Incentives in Diabetic Eye Assessment by Screening (IDEAS) Trial
Chief Investigator: Mr. Colin Bicknell

Version 1.1

21st May 2014

MAIN SPONSOR: Imperial College London

FUNDERS: **NIHR,** 12/209 HS&DR Researcher Led programme

STUDY COORDINATION CENTRE: St. Mary's Hospital, London

JRCO REF:

CSP:

NRES REF:

Protocol authorised by:

Name & Role	Date	Signature

This protocol describes the IDEAS trial and provides information about procedures. Every care was taken in its drafting, but corrections or amendments may be necessary. These will be circulated to investigators in the study. Problems relating to this study should be referred, in the first instance, to the Chief Investigator.

This study will adhere to the principles outlined in the NHS Research Governance Framework for Health and Social Care (2nd edition). It will be conducted in compliance with the protocol, the Data Protection Act and other regulatory requirements as appropriate.

Study Management Group

Chief Investigator: Mr. Colin Bicknell

Co-investigators: Dr Ivo Vlaev, Mr Dominic King, Dr Laura Gunn, Prof Ara Darzi, Prof Jonathan Valabhji, Dr Derek King. Lisa Bishop, Adrian Brown, Gemma Harris

Study Coordination Centre

For general queries, supply of study documentation, and collection of data, please contact:

Chief Investigator: Colin Bicknell

Secretary: Alison DesLandes

Address: Vascular Secretaries Office, St Mary's Hospital, Praed Street, London, W2 1NY

Tel: 0203 312 6072

E-mail: Alison.deslandes@imperial.nhs.uk

Clinical Queries

Clinical queries should be directed to Mr Colin Bicknell who will direct the query to the appropriate person.

Address: Vascular Secretaries Office, Waller Cardiac Building, St. Mary's Hospital, Praed Street, London, W2 1NY

Tel: 0203 312 6072 E-mail: colin.bicknell@imperial.ac.uk

Sponsor

Imperial College London is the main research Sponsor for this study. For further information regarding the sponsorship conditions, please contact the Head of Regulatory Compliance at:

Joint Research Compliance Office, Imperial College London and Imperial College Healthcare NHS Trust, Room 501, 5th Floor, Lab Block, Charing Cross Hospital, Fulham Place Road, London, W6 8RF

Tel: 0203 311 0206 Fax: 0203 311 0203

STUDY SUMMARY

LONG TITLE	Incentives in Diabetic Eye Assessment by Screening (IDEAS) Trial
SHORT TITLE	IDEAS
DESIGN	Randomised controlled trial
TRIAL DESCRIPTION	This trial is a randomised controlled trial to assess whether annual attendance rates at diabetic eye screening appointments in Kensington, Chelsea and Westminster could be improved by offering invitees a small financial incentive.
Research Questions	1. Are incentives an effective strategy to encourage participation in the screening programme? 2. Does the design of the financial incentive scheme affect its effectiveness in influencing participation in health screening? 3. Does the choice of incentive scheme, if successful, attract patients who have a different demographic or socioeconomic status to those who attend screening regularly? 4. Is offering these incentives a cost-effective strategy for enhancing participation?
POPULATION	Patients identified from the Diabetic Eye Screening Programme
ELIGIBILITY	Patients, aged 16 and older, who were invited to screening in the last 24 months on a yearly basis and failed to attend or contact the screening service to rearrange an appointment will be studied.
DURATION	24 months

PROJECT TIMELINES

Lead into project – ethical approval
0 - 6 months – set up, letter and incentive design and approval with patient representation
6 - 18 months – Invitation of previous non-attenders after randomisation – data (attendance and demographic information) collection (this is all one process, using the existing database within 1st Retinal Screening Ltd)
18 - 24 months – Analysis, write up and dissemination

1. INTRODUCTION

1.1 BACKGROUND

An increasing emphasis is being placed on preventative healthcare in the NHS. Screening programmes currently exist in many clinical areas including diabetic retinopathy as well as breast cancer, cervical cancer and cardiovascular disease. In many contexts the benefits of health screening are well documented, but concerns exist about the effectiveness and cost-effectiveness of such programmes as uptake to screening may be very poor in some, generally hard to reach, communities. There are many ways of trying to encourage participation in health promoting activities and it is likely real shifts in behaviour will only come about with a mix of strategies. In this study we set out to see if we can improve screening rates in London, which has both high and low levels of deprivation and specific populations with poor attendance. The ultimate success of a high-quality screening program depends on the uptake rate of the population and novel solutions are required to meet the challenge of achieving this.

