



Faculty of Humanities and Social Sciences

School of Psychological Sciences and Health

Physical Activity for Health Research Group

Methods and strategies for recruiting participants to walking promotion
programmes

Graham Michael Brennan

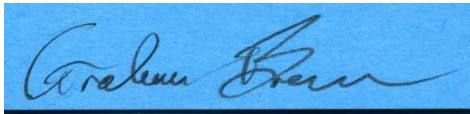
A thesis submitted for the degree of Doctor of Philosophy, May 2012

Declaration of Authenticity and Author's Rights

'This thesis is the result of the author's original research. It has been composed by the author and has not been previously submitted for examination which has led to the award of a degree.'

'The copyright of this thesis belongs to the author under the terms of the United Kingdom Copyright Acts as qualified by University of Strathclyde Regulation 3.50. Due acknowledgement must always be made of the use of any material contained in, or derived from, this thesis.'

Signed:

A blue rectangular stamp containing a handwritten signature in black ink. The signature appears to read "Graham Brown".

Date: 14th May 2012

Acknowledgements

Of all the people it is essential that I thank at this point, first and foremost are my supervisors Professor Nanette Mutrie and Dr Claire Fitzsimons. Their commitment went above and beyond the call of duty. Their academic support was unending, as was their daily reminders that there is always something to smile, and regularly laugh, about. Also, I would like to acknowledge the support and generosity of Dr Charlie Foster and Dr Anne Matthews. Their support went well past the academic contributions and collaborations in my first two studies, and Oxford was always a warm place to visit because of them. My colleagues and friends in the Physical Activity for Health research group cannot go unmentioned. For all the Monday cakes and coffee, away days, sporting days, non-judgemental academic feedback and examples of academic excellence, I will always be grateful.

The financial support provided by the Scottish Physical Activity Research Collaboration (SPARColl) made this PhD possible, and provided an academic opportunity I feel hugely privileged to have had. Also, to Chloe McAdam, thanks for keeping the SPARColl wheels rolling, and for always listening no matter what. A huge thank you must go to all the participants and collaborators in my research, particularly Harry, Paul and Lynne. Their generosity allowed my final study to take place and in turn my PhD to get done.

Of the many friends I have in, and now beyond, Glasgow: Norah, Onur, Helen and Cormac made Glasgow an almost instant home and always make me welcome in theirs; Niamh for assuring me that this is all worth it; Nicky, David G., Dr. David W., Carol(ine), Louise, John and all my recent friends in Glasgow for every dinner, cake, night out, night in, de-cluttering of all my junk and just general being fantastic friends, thank you. And to Fran, thanks you for understanding my pain, for all the hot chocolates and for the swings!

Lastly, this PhD is dedicated to the memory of my parents who never saw a barrier I couldn't overcome, and to my brother whose innate genius inspires me.

Abstract

Introduction: Recruitment of participants is an integral but challenging process in walking promotion programmes. A lack of information about what was done during recruitment is a limiting factor in knowing what works best and why certain approaches might be worth replicating.

Aim: The aim of this thesis was to conduct formative research on the process of recruitment to walking programmes. The objectives included: systematically reviewing the literature, qualitatively investigating practice and the participants' perspective, evaluating a novel approach to recruitment and to produce a set of best practice guidelines for recruitment.

Methods: A mixed methods design shaped the methodology in this thesis and included: a systematic review of the literature; qualitative research including focus groups and interviews; and a process evaluation of a novel approach to recruitment.

Results: The systematic review showed our understanding of recruitment is limited by a lack of reported information including the lack of a firm purpose definition. Qualitative research with practitioners showed that there is a demand for best practice guidelines, while participants reported most often being recruited by word of mouth and being attracted to walking groups with broad health appeals. Process evaluation of a strategic approach to recruitment demonstrated that, despite complex and challenging circumstances, disadvantaged men could be recruited to walking programmes. These findings have been combined and developed into guidelines for recruitment.

What this study adds to the literature: These studies have shown that recruitment is an active and complex process, not one single method, and that effective recruitment is dependent on the capacity of the recruitment team. The proposed guidelines provide a basis for future learning about conducting, reporting and identifying effective recruitment processes.

Table of Contents

| | |
|---|---------------|
| DECLARATION OF AUTHENTICITY AND AUTHOR'S RIGHTS | II |
| ACKNOWLEDGEMENTS | III |
| ABSTRACT | V |
| TABLE OF CONTENTS | VI |
| LIST OF TABLES | XI |
| LIST OF FIGURES | XII |
| PREFACE | XIII |
| LIST OF TERMS | XIV |
| ADDITIONAL PUBLISHED WORKS BY THE AUTHOR RELEVANT TO THE THESIS BUT NOT FORMING PART OF IT | XV |
| CHAPTER 1 | - 3 - |
| RECRUITING PARTICIPANTS TO PHYSICAL ACTIVITY INTERVENTIONS: BACKGROUND AND RATIONALE FOR THIS THESIS | - 3 - |
| 1.1 Introduction | - 3 - |
| 1.2 Recruitment: background | - 4 - |
| 1.2.1 Recruitment as a challenge | - 4 - |
| 1.2.2 Defining recruitment | - 5 - |
| 1.2.3 Framing recruitment in this thesis | - 7 - |
| 1.3 Recruitment: The evidence base in physical activity | - 9 - |
| 1.3.1 Planning recruitment | - 9 - |
| 1.3.2 Methods and strategies | - 12 - |
| 1.3.3 Monitoring the recruitment process | - 16 - |
| 1.3.4 Reporting data and outcomes | - 19 - |
| 1.3.5 Other considerations for research | - 21 - |
| 1.4 Taxonomy, terminology and theory | - 26 - |

| | |
|---|---------------|
| 1.4.1 Taxonomy and terminology | - 26 - |
| 1.4.2 Theories and frameworks in recruitment | - 27 - |
| 1.4.3 The relevance of the RE-AIM Framework to recruitment | - 30 - |
| 1.5 Health | - 31 - |
| 1.5.1 The health concept | - 32 - |
| 1.5.2 Public health measures and Non-communicable disease | - 33 - |
| 1.5.3 Health promotion frameworks and equity | - 40 - |
| 1.6 The benefits of physical activity and a rationale for walking | - 42 - |
| 1.7 Conclusion | - 45 - |
| References: | - 45 - |
| | |
| CHAPTER 2 | - 60 - |
| | |
| METHODOLOGY: RESEARCH PROBLEM, PURPOSE, RESEARCH QUESTIONS AND METHODS | - 60 - |
| | |
| 2.1 Introduction | - 60 - |
| | |
| 2.2 The Research Problem | - 60 - |
| 2.2.1 Past research on the problem and their limitations | - 61 - |
| 2.2.2 Deficiencies in past research | - 62 - |
| 2.2.3 The audiences that will profit from the study | - 65 - |
| | |
| 2.3 Purpose | - 66 - |
| 2.3.1 The purpose of the thesis and reasons for the use of mixed methods as a strategy of inquiry | - 66 - |
| | |
| 2.4 The research questions | - 68 - |
| 2.4.1 Central Research Question | - 68 - |
| 2.4.2 Chapter Specific Research Questions | - 68 - |
| | |
| 2.5 Philosophical foundations for using mixed methods research | - 70 - |
| 2.5.1 Ontology | - 71 - |
| 2.5.2 Epistemology | - 72 - |
| 2.5.3 Axiology | - 73 - |
| 2.5.4 Rhetoric | - 75 - |
| 2.5.5 Personal Experience | - 75 - |
| | |
| 2.6 Methodology | - 76 - |
| 2.6.1 A definition of mixed methods research | - 76 - |
| 2.6.2 The type of design explained | - 78 - |
| 2.6.3 Challenges in using this design | - 80 - |
| 2.6.4 Examples of Multistrand MMR research design studies | - 81 - |

| | |
|---|----------------|
| 2.7 Data collection and analysis | - 82 - |
| 2.7.1 Chapter 3: Systematic review of the literature | - 83 - |
| 2.7.2 Chapter 4: Practitioner perspectives on doing recruitment | - 85 - |
| 2.7.3 Chapter 5: Participant perspectives on recruitment to walking promotion programmes | - 90 - |
| 2.7.4 Chapter 6: Evaluation of a practice based walking promotion programme | - 93 - |
| 2.8 Conclusion | - 96 - |
| References | - 97 - |
| | |
| CHAPTER 3 | - 105 - |
| | |
| RECRUITING PARTICIPANTS TO WALKING INTERVENTION STUDIES: A SYSTEMATIC REVIEW | - 105 - |
| | |
| Abstract | - 105 - |
| | |
| Introduction | - 105 - |
| | |
| Method | - 106 - |
| Identification of studies | - 106 - |
| Criteria for study inclusion/exclusion | - 107 - |
| Criteria for assessment of study quality in relation to recruitment | - 107 - |
| Criteria for assessing efficiency and effectiveness | - 107 - |
| | |
| Results | - 107 - |
| Study characteristics | - 107 - |
| Overview of study quality in relation to recruitment | - 108 - |
| Characteristics of the participants | - 111 - |
| Recruitment data reported | - 111 - |
| Recruitment procedures and approaches | - 111 - |
| Location for recruitment, interventions and target populations | - 114 - |
| Recruitment rates and efficiencies | - 114 - |
| Developing recruitment approaches | - 114 - |
| | |
| Discussion | - 114 - |
| | |
| References | - 130 - |
| | |
| CHAPTER 4 | - 137 - |
| | |
| <i>“DON’T WAIT FOR THEM TO COME TO YOU, YOU GO TO THEM”. A QUALITATIVE STUDY OF RECRUITMENT APPROACHES IN COMMUNITY BASED WALKING PROGRAMMES IN THE UK</i> | - 137 - |
| | |
| Abstract | - 137 - |

| | |
|---|--------------------|
| Background | - 138 - |
| Method | - 138 - |
| Results | - 140 - |
| Discussion | - 145 - |
| Conclusions | - 146 - |
| References | - 146 - |
| CHAPTER 5 | - 152 - |
| RECRUITING ADULTS TO A COMMUNITY BASED WALKING PROMOTION PROGRAMME: THE PARTICIPANTS' PERSPECTIVES | - 152 - |
| Abstract | - 153 - |
| Background | - 154 - |
| Methods | - 156 - |
| Data Collection | - 160 - |
| Data Analysis | - 160 - |
| Results | - 162 - |
| Discussion | - 167 - |
| Strengths and limitations | - 169 - |
| Conclusions | - 169 - |
| References | - 170 - |
| Appendices: | - 173 - |
| CHAPTER 6 | 181 |
| THE FEASIBILITY OF THE STRATEGIC RECRUITMENT OF MEN TO A WALKING PROMOTION PROGRAMME: A PROCESS EVALUATION | 181 |
| Abstract | 181 |
| Background: | 183 |

| | |
|--|--------------------|
| Recruitment process evaluated in this study | 187 |
| Methods | 190 |
| Study Design | 190 |
| Data Collection | 190 |
| Data Analyses | 191 |
| Results | 193 |
| a) How the men in this study became aware of 'Go-Walkabout' | 193 |
| b) Rates of response, rates of actions and participation rates | 194 |
| c) Feasibility and fidelity of the recruitment plan | 198 |
| d) Contextual factors and their impact | 201 |
| Discussion | 205 |
| Summary of main findings | 205 |
| Relevance of the main findings | 207 |
| Strengths and limitations | 208 |
| Conclusions | 209 |
| References: | 212 |
| Appendices | 215 |
| CHAPTER 7 | - 230 - |
| APPLICATIONS TO RECRUITMENT PRACTICE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS | - 230 - |
| 7.1 Introduction | - 230 - |
| 7.2 Discussion: | - 231 - |
| 7.3 CONCLUSIONS | - 247 - |
| 7.4 Concept description and guidelines for conducting recruitment | - 250 - |
| 7.4.1 Conceptual description of recruitment, definition and proposed theory | - 251 - |
| 7.4.2 Guidelines for conducting recruitment | - 253 - |
| 7.5 Recommendations for research, practice and policy: | - 263 - |
| 7.5.1 Recommendations for Research | - 263 - |
| 7.5.2 Recommendations for Practice | - 264 - |
| 7.5.3 Recommendations for Policy | - 265 - |
| References: | - 266 - |
| APPENDICES | - 270 - |

List of Tables

| | |
|---|---------|
| Table 1: Life expectancy at birth (years) across the WHO global regions | - 35 - |
| Table 1: Characteristics of included studies..... | - 109 - |
| Table 2: Assessment of study quality | - 112 - |
| Table 3: Characteristics of participants..... | - 115 - |
| Table 4: Recruitment planning and implementation (Quality Metric categories).... | - 118 - |
| Table 5: Number of methods and type of recruitment procedures | - 121 - |
| Table 6: Settings and location of recruitment, study and populations | - 125 - |
| Table 7: Recruitment rates and efficiency rates | - 128 - |
| Table 1 Walking programme by aim and target population..... | - 139 - |
| Table 1 Number of groups and members approached, rates of response and attendance | - 157 - |
| Table 2: Proposed timeline and main actions at each phase of recruitment..... | 188 |
| Table 3 Appraisal of plans and strategic application of chosen recruitment method..... | 200 |
| Table 4 Script generator for the description of the activity during active recruitment .. | - 258 - |
| Table 5 Reach data and efficiency metrics for recruitment..... | - 260 - |

List of Figures

| | |
|--|---------|
| Figure 1 Age-standardized death rates change over time in a selection of countries in the European 'Health for All' database | - 36 - |
| Figure 2 Prevalence of insufficient physical activity across a selection of Western European countries | - 37 - |
| Figure 1 Flow diagram of study selection | - 108 - |
| Figure 2 Methods and frequency of use from all included studies | - 124 - |
| Figure 7 Recruitment rates and efficiency ratios..... | - 128 - |
| Figure 8 Conceptual framework for the stages of recruitment..... | - 129 - |
| Figure 1 Flowchart showing analysis of data | - 140 - |
| Figure 2 Example of analysis using analytic induction..... | - 141 - |
| Figure 3 Recruitment methods used by projects..... | - 142 - |
| Figure 4 Perceived effectiveness of methods used | - 143 - |
| Figure 1 The Pathways Framework for Recruitment Planning | - 158 - |
| Figure 2 The Awareness, Networking, Invitation (A.N.I.) Framework for Recruitment Strategy Development | - 159 - |
| Figure 1 The Pathways Framework for Recruitment Planning | 186 |
| Figure 2 The Awareness, Networking, Invitation (A.N.I.) Framework for Recruitment Strategy Development | 187 |
| Figure 3 Recruitment actions taken and expressions of interest (responses) during the 12 week recruitment period | 196 |
| Figure 4 Weekly attendance rates and recruitment actions during 14 weeks of delivery of the walk programme..... | 197 |
| Figure 1 Conceptual model of the recruitment process:..... | - 251 - |
| Figure 2 The Pathways Framework for Recruitment Planning | - 254 - |
| Figure 3 The Awareness, Networking, and Invitation (A.N.I.) Framework for recruitment strategy development..... | - 256 - |

Preface

Scotland, like many developed countries faces an increasing burden from non-communicable diseases. Substantial evidence exists that the modifiable risk factor of physical inactivity has a significant impact on the health outcomes of many non-communicable diseases. Therefore, there is a politically backed agenda within Scotland to increase physical activity levels as a preventative and treatment measure for these particular disease outcomes and as a strategy within the public health process. However, the levels of physical activity (PA) are slow to change despite efforts to increase opportunities to be more physically active, for example, through the promotion of walking and the provision of community based walking programmes.

There is a lack of evidence to describe and understand the process of recruitment to walking promotion programmes, both in practice and in research. Despite the recognition that any such public health programme is only effective if it successfully attracts participation from an adequate volume and range of participants, there is little research examining how to plan and manage a recruitment drive. In addition there is little data clearly describing what metrics should be used when reporting the outcomes of a recruitment drive.

This thesis aims to understand and influence recruitment to walking programmes by conducting a systematic review of the literature on walking studies; carrying out semi-structured interviews with practitioners delivering community based walking promotion programmes in the UK; carrying out focus groups and semi-structured interviews with participants in community based walking programmes in Glasgow; and, evaluating the feasibility of a tailored recruitment process, tested in a practice setting in Glasgow.

List of terms

Walking promotion programme: Any intervention in research or practice aimed at increasing an individual's independent walking behaviour.

Recruitment: The process of inviting, negotiating and facilitating participation in an organised event, not just the creation of awareness.

Recruiter: Any member of a research or practice intervention responsible for and involved in the recruitment of participants to their programme.

Additional published works by the author relevant to the thesis but not forming part of it

Graham Brennan, Claire Fitzsimons, Charlie Foster*, Nanette Mutrie. Poster. *A systematic approach to systematic reviews and subset analysis as a corner stone to guide a PhD*. University of Strathclyde research day. Glasgow, Scotland, June 2009.

Graham Brennan, Claire Fitzsimons, Charlie Foster*, Anne Matthews*, Nanette Mutrie. Poster presentation. Poster. *Reaching the hard to reach: What's known about engagement in walking programmes?* The Scottish Educational Research Association Conference: "Improving Education – Choices and Chances". Perth, Scotland, November 2009.

Graham Brennan, Claire Fitzsimons, Charlie Foster*, Anne Matthews*, Nanette Mutrie. Poster and Oral presentation (Awarded a fully funded delegate place through a competitive application process). *Understanding invitation and recruitment! Establishing a framework for research and practice in walking*. Third annual conference of Knowledge Transfer Scotland: Policy and Practice Conference. Edinburgh, Scotland, April 2010

Charlie Foster*, Anne Matthews*, **Graham Brennan**, Claire Fitzsimons, Chloe McAdam, Nanette Mutrie. Oral presentation. *Recruiting participants for physical activity and walking studies: a systematic review of evidence and practice*. Third International Congress on Physical Activity and Public Health. Toronto, Canada, May 2010.

Claire Fitzsimons, Graham Baker, **Graham Brennan**, Nanette Mutrie. Poster. *Walking for Wellbeing in the West (WWW): impact of maximal and minimal interventions on total sitting time over 24 months*. Third International Congress on Physical Activity and Public Health. Toronto, Canada, May 2010.

Graham Brennan, Claire Fitzsimons, Charlie Foster*, Anne Matthews*, Nanette Mutrie. Poster. *Emerging principles from a systematic review of walking programmes*. University of Strathclyde Research day. Glasgow, Scotland, June 2010

Graham Brennan, Claire Fitzsimons, Charlie Foster*, Anne Mathews*, Nanette Mutrie. Poster (Prize for 'Research most likely to influence public health', awarded by Adrian Bauman). *Recruiting participants: Emerging principles from a systematic review of walking programmes*. First annual conference of the Scottish Physical Activity Research Collaboration (SPARColl): Bright SPARCS 2011, Scottish Physical Activity Research Conference for (PhD) Students. Glasgow, Scotland, June, 2010.

Graham Brennan, Charlie Foster*, Anne Mathews*, Claire Fitzsimons, Nanette Mutrie. Poster. *Developing a framework for the recruitment of participants to walking promotion programmes*. Second international conference and sixth annual meeting of Health Enhancing Physical Activity Europe: Health-enhancing Physical Activity in the 21st century: Environmental and social influences and approaches. Olomouc, Czech Republic, November 2010.

Charlie Foster*, **Graham Brennan**, Anne Matthews*, Chloe McAdam, Paul Kelly*, Claire Fitzsimons, Nanette. Report. *Recruiting participants to public health interventions: a systematic review of evidence and practice for walking promotion*. Report prepared on behalf of the Scottish Physical Activity Research Collaboration for the National Health Service, Health Scotland. Glasgow, Scotland, November 2010.

Graham Brennan, Claire Fitzsimons, Nanette Mutrie. Poster. *Process Evaluating the Strategic Recruitment of new members to walking promotion programmes in Glasgow*. University of Strathclyde Research day. Glasgow, June 2011.

Graham Brennan, Claire Fitzsimons, Nanette Mutrie. Oral presentation. *Applying the framework: Evaluating the feasibility of a novel and strategic recruitment framework for walking promotion in practice*. Second annual conference of the Scottish Physical Activity Research Collaboration (SPARColl): Bright SPARCS 2011, Scottish Physical Activity Research Conference for (PhD) Students. Glasgow, Scotland, September 2011.

Graham Brennan, Claire Fitzsimons, Nanette Mutrie. Oral presentation. *Applying the framework: The feasibility of a strategic recruitment framework for walking programmes*. Third international conference and seventh annual meeting of Health Enhancing Physical Activity Europe: Bridging the gap between science and practice. Amsterdam, Holland, October 2011.

Graham Brennan. Workshop. *Recruitment to physical activity: learning from walking promotion programmes*. Workshop presented at the University of Strathclyde to an invited audience of researchers and practitioners. April 25th 2012.

Nanette Mutrie, **Graham Brennan**. Workshop. *'What about the people who hated sport and PE at school?'* Workshop presented to Scottish Student Sport Physical Activity Committee 9th May 2012

Graham Brennan, Claire Fitzsimons, Nanette Mutrie. Oral presentation. *Planning and tailoring recruitment activities for 'hard to reach' groups*. 8th Annual Meeting and Symposium of HEPA Europe, September 2012.

Graham Brennan. Oral presentation. *Planning and tailoring recruitment activities for 'hard to reach' groups*. HEPA Europe working group for socially disadvantaged groups. Annual meeting September 2012.

Graham Brennan. Workshop. *Methods and strategies for recruiting participants to physical activity interventions.* Delivered at the British Heart Foundation annual conference: Innovate to activate. New ways to promote physical activity and reduce sedentary behaviour. November 2012.

Graham Brennan. Oral Presentation. Why recruitment outcomes won't change in research. BRIGHTSPARCS, Annual conference of the Scottish Physical Activity Research Collaboration, December, 2012.

Graham Brennan. Workshop. *Recruiting walkers: What are the questions we need to ask in recruitment?* Paths for All: '**Recruiting Walkers**' networking/learning day, February 2013.

*University of Oxford

Chapter 1

“Everything should be made as simple as possible, but not one bit simpler”

(Albert Einstein)

Chapter 1: Contribution to this chapter

Title: Recruitment of participants to physical activity interventions: a summary of the current issues

My Role: I wrote this chapter without other co-authors and discussed drafts with my supervisors.

CHAPTER 1

Recruiting participants to physical activity interventions: background and rationale for this thesis

1.1 Introduction

A short, but significant editorial appeared in the journal *Patient Education and Counselling* in 2002. The editorial was titled 'Who cares about recruitment anyway?' and presented a rationale for the importance of reporting about recruitment (Froelicher & Lorig, 2002). It appeared as a result of on-going negotiations between the author and the editor, pleading the case for recruitment procedures and outcomes to become a mainstay of research publications. The authors stressed the importance of increasing the evidence base on recruitment: to research (for statistical power and achieving sample sizes); to practice (for best practice guideline development); and to policy (for rolling out of interventions shown to have uptake across the population). Now, some ten years on, the points argued in that short editorial are still valid but the evidence base has not evolved in the way they recommended. The fundamental 'how *should* we do recruitment?' question has not been answered; perhaps because of the lack of evidence about 'how we *currently* do recruitment?'. Froelicher and Lorig (2002) stressed the importance of reporting and publishing recruitment papers, but this thesis aims to start at the point of what we *currently* do with a view to understanding what we *could* do, and why.

