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Employer schemes to encourage walking to work: feasibility study incorporating an exploratory randomised controlled trial

1. Aims/Objectives:

The overall aim of the research is to build on existing knowledge and resources to develop an employer-led scheme to increase walking to work and to test the feasibility of implementing and evaluating it in a full-scale randomized controlled trial.

The objectives are:

- To explore with employees the barriers to, and facilitators of, walking to work
- To explore with employers the barriers to, and facilitators of, employer-led schemes to promote walking to work
- To use existing resources and websites to develop a Walk to Work information pack to train work-based Walk to Work promoters
- To conduct an exploratory randomised controlled trial of the intervention
- To pilot the use of accelerometers and GPS monitors to measure outcomes
- To explore any social patterning in uptake of walking to work
- To examine whether the size or type of workplace influences uptake of walking to work
- To assess intervention costs to participating employers and employees
- To provide preliminary evidence on the cost and economic benefits of the intervention to employers, employees and society.

2. Background:

Physical inactivity increases the risk of many chronic diseases including coronary heart disease, type 2 diabetes, obesity and cancer of the colon.[1] Substantial health benefits can be achieved through the accumulation of 30 minutes of moderate intensity physical activity per day[2] but most adults in the United Kingdom do not achieve this.[1,3,4] Increasing physical activity levels, particularly among the most sedentary, is an important aim of current public health policy.[5,6]

There is increasing evidence of the link between adult obesity levels and travel behaviour.[7] Walking is a popular, familiar, convenient, and free form of exercise that can be incorporated into everyday life. It is also a carbon neutral mode of transport. There is considerable scope to increase walking to work. The National Travel Survey in 2008 showed 38% of trips less than 2 miles were made by car, which could have been made on foot. Systematic reviews have examined the effectiveness of interventions to promote physical activity in general[8-12] but there is less evidence about how best to promote walking to work.

Recent NICE public health guidance on workplace health promotion concluded that although a range of schemes exist to encourage employees to walk or cycle to work, little is known about their impact.[13] Few studies used robust data collection methods to measure the impact of workplace interventions on employees' physical activity levels (most use self-report) and there is a lack of studies examining how workplace physical activity interventions are influenced by the size and type of workplace and the characteristics of employees.

To address identified gaps in the evidence base the current research proposed will: take place in a range of workplace settings; measure physical activity objectively using accelerometers and personal global positioning system (GPS) monitors as well as self report; collect data on employees' gender, age, socioeconomic status and

employment status; and include an assessment of costs and benefits from the perspectives of employers and employees. We will examine the potential for problems or harm in terms of: personal safety of walkers; difficulties experienced by Walk to Work promoters, including working relationships and time taken out of usual work activities, in encouraging colleagues to walk to work; and costs to employers of permitting the intervention during working hours.

3. Methods:

a. Setting

The intervention will take place in Bristol. The intervention will be implemented in six workplaces (2 small, 2 medium, 2 large) where a sizeable proportion of employees live within two miles of the workplace but do not currently walk to. Six similar workplaces will comprise the control arm.

b. Design

Feasibility study incorporating two phases in the MRC's framework for evaluating complex interventions.[29] In Phase I a review of current resources that promote walking (and in particular the benefits of walking to work) will be undertaken: and focus groups (n=3) with employees and interviews with employers (n=3) will be conducted in three workplaces (small, medium, large) outside of Bristol to finalise the intervention design. Phase II will comprise an exploratory randomised trial in 12 workplaces (6 intervention, 6 control not involved with the Phase 1) in Bristol to examine recruitment and retention rates and variation in outcome measures, estimate possible effect sizes and explore other requirements of a full-scale trial. An integral process evaluation and an assessment of intervention costs will also be undertaken.

c. Data collection

At baseline eligible employees in intervention and control arms will be asked to complete questionnaires giving basic personal data, job title, mode of transport to work, factors affecting travel mode, typical commuting costs, household car ownership, commute related adverse events, health service use and views about walking. Eligible employees will wear an accelerometer for 7 days from waking in the morning until going to bed at night to provide an objective measurement of physical activity and a personal GPS receiver during the journey to and from work to confirm the duration of the journey, quantify its contribution to overall physical activity and describe walking routes.