Diabetes is an increasing public health concern worldwide. There are 2.9 million people diagnosed with diabetes in the UK and an estimated 850,000 people who have the condition but are not recognised (1). Whilst the rates of other vascular risk factors such as hypertension, smoking and hypercholesterolaemia are falling, the rates of diabetes in the UK are rising. This is despite the co-ordinated efforts of primary and secondary care prevention programmes.

All patients with diabetes are at risk of developing diabetic retinopathy. This condition is caused by the microscopic damage to small blood vessels to the eye. There is proliferation (growth) of these vessels and these new fragile vessels may bleed and destroy the retina leading to sight loss. It is estimated that in England every year 4,200 people are at risk of blindness caused by diabetic retinopathy and there are 1,280 new cases of blindness caused by diabetic retinopathy. It is the leading cause of sight loss in the UK in the working population and therefore there is a significant social and financial burden associated with the condition. However with timely diagnosis and treatment the risk of blindness can be dramatically reduced. As this condition may well remain silent until catastrophic late manifestations of the disease are evident, the need for an effective screening programme is obvious.

The National Screening programme was implemented in England between 2003 and 2006. This involves an annual retinal digital photographic screening offered to all people aged 12 years and older diagnosed with type 1 and type 2 diabetes. The test involves administration of eye drops to the eye and a photograph of the retina taken without contact with the eye. The success of this screening programme is without contest. In 2011-2012, 2,587,000 people in England aged 12 and over were identified with diabetes and over 90% were offered screening for diabetic retinopathy. 1,911,000 received screening which equates to an uptake of 81% (2). However there is significant variability in uptake in differing areas.

Although screening is offered in multiple locations including GP surgeries and hospitals, the poor uptake of screening in socially deprived areas is well documented. For example, in Gloucestershire (3), with each increasing quintile of deprivation, diabetes prevalence increases (odds ratio 0.84), the probability of having been screened for diabetic retinopathy decreases (odds ratio 1.11), and the prevalence of sight-threatening diabetic retinopathy among screened patients increases also (odds ratio of 0.98).

Since the effectiveness of any screening programme is intimately linked to the uptake by the population (and in particular uptake by those most at risk), simple, inexpensive and cost effective strategies are required by the NHS to influence population health behaviours in domains where choices are often in sharp contrast to underlying intentions. This has relevance to diabetic retinopathy screening but also more widely as we increasingly try to prevent disease rather than simply treat it.

Incentives are central to economics and are used across the public and private sectors to influence behaviour. Psychological phenomena from behavioural economics allow us to design incentive-based interventions that are more effective at delivering improved outcomes. Personal incentives have been used to motivate patients and general populations to change their behaviour (4). Examples of behaviours targeted include smoking and drug use cessation. Incentives can include cash, vouchers or benefits-in-kind and they can have a profound effect on individual behaviour at

a relatively small cost. Interest in offering incentives to foster healthier lifestyles has increased, as the full economic and social costs of bad choices and unhealthy behaviour have become apparent. Incentives have previously been used to improve cancer screening rates, but they have been targeted at the providers of the service rather than people invited to attend for screening. Financial incentives have been seen to be more effective in increasing performance of infrequent behaviours (e.g. vaccinations) rather than in more sustained behaviours (e.g. smoking). As screening usually requires discrete one-off behaviours, incentives may be particularly effective in increasing their uptake.