The purpose of this thesis was to understand the recruitment process in walking promotion programmes. The scope was: to investigate the current actions of recruiters (in research and practice); to understand the perspective of the participants; and to evaluate recruitment at the level of the recruiter. It was conducted in the context of public health interventions and facilitated within walking promotion programmes. It was not within the scope of this

thesis to develop and deliver a walking for health programme, nor to amend health promotion approaches to walking to affect recruitment. Rather, this is an inductive investigation of what we do in recruitment and why, to inform what we could do.

The purpose of this chapter is to review the evidence base for recruitment appears in physical activity (PA) literature, and described the rationale for investigating recruitment through walking promotion programmes. It begins with a brief description of the challenges, the definition, and how recruitment is framed in this thesis. The evidence base is then reviewed using a framework of: planning, doing/implementing, monitoring and reporting. Other aspects of the evidence base are reviewed including: terminology and theory; and issues beyond the scope here. The health context and health promotion guiding this thesis are followed by the rationale for using walking to promote health.

1.2 Recruitment: background

1.2.1 Recruitment as a challenge

Recruiting adequate numbers of participants to establish effectiveness in research studies is reportedly challenging (Rendell, Merritt, & Geddes, 2007; Sudman, Sirken, & Cowan, 1988; Treweek, Mitchell, et al., 2010). But, what does research tell us about overcoming the challenge of recruiting enough participants, whatever the setting, and what fundamental challenges are impeding our progress? In order to better review the literature, we sought to address the planning, doing and reporting data available as this satisfied the rational starting point of 'how do we do recruitment?'. These broad categories emerged from conversations among the research team, experiences in conducting recruitment programmes and a brief reading of the literature. They are used in this chapter as a framework to overcome the challenge of

reviewing the literature and later in this thesis to propose guidelines for recruitment.

1.2.2 Defining recruitment

A clear definition of terms is considered essential for the effective implementation of public health interventions (Üstün & KJakob, 2005a, 2005b). PA, health and health promotion have set clear boundaries and meaningful explanations of their terminology (Caspersen, Powell, & Christenson, 1985; WHO, 1948, 1986). PA is defined as “any bodily movement produced by skeletal muscles that results in energy expenditure”, is differentiated from exercise and includes a range of PA opportunities (Caspersen, et al., 1985, p. 126). Health is defined as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 2006, p.1). Health Promotion is defined as “the process of enabling people to take control of their health and its determinants, and thereby improve their health” and is supported by a framework for implementation (WHO, 1986, 2006). The same clarity of terms wasn’t observed in PA literature on recruitment and must be considered a fundamental factor hampering effectiveness.

PA literature rarely refers to a definition of recruitment despite its frequent appearance as a methodological term. Sub-definitions such as active and passive recruitment sometimes appear (R. Lee et al., 1997; Sarkin, Marshall, Larson, Calfas, & Sallis, 1998; Velott, Baker, Hillemeier, & Weisman, 2008), but these terms differentiate between the recruiter initiating contact with the participant (active recruitment) and the participant initiating contact (passive recruitment). They do not establish a fundamental description of what recruitment is in the way that health, PA, and health promotion have done. It could be argued that this lack of a fit for purpose definition means that

recruiters in PA (in both research and practice) operate under unqualified assumptions. These would include the assumption that there is a single best method of recruitment from which all recruiters modify their actions, or that all recruiters operate in approximately the same well-structured and accountable manner. If this was the case there would certainly be less demand for research into the topic, and this is clearly not true.

Despite its wide use, it is not clear why the term remains undefined in PA research. It may be related to the fact that it is a well-established human resources term with a widely used, fit for purpose definition:

“The process of identifying and hiring the best-qualified candidate (from within or outside of an organization) for a job vacancy, in a most timely and cost effective manner.”

(Anon, 2012)

This definition is contrary to the health promotion principles of equity and inclusion (WHO, 1986) and limits its fit with PA research, or practice guided by research. It is based within a context of paid employment and reward systems not typically present in a public health agenda. This differs from asking a participant to volunteer their time for a research study or persuading them to engage in healthy behaviour. However, the World Health Organisation (WHO) literature also focuses on searching for employees (WHO, 2011d) and this mismatch reinforces the need for a better, fit for purpose description in PA research and practice.

The definition does offer some helpful characteristics though. It identifies recruitment as a process, listing sub actions, stating the purpose for which people are being recruited and establishing some measure of effectiveness or efficiency. A fit for purpose definition could be developed if this traditional HR

one was combined with the focus of health promotion and framed as a verb to indicate actions or processes. Guidance for developing health definitions have been informed by arguments about structure which could be useful here (Üstün & KJakob, 2005a, 2005b; van Beeck, Branche, Szpilman, Modell, & Bierens, 2005).

“In scientific research, meaningful definitions are essential for comparability and reproducibility...To take effective public health measures, solid monitoring and evaluation programmes are necessary, for which the definition of the concept must be clear”

(Üstün & KJakob, 2005a, p. 802)

With this in mind, and due to the absence of a first principles definition within the literature, recruitment in this thesis will be defined as:

“The process of inviting, negotiating and facilitating participation in an event or activity, not merely the creation of awareness”

(Adapted from Foster et al., 2011)

The definition has two aims. Firstly, to propose a fit for purpose meaning of the word that will inform this thesis. Secondly to set out a statement for researchers and practitioners to consider and where appropriate contest or contend. Most importantly though, it suggests recruitment is an interactive process with several phases which require active management, and lifts it above awareness campaigns alone.

1.2.3 Framing recruitment in this thesis

Recruitment challenges are shared by both researchers and practitioners who implement public health programmes. Public health interventions such as walking promotion programmes often aim to bridge the gap between

research evidence and its application in practice (G. Baker, Mutrie, & Lowry, 2008; Mummery, 2003). This is apparent in the implementation of the Scottish Physical Activity Strategy (Scottish Executive, 2003) which is informed, for example, by the Scottish Physical Activity Collaboration (www.sparcoll.org.uk) and rolled out, for example, by Glasgow City Council. This thesis investigates recruitment to walking promotion programmes, whether in research or practice and focuses on the actions of the recruiter. It does not distinguish, until evidence dictates necessary, between these settings. This is a starting position due to the close relationship between research and practice for walking promotion programmes but is cognisant of the likelihood that context specific factors will be revealed during the thesis.

The RE-AIM framework will, where appropriate, be used to inform and guide the research conducted in this thesis (R. Glasgow, 2012b). It is a relevant framework for the evaluation of public health interventions, but its relevance to recruitment is in its description of reach. By defining reach as “the proportion of the target population that participated in the intervention” (R. E. Glasgow, Vogt, & Boles, 1999, p. 1324) and further describing it as focusing on the recruitment phase with a view to understanding more about the process and outcomes of recruitment actions, it aligns most suitably with the aims of this thesis. We consider recruitment to be the actions which take place before the starting point of an intervention, and this thesis focuses on the actions of the recruiter in order learn more about how recruiters’ actions impact on the participants’ responses and reactions. While other frameworks that consider the determinants (Dahlgren & Whitehead, 1991), motivational (Hagger & Chatzisarantis, 2008), or situational (Bronfenbrenner, 1989) factors that affect behaviour are of relevance to recruitment, at this stage our choice is to focus on the recruiter and their actions to understand what might be missing, under-attended or not prioritised during recruitment. In future work we hope to integrate recruitment within a more comprehensive model similar to that of the socio-ecological model (Bronfenbrenner, 1989), but at the moment we feel it

would be remiss not to learn more about the process, the recruiter and their influence on the outcomes of recruitment.

1.3 Recruitment: The evidence base in physical activity

This section presents an overview of the process of recruitment in PA. It is supplemented by non-PA literature where appropriate. A simple framework was used to be based on our aims of understanding the process of recruitment and includes: the planning, methods/strategies, monitoring and reporting of the recruitment approaches adopted in PA research. This section presents and discusses the recruitment process as evidenced by the literature.

1.3.1 Planning recruitment

Planning issues relate to designing the process within the context of the trial, the environment and a rationale for targeting the participant. Issues include: outlining the recruitment process and the lack of a structure to guide recruitment (Barnard, Dent, & Cook, 2010; McDonald et al., 2011), a lack of understanding about what methods or combination of methods work in which circumstances (MacEntee et al., 2002; Sarkin, et al., 1998; Velott, et al., 2008), strategic approaches to recruitment in the face of capacity restrictions such as staff availability and funding (Mapstone, Elbourne, & Roberts Ian, 2007; Treweek, Mitchell, et al., 2010), and how to successfully include gatekeepers and recruitment partners (Patterson, Mairs, & Borschmann, 2011; Williamson et al., 2007). The difficulty in learning about the process, despite awareness of these issues, is a lack of explicit planning at the point of recruitment and a distinct lack of evaluation of any plans that might exist.

PA literature presents little if any evidence of planning that underpins the recruitment process. Few papers provide detailed overviews of the process and rationale for their recruitment (R. Lee, et al., 1997; Velott, et al., 2008). PA literature tends more often to address the planning issue as a

recommendation in discussion or a call for more explicit plans to be presented. The outcomes of recruitment processes are present in papers describing feasibility issues (Kinnunen et al., 2008), pilot programmes (Campbell, Whyte, & Mutrie, 2005; Chang, Brown, & Nitzke, 2009) or research on specific populations (Korde et al., 2009; Roessler & Ibsen, 2009), but plans or frameworks for recruitment are not usually reported. This makes adopting the approach taken difficult. Planning is explicit in other aspects of the research process, and clear guidance can be found in proposal writing (Punch, 2006), dissemination and publication (Murray, 2007) and research design (Gliner, Morgan, & Leech, 2009; Robson, 2002). Researchers may well consider the lack of similar guidance in this aspect of research as a limitation and barrier to effectiveness.

Roessler and Ibsen (2009) further illustrate a frustrating tendency in papers labelled as recruitment. Having explicitly stated an intention to analyse recruitment to their study on exercise promotion in the community, the authors failed to outline their recruitment plans. One paragraph was used to describe the population recruited and to justify the gender imbalance in the study (“this can be explained with gender role attitudes and the higher interest of women in health-related issues” p.191). This does not constitute a systematic investigation of a planned recruitment process and is a frustrating deficit in the literature because there is no assurance that a plan was formulated in the first place.

There is some evidence of how having a clear agenda can be associated with recruitment efficiency and success. Campbell et al. (2005) described the value of using trained recruitment staff in their recruitment processes and invested time in ensuring all members of the team understood what they were doing and why. 80% of women eligible to participate in their trial were approached by recruitment staff, implying some benefit for reaching the target group. The

strategy itself, however, was not reported fully and would have enhanced the evidence. Chang et al. (2009) also described their training, planning and being strategic for recruitment success. They recommended conducting recruitment in a strategic way and to plan for training, but failed to present or refer to a clear plan which had guided their recruitment actions. They were unable to analyse their recruitment strategy because several methods were implemented at the same time and their planning wasn't explicit enough to allow for post implementation analysis (Chang, et al., 2009). In each of these examples, there is a clear difference between stating that planning is important, and actually being able to learn from a plan of action.

A number of unforeseen events that affect recruitment are often described. Time delays, adjustments to the sample frame to achieve a sufficient sample size and recruiter participant tensions due to trust issues can all impact on recruitment outcomes (Kahan & Al-Tamimi, 2009; Keimer, Dreas, & Hassel, 2011; Wilbur et al., 2006). However, these are becoming well known issues and preparedness is being highlighted as a key part of the planning process (Ory et al., 2002). The planning phase of a recruitment process is undoubtedly complex and unanticipated time delays and the possibility of a general disinterest in a study cannot always be predicted; but accountability is expected in other aspects of research (Gliner, et al., 2009) and some guidance does exist which could be applied to PA programmes. For example, Gomm et al. (2006) presented a global overview of planning public health advocacy campaigns. They identified strategic analysis (of the global problem, local problem, solution and target), strategy mapping and evaluation as key elements in advocacy campaigns aimed at changing behaviour in a community (Gomm, Lincoln, Pikora, & Giles-Corti, 2006). This level of analysis could be useful in designing recruitment strategies that may allow for clearer reflection on what actions or inactions resulted in goal achievements or shortfalls.

Sampling strategies to affect recruitment have been described outside of PA research. Sudman et al. (1988) described the use of statistical probability methods to equate the costs and efficiency in reaching and sampling otherwise 'elusive populations' (Sudman, et al., 1988). The fundamental message of Sudman et al.'s (1988) paper was that it is essential to identify the volume and locations or 'clustering' of the target group needed during recruitment. Failure to do so will lead to inefficiency in locating and approaching the target group and ultimately increases in time and expense. This is an important message to take, if not for the statistical mapping process, simply for the logic that without identifying where your target group is, it will be difficult to identify if they were reached.

Recruitment plans are still largely absent in PA literature. A clearer relationship needs to be established between preparation and outcome if the benefits of planning are to be shared and a robust recruitment framework is to be developed.

1.3.2 Methods and strategies

Understanding what methodology works in recruitment is difficult due to a number of factors. The interchangeable use of the words method and strategy, which are two distinctly different terms, is confusing. Methods are described as a "procedure or way of doing something", while strategies are described as the "planning and directing of a campaign" (Anon, 2007). The term strategy is often applied by authors describing a single method rather than a more sequential application of methods (Elley et al., 2007; Margitic et al., 1999; Rodrigo, Sinclair, Cunliffe, & Leder, 2009). In order to comment on the effectiveness of methods and strategies, it is important to examine what approaches have been used and what has been learned about them. However, much of the literature focuses on factors limiting recruitment such as: costs restrictions (Aung, Cowan, Haynes, Bowman, & Armitage, 2011; Rodrigo, et al., 2009), the usefulness of incentives (Perez, Nie, Ardern, Radhu, & Ritvo, 2011;

Rendell, et al., 2007) and the influence of ethical requirements such as information sheets and consent forms (Knapp et al., 2011). However, much of this data is retrospective and not aimed at describing the success or failure of a planned recruitment strategy in full.

Individual methods in PA recruitment tend to include fliers and posters. Whether these are the best methods is not clearly supported in the literature. In fact, outside of PA research, Velott, et al. (2008) reported that behaviour change literature does not indicate any one best method of recruitment. They preferred the inclusion of a range of methods which were described as active and passive. Active and passive methods have been previously described in PA literature where active methods involve the recruiter approaching the participant to initiate contact, and passive methods involve creating awareness and waiting for the participant to make contact (R. Lee, et al., 1997). Lee, et al. (1997) preferred passive approaches because they were less expensive to implement, but they did struggle to reach their recruitment goals. However, passive and active methods need to be more critically appraised and there may be good reason to subscribe to Velott, et al.'s (2008) triangulation strategy. They adopted a triangulation approach where passive methods were used in combination with active methods and used to different extents in different circumstances. This drove their success, but more understanding of the strengths and weaknesses of each category of approach is still needed.

Evidence in support of passive and active methods is conflicting but has provided some useful conclusions. Passive methods of recruitment (e.g. fliers, posters, TV advertisements) are common within PA research, but received mixed endorsement. Passive methods have received poor economic ratings, including one report of an \$800 newspaper advert yielding no responses

(Pinto et al., 2004). However, passive methods were more efficient in time and monetary terms in other studies (R. Lee, et al., 1997; Sarkin, et al., 1998).

Sarkin, et al.'s (1998) investigated the effectiveness and efficiency of both method types in two cohorts of university students. Active methods produced the most representative sample group and had a higher recruitment rate, but were less efficient and had a higher attrition rate. Passive methods yielded a larger sample group and had a lower cost, but produced a less generalisable sample population. In addition, this population was more physically active and demonstrated a higher motivation to participate in PA anyway. The authors concluded that passive methods have a higher risk for self-selection bias by participants, produce more homogenous sample groups and are less effective in reaching those most at need of the intervention.

Passive and active recruitment methods have also been examined in terms of reach and response. Passive methods were used more in one study of African American women's participation in a walking programme, but some interesting and contradictory observations were reported (Wilbur, et al., 2006). Wilbur, et al. (2006) concluded that the passive approaches were effective and efficient in terms of reach and response but 'word of mouth' (an active approach) was more effective to build trust and overcome negative perceptions of researchers. Despite endorsing passive approaches, the authors attributed 54% of their recruitment responses to the efforts of the participants. This success was described as a result of social networking and the efforts of the women in the study to communicate with others because it was tailored to their needs. In essence, the passive approaches appear to have been suitable for reducing the burden for the researcher, but response rates were bolstered as a result of the active approaches initiated by the participants.

Contextual factors appear to affect the effectiveness of methods and should

influence their selection. Wilbur, et al. (2006) referred to participants' lack of familiarity with PA interventions, their availability and capacity to take part, eligibility criteria, a sense of power difference, and trust issues as important barriers to recruitment. However, in their study they described 'word-of-mouth' among the study participants as an important method to overcome these barriers. Sarkin, et al. (1998) reported some of the barriers stated by participants in their study, including; scheduling conflicts, lack of experience in PA programmes; and mismatches between their expectations and the programme delivered. These are comparable to Wilbur, et al.'s (2006) findings and imply recruitment is affected by a range of practical and psychosocial factors that may be better overcome through active recruitment and careful consideration of the participants' perspective. Therefore, these findings suggest that the most appropriate method of recruitment is influenced not only by the researcher's needs for efficiency but also by the participants' capacity to participate, familiarity with the programme and their needs or expectations from participation.

Important psychosocial factors have been further described in the recruitment literature. The perception of the researchers' position and intentions (power differences) and trust issues affect the participants' willingness to take part (Banks-Wallace, Enyart, & Johnson, 2004; Wilbur, et al., 2006). Banks-Wallace, et al. (2004) referred to the need to overcome past negative experiences and conveyed the benefits of participation through interaction and discussion and used information exchange session as an active approach to good effect. This is supported by qualitative research outside of PA. Harkins, et al. (2010) investigated engagement processes for coronary heart disease (CHD) screening and presented comparable findings. Engagement via passive methods was less effective and not well received due to the inability of fliers and posters to adequately answer the outstanding questions that participants had. Its association with 'junk mail' and irrelevant literature was also a barrier.

Engagement and recruitment to the screenings was increased due to the active approaches and face to face discussions by local, respected or well-known community workers who were able to answer outstanding questions and endorsed the programme to the participants.

The evidence at hand appears to suggest a number of key considerations when developing a recruitment strategy. The practicalities of participation, the burden on the participant and a sense of trust do not seem to be easily communicated using passive approaches alone (Banks-Wallace, et al., 2004; Harkins et al., 2010; Wilbur, et al., 2006). The recruiter may be required to assess the potential of passive methods alone, or a combination of passive and active methods for their likelihood to improve recruitment outcomes on a case by case basis. Differential responses to passive and active methods of recruitment are apparent and there is some evidence that active approaches are beneficial where more barriers exist between the recruiter and participant (Banks-Wallace, et al., 2004; Sarkin, et al., 1998). Recruiters must decide whether the methods applied best serve their needs to establish a sample group size or the need to reach a specific and under-represented group. In doing this, a strategy can be formed which matches the needs of the recruitment drive. The lack of clearly stated or illustrated strategic frameworks limits the opportunity to discuss strategic approaches, but the evidence at hand indicates there may be more logic in applying passive methods first; followed by active methods should initial outcomes be poor.

1.3.3 Monitoring the recruitment process

A limitation to our understanding of recruitment effectiveness is the use of retrospective, and often estimated, data for the analyses of progress. A range of data (e.g. economic costs, response rates, efficiency and effectiveness) is often collected, but reporting of this data is very variable and does not seem to be monitored prospectively to drive the recruitment actions. This could

undermine the reliability of data presented as progress monitoring, and has been observed in some of the literature (Margitic, et al., 1999; Sarkin, et al., 1998). Sarkin et al. (1998) noted an inability to monitor and distinguish effectiveness in their study due to all of their methods being applied at once without a plan for monitoring. Margitic et al. (1999) stated specifically that the lack of consistent and uniform data monitoring across all the sites they implemented their recruitment strategy in, limited their ability to identify efficiency and effectiveness in their study. Overcoming the challenge of recruiting enough participants by the end of a recruitment process may be hampered by a lack of awareness regarding responsiveness during the process.

Prospective recruitment rates are a useful, but not always reported, measure for monitoring recruitment. Margitic et al. (1999) provided useful weekly estimate of estimated vs. actual response rates during a 72 week recruitment phase. Their rates were cumulative and indicated a linear relationship between time and response, but there was also a 14 week lag period which could not be explained by this data alone. However, the quota for women was reached ahead of schedule so no more women were recruited and extra effort could be made to recruitment more men. Although their data illustrated that they exceeded their nominal recruitment targets, some limitations can be observed. As a result of not showing weekly response rates and what actions were taken per week, it is not possible to assess what actions triggered a response or if a relationship existed between when actions were taken and the level of response. A lack of detail rationalising their target number and their sample group demographics is another limitation to monitoring progress and the sample group was biased towards the more affluent and Caucasian members of the regions they recruited in. Lastly, without a clear account of what events occurred at specific time points and in the context of the response rate at that time, it is unlikely that significant learning can be

brought forward to subsequent recruitment campaigns. Although the recruitment rate (e.g. response rate per week) is a useful monitoring tool, contextual information (e.g. demographic descriptors) and reflexive observation would allow for a better explanation of the relationship between actions and outcomes.

Final participation or response rates provide a limited amount of information. Qualitative data such as recruiter logs recorded in combination with response metrics during the process and have been useful to both guide and inform the recruiter. Campbell, et al. (2005) reported that their recruitment staff used study diaries to note and discuss any issues arising during recruitment, and although no details were reported in their short study, diaries were positively associated with the smooth running of the recruitment process. Chang, et al. (2009) also used recruiter logs and identified key psychosocial factors such as rapport, respect and incentives that were important in recruiting their target population. Jolly et al. (2007) used both metric and study diary data to learn from their experiences. They presented sample size goals and timeframes that guided their study and included a broader uptake rate (percentage of those invited) which was useful to direct their recruitment efforts. Fewer participants were recruited than similar studies and a longer timeframe was reported, but valuable observations were reported by the authors (Jolly et al., 2007). By monitoring of non-participants responses during recruitment they learned that perceptions of the ability to meet the demands of the study were a significant reason for non-participation. Korde et al. (2009) monitored response rates to their recruitment methods and analysed the cost of each method. They criticised the high cost and low yield of purchasing a mailing list (\$5000 spend, yielded 16 referrals) and also critiqued their literature based methods. The concise but comprehensive information provided in a magazine article was favoured over the minimal information placed in a newspaper advertisement because it yielded a higher response rate. They were also

alerted to their sample group becoming homogenous and were able to refocus their efforts efficiently and effectively to achieve their goals. This reflexive approach and willingness to react during the process adds support to the need for monitoring recruitment methods.

