



*Walk*

*Dance*

*Swim*

*Run*

*Stretch*

*Cycle*

*Move!*



## Very brief interventions to promote physical activity in primary care: A feasibility study

Funder: NIHR Programme Grant  
Sponsors: University of Cambridge & Cambridgeshire & Peterborough CCG





# Overview

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- **Aims and Overview of the VBI Programme / Background**
- **Aims and objectives of the feasibility study**
- **Phase 1: Feasibility of ‘very brief interventions’**
- **Phase 2: Feasibility RCT**



# Aim of the VBI Programme

- To develop and evaluate very brief interventions (VBIs) to increase physical activity that could be delivered by a practice nurse (or healthcare assistant) in an NHS Health Check or other primary care consultation
- NHS Health Checks aim to lower risk of developing heart disease, stroke, diabetes and kidney disease (early detection / prevention)
- Patients aged 40-74, not currently diagnosed with vascular disease or with certain high risk factors (e.g. high blood pressure or cholesterol) already treated by medication



# Development work

# WS3: Phase 1 (Feasibility) & Phase 2 (Pilot Trial)

# Substantive Trial

## WS1: Evidence synthesis

Estimate cost and effectiveness of promising VBIs from studies/reviews

## WS2: Qualitative study

Integration of VBIs in NHS health checks

## Expert Consultation

## WS5: Health economics

Resource use of promising VBIs  
Economic model of cost-effectiveness of VBIs

## Shortlist VBIs

## WS3 Feasibility Study

Develop and pilot materials  
Test feasibility, acceptability, fidelity, potential efficacy and cost  
Select best-best VBI

## WS4 Main trial

Estimate cost and effectiveness of best-bet VBI



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# Aim and objectives of WS3

## ❖ **Aim:**

To develop and test promising VBI's in a feasibility study

## ❖ **Objectives:**

- 1) To develop and pilot intervention protocols, training manual, intervention materials and quality assurance (fidelity) instruments (Phase 1)
- 2) To test the fidelity, feasibility, acceptability and potential efficacy of the VBIs (Phase 2)
- 3) To decide which single or combined VBI to take forward to evaluation in a substantive trial (WS4)





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## Phase 1:

# Feasibility, Fidelity, & Acceptability of the VBI's

# Generation of VBI Short-list

## Sources of Evidence

Systematic Literature Reviews (WS1)

Scoping Review of BCTs (behaviour change techniques)

Team Discussions

Expert Consultations (practitioners, academics, end-users)

WS2 (Qualitative study)

## Implication / Decisions

Goal Setting → All VBIs (PA recommendations)

Tailored advice → All VBIs (advice tailored to current activity)

Motivational Interviewing → **VBI 1 (Motivational)**; but good communication principles underlie delivery of **all VBIs**

Info about Health Consequences → **VBI 1 (Motivational)**

Signposting → **VBI 1 (Motivational)**

Action Planning → **VBI 2 (Action Planning)**

Self-monitoring of behaviour → **VBI 3 (Pedometer)** and **VBI 4 (Diary)**

Pedometer → **VBI 3** (tool to self-monitor, strong evidence-base)

## Four VBIs

### ALL:

- Physical Activity Assessment
- PA recommendations
- Face-to-face discussion
- Written materials

### 1. Motivational

- Benefits of PA
- Ways of increasing PA
- Signposting, etc.

### 2. Action Planning

- Ways of increasing PA
- What, When, Where, and With Whom

### 3. Pedometer

- 10,000 steps
- Verbal instruction to record steps

### 4. PA Diary

- Ways of increasing PA
- Record daily activity
- Compare activity and goals
- Review/set new goals each week

# Phase 1

## 4 VBIs

### **ALL:**

- Physical Activity Assessment
- PA recommendations
- Face-to-face discussion
- Written materials

### **1. Motivational**

- Benefits of PA
- Ways of increasing PA
- Signposting, etc.