A wider use of incentives in public health interventions is a more recent phenomenon and has attracted controversy and concerns about whether they are effective (and cost effective) or not. This study will provide evidence to policy makers about the role of different incentive schemes in encouraging health promoting behaviours. We do not suggest that providing incentives is the only answer to encouraging screening participation, but if we demonstrate good evidence that they are effective (and cost effective), their targeted application may be indicated. Equally demonstration that incentives of this type are not effective may prevent unnecessary financial loss from the NHS if wider rollout of such programmes is considered.

2. AIM AND EXPECTED IMPACT

The overall aim of this study is to determine whether financial incentives are a cost effective strategy to increase the attendance of subjects who have previously failed to attend diabetic eye screening and what is the effect on health equity. The findings are likely to be generalisable in other areas where incentives could be used to encourage specific health behaviours. This study also explores the potential role of behavioural economics in designing behaviour change interventions in healthcare that is currently the focus of significant interest from policymakers.

Specifically, in this study we will trial different incentive schemes utilising insights from behavioural economics in the context of diabetic retinopathy screening in an attempt to determine:

1. Are incentives an effective strategy to encourage participation in the screening programme?
There is good evidence that screening for diabetic retinopathy is an effective strategy for reducing blindness attributable to the disease but to be cost-effective the screening programme requires good attendance. Evidence from sites suggests that attendance in areas with the greatest socioeconomic deprivation is suboptimal. Interventions to encourage participation in health screening can take many forms including information campaigns and appointment reminders. We set out to see whether targeted financial incentives can be used to bring about changes in health screening participation.

2. Does the design of the financial incentive scheme affect its effectiveness in influencing participation in health screening?
There are many ways in which incentives to encourage screening participation could be delivered. The reward could be given to everyone sent an invitation letter or it could be given only on completion of screening. Different incentive designs could lead to different outcomes and we would like to determine which is the most effective. If health providers and policymakers are going to use incentives to change health behaviours then we want to provide them with better information on what works best.

3. Does the choice of incentive scheme, if successful, attract patients who have a different demographic or socioeconomic status to those who attend screening regularly?
A particular concern is that those in deprived socio-economic groups are less likely to attend screening, exacerbating existing inequalities in health. By investigating the impact of our incentive schemes on the demographic profile of those who attend, we hope to learn more about the way in which incentives might be developed to target specific health inequalities. We will obtain information about age sex, postcode and hence social deprivation status and distance from screening centre and GP practice.

4. Is offering these incentives a cost-effective strategy for enhancing participation?

In the current financial environment it is also important to ensure that any interventions are cost-effective. Economic evaluation using well-established economic models will be performed to determine value for money.

3. STUDY DESIGN

This trial is a randomised controlled trial to assess whether annual attendance rates at diabetic eye screening appointments in Kensington, Chelsea and Westminster could be improved by offering invitees a small financial incentive.

Study participants will be identified from the Diabetic Eye Screening Programme prior to commencement of the study and will comprise of all patients aged 16 and over in that geographical area who have been invited to screening in the previous 24 months who did not attend and have not contacted the screening service to rearrange an appointment. Due to contractual requirements, the normal, annual invite process will continue for participants of the trial. A minimum 3 month period will be left between any of the standard invitation letters and enrolment into the trial to ensure we do not enrol patients who are late to contact the screening service but intend to do so. Data from the screening programme for the year 01/04/2011 to 31/03/2012 suggests that in order to attain the required study size the active study period will take approximately 12 months. During this, all invitees aged 16 and over will be randomised, prior to invitation, between the three study groups:

Group 1 – Control Group**:** Standard invitation letter from the Screening Service.

Group 2 – Fixed Incentive: Standard invitation letter but with additional text offering a financial incentive (£10) after screening is completed. To provoke loss aversion, we will send £10 fake banknote to be exchanged for cash at the clinic after screening, and we will also print the following message in the letter: "This £10 banknote will **lose** its value after your screening date, unless you call us to reschedule prior to your original appointment date."

Group 3 – Probabilistic Incentive: Standard invitation letter but with additional text offering a financial incentive (lottery offering 1% chance to win £1000). Specifically, the patients will be informed that their names will be entered into a random draw with a 1 in 100 chance of winning £1000, because the names of 1% of the screened patients will be selected in a random draw by a patient representative. To provoke loss aversion, we will also print the following message in the letter: "This lottery ticket will **lose** its value after your screening date, unless you call us to reschedule prior to your original appointment date."