Monitoring recruitment outcomes is not well reported in recruitment literature, but may be the key to learning success. The current focus is on sample size as an outcome measure of success, but little can be gleaned from this metric alone to understand or replicate recruitment success. The opportunities offered by reflexive analysis can provide important insight into how recruiters manage the process and what they can learn from the reactions of participants throughout. Combining this, in real time, with information about the rates with which participants are being recruited offers both a key learning opportunity and a means to guide and perhaps motivate the recruiter.

1.3.4 Reporting data and outcomes

Reporting of recruitment outcomes typically stops at sample size data and participation rates. Swanson and Ward (1995) highlighted the inability to learn about recruiting specific groups when there is a sparse amount of information about the process and Toerien et al. (2009) demonstrated that recruitment data continues to go unreported. Treweek (2011) described recruitment as complex in nature and called for more process data to be reported if we are to move beyond the notion that one best method of recruitment exists (Treweek, 2011). Despite this, it remains an under-reported part of research and practice but a necessary phenomenon to explore.

Under-reporting of data is a common and considerable challenge when investigating recruitment (Treweek & Loudon, 2011). Sample group size and demographic breakdown are the most commonly reported recruitment data.

Although a fundamentally necessary piece of data, it lacks detail which would better inform the reader of the reach of the sample selected. For example, a review of reporting in RCT's noted that most studies only provide data from after the randomisation process (Toerien et al., 2009). This renders statements of response rate percentages somewhat misleading because we cannot assess if the number randomised is a large or small proportion of those invited to take part, or those available. This can be illustrated in studies such as Chang et al. (2009) who reported inviting 1119 participants, screening 342 (33.96%), accepting 194 of those as eligible and enrolling 129. However, rather than presenting 129 participants as approximately 10% of the invited sample frame, it was presented as 66.5% of the eligible group and does somewhat misrepresent the effective recruitment rate and reach. Toerien et al. (2009) also critique this approach, pointing out that it misrepresents the external validity of the study. Data on reach could be better illustrated if a valid denominator such as available population, and a clearer description of the target group was reported.

Sample size calculations can be a means to set an informed target number which could be reported and validate effectiveness quantitatively (Robson, 2002; Sudman, et al., 1988). However, Toerien et al. (2009) noted that even when a sample size calculation is provided some 21% of studies still fail to reach their sample size during recruitment. Ory et al (2002) recommended the alternative approach of surveying and knowing the landscape in terms of how many participants are available before recruitment begins. This approach ties in better with the principle of reach (www.reaim.org) and a more concurrent set of data with the strategy and monitoring principles discussed in this chapter.

Currently, reporting recruitment data is differential and difficult to compare. Typically, a minimal amount of data on the procedures and outcomes of the

recruitment process appear in the literature and standard research articles are not long enough to allow for more than a passing mention of recruitment. The issue of using sample size as a measure of recruitment success seems incomplete if a valid denominator such as population size is excluded. Simply reporting the outcome data will not overcome the barriers to recruitment, but more extensive population and response data will provide a more revealing set of data on the reach of the study (R. Glasgow, 2012b; Mutrie, Foster, Easterbrooks, Burton, & Baker, 2010). Ultimately, there is an opportunity for recruiters to publish more extensive research articles on the process of recruiting, but at the moment there is a need to report better data on reach. Reporting of recruitment data represents the final stage of a sequence that should include planning, doing/implementing and monitoring. This could provide a fuller picture for the reader and more comprehensive and meaningful learning experiences for the recruiter.

1.3.5 Other considerations for research

There are a number of issues beyond the topics already discussed that are important factors in recruitment. The following section provides an overview of some issues related to the recruiter, the participant, frameworks, taxonomy, how recruitment should be addressed in research and a brief list of others still unresolved.

1.3.5.1: Research about the recruiter

More information about the recruiter needs to be captured in research. Few if any interventions could be found at the level of the recruiter indicating an on-going significant gap in the knowledge base (Mapstone, et al., 2007).

Recruiters are advised to be more introspective and to examine the process reflexively to learn more about what to do and what not to do (Swanson & Ward, 1995) so they can learn from their failures and successes (Thompson & Phillips, 2007); Although another Cochrane review (Treweek, Mitchell, et al.,

2010) did identify three studies that were described as intervening at the level of the recruiter, these studies focused on training and trial site visits by study co-ordinators rather than following the recruiter directly.

Patterson et al. (2011) have gone some way to providing the recruiters perspective and perception of effectiveness in qualitative research. Their conclusions were that effective recruiters are organised, personable, view recruitment as a series of actions and invest time in establishing a shared objective with mediators (Patterson, et al., 2011). However, the dearth of evidence outlining effective processes was considered a burden to recruiters and affected their confidence, particularly when recruitment was a necessary part of their work, but not within their skill set. This indicates that in the absence of experience or expertise recruiters may be reluctant to engage in the process. This affects recruitment at a level above the invitation aspect and must be considered at the planning level to ensure recruiters are clear and confident about their actions.

Another important factor at the level of the recruiter is networking and mediation. The relationship between recruiters and mediators or gatekeepers has been reported to an extent. Mediators (e.g. General Practitioners and surgeons) play an important part in reaching target groups, but recruiters are reminded to pay careful attention to sustaining positive relationships with these mediators because of their position of power and access (Williamson, et al., 2007; Ziebland et al., 2007). Managing mediators who are conducting the recruitment in collaboration is also an important high level consideration. Clinicians operating as recruiters expressed an unwillingness to help researchers when recruitment became burdensome. This was due to ambiguities about the trial or a lack of direction about the recruitment process (Rendell, et al., 2007). More research is required here, but it is a fair assumption that mediators who are burdened or badly managed are unlikely

to play a supportive role in the process and this could be a significant limitation in reaching a target group.

More research is needed at the level of the recruiter. If we are to understand whether the recruiter is an independent or dependant factor in the process and how they affect delivery of a recruitment programme, evaluation of the process with a focus on the recruiter has the best potential to improve our knowledge base.

1.3.5.2: The participants' perspective

The participants' viewpoint is important in confirming the effectiveness of recruitment processes. The relationship between the methods applied by the recruiter and the methods that the participant responds to, is better informed by research that involves the participant. For example Jago et al. (2011) interviewed girls and their parents and examined the factors that affect recruitment to an after school dance intervention. The girls emphasised that 'taster sessions' were important to them and that peer endorsement, usually through word of mouth discussion, greatly affected their willingness to participate. The girls and their parents stressed the attraction of socialising, of a well delivered and reputable class, of their input into class design and a reputation for enjoyment as crucial factors in attracting participants (Jago et al., 2011). The quality of the intervention and of the dance class instructor was important to the participant at the recruitment stage. Similarly, social interaction, quality of delivery and tailoring the programme were all important to participants recruited to walking groups (Ashley & Bartlett, 2001).

Lastly, Young et al. (2011) investigated barriers to recruitment in clinical trials and compared parents' and practitioners' perspectives during research trials with children. Parents were often more willing to be approached than practitioners thought and preferred to have a discussion about their children

being recruited rather than excluded without consultation. By contrast, practitioners feared that an invitation to take part could be viewed as insensitive in circumstances where the children were suffering from a particular condition and assumed the parents would view the trial as burdensome (Young et al., 2011). By asking the parents and families about recruitment, this helped to reveal important differences between the practitioners' assumptions and the families' opinions.

There continues to be a lack of research at the level of the participant. This is a lost opportunity to improve recruiter performance through consultation with the most important person in the process, the participant. The small amount of data here indicates useful considerations for the recruiter including the need to understand how a programme is viewed by the participant beforehand to optimise its appeal. Also, assumptions about participants willingness to take part are better investigated with inclusion of potential participants. Fundamental investigation including: "how did you hear about us" surveys; qualitative investigation of new members to a programme; and any means to receive feedback from non-attendees would provide valuable comparison and confirmatory data for researchers in this area and recruiters in practice.

1.3.5.3 Recruitment as an evaluative process

The evidence in this chapter so far indicates that many factors affect what we know and what we should do in recruitment. The complex range of data that needs to be collected and the contextual factors that affect both the participant and recruiter's engagement in the process indicate that recruitment requires more than a single best method for effectiveness and should be assessed comprehensively. The current level and range of data on recruitment makes it difficult to talk systematically or scientifically about a

process which does not appear, from the information available, to be conducted or reported in a well-structured manner.

Retrospectively recalling data and attempting to look for what factors related to effectiveness is consistently inconclusive. Although outcome measures such as sample size/attendance and the comparison of methods are important, if they are examined in isolation the findings may not be easily adopted in other settings. Treweek and Loudon (2011) assert that without reporting the basic who, what, where, when, how and why elements of the recruitment process the opportunity to learn and apply crucial new approaches is lost. Process evaluations of recruitment could lead to more useful outcomes, particularly where the evaluation process includes multiple methods and multiple participants from multiple perspectives (Nutbeam & Bauman, 2006). It could also be argued that without a complete evaluation of what was planned, implemented, monitored and reported all research and practice activities leave too much uncertainty over what factors or combination of factors work. For this reason, an evaluative approach is emerging as the methodology of choice in recruitment research (Mapstone, et al., 2007; Treweek & Loudon, 2011).

1.3.5.4 Beyond the scope of this thesis

Factors such as the value of incentives, the influence of ethical requirements (e.g. consent forms), location and training were observed in the reading for this thesis, but are outside of its scope. Procedures and methodology remain under-researched and may lead to better learning outcomes at this point. This thesis focuses on methodology and identifying the complex nature of recruitment, ahead of future work on specific methods or related contextual factors. Future research should include the other factors such as those mentioned here, but not ahead of establishing a clear understanding of the process. This thesis learns from recruiters to walking promotion programmes

in research and practice collectively. It is cognisant of the likelihood that differences will be revealed in intent or context, but the close relationship between research and practice as well as the dearth of information from either group warrants the inclusion of as many data sources as possible. Future research will focus on setting specific recruitment, informed by the outcomes of this thesis.

1.4 Taxonomy, terminology and theory

Multiple terms are used to describe recruitment. At the same time theories which guide recruitment seem absent in the literature. Neither of these issues provides clarity nor reduces confusion regarding what recruitment is or how it should be conducted. This section briefly discusses this matter and its implication.

1.4.1 Taxonomy and terminology

Taxonomy issues and the interchangeable use of physical activity, physical fitness and exercise have been addressed in PA research (Caspersen, et al., 1985). Recruitment, however, lacks a commonly used definition of the term and uses terms interchangeably and without reason. Method and strategy are used in place of each other, despite a clear difference in their meaning (Anon, 2007). In addition, the terms passive and active recruitment which have been defined (R. Lee, et al., 1997), are comparable to the terms “direct” and “indirect” (MacEntee, et al., 2002) and “opportunistic recruitment” (Bull & Milton, 2010), which appear without definition or a clear rationale for their introduction. This adds to the vocabulary, increases the absence of an explanation of the term, and fails to increase the methodology or evidence base. Lastly, the widely used and popular term “word of mouth” is without a clear methodological explanation making it near impossible to plan a recruitment strategy based on this approach.

Using multiple terms limits comparisons between studies (Elley, et al., 2007). Abraham and Michie (2008), in their review of terminology to describe behaviour change techniques (BCT), noted that multiple similar terminologies were used to describe interventions which were markedly different, but claimed to address generally similar issues in BCT (Abraham & Michie, 2008). As a result, variability was observed across intervention outcomes, affecting behaviour change efficacy and intervention selection going forward. The use of multiple, undefined terms, also makes interpreting recruitment actions difficult. Few if any of the terms are backed up by specific explanations of best practice guidelines which can be implemented in practice and clearly evaluated in practice. An on-going use of terminology, in the absence of explanation, does little to help recruiters aiming for specific advice regarding the process of inviting participants to take part in their programmes.

Finally, the term 'Hard to reach' groups is broadly used, but also broadly assigned. It has been applied to groups including: women; children; men; and the elderly (Burton, Walsh, & Brown, 2008; Raynor et al., 2009; van der Waerden, Hoefnagels, Jansen, & Hosman, 2010) without a well stated reason. Although it is commonly used, it often comes without an explanation or source reference, so it has not been included as a term describing participants in this thesis. It appears in some areas of discussion, but the term 'target group' will apply to participants in the studies described in chapters 4 to 6.

1.4.2 Theories and frameworks in recruitment

Theoretical frameworks for recruitment are not apparent in PA programmes in research and practice. Despite the popularity of frameworks that guide health programmes and which could inform the recruitment process (Craig et al., 2008; R. Glasgow, Klesges, Dzewaltowski, Estabrooks, & Vogt, 2006; Moher et al., 2011; WHO, 1986) there is no evidence that any of these frameworks have been adapted specifically for recruitment. There have been calls for the

development of robust frameworks to better understand recruitment (Margitic, et al., 1999; Patterson, et al., 2011; Swanson & Ward, 1995), but none have been forthcoming. There is some debate about the need for and validity of theory with conflicting views between positivist and constructivist standpoints. On the one hand there is an argument that broad theories fail to account for local context and that conflicting theories may justify themselves through the use of the same data, calling into question the idea that same 'facts' can be represented truthfully through different theories (Guba & Lincoln, 1998). However, the counter-argument includes the need for objectivity in evidence and guidance which can be based on general laws about the relationship between cause and effect (Alderson, 1998). Whether a theory is required at this point, there is a clear absence of structure to recruitment (Treweek, 2011; Treweek, Pitkethly, et al., 2010), and this at least could be better served by the development of an evidence based framework.

There are a number of theories that could be considered in support of aspects of the recruitment process. Self-determination theory (Hagger & Chatzisarantis, 2008) could help to identify what motivational factors supported recruitment; the theory of planned behaviour could be used to establish if all the factors which support behaviour change are in place before recruiting starts; and even communication theory could better inform recruiters about the effectiveness of different methods for recruitment (Shannon, 1948). But, at present recruiters in PA and those researching recruitment in PA have not explicitly made this link. Whatever the reason for not currently using a theoretical framework to guide recruitment, this thesis still approaches the topic inductively and from the perspective that more needs to be known about what is currently done, to establish what could be done.

Some efforts have been made to borrow from business models, though there are some limitations. A business model approach was applied under the assumption that recruitment effectiveness is multifactorial and should be process managed (McDonald, et al., 2011). The key factors included in this approach were: building brand values; product market planning; making the sale; and maintaining engagement. The business model in McDonald et al.'s (2011) study was adapted from the marketing field and did require some translation into research friendly terms but was applied in three case studies. The case studies provided a good account of the implementation of the model and empirical evidence of its success but the study suffered an inability to identify which element of the model worked best. This was because some parts of the model (i.e. individual methods) were run concurrently and could not be distinguished by effectiveness, or the model was applied to an already established programme and could not be evaluated for its impact alone. This is a reoccurring problem of identifying the contribution of individual methods (Barnard, et al., 2010; Chang, et al., 2009) and while the model provides an excellent overview of the factors to consider, it failed to provide an operational set of instructions which could be evaluated by recruitment researchers. It also operates under the assumption that participants in health behaviour programmes operate in the same way as they do in product purchasing, which is unlikely to be the case.

Evaluation frameworks are recommended in order to identify what worked in recruitment (Treweek, Mitchell, et al., 2010). This could provide an approach concurrent with the aims of this thesis and recruitment research at this point in its development. Although there are a number of health promotion frameworks and theories that guide PA programmes, they have not been applied to the recruitment stage of interventions. They focus on the programme implementation and it is not yet clear if they cater for all the factors relevant at the recruitment stage. There remains a need for an

operational and instructional framework for recruitment. Recruiters require a framework to plan their processes and researchers need a framework that could be used to evaluate method and strategy outcomes, mindful of the specific context of the programme.

1.4.3 The relevance of the RE-AIM Framework to recruitment

The RE-AIM framework was developed as a five point quality assessment tool for the evaluation of health promotion interventions (R. E. Glasgow, et al., 1999). Reach, efficacy, adoption, implementation and maintenance (RE-AIM) are the five dimensions which need to be assessed if interventions are to be evaluated at a level above the reductionist approaches which result in internally valid research, but non-representative findings. Since its inception, the framework has been applied in over 150 studies (<http://www.re-aim.org/publications/index.html>) across a range of public and health promotion topics and demonstrated its comprehensiveness in evaluating the implementation of complex health interventions. A relevant recent example includes the assessment of walking promotion among employees through the supply of pedometers and email messages (Aittasalo, Rinne, Pasanen, Kukkonen-Harjula, & Vasankari, 2012). While this study reported modest impacts on some of the indicators measured (walking for transport, walking for leisure, stair usage), maintenance at 12 months and initial reach were noted as requiring more attention in future work. This study usefully reported clear descriptive detail on the flow of participants through the recruitment phase and the proportion of the population of interest who were reached in this study. However, it did recognise the need for better reach in future work and the authors' willingness to report such observations is refreshing. Such comments and observations were assisted by the use of the RE-AIM framework and their willingness to record reach data.

Reach is defined as "the proportion of the target population that participated in the intervention" (R. E. Glasgow, et al., 1999, p. 1324). It is further explained as an individual level measure which concerns the representativeness and characteristics

of the participants, particularly in cases where those most at need of public health interventions are the least represented. It is considered challenging by the authors who highlight the over-representativeness of more affluent populations in many public health programmes, but highlighted as a priority attention area because of the potential for large population level benefits as more of the 'most at need' are engaged in health interventions. It is recommended that reach should encompass the absolute number, proportion and representativeness of those taking part in an intervention (www.re-aim.org). When measuring reach, this means that a valid denominator (e.g. total population) is required and specific characteristics should be defined at the onset for comparison to the participants in the study. In addition, it is recommended that specific exclusion criteria are stated and adhered to, and that qualitative methods are used to better understand reach and evaluate the recruitment process (R. Glasgow, 2012a). As described earlier, this data is most often lacking in the reporting process for recruitment, and may be due to the availability of databases or the lack of perceived relevance by researchers focused on the efficacy aspect of their research (R. E. Glasgow, et al., 1999). These guidelines have relevance to this thesis as they outline relevant metrics to identify reach and propose a rationale for gathering this data which is based on relevant public health aims. A limitation of the model though, is a lack of operational guidelines regarding the implementation of recruitment processes. This again highlights the need for formative research in this area.

1.5 Health

This thesis was conducted within the context of public health improvement and how recruitment could be improved to affect that. The following section discusses the concept of health, relevant to this thesis and includes: the definition and concept of health, public health measures and health promotion frameworks.

1.5.1 The health concept

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”.

(WHO, 2006, p.1)

This was the first principle of the constitution of the WHO and the definition of health adopted as long ago as 1946 (WHO, 1948, 2006). The definition was a positive statement, inclusive of mental and social dimensions and an advance beyond the medical model’s approach to health as the absence of disease or infirmity. It was the first of nine principles considered “basic to happiness, harmonious relations and security of all people” (WHO, 2006, P.1). These principles include the right to the highest attainable standard of health, and the responsibility of Government to provide adequate health and social resources.

Naidoo and Wills (2000) differentiate between a positive perspective, typically adopted by social science and a negative perspective generally adopted by the medical profession. Their assertion is that individual concepts of health are based on perspective and the rationale driving the service provider. For example, medical professionals in hospital settings are more likely to be presented with the outcome of ill health and focus on disease or infirmity eradication. However, health promotion professionals concerned with the antecedent conditions and determinants which support someone’s state of wellbeing and health engage in preventative measures (Naidoo & Wills, 2000). Although medical and health promotion practitioners may in fact operate in similar settings, it is important to differentiation between simply treating illness as a means to attain health and attending to the determinants of health and maintaining wellbeing. The WHO constitution and definition of health informs this thesis (WHO, 2006), as the aim of recruitment within the research

and practice included in this thesis is ultimately to increase independent walking behaviour and affect a change in public health.

Public health and health promotion emphasises addressing the determinants of health (Dahlgren & Whitehead, 1991). Recognition of the association between hygiene and a reduction in infectious disease is one of the cornerstones of the rationale to look at the many factors affecting health outcomes (McKeown & Lowe, 1974). Similarly, the emergence of non-communicable disease (NCD) as a leading cause of morbidity and mortality also supports the rationale for examining the determinants of health and the risk factors for ill-health (WHO, 2011b). Risk factors can be categorised as modifiable and non-modifiable and there is a clear distinction between the least most well off and across developed regions of the world (WHO, 2011c). Modifying risk factors such as smoking, eating habits and physical inactivity have a significant impact on health outcomes, and increasing physical activity levels is a well-supported mechanism for affecting public health change (Naidoo & Wills, 2000; NHS Health Scotland, 2009; WHO, 2004, 2008, 2011a, 2011b). Affecting an increase in the population level adherence to PA recommendations is the aim of the Scottish Physical Activity Strategy (NHS Health Scotland, 2009; Scottish Executive, 2003), and understanding how better to recruit participants to walking promotion programmes is concurrent with that aim.

1.5.2 Public health measures and Non-communicable disease

The WHO consider health as a human right (WHO, 1978). They reported positive progress in affecting global health change in line with the aims of their constitution (WHO, 2003). In spite of, and recognising that, some major changes in the landscape of health (the obesity epidemic, ageing population and burdening costs of chronic disease), the WHO feel assured that positive progress is being made in public health and non-communicable disease:

“Since the Declaration of Alma-Ata, the health situation at country level has changed considerably. There have been major modifications in the pattern of disease, in demographic profiles, in exposure to major risks and in the socioeconomic environment. There have also been trends towards more integrated models of care and greater pluralism in the financing and organization of health systems. Governments continue to rethink their roles and responsibilities in relation to population health and the organization and delivery of health care, thereby changing the context for framing and implementing health policy.”

(WHO, 2003, p.1)

This is a positive statement of organisational and governmental level change. This is evidenced by an increase from 61 to 194 member states signed up to the WHO constitution but there is a need to identify changes in health outcomes to really support the WHO’s claims of real impact. Life expectancy can provide a clear measure of change and table 1 illustrates a positive change in life expectancy of up to six years across all the WHO regions in the last two decades. A large difference is still evident between regions (i.e. Africa vs. The Americas) and a gender difference remains (Globally in 2009: Male 66 years, Female 71 years), but this is an indication of the WHO’s aspirations for a global improvement in health.

