ISRCTN17975376 https://doi.org/10.1186/ISRCTN17975376

Physical Activity Loyalty scheme for behaviour change

Submission date
21/08/2014

Recruitment status
No longer recruiting

Registration date
19/09/2014

Overall study status
Completed

Last Edited
23/04/2019

Condition category
Nutritional, Metabolic, Endocrine

[_] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Increasing participation in physical activity is a great way to improve public health. The Government recommends that all adults should do a minimum of 150 minutes of physical activity every week. Past attempts to increase physical activity have not been very effective. Most adults spend a large part of their time at work, so this is a good place to promote programmes of physical activity that could encourage a longer term, habitual increase in activity. The Government is encouraging the use of incentives for promoting healthy lifestyles, but little is known about how effective they are. We have developed a new physical activity loyalty card which works in the same way as well-known high street loyalty cards, where participants earn points and receive rewards for repeatedly shopping in a particular store. Our scheme uses sensors placed along footpaths, the nearby local park, leisure centre, shopping mall, bus stops and train stations, and a small loyalty card. When users go for a walk, they swipe their card across the sensors and information is collected on the time that the card was scanned, sent to our study website and processed. Participants can then log onto their own account to get feedback on their activity. They earn 10 points for each minute of activity that they complete and can exchange the collected points for vouchers (e.g. free cinema pass, free sandwich voucher) that have been sponsored by local retailers. We have already tested this scheme with a group of civil servants to confirm that the technology worked, people were very interested to take part, the method has the potential to increase physical activity and local businesses will sponsor the rewards. The next stage is to do a larger study to find out if the difference the scheme can make to peoples health would be worthwhile.

Who can participate?
We will recruit about 1400 employees within large public sector organisations in Lisburn, Northern Ireland.

What does the study involve?
Participants will be randomly allocated to take part in this intervention immediately or would be given the opportunity to participate in the scheme at the end of the study. The study will show whether the intervention leads to increased physical activity levels after 6 months and if this effect is maintained 1 year after the programme ends. Participants will be asked to wear a small pedometer (worn on their waist) to measure the number of steps they take over 7 days. We will

also look at the effects of the intervention on health, mental wellbeing, quality of life, absence from work and use of healthcare facilities using questionnaires. At the end of the intervention we will invite participants, senior managers from participating organisations and retailers to attend discussion groups, to give us their views about the intervention.

What are the possible benefits and risks of participating?
Possible benefits for participants include an increase in physical activity levels and thereby benefitting physical health, mental wellbeing and quality of life. For the employer, potential benefits include reduced absenteeism levels and associated cost benefits. There are no expected risks to participating.

Where is the study run from?
The study include large public sector organisations in Lisburn City Centre (Northern Ireland)

When is the study starting and how long is it expected to run for?
September 2014 to February 2018

Who is funding the study?
National Institute for Health Research (NIHR) (UK)

Who is the main contact?
Prof. Frank Kee
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Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

Protocol serial number
1.0

Study information

Scientific Title
Effectiveness and cost-effectiveness of a Physical Activity Loyalty scheme to maintain behaviour change: a cluster randomised controlled trial

Acronym
PAL scheme

Study objectives
The proposed cluster randomised controlled trial (RCT) has the following objectives:
1. To investigate the effectiveness of the PAL Scheme to increase employees PA levels in an office-based occupational setting
2. To investigate if any change in PA behaviour is maintained over time
3. To conduct cost-effectiveness and cost-benefit type analyses of the PAL Scheme
4. To investigate how the intervention impacts on other health behaviours and outcomes
5. To investigate wider work-related effects including sickness absenteeism and work presenteeism
6. To investigate the mediators of (a) uptake and use of the loyalty card, (b) initiation, and (c) maintenance of behaviour change
7. To conduct a parallel qualitative study to further characterize those who benefitted from the intervention, how and why it worked for them, and explore mediators of behaviour change
8. To conduct a Discrete Choice Experiment (DCE) to investigate the possible optimal levels of incentives for such interventions
9. To conduct a behavioural economic field experiment on inter-temporal preferences to investigate the relationship between behavioural change, discounting and incentives

Ethics approval required
Old ethics approval format

Ethics approval(s)
Office for Research Ethics Committees Northern Ireland (ORECNI) HSC REC B; REC ref: 14/NI /0090