Invitees will be identified through the Diabetic Eye Screening Programme managed by 1st Retinal Screen Ltd. A randomisation list will be prepared in advance by our statistician, using simple randomisation and appropriate block sizes. 1st Retinal Screen Ltd will provide an anonymised list which we will use to randomise all patients (in one go) into different arms at the start or the study; then 1st Retinal Screen will invite patients (sending the invitee the appropriate appointment letter). We will arrange clinic appointments so that the cohorts are invited to attend a dedicated 1st Retinal Screen clinic. The screening will take place at alternate sites every fortnight. Our researcher will attend these clinics and deliver the money to the patients in Group 2.

Patients will be allowed to call the bookings number to reschedule and thus extend the validity of the incentive offer. In such cases, 1st Retinal will amend the booking date within the database and patients will appear on the appropriate clinic list. As such patients will be monitored in the same way as attendees who do not reschedule.

The correspondence will be designed in conjunction with our patient representative group and agreed with the National Screening research council. The control group will receive a letter detailing information on the screening programme and diabetic retinopathy in general. The correspondence for intervention groups will also include the relevant incentive, again designed in conjunction with the patient representative.

Once randomised, participants will be sent the letter, at the same time as the screening appointment letter, which, if in groups 2 and 3 will also detail the incentive that is being offered. The patients in group 2 will get the incentive when

they turn up at the clinic (our researcher will supply the money to each clinic as well as signature forms), patients in group 3 will need to collect the lottery winnings at the end of the trial. We will follow the following protocol:

£10 payments:

- The researcher will deliver payments to the patients on attendance at the screening appointment. The patient must bring their appointment letter and fake banknote with them to receive the £10. A clinic list will also be provided for the patient to sign next to their name to say they have received it (the researcher will administer this list).
- We will invite this cohort to dedicated clinic sessions the researcher will attend and hand over the £10.

Lottery payment:

- The patient will be asked to complete their best contact details so 1st Retinal Screening can inform them at the end of the trial if they are the winner.
- Patients will be informed that their lottery ticket will be entered into a random draw with a 1 in 100 chance of winning £1000. A patient representative will select the lottery tickets of 1% of the screened patients in a random draw (using an urn containing the anonymised tickets of screened patients from which the patient representative will pick the required numbers). This lottery will be drawn just once during the study after all (scheduled and rescheduled) screening appointments.
- 1st Retinal will re-invite lottery winners again in person (prompted by a letter or phone call), and have researcher hand over the £1,000 prize.

1st Retinal Screen Ltd, in conjunction with the Imperial College London team, will undertake the following tasks:

- Design of 2 leaflets, the lottery ticket and the fake £10 banknote,
- Printing of 2 leaflets, the lottery ticket and the fake £10 banknote
- Design and print of letter to lottery winners/non winners, all before patient and ethical committee approvals
- Postage for all of the above
- Administration of sending letters, making bookings, handling queries
- Management of screeners and reporting outcomes
- IT support for managing trial, writing scripts, reporting outcomes
- Research for choosing appropriate pre-defined screening sites based on demographics

1st Retinal Screen will take ownership of appointment letters and lottery letters. 1st Retinal Screen will also provide the trials unit with the data agreed and set out in the protocol.

1st Retinal Screen is currently carrying out a very comprehensive register cleanse to ensure its accuracy. As with all Diabetic Eye Screening Programmes, they rely on GP data and therefore the DES register is only as accurate as the GP data.