### **2. Action Planning**

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### **4. PA Diary**

- Ways of increasing PA
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- Review/set new goals each week

## Measures

### **Fidelity, Feasibility & Acceptability:**

- Health Check Recordings
- Participant Interviews
- Practitioner Interviews



# Phase 2







# Phase 1: Study Design

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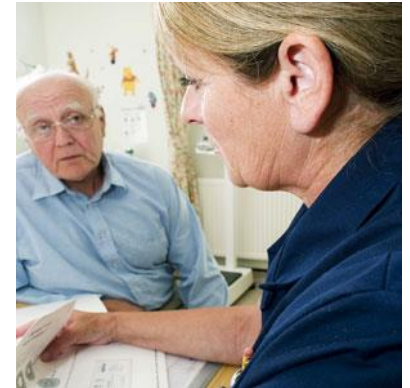
- ❖ **Phase 1:** Prototype ‘very brief’ interventions were piloted in two practices (n=69) to assess fidelity, feasibility and acceptability of the interventions:
- ❖ Control Group: No control group
- ❖ Intervention Groups: Participants received one of four very brief interventions to increase physical activity:
  - (1) motivational intervention OR
  - (2) planning intervention OR
  - (3) pedometer intervention OR
  - (4) activity diary intervention





# Phase 1- Data Collection

- ❖ Health checks were audio-recorded to examine **fidelity** to the intervention protocol and **feasibility** (e.g., were the VBI's delivered as they should be? Did the VBI 'fit' into the health check?)
- ❖ Participants were interviewed after each health check to get feedback on **acceptability** of the interventions.
- ❖ Nurses/healthcare assistants provided feedback throughout the data collection period with regards to **feasibility** of delivery (within the health check) and also **acceptability** of delivering each VBI.
- ❖ Nurse/healthcare assistants also provided feedback about VBI training.





# Phase 1 – The ‘Challenges’

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- ❖ Poor initial recruitment of GP practices
- ❖ Low number of health checks per week
- ❖ Logistical issues of participant recruitment
- ❖ Communication challenges
- ❖ Health check – control condition?
- ❖ Unable to administer *PA Questionnaire* in waiting room.





# Phase 1 Main Findings: HC Recordings

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- ❖ Majority of VBI's were completed in 5 minutes or less.
- ❖ Fidelity was quite high, but was dependent on the practitioner delivering the intervention.
- ❖ Nurses / HCAs often went into 'telling mode' rather than asking questions (e.g. 'you could do 'X' to increase PA, rather than 'how do you think you could increase your PA?')
- ❖ NO patient wrote an Action Plan or Set a Goal (Activity Diary) during the intervention.





# Phase 1 Main Findings: Patient Interviews

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## **General Comments on all Very Brief Interventions:**

- ❖ The HC was a good time to discuss PA.
- ❖ Completing the Physical Activity Assessment helped make them aware of how little PA they were doing / where they could make improvements.
- ❖ Simply having a discussion about PA was very useful.
- ❖ Being asked how they could improve their PA was appreciated.
- ❖ The majority were unaware of the PA recommendations.
- ❖ Most said they would use the materials given and intended to increase their PA.

## **Suggestions for Improvement:**

- ❖ Provide a Follow-up consultation.
- ❖ Provide more 'creative' tips for how to increase PA.



# Phase 1 Main Findings: Practitioner Interviews

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## General Comments on the VBIs:

- ❖ All VBIs fit comfortably into 5 minutes at the end of the Health Check.
- ❖ Despite initial misgivings, all VBIs were relatively easy to deliver and seemed to be acceptable to patients.
- ❖ Asking patients about / making patients aware of the PA recommendations was a good idea.



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## Phase 2: Feasibility RCT

## Phase 1

### 4 VBIs

#### **ALL:**

- Physical Activity Assessment
- PA recommendations
- Face-to-face discussion
- Written materials

#### **1. Motivational**

- Benefits of PA
- Ways of increasing PA
- Signposting, etc.

#### **2. Action Planning**

- Ways of increasing PA
- What When Where With-Whom

#### **3. Pedometer**

- 10,000 steps
- Verbal instruction to record steps

#### **4. PA Diary**

- Ways of increasing PA
- Record daily activity
- Compare activity and goals
- Review/set new goals each week

### Measures

#### **Fidelity, Feasibility & Acceptability:**

- Health Check Recordings
- Participant Interviews
- Practitioner Interviews

## Phase 2

### 3 VBIs (plus Control 'Usual Care')

#### **ALL:**

- PA recommendations
- Face-to-face discussion
- Written materials

#### **1. Motivational**

- Benefits of PA
- Ways of Increasing PA
- Signposting, etc.
- Action Planning
- Activity Diary

#### **2. Pedometer**

- Step Chart & Pedometer

#### **3. Motivational & Pedometer**

- Benefits of PA
- Ways of Increasing PA
- Signposting, etc.
- Action Planning
- Activity Diary
- Step Chart & Pedometer