Table 1: Life expectancy at birth (years) across the WHO global regions

| Region | Male | | | Female | | | Both Genders | | |
|--------------------------|------|------|------|--------|------|------|--------------|------|------|
| | 2009 | 2000 | 1990 | 2009 | 2000 | 1990 | 2009 | 2000 | 1990 |
| Africa | 52 | 48 | 49 | 56 | 52 | 53 | 54 | 50 | 51 |
| Americas | 73 | 71 | 68 | 79 | 77 | 75 | 76 | 74 | 71 |
| Eastern Mediterranean | 64 | 62 | 59 | 67 | 65 | 63 | 66 | 64 | 61 |
| Europe | 71 | 68 | 68 | 79 | 76 | 75 | 75 | 72 | 71 |
| Global | 66 | 64 | 62 | 71 | 68 | 66 | 68 | 66 | 64 |
| South- East Asia | 64 | 61 | 58 | 67 | 64 | 59 | 65 | 62 | 59 |
| Western Pacific | 72 | 70 | 68 | 77 | 74 | 71 | 75 | 72 | 69 |

Reprinted from the World Health Organisation (WHO), Global Health Observatory Data Repository,

http://www.who.int/gho/mortality_burden_disease/life_tables/life_tables/en/index.html
)

Annual death rates are another relatively simple measure of health change and death rates have generally declined in some areas of Europe. The European Health for All database publish health statistics for countries in the WHO Europe region and figure 1 that people are now also dying at a slower rate.

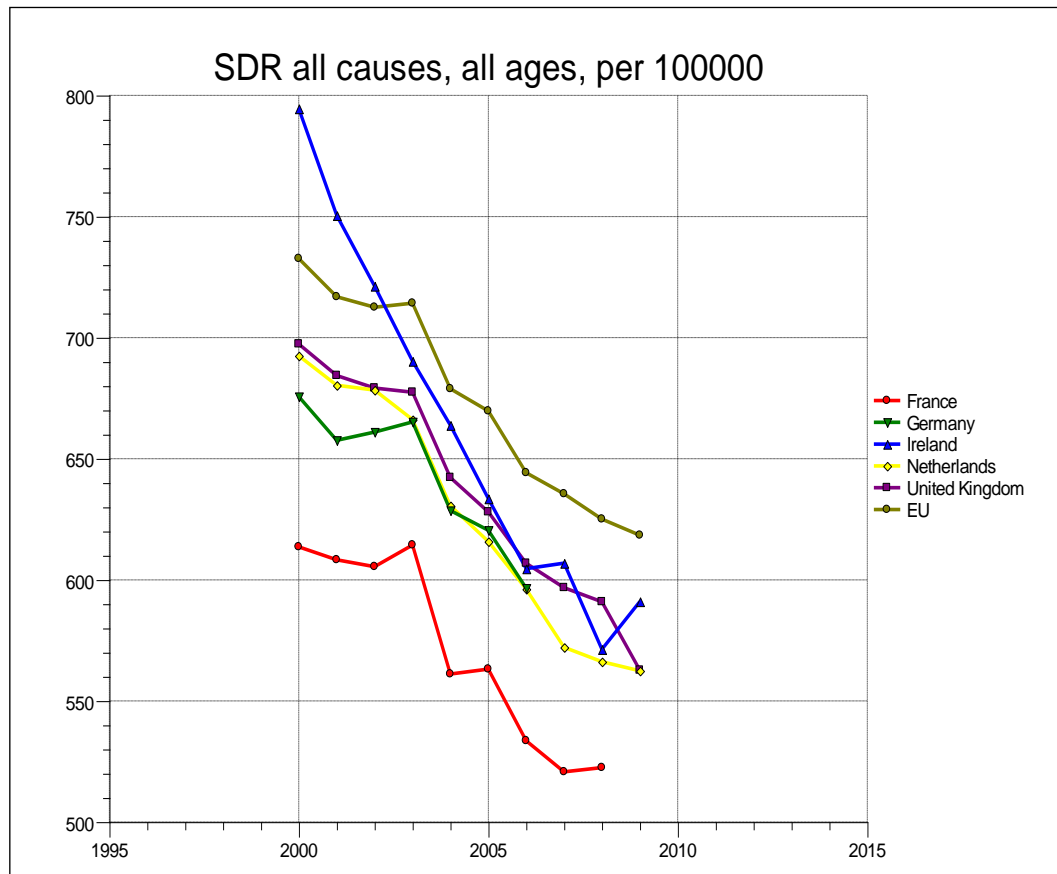


Figure 1 Age-standardized death rates change over time in a selection of countries in the European ‘Health for All’ database

(Reprinted from the World Health Organisation (WHO), Health for all database, <http://data.euro.who.int/hfad/>)

The resultant demographic change in country populations does, however, increase the burden of non-communicable disease and is recognised in the WHO’s Global Strategy on Diet, Physical Activity and Health (WHO, 2004). Although populations may live longer, they may encounter a wider range of potentially chronic condition, increasing the cost on health services (WHO, 2011b). Each year, an estimated 60% of the 56 million annual deaths and 47% of the global burden on health is attributed to non-communicable disease (WHO, 2004). This Global Strategy advocates PA as an effective approach in reducing the burden of non-communicable disease across all social groups, ages and genders. It also *“invites public and private stakeholders including the*

donor community to cooperate with governments in, the promotion of healthy diets and physical activity to improve health outcomes” (WHO, 2004, p. 17).

Support for promoting PA is reiterated in the most recent strategy document on NCDs (WHO, 2011a). However, prevalence of PA still remains disappointingly low (figure 2) and there continues to be a need to understand more about the factors affecting PA behaviour.

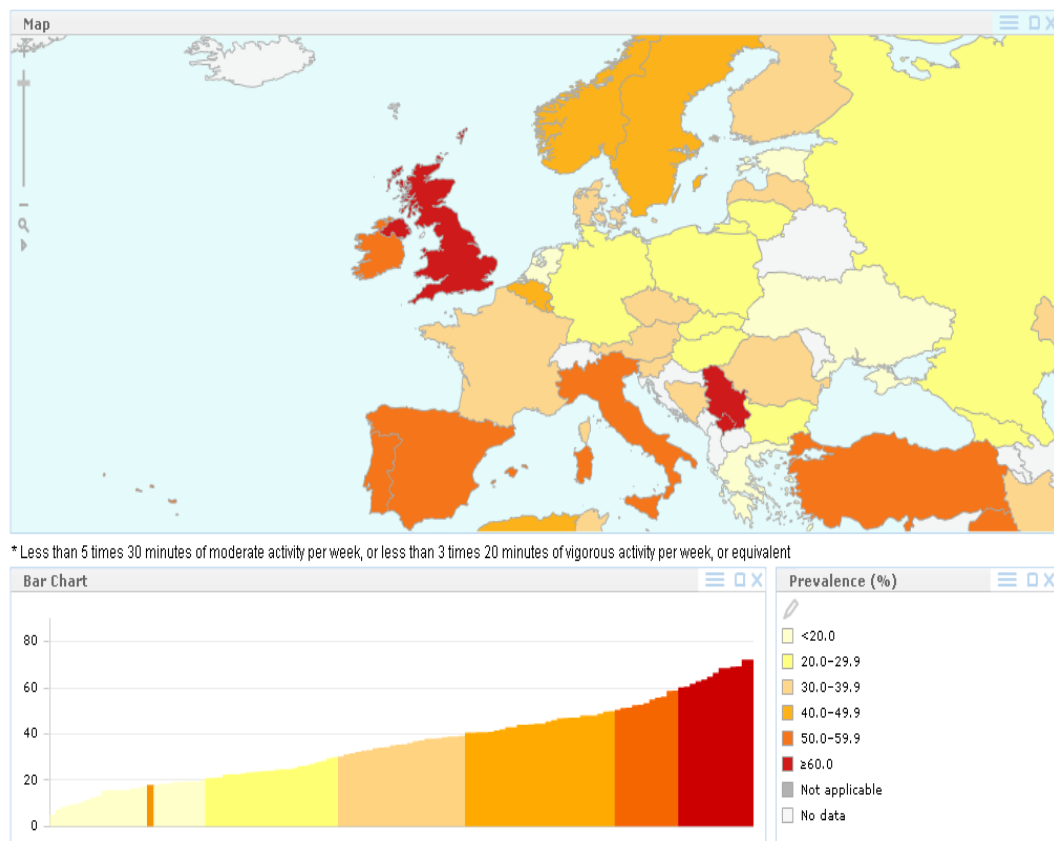


Figure 2 Prevalence of insufficient physical activity across a selection of Western European countries

(Reprinted from the World Health Organisation, Global Health Observatory, <http://gamapserver.who.int/mapLibrary/app/searchResults.aspx>)

Although metrics measuring health outcomes and PA behaviour trends provide a landscape view of society, they may be incomplete for explanatory purposes or evaluating health interventions. Some researchers insist broader measures are required to encompass a broader concept of health and better

understand the interaction between determinants and health behaviour (MacDonald, Veen, & Tones, 1996; Mittelmark, 1999; Naidoo & Wills, 2000). Quality of life measures have been proposed and recommend the inclusion of psychological, social and occupational domains as well as physical ones (Fallowfield, 1990). Among the broader measures of health that aim to add a metric value to insight about health outcomes are quality adjusted life years (QALYs) and disability adjusted life years (DALYs). QALYs and DALYS provide a means to quantify and put an arithmetic value on health, considerate of years spent in a state of full health or less than full health (Naidoo & Wills, 2000; Phillips, 2009; WHO, 2012).

QALYs attempt to combine the quantity and quality of life by measuring years of life extended due to a health intervention, as well as a rating of their quality. For example, four years of life lived after an intervention, but not in full health could be calculated with a metric of $4(\text{years}) \times 0.5(\text{half the quality of a full health year}) = 2$, indicating two QALY years for the expenditure on the intervention. QALYs are not without their limitations including: loss of consideration of health benefits not measured by these single outcomes (for example happiness); difficulty in comparing two similar but different drug treatments; lack of consideration for carers and their health outcomes as part of an intervention; and the arbitrary nature of the value assigned in the calculation (Phillips, 2009; Prieto & Sacristan, 2003). These matters continue to be debated and developed in the literature and advise to policy makers is to remain pragmatic in their use of such data for policy making purposes (Schlander, 2010).

DALYs are designed to calculate the difference in a population's health by comparing the DALY rating for that population to the ideal. For example, if the ideal life expectancy based on data tables is 80 years for men, DALYs use an additional metric of the sum of the Years of Life Lost (YLL) due to premature

mortality in the population and the Years Lost due to Disability (YLD) for incident cases of the health condition (Prüss-Üstün A., Mathers, Corvalán, & Woodward, 2003). Again, issues and gaps arise in using this method to evaluate health status and the burden of disease. The subjective value of life today compared to 20 years ago, differences in the individual perspective of people suffering from disease and weighting of disease as well as complications in assigning a cause of death in complex situations have been discussed (Prüss-Üstün A., et al., 2003). For example, death due to pneumonia of an AIDS sufferer could be categorised into one or two cause of deaths and this could produce two different scores, therefore introducing the need for a subjective but rationalised assignment decision. Despite their consideration for quality of life, these measures are still focused on metrics and valuation. Therefore, there is still a justification for the inclusion of qualitative or alternative investigative measures to understand health behaviour and confirm metric trends. Although this approach may be more labour intensive and less representative, at a moment of impasse or where a situation remains in need of explanation, qualitative research is justifiable (Creswell, 2007; Denzin & Lincoln, 2003).

Measuring health requires very different approaches depending on your perspective (i.e. medical or social) (Naidoo & Wills, 2000). These include statistical measures of change in morbidity and life expectancy to measure disease outcome (National Records of Scotland, 2012) and examining determinants and social inequalities to understand situational factors and their impact on health (Scottish Government, 2012). Public health and health promotion fundamentally subscribes to the need to address health well before the presentation of disease outcomes and are committed to reducing the impact of NCDs (WHO, 1978, 2011a). NCDs however, remain a significant burden on the health of individuals and the services provided. More inclusive approaches to measuring health include QALYs and DALYs, which despite their

broader inclusiveness, are still in refinement (Prieto & Sacristan, 2003; WHO, 2012). The role of recruitment is to increase participation in health interventions, and to create equity in the opportunity for people to take part.

1.5.3 Health promotion frameworks and equity

The Ottawa Charter for Health Promotion was developed as a framework “to achieve health for all by 2000 and beyond” (WHO, 1986). It defined health promotion as “the process of enabling people to increase control over, and to improve, their health” (WHO 1986, p.1), and outlined five action areas (Building health public policy, Creating supportive environments, Strengthening community action, Developing personal skills, and Re-orienting the health services). To support the aims of health promotion in each of these action areas, three strategies were prioritized:

- **Advocacy:** The factors that affect our health (political, social, cultural, environmental, behavioural, and biological) should be made favourable to support health.
- **Mediation:** The health sector alone cannot affect the changes within the actions areas outlined and the assistance of all sectors (government, public, private) is required to affect change.
- **Enabling:** Health promotion focuses on achieving equity in health, reducing differences in current health status, ensuring equal opportunities to enable all people to achieve their fullest health potential. This includes a secure foundation in a supportive environment, access to information, life skills and opportunities for making healthy choices. This must apply equally to women and men.

(Adapted from WHO, 1986, p.1-2)

Since the first charter a number of follow on agreements have been signed at WHO health promotion conferences, each with a view to progressing and

strengthening the Ottawa Charter. The Jakarta Declaration emphasised the strength of comprehensive health development approaches (i.e. across all five action areas), advocated for a partnership approach to achieving better health, supported access to information and education, and most relevantly to this thesis, identified participation as essential in health promotion programmes (WHO, 1997).

“People have to be at the centre of health promotion action and decision making processes for them to be effective”

(Who, 1997, p.2)

Equity was a reoccurring theme in subsequent charters and agreements. Health 21, set a target for equity in health and closing health gaps that were observed within countries (WHO, 1998), and the Bangkok Charter emphasised health inequalities internationally, a change in communication and consumption globally, and listed building capacity for policy development among it listed action areas (WHO, 2005).

Equity is most relevant to this thesis and provides a lens through which to examine recruitment. The Scottish Physical Activity Strategy is committed to the health of Scottish people and is built on the foundation of the Ottawa Charter’s framework for health promotion (NHS Health Scotland, 2009; Scottish Executive, 2003; WHO, 1986). If participation is to be increased, then equitable access has to remain a commitment of the strategy. In order to know if participation is effectively inclusive in walking promotion programmes, the process of recruitment must ensure it is inclusive and equitable, not only in the provision of services, but also in the means by which people are recruited. This thesis draws on equity as a theme to examine and understand current recruitment practice.

1.6 The benefits of physical activity and a rationale for walking

The benefits of PA are well documented (Hardman & Stensel, 2009). There is a strong and broad evidence base for these benefits including the physical, social and psychological dimensions of health (Milton, Kelly, Bull, & Foster, 2011; Morris, 1994; Wilcox, Parra-Medina, Thompson-Robinson, & Will, 2001). Physical inactivity, however, remains among the top five modifiable factors independently associated with Non Communicable Disease (NCD) (WHO, 2011b) and remains a key focus of the literature (Hamilton, Healy, Dunstan, Zderic, & Owen, 2008). For this reason it appears as an integral part of policy and strategy documents aimed at improving the health and wellbeing of populations worldwide (Daugbjerg et al., 2009; NHS Health Scotland, 2009; WHO, 2011a; World Health, 2004).

Despite the links between PA and positive health outcomes increasing participation is still challenging. In 2010 only 39% of adults (45% of men, 33% of women) (Scottish Government, 2011b) were active at the recommended level of 30 minutes of moderate intensity exercise on most days of the week (WHO, 2010) an increase from 37% in 2009 (Scottish Government, 2010). The Scottish Government has set a target of 50% of all adults reaching the recommended level of PA per week by 2022 (NHS Health Scotland, 2009; Scottish Executive, 2003) and one of the methods being endorsed is walking.

Walking has been advocated as a highly effective and form of PA particularly among those most at need of health improvement (J N Morris & A E Hardman, 1997; Scottish Executive, 2003). Walking has a body of evidence demonstrating its positive impact on physical, social and psychological health (Graham Baker et al., 2008; C. Fitzsimons et al., 2008; C. F. Fitzsimons, Baker, Gray, Nimmo, & Mutrie, 2012; L. L. Lee, Arthur, & Avis, 2008; Morris, 1994; Murphy, Nevill, Murtagh, & Holder, 2007; Ogilvie et al., 2007; Tudor-Locke et al., 2009). Therefore, the rationale for implementing walking and walking

programmes as a public health intervention is based on the relationship between the evidence base and the potential for PA to address multiple health burdens including NCDs. The additional benefits of adopting walking as a mode of PA for health include the low level of skill required to take part, the lack of need for specialised equipment or facilities, the potential opportunities to broaden social circles and the environmental impact that adopting a more physically active lifestyle can contribute towards (Gomm, et al., 2006; Milton, et al., 2011; J. N. Morris & A. E. Hardman, 1997; Panter, Jones, van Sluijs, & Griffin, 2009; Zenk et al., 2009).

In addition to the benefits, walking is a popular form of PA. It is said to be the most popular form of PA (Rafferty, Reeves, McGee, & Pivarnik, 2002) and scores highly across a number of surveys. Walking was reported as the most popular form of sports participation in Scotland in 2009/2010 regardless of age, gender or social class in Scotland (Scottish Government, 2011a) and was a popular form of general PA in Scotland with reports in 2009 of 38% of men and 31% of women walking at a brisk pace for ten minutes a day at least four times per week (Scottish Government, 2010). It was also the second most popular mode of transport to work in a 2010 survey and was highly reported as a transport activity for both travel to work (62%) and for pleasure/fitness (51.3%) in the past seven days (Transport Scotland, 2011). Walking, however, is reported differently though across all of these studies, and this may imply it means different things to different people, or is implemented in different ways for different people.

Although walking is rated as highly popular, there are differences across surveys which should be considered. Transport Scotland reported walking as more popular among those earning more than £40,000 annually (Transport Scotland, 2011), but the Scottish Household survey identifies those in the lowest band of the Scottish Index of Multiple Deprivation (SIMD) as the most

likely to report walking as an activity they engage in (Scottish Government, 2011a). The number of trips per person, per day has fallen by 32% in the ten year period up to the 2010 transport survey (Transport Scotland, 2011). The rates of walking vary over time with the middle aged groups reporting more time spent walking than younger or older age groups (Scottish Government, 2010) but younger groups are the most likely to walk just to go somewhere (Transport Scotland, 2011). Walking groups and walking studies appear to have more female participants than men (Burton, et al., 2008; C. F. Fitzsimons, et al., 2012), but more men than women are reported to walk at a frequency in keeping with the recommendations for health (39% men, 32% women) (Scottish Government, 2010). These are important consideration for walking programmes, as they indicate walking is used differently among different groups. Some groups appear to use walking for transport and some for leisure, there are age disparities, as well as social class divides and even a reported difference in pace of walking and attendance at walking groups between genders.

It is important, therefore, to clarify the meaning of walking promotion programmes as it is used in this thesis. Walking promotion programmes are considered to be any research or practice based programme aimed at increasing independent walking behaviour. This is exclusive of research on the benefits of walking, or on measuring the accuracy of technologies to monitor walking. It is exclusive of campaigns that promote walking or surveys that measure walking behaviour but don't engage with participants other than for survey purposes. It focuses on walking promotion programmes which aim to intervene in a similar way to the Walking for Wellbeing in the West study (Graham Baker, et al., 2008) or the 10,000 Steps Rockhampton programme (Mummery, 2003). Both of these programmes had the aim of increasing participation in walking, individually or in a group, and were closely linked to research and practice.

1.7 Conclusion

A number of challenges can be identified in understanding recruitment. While the process is considered difficult, there is a lack of available information about the process. Where information is available, it is often lacking in background, which would inform the reader, or is analysed and presented in ways which are difficult to compare. There is some evidence that it is possible to recruit targeted groups if multiple methods are used and active methods are applied to overcome barriers to communication and trust issues. But, a lack of available methodology and evaluation of strategies means there is a shortfall in guidance for recruiters. There is a significant gap in the literature regarding interventions at the level of the recruiter and evaluation of strategies for recruitment. Increasing physical activity for health is well-supported by policy in Scotland and walking is well evidenced as a strategy to reduce the risk of non-communicable disease, but there is still a shortfall in participation. In order to increase participation and ensure equity in how people are invited to walking promotion programmes, the process of recruitment needs to be better understood and developed. This thesis aims to understand the process of recruitment at the level of the recruiter in walking promotion programmes. Multiple data sources will be investigated using multiple methods and both research and practice evidence will be included due to the close relationship between both in walking programmes and the current level of knowledge about recruitment. Chapter 2 outlines the methodology applied and the rationale for the selection of methods used.

References:

- Abraham, C., & Michie, S. (2008). A taxonomy of behavior change techniques used in interventions. *Health Psychology, 27*(3), 379 - 387.
- Aittasalo, M., Rinne, M., Pasanen, M., Kukkonen-Harjula, K., & Vasankari, T. (2012). Promoting walking among office employees

- evaluation of a randomized controlled intervention with pedometers and e-mail messages. *BMC Public Health*, 12(1), 403.
- Alderson, P. (1998). The importance of theories in health care. *BMJ*, 317(7164), 1007-1010.
- Anon. (Ed.) (2007) Oxford dictionary and thesaurus of current English (2nd ed.). Oxford: Oxford University Press.
- Anon. (2012). A business definition of recruitment. Retrieved 1 March, 2012, from <http://www.businessdictionary.com/definition/recruitment.html>
- Ashley, A., & Bartlett, H. (2001). An evaluation of a walking scheme based in primary care: the participants' perspective. *Primary Health Care Research and Development*, 2, 98-106.
- Aung, T., Cowan, H., Haynes, R., Bowman, L., & Armitage, J. (2011). Recruiting patients cost-effectively by mail. *Trials*, 12 Suppl 1, A117.
- Baker, G., Gray, S., Wright, A., Fitzsimons, C., Nimmo, M., Lowry, R., et al. (2008). The effect of a pedometer-based community walking intervention "Walking for Wellbeing in the West" on physical activity levels and health outcomes: a 12-week randomized controlled trial. *International Journal of Behavioral Nutrition and Physical Activity*, 5(1), 44-49.
- Baker, G., Mutrie, N., & Lowry, R. (2008). Using pedometers as motivational tools: are goals set in steps more effective than goals set in minutes for increasing walking? *International Journal of Health Promotion and Education*, 46, 21 - 26.
- Banks-Wallace, J., Enyart, J., & Johnson, C. (2004). Recruitment and Entrance of Participants Into a Physical Activity Intervention for Hypertensive African American Women. *Advances in Nursing Science*, 27(2), 102-116.
- Barnard, K. D., Dent, L., & Cook, A. (2010). A systematic review of models to predict recruitment to multicentre clinical trials. *BMC Medical Research Methodology*, 10, 63.
- Bronfenbrenner, U. (1989). The Bronfenbrenner ecological systems theory of human development. *Annals of child development*, 6, 187-249.
- Bull, F., & Milton, K. (2010). A process evaluation of a "physical activity pathway" in the primary care setting. *BMC Public Health*, 10, 463.