Primary study design
Interventional

Study design
Cluster randomised controlled trial will evaluate the PAL scheme, incorporating nested behavioural economic experiments, and process evaluation

Study type(s)
Quality of life

Health condition(s) or problem(s) studied
Predominantly sedentary, office-based public sector employees

Interventions
Intervention Group: The study will involve the implementation of a multi-component intervention (PAL Scheme) which includes provision of points and rewards (financial incentives) contingent on meeting targeted behaviour goals (physical activity). Participants will be encouraged to undertake 150 mins/week of physical activity which is in line with current

guidelines. The PAL scheme integrates a novel physical activity tracking system with web-based monitoring and evidence-based behaviour change tools. The tracking system uses Near-Field Communication (NFC) technology and a loyalty card (PAL Card) which contains a passive Radio Frequency Identification (RFID) tag to monitor participants' physical activity as part of the intervention. Participants swipe their PAL card at sensors when undertaking physical activity (e. g. walking) which logs the place, date and time of the card scan. Participants log onto their account on the study website and receive real-time feedback on aspects of their physical activity, including minutes of activity. Minutes will be converted to points (10 points for 1 minute of activity recorded), and collected points are redeemed for rewards (retail vouchers) sponsored by, and redeemable at, local businesses. The intervention is underpinned by the principles of Learning Theory and Social Cognitive Theory.

Control Group: Those assigned to the control condition (n=690) will constitute a waiting list Control Group and will be offered the opportunity to participate in the intervention after the 18-month follow-up period. Participants in this group will complete outcome measures at the same time points as the Intervention Group.

Intervention Type
Behavioural

Primary outcome(s)
Mean steps/day objectively measured by a sealed pedometer (to blind participants to the output) worn on the waistband (Yamax Digiwalker CW-701, Japan), for which reliability and validity has been established

Key secondary outcome(s)
1. Health and Wellbeing: health [Short Form-8 (SF-8)]
2. Quality of Life (EQ-5D-5L)
3. Mental well-being [Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)]
4. Work-related Impacts: Work absenteeism and presenteeism will be measured using the WHO Health and Work Performance Questionnaire.
5. Mediators: We will collect data that are hypothesised to mediate loyalty card use, initiation and maintenance of PA behaviour, including outcome expectancy, social norms, self-efficacy, intention, perceptions of workplace environment, access to physical activity opportunities.

Completion date
28/02/2018

Eligibility

Key inclusion criteria
Potential participants will be asked to complete a screening questionnaire via the study website or by telephone, to confirm their eligibility, based on the following inclusion criteria:
1. Based at recruited worksite at least 4 hours/day (within core hours of 8am-6pm) and 3 days /week
2. Current contract lasts for duration of the study (i.e.18 months) (this is to exclude temporary workers)
3. Access to internet at work
4. Able to give informed consent
5. Able to communicate in English
6. No self-reported recent history of myocardial infarction or stroke or physical limitations that

would limit ability to participate in physical activity (assessed using the Physical Activity Readiness Questionnaire)

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 Years

Sex
All

Total final enrolment
853

Key exclusion criteria
1. Based at worksite less than 4 hours/day and/or outside of core working hours of 8am-6pm, and less than 3 days/week
2. Current contract lasts less than the duration of the study
3. No access to internet at work
4. Unable to provide informed consent
5. Unable to communicate in English
6. Self-reported recent history of myocardial infarction or stroke or physical limitations that would limit ability to participate in physical activity (assessed using the Physical Activity Readiness Questionnaire)

Date of first enrolment
01/09/2014

Date of final enrolment
28/02/2018

Locations

Countries of recruitment
United Kingdom

Northern Ireland

Study participating centre

Queen's University Belfast
Belfast
United Kingdom
BT12 6BJ

Sponsor information

Organisation
Queen's University Belfast (UK)

ROR
https://ror.org/00hswnk62

Funder(s)

Funder type
Government

Funder Name
National Institute for Health Research (NIHR) (UK) (12/211/82)

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	effectiveness and cost-effectiveness results	12/12/2018		Yes	No
Results article	engagement results	19/04/2019	23/04/2019	Yes	No
Protocol article	protocol	22/07/2016		Yes	No
HRA research summary			28/06/2023	No	No