Attendance at the screening appointment will be monitored by 1st Retinal Screen (Lisa Bishop) and the researcher via the screening programme central information databases. Our team will monitor who has turned up and who has been paid in the following way:

- 1st Retinal Screen Ltd will arrange dedicated fortnightly clinics with fixed appointments. This also avoids issues with the patient going back to waiting room full of patients who are not part of this trial and discussing incentive schemes. 1st Retinal have decided on dedicated **fortnightly** clinics with 60 booked appointments at each clinic, therefore providing capacity of 1,440 appointments over the 12 month period.
- The invitation (correspondence) process would be managed by 1st Retinal Screen Ltd on behalf of the study team.
- Use clinic lists with signature page for receipt of money; the researcher will be present to manage this and issue reward (the screening will take place on alternate days so they will not overlap, and therefore the researcher will be able to manage this task).
- Attendance will be logged by the Diabetic Retinal Screening Management System.

For information governance and patient confidentiality/consent reasons, 1st Retinal Screen Ltd would not be able to pass patient identifiable demographic data to the researcher. 1st Retinal Screen Ltd will provide anonymised data regarding the cohort's age, gender, deprivation status (calculated from postcode), and ethnicity (subject to availability). The central administration office is located at Brook House, 501 Crewe Road, Wheelock, Cheshire, CW11 3RX (www.1stretinalscreen.com). This is a secure location, already used for storage of patient records and is already set up with internet access and information management systems with dedicated filing storage space.

Dedicated screening venues are already set up across the region for patient access. Information from each screening site is already fed back to the central administration office and held on a central DES register.

The anonymised demographic data will be used to assess whether the efficacy of our financial incentives is the same in all subgroups. Other relevant variables that may explain screening attendance include patients' health beliefs about, and attitudes toward, screening and incentives. However, there is a methodological problem with this approach, because measuring such psychological determinants in attendees does not inform us about the level of those determinants among non-attendees. Therefore, asking patients to fill in surveys is not justified within the proposed setting. However, we will run a separate survey measuring those constructs, plus other variables such as beliefs about the role of incentives in promoting screening and intentions to attend screening. This approach will allow cross sectional comparison across populations and will provide more complete information about determinants of screening compliance and attitudes toward incentives. We will not ask for funding for this project as one of our masters student will be collecting surveys with diabetic eye screening patients. This project is described in more detail in the section 'Patient and Public Involvement' below.

The primary outcome measure of this trial is the difference in attendance rates at screening appointments after different incentives are offered compared to a control group to study the influence of different incentives on screening uptake.

As secondary outcome measures we will also assess:
- Which incentive scheme is most effective
- The cost effectiveness of different incentives on increasing uptake.
- The impact on equity - whether incentives may encourage different groups to attend screening that may otherwise have not.

If there are significant differences in screening uptake and the demographic/risk factor profile between incentive schemes then a more detailed calculation of the impact of incentives is planned.

- *Health Economics:*

An economic analysis will be carried out using Diabetic Retinopathy Screening health economic model designed for calculation of economic benefit of screening in our trial. Projected numbers of additional patients with diabetic retinopathy that would be detected in the screening programmes as a whole, if each intervention were to be implemented, will also be calculated. Parameter values will be adjusted for changes in uptake and to incorporate additional costs of incentives estimated by the study, to compare cost effectiveness of each compared to the control group. A Markov model will be developed to assess the cost-effectiveness of screening from the NHS perspective. The model will be populated using treatment effect, baseline risk and subsequent patient-follow up data from the trial as well as data sources within the published literature. Costs involved in delivering each intervention will be considered, mainly using unit costs for health and social care as compiled by the Personal Social Services Research Unit at the University of Kent. The primary cost of the intervention will be staff time spent delivering the screening and the monetary incentives provided. Resource use data will be collected in the trial as well as gathered in the literature. Assessments will be made for both the short and long-term. The model focussing on the short-term will compare the cost per screening appointment with estimates of the costs associated with sight-loss and effectiveness of screening. A model of a longer term time horizon of 5 years will consider more complex transitions in health states and their

associated costs. Sensitivity analysis will be conducted to determine the impact upon cost-effectiveness of changes in the key parameters within the model.

4. PARTICIPANT ENTRY

4.1 INCLUSION CRITERIA

Study participants will be identified from the Diabetic Eye Screening Programme prior to commencement of the study and will comprise of all patients aged 16 and over in that geographical area who have been invited to screening in the previous 24 months who did not attend and have not contacted the screening service to rearrange an appointment. Due to contractual requirements, the normal, annual invite process will continue for participants of the trial. A minimum 3 month period will be left between any of the standard invitation letters and enrolment into the trial to ensure we do not enrol patients who are late to contact the screening service but intend to do so.