# Phase 2 – Study Design

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- ❖ **Phase 2:** Three VBIs are currently being tested in eight practices (n=320) to examine potential efficacy, fidelity, feasibility and acceptability of the interventions:
- ❖ Design: Adapted cluster randomised design
- ❖ Control Group: Usual Care (health check)
- ❖ Intervention Groups: Participants received one of three VBIs to increase physical activity:
  - (1) Motivational OR
  - (2) Pedometer OR
  - (3) Motivational & Pedometer



# Phase 2 – Measures

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- ❖ Data will be collected 4 weeks post Health Check:
  - Primary outcome: objective physical activity (ActiGraph GT3X+)
  - Secondary outcomes:
    - ❖ Self-reported physical activity (RPAQ)
    - ❖ Process measures: recall, use of VBI materials, use of behaviour change techniques, feasibility, acceptability, and beliefs about being more physically active.
- ❖ A sub-sample of participants (n=6 per practice) are having their Health Check plus VBI audio-recorded and are being interviewed afterwards in order to examine **fidelity**, **feasibility** and **acceptability**
- ❖ All nurses/healthcare assistants are asked to audio-record at least 1 ‘control’ health check.



# Phase 2

- ❖ Trained 18 practitioners (9 Nurses and 9 healthcare assistants) from 8 diverse practices in Cambridgeshire.
- ❖ **251** participants so far....
- ❖ Follow up data collected for **106** participants so far....
- ❖ PhD student study to commence in October:  
Examines non-responders





# Phase 2 – The ‘Challenges’

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- ❖ Randomisation
- ❖ Participant recruitment concerns: Participant Invitation Sheet (PIS) wording/invite procedures?
- ❖ Data collection: Objective PA measures



## Phase 2

### 3 VBIs (plus Control)

#### **ALL:**

- PA recommendations
- Face-to-face discussion
- Written materials

#### **1. Motivational**

- Benefits of PA
- Ways of Increasing PA
- Signposting, etc.
- Action Planning
- Activity Diary

#### **2. Pedometer**

- Step Chart & Pedometer

#### **3. Motivational & Pedometer**

- Benefits of PA
- Ways of Increasing PA
- Signposting, etc.
- Action Planning
- Activity Diary
- Step Chart & Pedometer

### Measures

#### **Efficacy:**

- Accelerometer Data
- Self-reported PA

#### **Fidelity, Feasibility & Acceptability:**

- Practitioner Interviews
- Participant Questionnaire

#### **Subsample:**

- Health Check Recordings
- Participant Interviews



**WS4**

**(Main Trial)**

**Best-bet Intervention**





# Phase 2 Preliminary Findings: Follow-Up Questionnaire (N=80)

*“Was there a discussion of physical activity in your Health Check?”*

| VBI                        | N  | Yes       | No       | Can't Remember |
|----------------------------|----|-----------|----------|----------------|
| 1 Motivational             | 16 | 16 (100%) | 0        | 0              |
| 2 Pedometer                | 9  | 5 (55%)   | 0        | 4              |
| 3 Motivational + Pedometer | 24 | 19 (79%)  | 2        | 2              |
| ALL VBIs (1,2 & 3)         | 49 | 40 (82%)  | 2 (4%)   | 6 (12%)        |
| Control                    | 31 | 16 (52%)  | 10 (32%) | 5 (2%)         |



# Phase 2 Preliminary Findings: Follow-Up Questionnaire (N=80)

*“Would you have liked an additional contact or appointment relating to your physical activity at a later date?”*

| VBI                        | N  | Yes      | No       | Left Blank |
|----------------------------|----|----------|----------|------------|
| 1 Motivational             | 16 | 6        | 9        | 1          |
| 2 Pedometer                | 9  | 2        | 7        | 0          |
| 3 Motivational + Pedometer | 24 | 8        | 16       | 0          |
| ALL VBIs (1,2 & 3)         | 49 | 16 (33%) | 32 (65%) | 1 (2%)     |
| Control                    | 31 | 9 (29%)  | 18 (58%) | 4 (13%)    |



# Phase 2 (Very) Preliminary Findings

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## Summary

- **82%** of Participants receiving a VBI remembered having discussed Physical Activity in the Health Check, compared to **52%** of participants in the Control group.
- Approximately **30%** of participants said that they would have liked a follow-up contact of some kind.





# Limitations of the Feasibility Study

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- ❖ No baseline measures to determine changes in PA
- ❖ Not all uncertainties addressed:
  - Difficult to determine how well baseline measures can be incorporated into the main trial
  - Individual randomisation in the main trial?



# What have we learned so far?

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## ❖ Key conclusions

- VBIs are acceptable and feasible within a HC

## Lessons learned:

- Training needs
- Recruitment methods and data collection strategies
- Importance of piloting!