- Burton, N. W., Walsh, A., & Brown, W. J. (2008). It just doesn't speak to me: mid-aged men's reactions to '10,000 Steps a Day'. *Health Promot Journal of Australia*, *19*(1), 52-59.
- Campbell, A. M., Whyte, F., & Mutrie, N. (2005). Training of clinical recruiters to improve recruitment to an exercise intervention during breast cancer treatment. *Clinical Effectiveness in Nursing*, *9*(3-4), 211-213.
- Caspersen, C. J., Powell, K. E., & Christenson, G. M. (1985). Physical activity, exercise and physical fitness: Definitions and distinctions for health-related research. *Public Health Reports*, *100*, 126-131.
- Chang, M. W., Brown, R., & Nitzke, S. (2009). Participant recruitment and retention in a pilot program to prevent weight gain in low-income overweight and obese mothers. *BMC Public Health*, *9*, 424.
- Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., & Petticrew M. on behalf of the MRC. (2008). *Developing and evaluating complex interventions: new guidance*.
- Creswell, J. W. (2007). *Qualitative inquiry & research design : choosing among five approaches* (2nd ed.). Thousand Oaks, Calif. ; London: Sage.
- Dahlgren, G., & Whitehead, M. (1991). *Policies and Strategies to Promote Social Equity in Health*. Sweden: Institute for Future Studies.
- Daugbjerg, S. B., Kahlmeier, S., Racioppi, F., Martin-Diener, E., Martin, B., Oja, P., et al. (2009). Promotion of physical activity in the European region: content analysis of 27 national policy documents. *J Phys Act Health*, *6*(6), 805-817.
- Denzin, N. K., & Lincoln, Y. S. (2003). *The landscape of qualitative research : theories and issues* (2nd ed.). Thousand Oaks, Calif. ; London: Sage Publications.
- Elley, C. R., Robertson, M. C., Kerse, N. M., Garrett, S., McKinlay, E., Lawton, B., et al. (2007). Falls Assessment Clinical Trial (FACT): design, interventions, recruitment strategies and participant characteristics. *BMC Public Health*, *7*, 185.
- Fallowfield, L. (1990). *The quality of life: the missing measurement in health care*. (2nd ed.). London: Souvenir Press.
- Fitzsimons, C., Baker, G., Wright, A., Nimmo, M., Ward Thompson, C., Lowry, R., et al. (2008). The 'Walking for Wellbeing in the West'

- randomised controlled trial of a pedometer-based walking programme in combination with physical activity consultation with 12 month follow-up: Rationale and study design. *Bmc Public Health*, 8, 259.
- Fitzsimons, C. F., Baker, G., Gray, S. R., Nimmo, M. A., & Mutrie, N. (2012). Does physical activity counselling enhance the effects of a pedometer-based intervention over the long-term: 12-month findings from the Walking for Wellbeing in the West study. *BMC Public Health*, 12(1), 206.
- Foster, C. E., Brennan, G., Matthews, A., McAdam, C., Fitzsimons, C., & Mutrie, N. (2011). Recruiting participants to walking intervention studies: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, 8(1), 137.
- Froelicher, E. S., & Lorig, K. (2002). Who cares about recruitment anyway? *Patient Education and Counseling*, 48, 97-97.
- Glasgow, R. (2012a). Measuring the use of the RE-AIM model dimensions items: checklist. May 1st 2012, from http://www.re-aim.org/forms/re-aim_framework_constructs_checklist.pdf
- Glasgow, R. (2012b). REACH of Health Behavior Interventions. January 1st 2012, from <http://cancercontrol.cancer.gov/is/reaim/reach.html>
- Glasgow, R., Klesges, L. M., Dzewaltowski, D. A., Estabrooks, P. A., & Vogt, T. M. (2006). Evaluating the impact of health promotion programs: using the RE-AIM framework to form summary measures for decision making involving complex issues. *Health Education Research*, 21(5), 688-694.
- Glasgow, R. E., Vogt, T. M., & Boles, S. M. (1999). Evaluating the public health impact of health promotion intervention: The RE-AIM framework. *American Journal of Public Health*, 89, 1323 - 1327.
- Gliner, J. A., Morgan, G. A., & Leech, N. L. (2009). *Research methods in applied settings : an integrated approach to design and analysis* (2nd ed.). New York: Routledge.
- Gomm, M., Lincoln, P., Pikora, T., & Giles-Corti, B. (2006). Planning and implementing a community-based public health advocacy campaign: a transport case study from Australia. *Health Promotion International*, 21(4), 284-292.

- Guba, E. G., & Lincoln, Y. S. (1998). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The landscape of qualitative research : theories and issues* (pp. x, 470 p.). Thousand Oaks, Calif. ; London: Sage Publications.
- Hagger, M., & Chatzisarantis, N. (2008). Self-determination Theory and the psychology of exercise. *International Review of Sport and Exercise Psychology, 1*(1), 79 - 103.
- Hamilton, M., Healy, G., Dunstan, D., Zderic, T., & Owen, N. (2008). Too little exercise and too much sitting: Inactivity physiology and the need for new recommendations on sedentary behavior. *Current Cardiovascular Risk Reports, 2*(4), 292-298.
- Hardman, A. E., & Stensel, D. J. (2009). *Physical activity and health : the evidence explained* (2nd ed.). London: Routledge.
- Harkins, C., Shaw, R., Gillies, M., Sloan, H., MacIntyre, K., Scoular, A., et al. (2010). Overcoming barriers to engaging socio-economically disadvantaged populations in CHD primary prevention: a qualitative study. *BMC Public Health, 10*(1), 391.
- Jago, R., Davis, L., McNeill, J., Sebire, S. J., Haase, A., Powell, J., et al. (2011). Adolescent girls' and parents' views on recruiting and retaining girls into an after-school dance intervention: implications for extra-curricular physical activity provision. *International Journal of Behavioral Nutrition and Physical Activity, 8*, 91.
- Jolly, K., Taylor, R. S., Lip, G. Y., Greenfield, S. M., Davies, M. K., Davis, R. C., et al. (2007). Home-based exercise rehabilitation in addition to specialist heart failure nurse care: design, rationale and recruitment to the Birmingham Rehabilitation Uptake Maximisation study for patients with congestive heart failure (BRUM-CHF): a randomised controlled trial. [Comparative Study Randomized Controlled Trial Research Support, Non-U.S. Gov't]. *BMC cardiovascular disorders, 7*, 9.
- Kahan, D., & Al-Tamimi, A. (2009). Strategies for Recruiting Middle Eastern-American Young Adults for Physical Activity Research: A Case of Snowballs and Salaam. *Journal of Immigrant and Minority Health, 11*(5), 380-390.
- Keimer, K., Dreas, J., & Hassel, H. (2011). Recruiting Elderly with a Migration and/or Low Socioeconomic Status in the Prevention

- Study OptimaHl 60plus. *The Journal of Primary Prevention*, 32(1), 53-63.
- Kinnunen, T. I., Aittasalo, M., Koponen, P., Ojala, K., Mansikkamaki, K., Weiderpass, E., et al. (2008). Feasibility of a controlled trial aiming to prevent excessive pregnancy-related weight gain in primary health care. *BMC Pregnancy Childbirth*, 8, 37.
- Knapp, P., Mitchell, N., Raynor, D., Silcock, J., Parkinson, B., Holt, J., et al. (2011). Can we improve recruitment to trials and informed consent by improving participant information sheets? - A nested RCT. *Trials*, 12(Suppl 1), A123.
- Korde, L. A., Micheli, A., Smith, A. W., Venzon, D., Prindiville, S. A., Drinkard, B., et al. (2009). Recruitment to a physical activity intervention study in women at increased risk of breast cancer. *BMC Medical Research Methodology*, 9, 27.
- Lee, L. L., Arthur, A., & Avis, M. (2008). Effect of a community walking intervention on exercise self-efficacy among older people: A randomized controlled trial. *Journal of Aging and Physical Activity*, 16, S18-S18.
- Lee, R., McGinnis, K., Sallis, J., Castro, C., Chen, A., & Hickmann, S. (1997). Active vs. passive methods of recruiting ethnic minority women to a health promotion program. *Annals of Behavioral Medicine*, 19(4), 378-384.
- MacDonald, G., Veen, C., & Tones, K. (1996). Evidence for success in health promotion: suggestions for improvement. *Health Education Research*, 11(3), 367 - 376.
- MacEntee, M. I., Wyatt, C., Kiyak, H. A., Hujoel, P. P., Persson, R. E., Persson, G. R., et al. (2002). Response to direct and indirect recruitment for a randomised dental clinical trial in a multicultural population of elders. *Community Dentistry and Oral Epidemiology*, 30(5), 377-381.
- Mapstone, J., Elbourne, D., & Roberts Ian, G. (2007). Strategies to improve recruitment to research studies. *Cochrane Database of Systematic Reviews*, (2). Retrieved from <http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/MR000013/frame.html>.
doi:10.1002/14651858.MR000013.pub3
- Margitic, S., Sevick, M. A., Miller, M., Albright, C., Banton, J., Callahan, K., et al. (1999). Challenges Faced in Recruiting Patients from

- Primary Care Practices into a Physical Activity Intervention Trial. *Preventive Medicine*, 29(4), 277-286.
- McDonald, A. M., Treweek, S., Shakur, H., Free, C., Knight, R., Speed, C., et al. (2011). Using a business model approach and marketing techniques for recruitment to clinical trials. *Trials*, 12, 74.
- McKeown, T., & Lowe, C. R. (1974). *An introduction to social medicine* (2nd ed.). Oxford,: Blackwell Scientific.
- Milton, K., Kelly, P., Bull, F., & Foster, C. (2011). A formative evaluation of a family-based walking intervention-Furness Families Walk4Life. *BMC Public Health*, 11(1), 614.
- Mittelmark, M. B. (1999). Social ties and health promotion: suggestions for population-based research. *Health Education Research*, 14(4), 447-451.
- Moher, D., Hopewell, S., Schulz, K. F., Montori, V., Gotzsche, P. C., Devereux, P. J., et al. (2011). CONSORT 2010 Explanation and Elaboration: updated guidelines for reporting parallel group randomised trials. *BMJ*, 343.
- Morris, J. N. (1994). Exercise in the prevention of coronary heart disease:today's best buy in public health. *Medicine & Science in Sports & Exercise*, 26, 807-814.
- Morris, J. N., & Hardman, A. E. (1997). Walking to health. *Sports Med*, 23(5), 306-332.
- Morris, J. N., & Hardman, A. E. (1997). Walking to health. *Sports Medicine*, 23(5), 306-333.
- Mummery, K. (2003). Promoting physical activity in the community: the case of 10,000 steps Rockhampton. *Sport Health*, 21(1), 17-19.
- Murphy, M., Nevill, A., Murtagh, E., & Holder, R. (2007). The effect of walking on fitness, fatness and resting blood pressure: A meta-analysis of randomised, controlled trials. *Preventive Medicine*, 44(5), 377 - 385.
- Murray, R. (2007). *Writing for academic journals*. Berkshire, England: Open University Press.
- Mutrie, N., Foster, C., Easterbrooks, P., Burton, N. W., & Baker, G. (2010). Recruiting hard-to-reach populations to physical activity studies: Evidence and experiences. *Journal of Physical Activity and Health*, 7 (Supple).
- Naidoo, J., & Wills, J. (2000). *Health promotion : foundations for practice* (2nd ed.). Edinburgh: Bailli©·re.

- National Records of Scotland. (2012). *SCOTLAND'S POPULATION 2011: The Registrar General's Annual Review of Demographic Trends, 157th Edition*. Edinburgh.
- NHS Health Scotland. (2009). *Five year review of 'Let's Make Scotland More Active' - A strategy for physical activity*. Edinburgh: Stationery House.
- Nutbeam, D., & Bauman, A. E. (2006). *Evaluation in a nutshell : a practical guide to the evaluation of health promotion programs*. North Ryde, N.S.W. ; London: McGraw-Hill.
- Ogilvie, D., Foster, C. E., Rothnie, H., Cavill, N., Hamilton, V., Fitzsimons, C. F., et al. (2007). Interventions to promote walking: systematic review. *BMJ*, bmj.39198.722720.BE.
- Ory, M. G., Lipman, P. D., Karlen, P. L., Gerety, M. B., Stevens, V. J., Singh, M. A., et al. (2002). Recruitment of older participants in frailty/injury prevention studies. *Prevention Science*, 3(1), 1-22.
- Panter, J. R., Jones, A. P., van Sluijs, E. M., & Griffin, S. J. (2009). Attitudes, social support and environmental perceptions as predictors of active commuting behaviour in school children. *J Epidemiol Community Health*.
- Patterson, S. E., Mairs, H., & Borschmann, R. (2011). Successful recruitment to trials: a phased approach to opening gates and building bridges. *BMC Medical Research Methodology*, 11(1), 73-73.
- Perez, D., Nie, J., Ardern, C., Radhu, N., & Ritvo, P. (2011). Impact of Participant Incentives and Direct and Snowball Sampling on Survey Response Rate in an Ethnically Diverse Community: Results from a Pilot Study of Physical Activity and the Built Environment. *Journal of Immigrant and Minority Health*, 1-8.
- Phillips, C., Thompson, G. (2009). *What is a QALY?* Fife: Hayward Group Ltd.
- Pinto, B. M., Trunzo, J. J., Rabin, C., Cady, B., Fenton, M. A., Herman, A., et al. (2004). Recruitment strategies for a home-based physical activity intervention for breast cancer patients. *Journal of Clinical Psychology in Medical Settings*, 11(3), 171-178.
- Prieto, L., & Sacristan, J. A. (2003). Problems and solutions in calculating quality-adjusted life years (QALYs). *Health Qual Life Outcomes*, 1, 80.

- Prüss-Üstün A., Mathers, C., Corvalán, C., & Woodward, A. (2003). *Introduction and methods: assessing the environmental burden of disease at national and local levels*. Geneva: World Health Organization.
- Punch, K. (2006). *Developing effective research proposals* (2nd ed.). London: SAGE.
- Rafferty, A. P., Reeves, M. J., McGee, H. B., & Pivarnik, J. M. (2002). Physical activity patterns among walkers and compliance with public health recommendations. *Med Sci Sports Exerc*, 34(8), 1255-1261.
- Raynor, H. A., Osterholt, K. M., Hart, C. N., Jelalian, E., Vivier, P., & Wing, R. R. (2009). Evaluation of active and passive recruitment methods used in randomized controlled trials targeting pediatric obesity. *International Journal of Pediatric Obesity*, 4(4), 224-232.
- Rendell, J., Merritt, R., & Geddes, J. (2007). Incentives and disincentives to participation by clinicians in randomised controlled trials. *Cochrane Database of Systematic Reviews*, (2). Retrieved from <http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/MR000021/frame.html>.
doi:10.1002/14651858.MR000021.pub3
- Robson, C. (2002). *Real world research : a resource for social scientists and practitioner-researchers* (2nd ed.). Oxford, UK ; Madden, Mass.: Blackwell Publishers.
- Rodrigo, S., Sinclair, M., Cunliffe, D., & Leder, K. (2009). Effectiveness and cost of recruitment strategies for a community-based randomised controlled trial among rainwater drinkers. *BMC Medical Research Methodology*, 9, 51.
- Roessler, K., & Ibsen, B. (2009). Promoting exercise on prescription: recruitment, motivation, barriers and adherence in a Danish community intervention study to reduce type 2 diabetes, dyslipidemia and hypertension. *Journal of Public Health*, 17(3), 187-193.
- Sarkin, J. A., Marshall, S. J., Larson, K. A., Calfas, K. J., & Sallis, J. F. (1998). A comparison of methods of recruitment to a health promotion program for university seniors. *Preventive Medicine*, 27(4), 562-571.

- Schlander, M. (2010). Measures of efficiency in healthcare: QALMs about QALYs? *Zeitschrift für Evidenz, Fortbildung und Qualität im Gesundheitswesen*, 104(3), 214-226.
- Scottish Executive. (2003). *Let's make Scotland more active*. Edinburgh: Stationery House.
- Scottish Government. (2010). *The Scottish Health Survey 2009*. Edinburgh.
- Scottish Government. (2011a). *Scotland's People, Annual report: results from 2009/2010 Scottish Household Survey*. Edinburgh.
- Scottish Government. (2011b). *The Scottish Health Survey 2010*. Edinburgh: Stationery House.
- Scottish Government. (2012). *Long-term Monitoring of Health Inequalities: Headline Indicators*. Edinburgh.
- Shannon, C. (1948). A Mathematical Theory of Communication. *The Bell System Technical Journal*, 27, 379-423, 623-656.
- Sudman, S., Sirken, M. G., & Cowan, C. D. (1988). Sampling rare and elusive populations. *Science*, 240(4855), 991-996.
- Swanson, G. M., & Ward, A. J. (1995). Recruiting Minorities Into Clinical Trials Toward a Participant-Friendly System. *Journal of the National Cancer Institute*, 87(23), 1747-1759.
- Thompson, S., & Phillips, D. (2007). Reaching and Engaging Hard-to-Reach Populations With a High Proportion of Nonassociative Members. *Qualitative Health Research*, 17(9), 1292-1303.
- Toerien, M., Brookes, S. T., Metcalfe, C., de Salis, I., Tomlin, Z., Peters, T. J., et al. (2009). A review of reporting of participant recruitment and retention in RCTs in six major journals. *Trials*, 10, 52.
- Transport Scotland. (2011). *Scottish Transport Statistics, no. 30, 2011*. Edinburgh.
- Treweek, S. (2011). Recruitment to trials - why is it hard and how might we make it less so? *Trials*, 12 Suppl 1, A110.
- Treweek, S., & Loudon, K. (2011). Incomplete reporting of recruitment information in breast cancer trials published between 2003 and 2008. *Journal of Clinical Epidemiology*, 64(11), 1216-1222.
- Treweek, S., Mitchell, E., Pitkethly, M., Cook, J., Kjeldstrom, M., Taskila, T., et al. (2010). Strategies to improve recruitment to randomised controlled trials. *Cochrane Database of Systematic Reviews*(1), MR000013.

- Treweek, S., Pitkethly, M., Cook, J., Kjeldstrom, M., Taskila, T., Johansen, M., et al. (2010). Strategies to improve recruitment to randomised controlled trials. *Cochrane Database Syst Rev*(4), MR000013.
- Tudor-Locke, C., Lauzon, N., Myers, A. M., Bell, R. C., Chan, C. B., McCargar, L., et al. (2009). Effectiveness of the First step Program delivered by professionals versus peers. *Journal of Physical Activity and Health*, 6(4), 456-462.
- Üstün, B. T., & KJakob, R. (2005a). Calling a spade a spade: meaningful definitions of health conditions. *Bulletin of the World Health Organisation* 83(11), 802
- Üstün, B. T., & KJakob, R. (2005b). Re-defining 'Health'. *Bulletin of the World Health Organisation*, 83(11), 802.
- van Beeck, E. F., Branche, C. M., Szpilman, D., Modell, J. H., & Bierens, J. J. (2005). A new definition of drowning: towards documentation and prevention of a global public health problem. *Bulletin of the World Health Organisation*, 83(11), 853-856.
- van der Waerden, J. E., Hoefnagels, C., Jansen, M. W., & Hosman, C. M. (2010). Exploring recruitment, willingness to participate, and retention of low-SES women in stress and depression prevention. *BMC Public Health*, 10, 588.
- Velott, D. L., Baker, S. A., Hillemeier, M. M., & Weisman, C. S. (2008). Participant recruitment to a randomized trial of a community-based behavioral intervention for pre- and interconceptional women findings from the Central Pennsylvania Women's Health Study. *Womens Health Issues*, 18(3), 217-224.
- WHO. (1948). Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946. 2012, from <http://www.who.int/about/definition/en/print.html>
- WHO. (1978). Declaration of Alma Ata. Retrieved 19th June, 2007, from http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf
- WHO. (1986). Ottawa Charter for Health Promotion. Retrieved 11th October, 2007, from http://www.who.int/hpr/NPH/docs/ottawa_charter_hp.pdf
- WHO. (1997). *The Jakarta Declaration on Leading Health Promotion into the 21st Century*.

- WHO. (1998). *HEALTH 21: an introduction to the health for all policy framework for the WHO European Region*. Geneva.
- WHO. (2003). *International Conference on Primary Health Care, Alma-Ata: twenty-fifth anniversary*.
- WHO. (2004). Global Strategy on Diet, Physical Activity and Health. Retrieved 6th June, 2008, from http://www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf
- WHO. (2005). *The Bangkok Charter for Health Promotion in a Globalized World*. Geneva.
- WHO. (2006). Constitution of the World Health Organisation. Retrieved 6th June, 2008, from http://www.who.int/governance/eb/who_constitution_en.pdf
- WHO. (2008). Recommended Amount of Physical Activity. Retrieved 15th March 2008, from http://www.who.int/dietphysicalactivity/factsheet_recommendations/en/index.html
- WHO. (2010). *Global recommendations on physical activity for health*. Geneva.
- WHO. (2011a). *Action plan for implementation of the European Strategy for the Prevention and Control of Noncommunicable Diseases 2012–2016*. Copenhagen: World Health Organisation.
- WHO. (2011b). *Global status report on noncommunicable diseases 2010*.
- WHO. (2011c). Noncommunicable diseases. Fact sheet, September 2011 from <http://www.who.int/mediacentre/factsheets/fs355/en/#>
- WHO. (2011d). *WHO Global Code of Practice on the International Recruitment of Health Personnel*. Geneva.
- WHO. (2012). Metrics: Disability-Adjusted Life Year (DALY). 2012, from http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/
- Wilbur, J., McDevitt, J., Wang, E., Dancy, B., Briller, J., Ingram, D., et al. (2006). Recruitment of African American women to a walking program: eligibility, ineligibility, and attrition during screening. *Research in Nursing and Health*, 29(3), 176-189.
- Wilcox, S., Parra-Medina, D., Thompson-Robinson, M., & Will, J. (2001). Nutrition and physical activity interventions to reduce

- cardiovascular disease risk in health care settings: a quantitative review with a focus on women. *Nutrition Reviews.*, 59(7), 197-214.
- Williamson, M. K., Pirkis, J., Pfaff, J. J., Tyson, O., Sim, M., Kerse, N., et al. (2007). Recruiting and retaining GPs and patients in intervention studies: the DEPS-GP project as a case study. *BMC Medical Research Methodology*, 7, 42.
- World Health, O. (2004). Global Strategy of Diet, Physical Activity and Health.
- Young, B., Shilling, V., Hickey, H., Sowden, E., Smyth, R., & Williamson, P. (2011). What parents think about being approached about children's trials, how this differs from what practitioners expect, and what this tells us about enhancing recruitment. *Trials*, 12(Suppl 1), A116.
- Zenk, S. N., Wilbur, J., Wang, E., McDevitt, J., Oh, A., Block, R., et al. (2009). Neighborhood environment and adherence to a walking intervention in African American women. *Health Education and Behavior*, 36(1), 167-181.
- Ziebland, S., Featherstone, K., Snowdon, C., Barker, K., Frost, H., & Fairbank, J. (2007). Does it matter if clinicians recruiting for a trial don't understand what the trial is really about? Qualitative study of surgeons' experiences of participation in a pragmatic multi-centre RCT. *Trials*, 8, 4.

Chapter 2

Research is what I'm doing when I don't know what I'm doing.