4.2 EXCLUSION CRITERIA

- Minors (<16 years old)
- Patients who have contacted the service to rearrange an appointment

5. STATISTICS AND DATA ANALYSIS

Simple summary statistics and tables will be used to describe the study arms (number invited, number of attendees, median age, etc). Attendance will be defined as attendance as per the date on the appointment letter or the date of the rescheduled appointment. (yes/no). The proportion of invitees in each study arm who attend for diabetic eye screening will be calculated and a series of Chi-squared tests performed (one for each of the two planned comparisons: group 1 vs. group 2 and group 1 vs. group 3) to test the hypothesis of no association between the study arm and attendance. A subsidiary logistic regression analysis will also be performed to investigate the relationship between attendance and individual characteristics (age and distance from screening centre, deprivation score, for example), i.e. using data routinely collected by the Diabetic Eye Screening Programme; which will allow us to assess whether the intervention appears more or less effective in some subgroups.

6. REGULATORY ISSUES

6.1 ETHICS APPROVAL

The Chief Investigator will have obtained approval from NRES Committee London before the start of this study. The study will be conducted in accordance with the recommendations for physicians involved in research on human subjects adopted by the 18th World Medical Assembly, Helsinki 1964 and later revisions.

6.2 CONSENT

Patients will not be consented for inclusion in this trial. No identifiable information will be passed from the 1st Retinal Screening team to the study team.

6.3 CONFIDENTIALITY

The Chief Investigator will preserve the confidentiality of participants taking part in the study and is registered under the Data Protection Act.

Data management will be initially from the 1st Retinal Screen's screening database. The statistician will assign ID numbers when she does the randomisation lists. All the information needed for this study will be on the screening database, which will be sent anonymously and electronically (in a spreadsheet) to the statistician for analysis at the end of the study.

6.4 INDEMNITY

Imperial College London holds negligent harm and non-negligent harm insurance policies, which apply to this study.

6.5 SPONSOR

Imperial College London will act as the main Sponsor for this study. Delegated responsibilities will be assigned to 1st Retinal Screening.

6.6 FUNDING

NIHR HS&DR

6.7 AUDITS

The study may be subject to inspection and audit by Imperial College London under their remit as sponsor and other regulatory bodies to ensure adherence to GCP and the NHS Research Governance Framework for Health and Social Care (2nd edition).

6.8 ADVERSE EVENT PROCESSES

A formal data monitoring committee will not be convened for this trial as adverse events specific to the incentives are thought to be unlikely to reported. Interim safety and efficacy data will not be reviewed unless adverse events secondary to the intervention occur.

Any concern or complaint raised by patients will be studied by the study management group consisting of study co-applicants. Any adverse event that occurs during the study will be considered by the study management group consisting of study co-applicants (which includes participants from 1st Retinal, NHS England and Imperial College London). In the unlikely event of an adverse event thought to be a result of the study intervention, this will be reported to the ethics committee and the sponsor, with amendments to the study protocol made as necessary.

7. STUDY MANAGEMENT

The study will be coordinated by the researcher based at Imperial College London in close collaboration with Lisa Bishop, General Manager at 1st Retinal Screen Ltd (e-mail: lisa.bishop@1stretinalscreen.com) and Gemma Harris, Population Health Practitioner Manager, North West London (email: gemmaharris1@nhs.net).

1st Retinal Screen Ltd will provide two screening centres for the trial:
1) Beta Cell Unit, Outpatients, LG Floor, Chelsea and Westminster Hospital, 369 Fulham Road London, SW10 9NH
2) Diabetes and Endocrine Unit, 1st Floor, Mint Wing, St Marys Hospital, Praed Street, W2 1NY

Attendance at the screening appointment will be monitored by the researcher. The anonymised data will be provided by 1st Retinal Screen for analysis. This anonymous data will be treated with the appropriate data security measures as discussed above.