Immediately post intervention, questionnaires will be administered in intervention and control arms to explore: attitudes towards and experiences of walking to work including perceived barriers and facilitators, and emotional and physical well-being. Additional questions about the acceptability of the intervention will be included for the intervention arm only.

Questionnaires, accelerometers and GPS receivers will be administered again in intervention and control arms at one year follow-up (as per baseline protocol).

The process evaluation will examine the context, delivery and receipt of the intervention from the perspectives of employers, Walk to Work promoters and employees. Group sessions will be observed during the intervention period. Immediately post-intervention, interviews will be conducted with a random sample of employees who have increased walking to work (n=18), and employees who have not (n=18). A senior manager and the Walk to Work promoter(s) in each workplace will also be interviewed.

COSTS. The costs of the intervention to employers will be assessed by recording all time spent on training the promoters, implementing the intervention among employees and any materials or resources used. Absentee data will be monitored. Costs to participants will be assessed by recording journey time, household commuting costs and expenses. Self-reported measures of health service use will allow us to provide preliminary evidence on the savings/costs to the wider society.

d. Data analysis

Analyses of quantitative data will be mainly descriptive and will include means (SD) or N(%) as appropriate. Between-group comparisons for primary and secondary outcomes will be made using regression models with the focus on 95% confidence intervals to estimate possible effect sizes. Recruitment and loss to follow up rates will be identified.

Accelerometer data will generate counts per minute before and after the intervention in intervention and control groups. GPS data will be matched with self report and accelerometer data to provide a measure of duration of the journey and associated physical activity. Accelerometer and self-report data will be analysed to see if there is any evidence of increased active travel to work and overall physical activity and cross-tabulated by intervention and control arms. The focus will be on the sizes of effects, measures of spread (where appropriate) and confidence intervals rather than p-values.

Qualitative analyses will employ constant comparison from grounded theory and will be computer-assisted using Nvivo software.

The planned economic analysis is a cost consequence study tabulating the costs and savings to employees and employers alongside outcomes such as the % of eligible employees regularly walking to work and health service use.

4. Plan of Investigation:

The study will take 27 months. The intervention will be delivered during the summer months to encourage participation which may then become sufficiently well established to continue into the autumn and winter months. The study is structured so that baseline and one-year follow-up fall within the same season. The main stages of the study are:

Oct-Dec 2011. Ethics application, resource review, Phase I focus groups and interviews.
Jan-Mar 2012. Phase II recruit and randomise workplaces, prepare Walk to Work packs.
Apr-Jun 2012. Baseline data collection, recruit and train Walk to Work promoters.
Jul-Sep 2012. Implement Walk to Work intervention.
Oct-Dec 2012. Post intervention data collection.
Jan-Mar 2013. Data entry, transcription.
Apr-Jun 2013. Year 1 follow-up data collection.
Jul-Sep 2013. Data analysis.
Oct-Dec 2013. Dissemination.

5. Project Management:

Day to day management of the project will be the responsibility of the study manager

under the supervision of the principal investigator. The co-applicant group will meet four times per year with the study manager to monitor progress and contribute expertise as appropriate. The study steering group, with an independent Chair and two additional independent members, will meet twice a year with members of the co-applicant group and the study manager.

6. Service users/public involvement:

Public involvement in this exploratory trial is through collaboration with Dr John Savage CBE, a prominent business man in Bristol, and Phil Insall, Health Director of Sustrans. They will attend quarterly meetings of the steering group. Initial research findings will be fed back to workplaces and participants at the end of the study in a workshop event. At this stage we will also discuss the feasibility of greater involvement of some of the employees and employers in the development of a research proposal for a full-scale trial.

7. References:

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This protocol refers to independent research commissioned by the National Institute for Health Research (NIHR). Any views and opinions expressed therein are those of the authors and do not necessarily reflect those of the NHS, the NIHR, the PHR programme or the Department of Health.