Werner Von Braun

Chapter 2: Contribution to this chapter

Title: Methodology: research problem, purpose, research questions and methods

My Role: I wrote this chapter without other co-authors and discussed drafts with my supervisors.

Chapter 2

Methodology: research problem, purpose, research questions and methods

2.1 Introduction

The following section will describe the aims and objectives of the thesis including the methodology chosen and the rationale for its selection. A mixed methods research (MMR) design was developed and applied and is described below. The research problem and challenges investigating recruitment are described, as are the purpose and research questions. The philosophical assumptions informing the methodology are discussed and provide a rationale for the methods used. Each chapter and the methods used is described in brief and then followed by a full description of the data collection and analysis approaches.

Two of the studies (Chapters 3 and 4) had been designed and commissioned by the Scottish Physical Activity Research Collaboration (SPARColl) with a view to understanding more about the process of recruitment. Two further studies were designed to: understand the perspective of the participant during recruitment; and to pragmatically test a novel approach to recruitment in practice. This thesis was guided by an overall rationale that there is currently insufficient data to understand fully what we mean by recruitment, nor what might work best for our aims and goals. The aim of the thesis was to investigate how recruitment is conducted at the level of the recruiter and to develop guidelines and a framework to inform recruitment to walking promotion programmes.

2.2 The Research Problem

The effectiveness of any health behaviour intervention, at a population level, is dependent on reach and the engagement of participants (Glasgow, 2012). Walking has a strong body of literature demonstrating its efficacy for health, but the

effectiveness of any health behaviour intervention, is dependent on its ability to attract people to take part (Ogilvie et al., 2007). Ogilvie et al. (2007) identified the need to investigate recruitment due to a lack of reach demonstrated in their review. However, there is a significant gap in the literature regarding how to conduct recruitment and how to maximise its effectiveness. Recruitment is a term regularly used to describe the process of engaging participants to take part in a programme (research or practice) of any kind. However, no dominant research methodology currently exists to guide research of this topic and there is a lack of methodological information and research at the level of the recruiter.

SPARColl experienced recruitment difficulties during the Walking for Wellbeing in the West study (Graham Baker et al., 2008). To better understand the problem of how to conduct recruitment effectively this thesis was commissioned with the purpose of understanding more about recruitment and how best to conduct recruitment processes. Because the Scottish Government's physical activity policy 'Let's make Scotland More Active' sets out to achieve a 1% annual increase, for 20 years, in the percentage of the population reaching guideline levels of activity there has been a focus on walking as a means to achieving that goal (Scottish Executive, 2003). Therefore, this thesis addresses the problem of how best to recruit participants to walking programmes from the perspective of the recruiter and aims to better understand the current problem and provide guidelines for future practice.

2.2.1 Past research on the problem and their limitations

Research on recruitment often focuses on and describes the challenges, but interventions focused on the process are scarce. Studies examining methods and strategies often review response rates retrospectively which reveals little about how well the recruitment plan was executed or try to identify a single best method in an attempt to make the process less burdensome (El-Khorazaty et al., 2007; Raynor et al., 2009; Rodrigo, Sinclair, Cunliffe, & Leder, 2009). Research focusing on the recruiter includes the advantages of providing training, lessons and reflections

on outcomes after recruitment has taken place, and the recruiter's perceptions of what works (A. M. Campbell, Whyte, & Mutrie, 2005; Farquhar, Brafman-Kennedy, Higginson, & Booth, 2011; Forster et al., 2010; Patterson, Mairs, & Borschmann, 2011; Rugkasa & Canvin, 2011). There is a limited amount of research focusing on the target group members and this includes: the influence of trusted members of the community; the reach and utility of passive methods such as fliers in high density living areas; and the willingness for parents to be approached by researchers while their children are undergoing medical treatment (Banks-Wallace, Enyart, & Johnson, 2004; Harkins et al., 2010; Young et al., 2011).

Recommendations for recruitment often emerge as a by-product of research which has been affected by or recognises the importance of maximising participation. The development and prospective testing of robust models for recruitment have been recommended but to date are not easily identified in the literature (Bull & Milton, 2010; Swanson & Ward, 1995; S. Treweek et al., 2010). Review articles have attempted to find empirical data on successful or effective recruitment activities but such articles regularly highlight the lack of reporting and lack of data on the process of recruitment (Barnard, Dent, & Cook, 2010; Mapstone, Elbourne, & Roberts Ian, 2007; Swanson & Ward, 1995; S. Treweek & Loudon, 2011). To date, the approach to recruitment research has not yet developed into the kind of evaluative testing which would be useful in informing recruiters on what they could do.

2.2.2 Deficiencies in past research

Clinical trials rather than public health interventions tend to dominate research which investigates the process of recruitment. These studies usually focus on identifying a single best method of recruitment to a typically short term study in a controlled setting (Cottrell, Graham, & Farrin, 2011; Elley et al., 2007; Mapstone, et al., 2007; Paine, Stocks, & MacLennan, 2008). Public health interventions operate in

more complex circumstances and makes comparisons to clinical trials work difficult (M. Campbell et al., 2000). More research is needed within public health interventions, during their development in research and their application in practice.

Despite the need for information about the actions of the recruiter, there is currently a lack of research at this level (Mapstone, et al., 2007). There is some evidence of disengagement with recruitment on the part of clinical researchers and a recommendation to be more involved in actually inviting participants to take part (Rendell, Merritt, & Geddes, 2007). Some clinical trial researchers expressed their opinions on why they feel the process is challenging and identified a number of soft skills (e.g. negotiation and face to face communications) and hard skills (process planning and database management) which need to be developed and applied by the recruiter (Patterson, et al., 2011). It is unclear whether this is also the opinion of recruiters in public health and walking programmes, but this needs to be investigated to identify what recruiters currently do and what they feel is affecting the outcomes of their efforts.

Research studies in general lack detail and are inconsistent with regards to their recruitment information. Under-reporting of recruitment methodology may be the most common, fundamental and easily observed deficiency (Barnard, et al., 2010; Chasan-Taber, Fortner, Hastings, & Markenson, 2009; Toerien et al., 2009; S. Treweek & Loudon, 2011). Although size restrictions in journals might explain this, it would still be useful to present flow charts or tables detailing any of the reach and efficiency related data such as overall population size, cost, time, and response rates. A possible explanation for the lack of detail may also be the absence of frameworks guiding the recruiter on how to conduct and what to report recruitment. The impact of the lack of recruitment information is an inability to clearly identify the effectiveness of methods, or the outcome of recruitment

strategies (Mapstone, et al., 2007). In order for recruiters to learn about the impact of individual methods and the outcomes of strategized recruitment processes, an operational framework, specific to the recruitment phase, is needed.

A range of other useful information can be found in research but it rarely evolves into full research studies. This includes posters, commentaries and key note speeches that present data on cost effectiveness, patient registers, recruiting in the community and personal reflections and experiences (Aung, Cowan, Haynes, Bowman, & Armitage, 2011; Carroll, Palmer, Cosby, & Zajicek, 2011; Cottrell, et al., 2011; Farquhar, et al., 2011; Mills et al., 2011; Muturi et al., 2005; Shaun Treweek, 2011). Critiquing this information is difficult though and drawing useful conclusions which could be applied elsewhere is challenging when the full details are not presented in a manner that can be fully analysed and compared.

There is also a lack of research on the participants' perspective. This information could help to confirm the ways in which participants were recruited and provide opportunities to investigate more about the methods which resonate with the participant. However, this data is difficult to find or again, and difficult to compare. More data from participant questionnaires, or more in depth qualitative research focussing on the recruitment process would be useful. [REFS!!!]

This thesis is inclusive of research and practice based interventions because of the close relationship between public health interventions developed in research and rolled out in practice, for example Walking for Wellbeing in the West (G Baker et al., 2008). However, in order to learn more about how best to conduct recruitment in walking programmes for both these audiences, much more needs to be learned about what recruiters do, how this can be applied in future and how its effectiveness can be evaluated. Although mixed method research is more complex

and demands more data to be collected, analysed and reported (Tashakkori & Teddlie, 2003) applying a mixed methods research methodology and collecting a diverse range of data, could provide a better understanding of the problem (Creswell, 2009).

2.2.3 The audiences that will profit from the study

Three distinct audiences will benefit from the findings of this thesis: the recruiter (in research and in practice); the participant; and policy makers. Investigating this topic at the level of the recruiter will contribute to the evidence base and inform practice. A systematic review of the literature will help to identify the level of empirical evidence available, how it is analysed and how this can be utilised for future research. Investigating the practitioners' perspective will further inform how recruitment is conducted in walking programmes and allow for comparisons between the research and practice domains. .

Improvements in recruitment will lead to more equitable access for the participant. Swanson and Ward (1995) have suggested that the lack of robust and well developed recruitment frameworks creates opportunities for inequitable outcomes to arise as a result of the under-recruitment of minority populations (Swanson & Ward, 1995). By improving the reach of the recruitment process, particularly with respect to disadvantaged populations, the participant stands a greater chance of experiencing the benefits of health related walking programmes.

The Scottish Physical Activity Research Collaboration (SPARColl) fully funded this PhD research and works closely with the NHS Health Scotland and the Scottish Government. In particular informing and evaluating the Scottish physical activity strategy (Scottish Executive, 2003) and investigating the benefits of walking for health and its utility in implementing the strategy. Investigating the recruitment

process will better inform policy makers who work closely with Scotland's health practitioners.

2.3 Purpose

2.3.1 The purpose of the thesis and reasons for the use of mixed methods as a strategy of inquiry

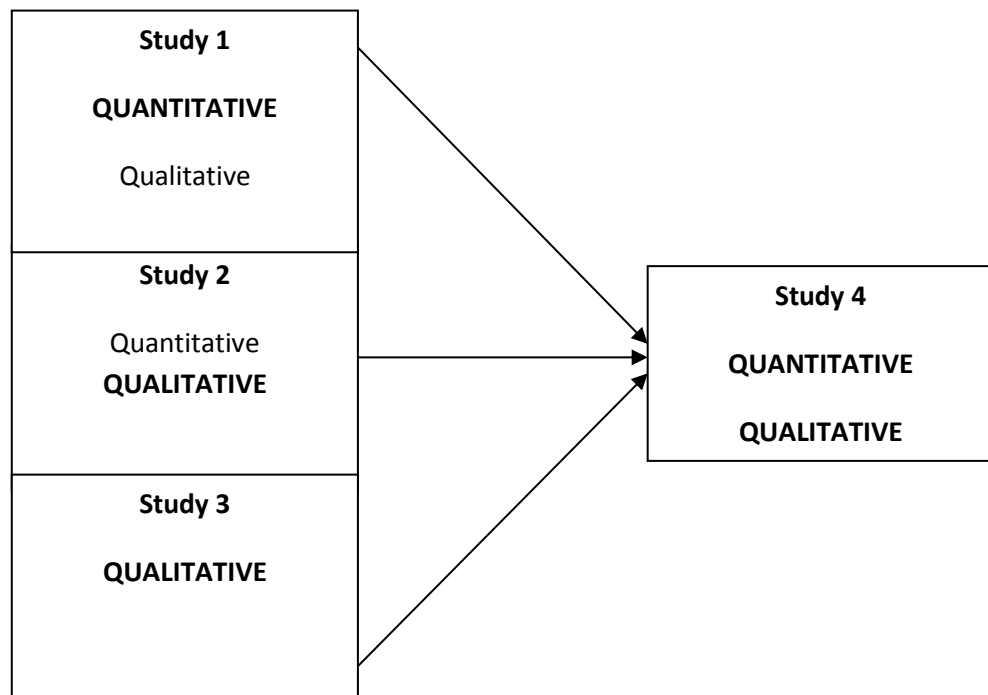


Figure 1 Research design diagram

The purpose of this thesis was to learn about recruitment to walking promotion programmes. Figure 1 illustrates the relationship between the four main studies in this thesis, the methodology in each, and the weighting of each methodology. The purpose of the studies were to identify what was known about recruitment from the research and practice perspective and how recruitment was being conducted and how it was measured for effectiveness. The perspective of the participant was investigated to identify which methods they report being recruited by and what

resonated with them when deciding to join a walking group. These studies provided results that were compared between the first three studies and contributed to the fourth study, an evaluation of a strategic recruitment process.

There was a fundamental lack of information about how recruiters invite participants to take part in their walking programmes. Due to the lack of evidence of effectiveness, clarity regarding the core problem and specific guidelines for implementation, our intent was to learn about the process of recruitment at the level of the recruiter. It was accepted that participant willingness and motivation were important aspects of participation in walking programmes but these were not the focus of the thesis. Also, this thesis focused on the actions taken to recruit participants in the time period before a programme was actively under way. It was not the intention of this thesis to also investigate, intervene or critique any programmes, simply as a means of maintain focus on the recruitment aspect. Again, this is not to dismiss programme fidelity and quality as important considerations, but this we believed that before we could assess the interactive effect between programme quality and recruitment, we first needed to be focused on recruitment as a process in its own right.

The methodology of this thesis followed a mixed methods research framework. Adopting an MMR strategy of inquiry and a pragmatic worldview allowed for the research to remain focused on the problem and react to research findings as they emerged. Mixed method research is more complex and demands more data to be collected, analysed and reported (Tashakkori & Teddlie, 2003) but we agreed that it could provide a better understanding of the problem under investigation (Creswell, 2009). Applying an MMR design facilitated the comparison of a number of studies would allow for our intentions to provide guidelines for recruiters to walking promotion programmes.

2.4 The research questions

2.4.1 Central Research Question

The central question in this mixed methods research thesis is:

- What is the best method and strategy to recruit participants to a walking promotion programme, how well can these approaches be delivered by practitioners and how well are they received by participants?

2.4.2 Chapter Specific Research Questions

The specific subsequent research questions aimed at addressing this question are as follows:

Chapter 3

- What is the quality of the reporting of recruitment methodologies in walking research studies?
- What is the range of methods used to recruit participants to walking programmes in research?
- How are these methods measured for effectiveness?
- How effective are these methods?
- What recommendations can be made about the process of recruitment to walking programmes from the current literature?

Chapter 4

- How do practitioners currently recruit participants to their walking programmes?
- How effective do practitioners perceive their current processes of recruitment to be?

- What factors affect the process of recruitment for adults to walking programmes in the opinion of the practitioner?

Chapter 5

- How do participants currently report becoming aware of their walking programmes?
- What do participants in walking groups think and consider when they are first invited to take part in a walking programme?
- How is the walking programme discussed among participants and community members once they become aware of, or join, a walking programme?

Chapter 6

- Does a strategized recruitment process achieve specific recruitment goals among disadvantaged men in the east end of Glasgow?
- What's methods of recruitment to the men in the programme recall being recruited by?
- What the men contemplated when they were first invited to take part in the programme?
- How do the men participating in the walking programme describe the programme to their peers?
- How do the recruitment team (including the funding body) perceive its effectiveness and its ability to improve how they recruit men to walking programmes?

2.5 Philosophical foundations for using mixed methods research

A pragmatic approach guided the methodology applied in this thesis. Pragmatists pursue an understanding of the problem at hand as well as seeking solutions through what works at the time (Creswell, 2009). They have been described as employing methods of inquiry in a reflexive manner to gain insight at each stage of inquiry where multiple methods are used (Tashakkori & Teddlie, 2003). Pragmatism is described as emphasizing “the importance of the research question, the value of experiences, and practical consequences, actions, and understanding of real world phenomenon” (Denzin & Lincoln, 2011, p.276). The problem of “how best to recruit” being addressed in this thesis had both positivist and constructivist dimensions with a demand from recruiters for both a simple solution to what method works and an explanation of why recruitment is currently such a challenging issue. Therefore, the flexibility to use multiple methods in identifying relationships between recruitment actions and outcomes, plus an understanding of the subjective and contextual factors influencing the effectiveness of recruitment activities was needed. Without a pragmatic stance this would not have been possible and would not have allowed for the implementation of a mixed methods design or the opportunity to test the research findings in practice.

Pragmatism has been described as a good fit for mixed methods research because it “opens the door to multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and analysis” (Creswell, 2009, p. 11). Although there is a lot of discussion about the conflicting assumptions of quantitative and qualitative research methods, mixed methods research has emerged as an established methodology which, at least on a case by case basis, has overcome this debate through clarity of reason (Denzin & Lincoln, 1998, 2011; Robson, 2002; Tashakkori & Teddlie, 2003). The philosophical assumptions adopted in this thesis will be described by ontology, epistemology, axiology, rhetoric, and finally personal experience. Both qualitative and quantitative perspectives will be expressed and justified where appropriate. The assumptions described are

conscious of the postpositivist viewpoints that objectivity and a relationship between variables may exist, and the constructivist viewpoint that multiple realities and perspectives need to be considered for a truer understanding of the problem (Robson, 2002).

2.5.1 Ontology

The nature of reality and its characteristics (i.e. ontology) is described as varying between individuals (Creswell, 2007; Denzin & Lincoln, 2011). Therefore, reality is subjective and unlikely to be described in empirical terms alone. The general problem being examined in this thesis is how to conduct recruitment to walking programmes and how to maximise effectiveness. Investigating this problem requires multiple realities to be represented because a number of individuals are integral to the process (the recruiter, the participant and in this case the researcher). In the case of recruitment the realities of the recruiter and the participant are likely to be different because each performs a different role in the process of recruitment. The former invites and facilitates inclusion while the latter responds and considers their capacity and willingness to take part. These realities are fundamentally different and are represented in this thesis, particularly where the need to investigate if, how and why the actions taken by the recruiter resonated with the participant. In addition, the position and perspective of other stakeholders (e.g. funders and policy makers) bear an influence, especially financially, on the capacity for complex process such as recruitment to be put into action. For this important reason, as much ontological input must inform this thesis. We aim to understand: the complexity of the process of recruitment; and which contextual factors, and therefore realities, affect the outcomes of the recruiters' actions.

There is though, another reality integral to understanding efficiency and effectiveness in recruitment. That is the reality of the researcher as analyst, seeking to present useful empirical data. If there is a potentially dominant method of

recruitment it is useful to present this quantitative data and its characteristics. More importantly though, is the need to present data which might contend this hypothesis and which may support the need to approach the process of recruiting, and researching recruitment in a more complex manner if that is a valid reality. Therefore, quantitative methods were used to examine the current literature and the reported outcomes of commonly applied methods. The outcomes of this research were presented and then guided the quantitative approach taken in the final chapter of this thesis. I subscribe to the pragmatic assumption that “truth is what works at the time” and include the “use of both quantitative and qualitative data because they work to provide the best understanding of a research problem” (Creswell, 2009, p. 11) and therefore realities and characteristics. The ontological assumptions in this thesis will consider and compare a range of viewpoints, both quantitative and qualitative.

2.5.2 Epistemology

Epistemological assumptions describe the relationship between the researcher and that being researched (Creswell, 2007). A complex relationship existed in this thesis. There was the link between the researcher and recruiter (in both research and practice) and the researcher and the participant. A postpositivist stance and objective viewpoint of the actions of the recruiter governed the systematic review of the literature in Chapter 3. The recruiters’ actions in research and practice settings required objectivity to answer the simple question of what actions are currently employed by recruiters and how are they measured for effectiveness.

Employing a mixed methods methodology facilitated collection and comparison of data from to also subjectively understand the process. A constructivist stance and consideration of the subjective and the influence of context allowed the viewpoints of recruiters across a range of walking programmes to be investigated. This perspective allowed for the consideration of different viewpoints but also to

observe and identify patterns and phenomenon which would better inform the recruiter. It was supported by the researchers in this thesis creating a close relationship with the recruiters, particularly in Chapter 6. This helped to develop an understanding that their expert knowledge would better inform this investigation and create mutual benefits.

Understanding that the “real world” is more complex and rarely observes a clear dose response relationship in social behaviour meant we also required an understanding of the participant. Their perspective on being recruited to walking programmes was investigated in Chapter 5 and in Chapter 6. All recruitment was conducted by the lead researcher of this thesis and a lot of effort was made to create trust and openness between the researcher and the participants, particularly where there was a perception of disadvantage or challenging personal circumstances for the participant. This was done by attending the walking programmes, becoming familiar with and gaining endorsement from the walking programme coordinators, and again by establishing an understanding that the participants in this thesis were informing us, the researchers, and providing expert knowledge which had not previously been attained.

We subscribes to the viewpoint that there is utility in gaining and cross comparing data from the field qualitatively as well as objective observation of trends and reactions numerically to understand both context and outcome. Therefore close relationships were valued where expert knowledge was required, and objectivity was valued where patterns in the process and useful empirical data were sought.

2.5.3 Axiology

The axiological assumption concerns values, their role and how the researcher position themselves (Creswell, 2007). As a mixed methods thesis, axiological assumptions are a challenging topic as quantitative (postpositivist) and qualitative

(constructivist) methods have been considered to be at polar opposites on this point (Denzin & Lincoln, 1998). Postpositivism is described as aiming to be value free and control for confounding factors rather than considering, in a constructivist manner, their influence on the research conducted and how it might be informed by expressed values (Denzin & Lincoln, 1998; Robson, 2002). From a broad perspective, recruitment is high in value because of the simple relationship between unsuccessful recruitment and the inability to deliver that programme. This has worrying impact on the potential loss of investment and lost opportunities to improve public health outcomes. But, because recruitment has potential impact on the reach of a programme, knowing more about what works in recruitment can be valued for creating equity and improving the opportunity for those most at need of health interventions to take control of their own health outcomes, the aim of health promotion and public health (Naidoo & Wills, 2009; WHO, 1984, 1986).

From a perspective of the researcher positioning themselves, this thesis was formative in its investigation of the topic and thus remained open to the value of quantitative and qualitative research at the early stages. Evidence of effectiveness was considered important and any clear relationships between recruitment action and outcome were sought. However, any value assignment was declared and evidence was sought systematically, such as the study quality rating used in Chapter 3. It was not assumed that Chapter 3, nor any quantitative research conducted in this thesis would provide a singular correct method and the qualitative investigations were considered integral to understanding the problem and suggesting solutions. Furthermore, it has been stated that “the methods for making sense of experience are always personal” (Denzin, 1998, p. 315) and as a researcher with a lot of experience in recruiting, this thesis was influenced by mine and others need to both improve and understand the process. Again though, all data analysis was, as best as possible conducted within a group of researchers aware of the overall research question with a view to ensure trustworthiness of that data.

2.5.4 Rhetoric

This thesis focused on understanding the problem, developing a possible set of guidelines and theoretical overview while understanding the meaning of recruitment for all the relevant stakeholders. For this reason the language, where relevant, explicitly included and was represented by the participants involved as well as reflexive representation by the author. However, there is also a need to satisfy, and appropriateness in, representing the quantitative data collected in a manner that suits the audiences interested in these outcomes. Therefore, a mix of language aiming to represent personal opinion and display empirical findings was used. The methods used in each chapter were clearly stated and the appropriate language used within each chapter. The final chapter, Chapter 7, used a combination of quantitative and qualitative language in discussing the rates and their measurement as well as the perspectives of the stakeholders.