All team members (listed below in the section 'Expertise and justification of support required') plus a patient representative will meet on a 6 monthly basis to discuss trial progress. Those 4 team meetings will be responsible for:

- Agreement of the final Protocol
- Agreeing the Statistical Analysis Plan
- Reviewing progress of the study and, if necessary, agreeing changes to the Protocol
- Review and approval of study reports

8. PUBLICATION AND DISSEMINATION POLICY

The findings from this study will be disseminated to NHS Diabetic Eye Screening Programme, local stakeholders, and other NHS screening organisations through briefs/newsletters and working paper documents. The findings will be shared with the screening service commissioners NHS England (the commissioners may like to have input into who the findings are shared with).

The trial management group will be responsible for drafting the main reports from the study. Draft copies of any manuscripts will be provided to the Kensington, Chelsea and Westminster Diabetic Eye Screening Programme for review prior to publication.

The main findings will be submitted for publication in peer-reviewed scientific journals and presented in national and international conferences, such as the Annual Meeting & Exposition of the American Public Health Association, and the UK Faculty of Public Health. We will assess both the effectiveness and cost-effectiveness of our financial incentives on uptake to diabetic Eye Screening. We will provide updated information concerning the publication of trial results on a trial-related Web site linked to the trials unit home page. Specialist diabetes and non-specialist practitioners will be targeted, for example through national society conferences and newsletters. The trial results will, in particular, be shared with the National screening committee. The study results will also be presented to healthcare commissioners and policy makers at appropriate meetings and publications. A summary of results, in language appropriate for lay persons, will be sent to all relevant patient groups.

Expected outputs from this study will impact a number of interested parties:

For Policymakers
- On completion, we will produce an executive summary of our findings to be distributed to relevant policymakers.
- We will target key policymakers through a public event organised in conjunction with the Centre for Health Policy at Imperial College London. We will present the results from the study and discuss the role of providing incentives in health screening and public health.

For Clinicians and Health Managers
- We will present the findings from the study to the National screening committee. We will also target academic conferences where the results are likely to provoke debate and have an impact (e.g. Major Public Health conferences).
- We will aim to publish the findings of the study in widely disseminated, high impact academic journals.

For Patients/Public
- We will produce a short, easy to understand summary of our research findings that will be available from our website or that can be sent to interested persons, GPs, nurses, and screening providers.

For Academics
- We will make our intervention methodology and results available through presentations, workshops, conferences, the website, working papers and journal articles. We will provide an interactive framework on a web based platform to facilitate the adoption of our model and methodology in other fields. The dissemination strategy for our findings will be aimed at reaching the largest possible stakeholder audiences.
- We will publish our results in high impact peer-reviewed journals: such as the Lancet; British Medical Journal; American Journal of Public Health, Health Psychology, and the Journal of Health Economics where our team members have previously published.
- We will present our findings at conferences and in clinical settings (e.g. the International Society for Quality in Healthcare, the Annual Meeting & Exposition of the American Public Health Association, and the UK Faculty of Public Health).
- We will organise a series of dissemination events, including a formal press release, targeted at clinicians, academia (including economists, psychologists and health service researchers), government and policy makers, and patient support groups and the general public.

- We will maintain and develop the study internet site, initially used as a public and participant information tool, to disseminate our findings, and to facilitate the adoption of our model and methodology in other fields.

9. REFERENCES

1. Diabetes UK, searched 12th Feb 2013
http://www.diabetes.org.uk/Guide-to-diabetes/Introduction-to-diabetes/What_is_diabetes/

2. NHS diabetic eye screening website, searched 12th Feb 2013
http://diabeticeye.screening.nhs.uk/statistics

3. Scanlon P H, S C Carter, C Foy, R FA Husband, J Abbas and MO Bachmann. Diabetic retinopathy and socioeconomic deprivation in Gloucestershire. J Med Screen 2008;15:118–121.

4. Marteau TM, Ashcroft RE, Oliver A. Using financial incentives to achieve healthy behaviour. BMJ 2009;338:b1415.