal was funded by the HS&DR programme or one of its preceding programmes as project number 12/64/112. The contractual start date was in July 2014. The final report began editorial review in July 2016 and was accepted for publication in December 2016. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HS&DR editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report 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 HS&DR 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 HS&DR programme or the Department of Health.

© Queen's Printer and Controller of HMSO 2017. This work was produced by Judah *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).

Health Services and Delivery Research Editor-in-Chief

Professor Jo Rycroft-Malone Professor of Health Services and Implementation Research, Bangor University, UK

NIHR Journals Library Editor-in-Chief

Professor Tom Walley Director, NIHR Evaluation, Trials and Studies and Director of the EME 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

Dr Tessa Crilly Director, Crystal Blue Consulting Ltd, UK

Dr Eugenia Cronin Senior Scientific Advisor, Wessex Institute, UK

Ms Tara Lamont Scientific Advisor, NETSCC, UK

Dr Catriona McDaid Senior Research Fellow, York Trials Unit, Department of Health Sciences, University of York, UK

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

Professor Geoffrey Meads Professor of Health Sciences Research, Health and Wellbeing Research Group, University of Winchester, UK

Professor John Norrie Chair in Medical Statistics, University of Edinburgh, 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 Jonathan Ross Professor of Sexual Health and HIV, University Hospital Birmingham, UK

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

Professor Jim Thornton Professor of Obstetrics and Gynaecology, Faculty of Medicine and Health Sciences, University of Nottingham, UK

Professor Martin Underwood Director, Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, 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: journals.library@nihr.ac.uk