2.5.5 Personal Experience

Finally, the influence of personal experience is considered inextricable to the assumptions which affect the methodological approach taken in research (J.C. Greene, 1998). My own previous research has involved a range of recruitment to research and in other settings, and I have always been fully involved in the process in each case. This includes designing the sampling strategy and recruiting participants to relatively large survey based research at Undergraduate (188 participants) and Masters level (190 participants) dissertation work. In addition I have worked on local and national survey data collection as well as organising and running several entertainment events professionally. All of this experience has informed my perspective about recruitment and has increased my interest in understanding more about the practice of recruitment and how best to research it.

2.6 Methodology

2.6.1 A definition of mixed methods research

Mixed methods research (MMR) is not easily defined (Johnson, Onwuegbuzie, & Turner, 2007). The mixed methods approach to research is currently undergoing a great deal of debate in its validation as a research paradigm, as did both quantitative and qualitative research in their time (Creswell, 2009, 2011; J. C. Greene, (2006)). However, there is some convergence of thought among the research community and the emerging definition and rationale underpinning MMR adds justification to its application in this thesis. Johnson et al. (2007) traced extensively the development of mixed methods research as a methodological approach, and analysed a long list of author contributions to finally arrive at the following, extensive definition:

“Mixed methods research is an intellectual and practical synthesis based on qualitative and quantitative research; it is the third methodological or research paradigm (along with qualitative and quantitative research). It recognizes the importance of traditional quantitative and qualitative research but also offers a powerful third paradigm choice that often will provide the most informative, complete, balanced, and useful research results. Mixed methods research is the research paradigm that (a) partners with the philosophy of pragmatism in one of its forms (left, right, middle); (b) follows the logic of mixed methods research (including the logic of the fundamental principle and any other useful logics imported from qualitative or quantitative research that are helpful for producing defensible and usable research findings); (c) relies on qualitative and quantitative viewpoints, data collection, analysis, and inference techniques combined according to the logic of mixed methods research to address one’s research question(s); and (d) is cognizant, appreciative, and inclusive of local and broader sociopolitical realities, resources, and needs. Furthermore, the mixed

methods research paradigm offers an important approach for *generating* important research questions *and* providing warranted answers to those questions. This type of research should be used when the nexus of contingencies in a situation, in relation to one's research question(s), suggests that mixed methods research is likely to provide superior research findings and outcomes."

(Johnson et al., 2007, p.19)

Although contentions such as the ability of MMR to provide superior results continue (Denzin & Lincoln, 2011), points (c) and (d) above are particularly pertinent to the research problem addressed in this thesis. That is, the approach considered at the outset of this thesis required quantitative and qualitative insight in order to address the efficiency and effectiveness of methods and strategies of recruitment, while also taking account of a) the recruiters' capacity to apply these strategies, b) useful insights and learning they gained during the process and c) the participants' perspective on being recruited to a walking promotion programme. Two shorter and perhaps more digestible definitions, useful for discussion purposes in this thesis, were also presented. Firstly, a general definition of MMR as a type of research:

"Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration."

(Johnson et al., 2007, p.19)

Secondly, a definition of an MMR studies:

“A mixed methods study would involve mixing within a single study; a mixed method program would involve mixing within a program of research and the mixing might occur across a closely related set of studies.”

(Johnson et al., 2007, p.19)

The inclusion of these second two definitions is to underpin the particular design applied in this thesis. This thesis included both a mixed method research programme conducted at stage one as well as a mixed methods study, conducted at stage three (Figure 2). This is not unheard of in MMR research and several “multistrand designs” have been discussed previously (Tashakkori and Teddlie, 2003, p. 685). In the case of this thesis, stage one was a multistrand MMR approach where three studies ran concurrently. At stage three, again a multistrand MMR approach was applied, this time embedded within a single walking programme.

2.6.2 The type of design explained

The type of MMR design used in this thesis was multistrand, had four phases and applied both concurrent and embedded MMR strategies (Figure 2). Defined as the use of “more than one research method or data collection procedure” (Tashakkori and Teddlie, 2003, p. 685), multistrand designs use multiple approaches (i.e. quantitative and qualitative), include a stage of integration and procedures for linking the strands of inquiry. Figure 2 outlines the MMR research design used in this thesis and illustrates the different multistrand approaches adopted at stage one and stage three. Four stages of the strategy of inquiry are illustrated and the relevant chapters, methods applied and purpose at each stage.

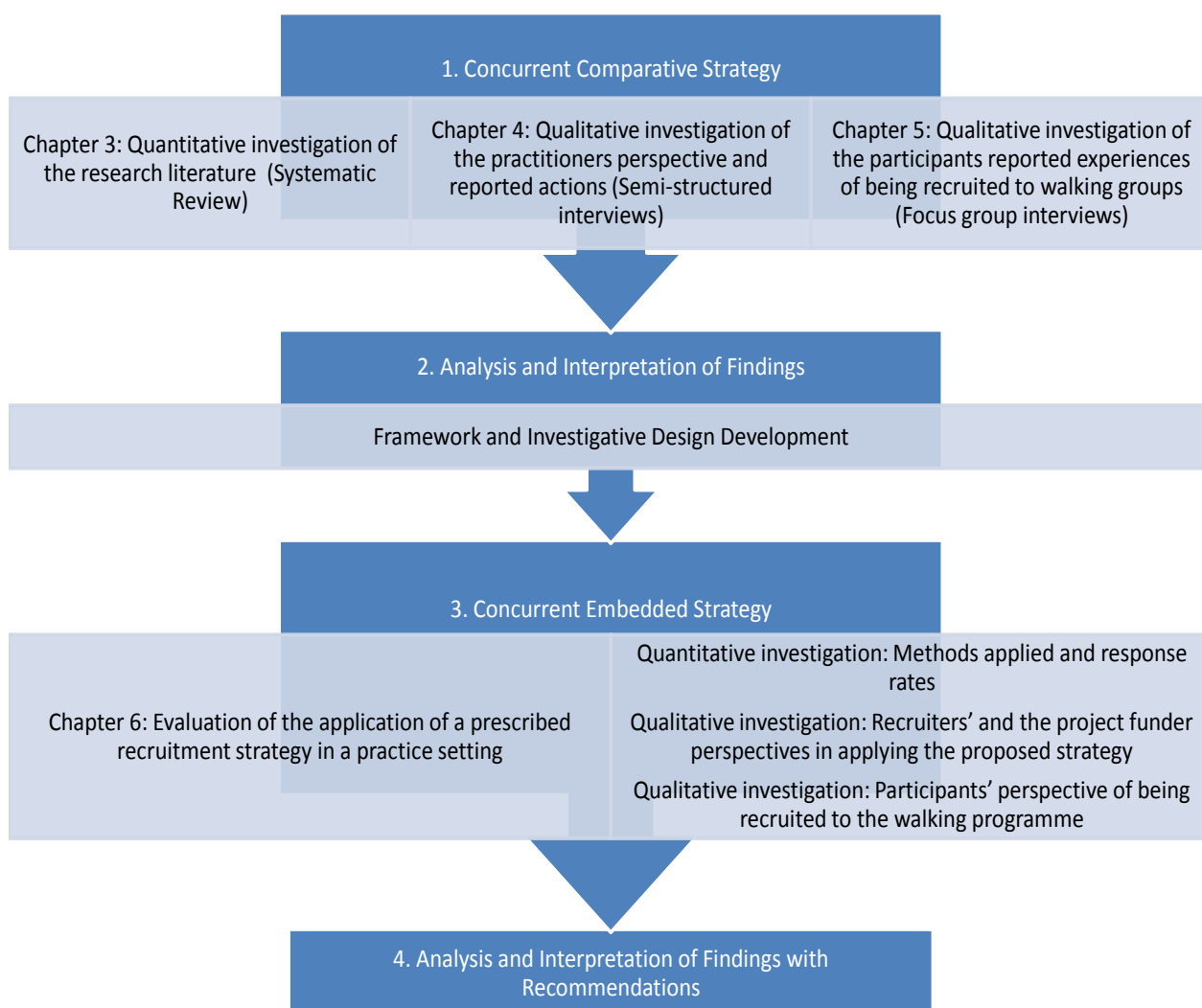


Figure 2: The Mixed Methods Research strategy of inquiry applied.

Stages one and three in this methodology adopted a concurrent MMR approach. Concurrent MMR studies involve the collection of both quantitative and qualitative data at the same time (Creswell, 2009). This data can be collected separately, via individual studies, and then used for comparison purposes. These findings are then used to answer the research question and make recommendations. At stage one (Figure 2) a concurrent comparative MMR design was applied to gain insight from the three perspectives investigated and as well as to compare and contrast the findings (i.e. integration of findings at stage two). At stage three, the opportunity to evaluate the recommendations was presented and a concurrent embedded study was conducted opportunistically within a walking programme being delivered in the

East-end of Glasgow. A concurrent embedded design can be used where several methods of data collection can be used at the same time within one study to answer different aspects of the research question (Creswell, 2009). Embedding the study within the programme being delivered allowed for the application of the findings from stage one, which were analysed and integrated at stages one and two, within this phase of the research.

2.6.3 Challenges in using this design

MMR is not without its controversies and challenges. The sheer number and combination of MMR designs is discussed by Tashakkori & Teddlie (2003), who list almost 40 combinations of qualitative and quantitative mixes which can be used in MMR. This is a somewhat staggering amount of designs including established procedures (e.g. triangulation, concurrent, sequential etc.) as well as fit for purpose typologies developed by researchers on an on-going basis for their specific needs. Although this does add a challenge to the reader, the inclusion of a visual and narrative description is advised which should, case by case, clearly explained the typology of any MMR design (Creswell & Plano Clark, 2007; Tashakkori & Teddlie, 2003). Figure 2 is included here in this chapter in order to support the reader in understanding the methodology and its variation in design within this thesis.

Further challenges and controversies are addressed in the literature. They include issues around definitions, privileging postpositivism, addressing how the data should be analysed and presented, combining paradigms, and logistical demands (Denzin & Lincoln, 2011). The definition issue is described at length in the literature and is an on-going debate (Creswell, 2011; Johnson, et al., 2007) but appears to be a case in a state of progressive refinement at the moment. In the matter of MMR privileging postpositivism, Creswell (2011) argues that it clarity in both the rationale and description of the study which should negate such claims by making the weight of and reason for the particular methodological mix clear to the reader. Difficulties

with analysis include how to integrate analysis and results, with some argument as to whether a singular approach is possible (Teddlie & Tashakkori, 2011). However, there is support for quantitative and qualitative data results to complement in MMR (Creswell & Plano Clark, 2007; Denzin & Lincoln, 2011). Therefore this issue again reverts back to a matter of clarity of intent and scrutinizing how the data was analysed rather than contesting whether data can be integrated. The issue of mixing paradigms is regularly presented in the literature. It remains more of an academic debate outside the scope of this thesis, but the conclusion drawn here is that it is a matter of choice for the research to decide. This thesis subscribes to the belief that paradigms can be mixed as long the assumptions informing the researcher are explicit and honoured.

The challenges and criticisms of MMR are on-going and evolving. Rather than operating under the assumption that it provides a one best method for producing the one best result, it has been better presented as an approach with added value which aims to unveil the root issues of complex problems, particularly in the absence of previous research (Creswell, 2011; Tashakkori & Teddlie, 2003; Teddlie & Tashakkori, 2011). This thesis is guided by this conclusion and we feel MMR provides a good fit with the aims of this thesis. In particular we see parallels regarding our focus on understanding the root issue within the complexity of recruitment and examining a topic which lacks a great deal of previous research.

2.6.4 Examples of Multistrand MMR research design studies

Multistrand MMR design studies include concurrent and embedded approaches. The design is flexible and can be used as a fit for purpose approach where multiple research methods to investigate a topic are needed, or multiple data collection methods are needed within one study. It has been used in a wide range of areas including the investigation of work related stress, youth mentoring programmes, website usability and educational system success (Brady & O'Regan, 2009; Jang,

McDougall, Pollon, Herbert, & Russell, 2008; Mazzola, Walker, Shockley, & Spector, 2011; Nicolson, Knapp, Gardner, & Raynor, 2011). Jang et al (2008) contributed to the field of MMR and the debate on MMR design in their evaluation of school success in challenging circumstances. Their investigation relevant to this thesis because it focused on understanding the characteristics of schools that overcame challenging circumstances such as social deprivation, staff turnover and multi-lingual students to achieve successful academic outcomes (Jang, et al., 2008). The study used a concurrent MMR design to gather quantitative information on the schools success through a survey, and then used qualitative methods to better understand and explain the contextual and procedural factors contributing to that success. Among the key learning points were that the survey based approach did not include enough themes to capture the factors contributing to the schools success. The qualitative approach, though, allowed for the study participants to voice their opinions, inclusive of the other themes not covered by the surveys. The authors of the study felt this was a key strength of their concurrent MMR design, and although there were challenges in integrating all the sources of data, it provided a structure and outcomes that made a positive contribution to the topic under investigation and as an example of MMR procedures.

MMR designs using multistrand approaches vary between embedded, concurrent, sequential and a combination of all these designs. While this may still affect a debate about the integration of design, conflicts of worldviews and appropriateness (Creswell, 2011; Jang, et al., 2008; Teddlie & Tashakkori, 2011) the emerging body of work using this approach and its potential advantages in understanding previously un-researched areas make it an appealing design for this thesis.

2.7 Data collection and analysis

Quantitative and qualitative data were collected throughout this thesis. Within phase one (Figure 2) this data was collected independently in separate studies and

analysed with a view to building a better understanding of the topic area. Within phase three the data was collected within one study to integrate the findings and explain the outcomes of the process being investigated. Each chapter's data collection and analysis will be described, differentiated by type (quantitative and qualitative).

2.7.1 Chapter 3: Systematic review of the literature

Chapter three was a systematic review of the literature and was a quantitative investigation. It focused on the question: what are the range and effectiveness of methods to recruit participants to walking promotion programmes? Systematic reviews are a useful way to appraise and interpret large amounts of data, particularly when clear consensus on the topic has not been reached (Higgins, Green, & Cochrane Collaboration., 2008). They are carried out to "collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question" (Higgins et al., 2008, p.6). Systematic reviews are also considered pertinent in social science research (Petticrew & Roberts, 2006), and have been described as: "A method of mapping out areas of uncertainty, and identifying where little or no relevant research has been done, but where new studies are needed" (Petticrew & Roberts, 2008, p.2). The study aimed to identify the quality of reporting of recruitment, range of methods used, measures of effectiveness applied, the effectiveness of each method and to provide recommendations based on these findings.

Data were collected from four sources: a) electronic databases and websites; b) grey literature from internet sources, c) contact with experts to identify additional grey literature; and d) snowballing from reference lists. All identified sources were first screened by title, then by abstract and finally, relevant full text articles were screened for compliance with the inclusion criteria. The search terms used in this study were: (walk*) AND (recruit* OR participat* OR market*) and the database

used were OVID MEDLINE, EMBASE, PsychINFO, PubMed, Scopus, SIGLE and SPORTDiscus, as well as Google, author responses and reference list scanning. An initial 27,456 titles retrieved was reduced to 47 included studies and satisfied all the inclusion criteria agreed by the authors. A total of 147 articles were screened for inclusion, with two authors reading half the papers each separately, and then meeting to discuss their decisions. The inclusion criteria were agreed between the three authors and satisfied the aims of the study in achieving an answer to the main research question. Key inclusion criteria were: the study examined the effects of an intervention to encourage people to walk independently or in a group setting; and the details of recruitment were reported or were retrievable through correspondence with the author (see Chapter 3 for full inclusion criteria). Where an article was not initially cleared for inclusion, the issues of concern were discussed within the research group. If not resolved by the first two authors, a third member of the research group was consulted and a group decision was made. The Quality of Reporting of Meta-analysis statement provided a structure and a means to illustrate our selection process (Moher et al., 1999).

The data was analysed by three of the authors of the study and was retrieved by screening the initially large number of research and grey literature articles. All papers were analysed by two of the three authors (CF and GB), and where agreement could not be reached the third author (AM) was consulted and the matter was resolved by consensus. All the relevant data was extracted using the criteria in our data extraction form and analysed in an excel spread-sheet. The studies were then assessed for quality of reporting of recruitment data and our quality criteria were adapted from previous guidelines which differentiate studies by numeric scoring (Jadad, 1998). Differentiating the studies in this manner allowed us to examine the depth of data reported and also the range of methods of recruitment reported. Empirical data for the analysis of efficiency and effectiveness were: population data including the number of potentially available participants

and those who were invited, responded and started; the number of methods applied; and the overall time spent on recruitment. This data provided basic quantitative representativeness and a measure of effort in terms of time and resources. However, statistical analysis of recruitment within studies was infrequent, if at all present, and did not allow for a between studies analysis. There was insufficient data available to conduct more complex statistical meta-analysis within the review. The quality of reporting measure became the focus of our analysis for the remainder of the review. We analysed the methodological approach taken by recruiters to walking promotion programmes and any observable patterns which could be seen between the actions taken and the participants' attendance. Due to the heterogeneity of study type and methods used, it was not possible to identify a singular best, quantitatively speaking, approach to recruitment.

2.7.2 Chapter 4: Practitioner perspectives on doing recruitment

Chapter 4 was a qualitative investigation of practitioners who were responsible for recruitment to their walking programme. As in Chapter 3, it focused on the question: what are the range and effectiveness of methods to recruit participants to walking promotion programmes? In this chapter however, effectiveness was defined as what the practitioners perceived to be the method which resulted in most participants joining the walking programme. This was a qualitative investigation, aiming to reach an understanding of issues not revealed or not explained in Chapter 2 and was useful for comparison to the findings of Chapter 2.

Semi-structured interviews and case study participant observations were used in this study. Semi-structured interviews provide a framework of questions for the interviewer, enable comparisons to be drawn across the participants and allows for comparison to quantitative data gathered within a mixed methods investigation (Creswell, 2009; Robson, 2002; Tashakkori & Teddlie, 1998). This form of interview is positioned between fully structured and unstructured interviews as it has a

framework of questions to be addressed but allows for discussion of other data and perspectives relevant and important to the participant (Barbour, 2008; Robson, 2002). Semi-structured interviews are appropriate in this mixed methods thesis because they focus on the meaning of phenomena and can be used in turn with quantitative research to validate a particular measure or understand the range of experiences which future research should address (King, 1994).

Case studies were used in this study, to gain further insight into the phenomena. Case study participant observations allowed for cases to be considered in their own right, inclusive of the context, and allowed the investigator to gain a deeper understanding of the phenomena and identify causal attributes (Robson, 2002; Schell, 1992; Yin, 2009). These were a set of individual case studies designed to represent walking groups with and without a specific health agenda. The cases were chosen for description of being focused on hard-to-reach groups or for demonstrating innovative recruitment methods. The case study participant observation is a flexible design approach which allows the investigator to immerse themselves in the setting and to collect data during the process under investigation (Yin, 2009). This study drew on multiple strategies and used case studies alongside interviews to answer our 'how' and 'why' questions about the recruitment methods being used by these participants (Schell, 1992). As such, both strategies are not seen as mutually exclusive but as providing complementary explanation to the issues explored (DeWalt & DeWalt, 2002).

Data was collected during telephone interviews and group interviews, as well as from field notes recorded during case study participant observations. Telephone interviews were combined with group interviews in this study. Telephone interviews were used because they offered a cost-effective way of reaching the participants from across the UK in this study (Miller, 1995). Combining individual interviews with group interviews is not unusual in flexible design studies such as this

(Barbour, 2007) and again provided a practical means of including a number of Scottish participants in the study while the research team were in Glasgow. All data from the interviews were audio recorded and transcribed verbatim. Data from the case studies was recorded as field notes and was analysed alongside the interview data. All the interviews in this thesis followed the guidance of: using general introductory comments about the topic; asking the key topic questions as per the interview schedule; making use of prompts and probes to encourage elaboration and explanation; concluding with closing comments to end the interview; allowed for some flexibility in the order and emphasis of the questions as the interview progressed; and gave each interviewee the chance to raise and discuss any other issues relevant or important to them (Barbour, 2008; Creswell, 2009; Patton, 1990; Robson, 2002).

The interview script was developed based on the key topic areas identified when the study was proposed to NHS Health Scotland. These were refined following discussions with participants in the two to three telephone interviews and reviewed again prior to the group interview stage in Glasgow. Interview questions addressed the purpose and structure of walking projects, participant target groups, recruitment method selection, successes and failures, participant retention, and recruitment evaluation. Field notes were made during and immediately after interviews. Following the group interviews and by the end of the telephone interview round it was felt that data saturation had been achieved.

Data analysis adopted an approach using analytic induction. Such an approach, common to qualitative research, proceeds through the following series of steps (LeCompte, Preissle, & Tesch, 1993): data are scanned to generate categories of phenomena, (ii) relationships between categories are sought, (iii) working typologies and summaries are written on the basis of the data examined, (iv) subsequent case analysis enables refinement and redefinition, and (v) negative and

discrepant cases are deliberately sought to modify, enlarge or restrict the original explanation or theory. Using the Excel software package, the data were coded in the first instance by one researcher, followed by a cyclical pattern of thematic verification and revision during analysis with two other researchers (See Figure 3 for an example of this 'steps' procedure in practice). Trustworthiness of the was established by comparing the emerging themes across both the interviews and the case studies and by multiple reading of the data by more than one member of the research team.

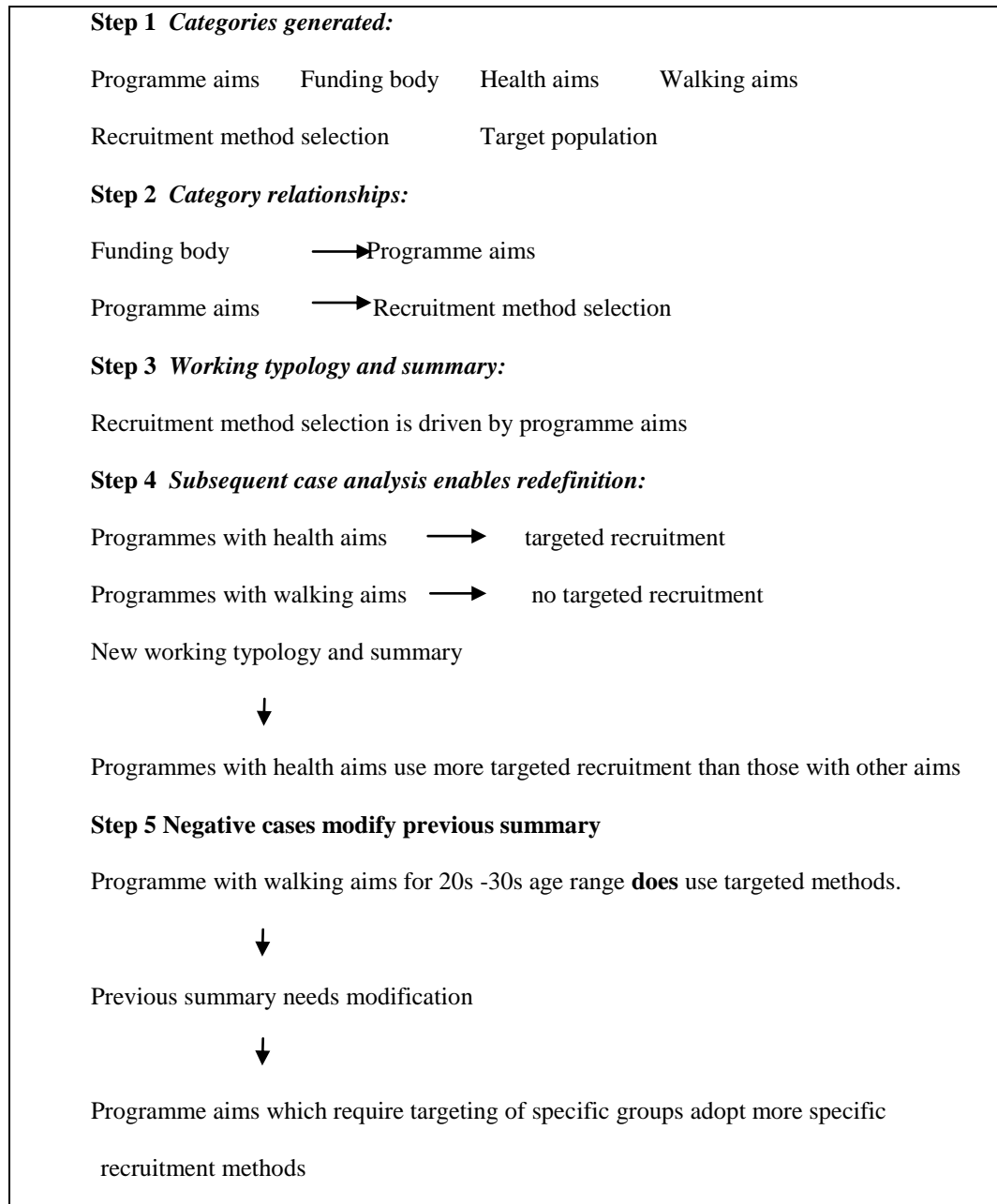


Figure3: Example of analysis using analytical induction

2.7.3 Chapter 5: Participant perspectives on recruitment to walking promotion programmes

Chapter 5 investigated the participants' perspective on being recruited to walking promotion programmes. The purpose of this study was to: understand more about the participants' experiences of being recruited; to learn more about their considerations during the recruitment process; and learn about how the participants discussed the group with their peers, in terms of recruitment. The findings aimed to facilitate a comparison to the methods reported by the recruiters in studies one and two. It was important within the framework of this study to relate what the recruiters said they were doing and felt was most effective to what participants recognised as the way in which they were recruited. In addition, by asking the participants how they described their walking group to others, we aimed to understand what messages the participants passed on through word of mouth discussion. We aimed to understand the phenomenon of "word of mouth" and how it might be replicated and challenge our assumptions regarding recruitment. We were willing to accept data which may present contrasting lines of thought, but researchers are advised to be cognisant of this as an advantage and not dismiss these voices as illegitimate (Denzin & Lincoln, 2011).

Focus groups were chosen for this study. There was a lack of qualitative work conducted in this area and we felt that relevant surveys were not available nor would surveys provide the kind of explanatory data we sought (Creswell, 2009). Focus groups are useful where an emerging topic is under investigation (Barbour, 2007) and they can "afford researchers access to social-interactive dynamics that produce particular memories, positions, ideologies, practices, and desires among groups of people" (Denzin & Lincoln, 2011, p.559). They are also useful to support the development of recommendations, which was a key aim of this thesis (Barbour, 2007; Tashakkori & Teddlie, 2003). The limitations of focus groups were recognised, including: dominance by one or more member of the group; difficulty to generalising the results if the sample is small; and the influence of group consensus

(Barbour, 2007; Tashakkori & Teddlie, 2003). However, the advantages of providing a possible quick turnaround time and the opportunity for probing and exploration of ideas and allowing participants to react to each other made them a useful research method for this thesis (Tashakkori & Teddlie, 2003).

Data was collected during four groups held in three different locations across Glasgow. The focus groups took place at locations chosen for the convenience of the participants, including two within community centres where the walking programmes were based. The focus groups captured the opinions of seventeen participants, representing walking programmes from three of the five regions described by Glasgow Life (North, South-East, South-West, East and West). Two of the regions had walks which were undersubscribed or had been discontinued but not officially taken of the list of publicised walks. Data was audio recorded at each of the focus groups, and transcribed verbatim using NVivo (Version 9, QSR, Southport, UK). The participant numbers, gender, focus group duration and word-counts of the transcriptions are presented in table 1.

Table 1: Data collection: area, attendance, gender, duration and word count

| Focus Group | Region | Number of Participants | Gender | Duration (minutes) | Transcription word count |
|---------------|---------------|------------------------|-----------------------------------|--------------------|--------------------------|
| 1 | North Glasgow | 4 | 4 Female | 28 | 3714 |
| 2 | East Glasgow | 3 | 3 Male | 20 | 2535 |
| 3 | East Glasgow | 8 | 1 Male 7 Female | 21 | 3421 |
| 4 | West Glasgow | 2 | 2 Female | 17 | 2328 |
| Totals | N/A | 17 | 4 Male 13 Female | 86 | 11998 |

The interview script was developed within SPARColl. It remained generally within the framework of our stated points of interest and was designed to allow the participant to “comment on the relevance of the question posed and [...] to expand at length on the chosen topic” (Barbour, 2008, p.115). The questions focused on the methods used to recruit the participants, their thoughts when being recruited and how they described the group. A minimum amount of adjustment was made following the first focus group and only related to the prompts and probes for clarity to the interviewer. Again, the interviews followed the guidance of: using general introductory comments about the topic; asking the key topic questions as per the interview schedule; making use of prompts and probes to encourage elaboration and explanation; concluding with closing comments to end the interview; allowed for some flexibility in the order and emphasis of the questions as the interview progressed; and gave each interviewee the chance to raise and discuss any other issues relevant or important to them (Barbour, 2008; Creswell, 2009; Patton, 1990; Robson, 2002).

Data analysis followed a general inductive approach (Thomas, 2006). The general inductive analysis method emphasises the presentation of themes or categories most relevant to the research question and provided a good fit with the research aims and methodology of this thesis. It focuses on condensing raw text data into summary format, linking these summary findings to the research question and contributing to model or theory development and has been used in other studies also seeking to identify the participants experience or perspective (Fisken, Keogh, Waters, & Hing, 2012; Ni Mhurchu et al., 2012; Snell, Briscoe, & Dickson, 2011). Thomas (2006) outlines the analysis framework which was applied in this study and it involved: preparation of the raw data for reading; close reading of the text; creation of categories; coding of the text; continued revision and refinement of the category system. NVivo software was used to prepare the raw data and transfer it to word format documents for reading and coding. The question set used in the

interviews provided a priori framework for initial thematic analysis, but did not restrict the reader from identifying other themes or categories. All data were coded for: how the participants heard about the group; what they thought when considering joining; how they described the group to others; and a higher level 'other' theme. The raw data was first read in hard copy and coded by colour, then relabelled in NVivo. The wide range of new and emerging codes in the 'other' category was reduced by identifying where synonyms had been inadvertently used at the first reading. Finally, a category of 'experiences of being in a walking group' was created to encompass these emerging sub categories and was used in addition to the a priori framework for reporting purposes. Supporting statements and the interpretation of their meanings by the authors was presented in the final report.

Trustworthiness of the data was established through data consistency checks and comparison with earlier studies in this thesis. A second reader (CMcA) also read the transcripts and checked for errors to ensure the data was clean. The coding framework was presented and CMcA read the transcripts to identify where the codes appeared and whether they were a reliable interpretation of the data. Two further readers (NM and CF) read the selected quotes and interpretive statements representing each team and assisted in the editing, clarity and presentation of these findings within the chapter. The data was compared in general terms to the recruiter focused studies in chapters three and four to identify any unusual, unexpected or contradictory findings in the participants' responses. The COREQ reporting framework was used to guide the reporting structure of this study (Tong, Sainsbury, & Craig, 2007).

2.7.4 Chapter 6: Evaluation of a practice based walking promotion programme

Chapter 6 was a process evaluation, guided by the principles of action research and employed a mixed methods data collection strategy. The programme being evaluated was a walking programme, targeting men in a disadvantaged area of

Glasgow and aimed at increasing independent walking behaviour in that group. This was a pragmatically undertaken study in collaboration with the Glasgow Housing Association (GHA) and was opportunistically seized upon to apply the findings of the thesis and with “the aim of establishing knowledge” (Tashakkori & Teddlie, 2003, p.83). A certain loss of control regarding the walking group was recognised, but the remit of this thesis was not to design or implement a walking programme but rather to focus on recruitment and the recruiter, so this fit ideally within the thesis design. The aim of the recruitment was to reach the target group and maximise the equitable delivery of a walking programme in the area. This study focused on the actions of the recruiters and evaluated their capacity to implement a set of recruitment guidelines and it measured the outcome of their actions. An evaluative framework was employed for its potential to understand what happened and explain why the outcomes occurred; and because we aimed to examine the exposure, participation, delivery and context factors throughout the recruitment programme (Nutbeam & Bauman, 2006). An action research philosophy was adopted because it is considered a good fit within an evaluation process (Barbour, 2008) and allows the researcher to react to changing circumstances and adapt the programme, in this case the recruitment, to improve practice (Bassey, 1998).

This study used quantitative and qualitative data collection processes. Quantitative methods were used to identify the rate of recruitment actions and the rate of responses by participants. A lack of available data on the demographics of the residential area and a lack of disclosed information on the cost of recruitment limited this aspect of the study, but remains a recommendation for practice. Qualitative methods were used to collect the same data on participants as in Chapter 5 (how they heard about the programme etc.) as well as capture the recruitment teams’ perspective on the process. The recruitment team were asked questions regarding: the recruitment strategy design and implementation; whether the recommended recruitment strategy achieved its goals; challenges in the

process; the progress of the recruitment; the collaboration with researchers; and their opinions on what worked or could be taken forward for future practice. The interview procedure followed the same guidance described in Chapters 4 and 5 and all interview scripts were developed within the research group in SPARColl.

Quantitative data was collected from the recruitment team and from the men participating in the programme. The recruitment team were asked to report the number of recruitment actions (i.e. any method used to create awareness, or directly invite participants) and the number of responses (i.e. any expressions of interest where contact information was collected) per week. This data was stored in an excel file and discussed with the recruitment team throughout the process. The men taking part in the walking programme were asked to complete a simple 'how did you hear about us' questionnaire and the frequency of responses were counted and reported in Chapter 6. Qualitative data was collected from the participants in the walking programme, the recruitment team leaders and the funding body representative. In person, one-to-one semi-structured interviews were used for data collection in all cases. Each of the interviews took place at locations convenient to the interviewee and for the participants, during or after the walking group's weekly session. All data was audio recorded and recorded verbatim using NVivo software in the exact same manner as described for Chapter 5. Context related data was collected through field note records and was informed by the experience of the researcher (GB) attending the walking programme, as well as through conversation with the recruitment team members and funding agency representative where clarity was sought.

Quantitative data analysis was on-going and focused on monitoring the recruitment team's progress. The primary measure of effectiveness was the success in reaching the target group and number of participants. To better understand any relationship between action and outcome, simple frequency graphs were used to map two types

of data: cumulative and weekly. This allowed for a reflection on how many actions had been taken, and how many responses had been received in total for a measure of overall effort. However, where it became a useful feedback tool was when the weekly variation could be observed. Monitoring progress in this manner provided the opportunity to match actions against responses, to note any downturn in responses and identify where the team had been active and inactive. Comparing this data against field notes and the recruitment team's record of events helped in understanding what the quantitative data meant, and where to alter the actions of the recruitment team for improved outcomes. Qualitative data analysis applied a general inductive approach (Thomas, 2006) and followed the same data analysis approach as described for Chapter 5 and field note data was analysed alongside interview data as in Chapter 4. The evaluation framework which aimed to examine the exposure, participation, delivery and context factors throughout the recruitment programme (Nutbeam & Bauman, 2006), was used to structure the data reporting in this chapter.

2.8 Conclusion

This thesis was guided by an overall rationale that there is currently insufficient data to understand fully what we mean by recruitment, nor what might work best for our aims and goals. The aim of the thesis was to investigate how recruitment is conducted at the level of the recruiter and to develop guidelines and a framework to inform recruitment to walking promotion programmes. By applying an MMR framework and being cognisant of our limitations and opportunities, this thesis contributed four original research studies focusing specifically on the topic at hand and providing a starting point for future research in this field.

References

- Aung, T., Cowan, H., Haynes, R., Bowman, L., & Armitage, J. (2011). Recruiting patients cost-effectively by mail. *Trials*, *12 Suppl 1*, A117.
- Baker, G., Gray, S., Wright, A., Fitzsimons, C., Nimmo, M., Lowry, R., et al. (2008). The effect of a pedometer-based community walking intervention "Walking for Wellbeing in the West" on physical activity levels and health outcomes: A 12-week randomized controlled trial. *International Journal of Behavioral Nutrition and Physical Activity*, *5*(5), 44 - 49.
- Baker, G., Gray, S., Wright, A., Fitzsimons, C., Nimmo, M., Lowry, R., et al. (2008). The effect of a pedometer-based community walking intervention "Walking for Wellbeing in the West" on physical activity levels and health outcomes: a 12-week randomized controlled trial. *International Journal of Behavioral Nutrition and Physical Activity*, *5*(1), 44-49.
- Banks-Wallace, J., Enyart, J., & Johnson, C. (2004). Recruitment and Entrance of Participants Into a Physical Activity Intervention for Hypertensive African American Women. *Advances in Nursing Science*, *27*(2), 102-116.
- Barbour, R. S. (2007). *Doing focus groups*. Los Angeles ; London: SAGE.
- Barbour, R. S. (2008). *Introducing qualitative research : a student's guide to the craft of doing qualitative research*. Los Angeles ; London: Sage.
- Barnard, K. D., Dent, L., & Cook, A. (2010). A systematic review of models to predict recruitment to multicentre clinical trials. *BMC Medical Research Methodology*, *10*, 63.
- Bassey, M. (1998). Stages of Action Research. In C. Robson (Ed.), *Real World Research : a resource for social scientists and practitioner-researchers* (2nd ed.). Oxford, UK; Malden, Mass: Blackwell Publishers.
- Brady, B., & O'Regan, C. (2009). Meeting the Challenge of Doing an RCT Evaluation of Youth Mentoring in Ireland: A Journey in Mixed Methods. *Journal of Mixed Methods Research*, *3*(3), 265-280.
- Bull, F., & Milton, K. (2010). A process evaluation of a "physical activity pathway" in the primary care setting. *BMC Public Health*, *10*, 463.
- Campbell, A. M., Whyte, F., & Mutrie, N. (2005). Training of clinical recruiters to improve recruitment to an exercise intervention during breast cancer treatment. *Clinical Effectiveness in Nursing*, *9*(3-4), 211-213.
- Campbell, M., Fitzpatrick, R., Haines, A., Kinmonth, A. L., Sandercock, P., Spiegelhalter, D., et al. (2000). Framework for design and evaluation of complex interventions to improve health. *BMJ*, *321*(7262), 694-696.
- Carroll, C., Palmer, A., Cosby, C., & Zajicek, J. (2011). Analysis and validation of a Parkinson's disease register as a recruitment tool for clinical studies. *Trials*, *12*(Suppl 1), A118.
- Chasan-Taber, L., Fortner, R. T., Hastings, V., & Markenson, G. (2009). Strategies for recruiting Hispanic women into a prospective cohort study of modifiable risk factors for gestational diabetes mellitus. *BMC Pregnancy Childbirth*, *9*, 57.
- Cottrell, D., Graham, L., & Farrin, A. (2011). The complexities of maximising recruitment to complex intervention trials in child and adolescent mental health services. *Trials*, *12*(Suppl 1), A122.
- Creswell, J. W. (2007). *Qualitative inquiry & research design : choosing among five approaches* (2nd ed.). Thousand Oaks, Calif. ; London: Sage.
- Creswell, J. W. (2009). *Research design : qualitative, quantitative, and mixed methods approaches* (3rd ed.). Los Angeles ; London: SAGE.

- Creswell, J. W. (2011). Controversies in mixed methods research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (4th ed., pp. xvi, 766 p.). Thousand Oaks: Sage.
- Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, Calif. ; London: Sage.
- Denzin, N. K. (1998). The art and politics of interpretation. In N. K. Denzin & Y. S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (pp. x, 462 p.). Thousand Oaks, Calif.: Sage Publications.
- Denzin, N. K., & Lincoln, Y. S. (1998). *The landscape of qualitative research : theories and issues*. Thousand Oaks, Calif.: Sage Publications.
- Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE handbook of qualitative research* (4th ed.). Thousand Oaks, Calif. ; London: Sage Publications.
- DeWalt, K. M., & DeWalt, B. R. (2002). *Participant observation : a guide for fieldworkers*. Walnut Creek, CA: AltaMira Press.
- El-Khorazaty, M. N., Johnson, A. A., Kiely, M., El-Mohandes, A. A., Subramanian, S., Laryea, H. A., et al. (2007). Recruitment and retention of low-income minority women in a behavioral intervention to reduce smoking, depression, and intimate partner violence during pregnancy. *BMC Public Health, 7*, 233.
- Elley, C. R., Robertson, M. C., Kerse, N. M., Garrett, S., McKinlay, E., Lawton, B., et al. (2007). Falls Assessment Clinical Trial (FACT): design, interventions, recruitment strategies and participant characteristics. *BMC Public Health, 7*, 185.
- Farquhar, M., Brafman-Kennedy, B., Higginson, I., & Booth, S. (2011). Recruiting patients with advanced malignant and non-malignant disease: lessons learned from a palliative care RCT. *Trials, 12*(Suppl 1), A119.
- Fisken, A., Keogh, J. W. L., Waters, D. L., & Hing, W. A. (2012). Perceived Benefits, Motives, and Barriers to Aqua-based Exercise Among Older Adults With and Without Osteoarthritis. *Journal of Applied Gerontology, 47*(1), 10-24.
- Forster, S. E., Jones, L., Saxton, J. M., Flower, D. J., Foulds, G., Powers, H. J., et al. (2010). Recruiting older people to a randomised controlled dietary intervention trial--how hard can it be? *BMC Med Res Methodol, 10*, 17.
- Glasgow, R. (2012). REACH of Health Behavior Interventions. January 1st 2012, from <http://cancercontrol.cancer.gov/is/reaim/reach.html>
- Greene, J. C. (1998). Qualitative program evaluation: Practice and promise. In N. K. Denzin & Y. S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (pp. x, 462 p.). Thousand Oaks, Calif.: Sage Publications.
- Greene, J. C. ((2006)). Toward a methodology of mixed methods social inquiry. . *Research in the Schools, 13*(1), 93-98.
- Harkins, C., Shaw, R., Gillies, M., Sloan, H., MacIntyre, K., Scoular, A., et al. (2010). Overcoming barriers to engaging socio-economically disadvantaged populations in CHD primary prevention: a qualitative study. *BMC Public Health, 10*(1), 391.
- Higgins, J., Green, S., & Cochrane Collaboration. (2008). *Cochrane handbook for systematic reviews of interventions*. Chichester, England ; Hoboken, NJ: Wiley-Blackwell.
- Jadad, A. R. (1998). *Randomised controlled trials : a user's guide*. London: BMJ Books.
- Jang, E. E., McDougall, D. E., Pollon, D., Herbert, M., & Russell, P. (2008). Integrative Mixed Methods Data Analytic Strategies in Research on School Success in Challenging Circumstances. *Journal of Mixed Methods Research, 2*(3), 221-247.
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research, 1*(2), 112-133.

- King, N. (1994). The qualitative research interview. In C. Robson (Ed.), *Real World Research* (pp. 271). Oxford: Blackwell Publishing.
- LeCompte, M. D., Preissle, J., & Tesch, R. (1993). *Ethnography and qualitative design in educational research* (2nd ed.). San Diego: Academic Press.
- Mapstone, J., Elbourne, D., & Roberts Ian, G. (2007). Strategies to improve recruitment to research studies. *Cochrane Database of Systematic Reviews*, (2). Retrieved from <http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/MR000013/frame.html>. doi:10.1002/14651858.MR000013.pub3
- Mazzola, J. J., Walker, E. J., Shockley, K. M., & Spector, P. E. (2011). Examining Stress in Graduate Assistants: Combining Qualitative and Quantitative Survey Methods. *Journal of Mixed Methods Research*, 5(3), 198-211.
- Miller, C. (1995). In-depth interviewing by telephone: Some practical considerations. *Evaluation & Research in Education*, 9(1), 29-38.
- Mills, N., Wade, J., Lane, A., Hamdy, F., Neal, D., & Donovan, J. (2011). Addressing patient treatment preferences at trial recruitment. *Trials*, 12(Suppl 1), A124.
- Moher, D., Cook, D. J., Eastwood, S., Olkin, I., Rennie, D., & Stroup, D. F. (1999). Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. Quality of Reporting of Meta-analyses. *Lancet*, 354(9193), 1896-1900.
- Muturi, M., Gichuki, C., Mahira, R., Gichira, J., Odada, J., & Anzala, O. (2005). Recruitment and Follow Up of High Risk HIV Negative Volunteers in Preparation For Vaccine Trials, Kenyan Case. *Retrovirology*, 2(Suppl 1), P68.
- Naidoo, J., & Wills, J. (2009). *Foundations for health promotion* (3rd ed.). Edinburgh: Bailliere Tindall.
- Ni Mhurchu, C., Eyles, H., Dixon, R., Matoes, L., Teevale, T., & Meagher-Lundberg, P. (2012). Economic incentives to promote healthier food purchases: exploring acceptability and key factors for success. *Health promotion international*, 27(3), 331-341.
- Nicolson, D. J., Knapp, P., Gardner, P., & Raynor, D. K. (2011). Combining Concurrent and Sequential Methods to Examine the Usability and Readability of Websites With Information About Medicines. *Journal of Mixed Methods Research*, 5(1), 25-51.
- Nutbeam, D., & Bauman, A. E. (2006). *Evaluation in a nutshell : a practical guide to the evaluation of health promotion programs*. North Ryde, N.S.W. ; London: McGraw-Hill.
- Ogilvie, D., Foster, C., Rothnie, H., Cavill, N., Hamilton, V., Fitzsimons, C., et al. (2007). Interventions to promote walking: Systematic review. *British Medical Journal*, 334(7605), 1204 - 1207.
- Paine, B. J., Stocks, N. P., & MacLennan, A. H. (2008). Seminars may increase recruitment to randomised controlled trials: lessons learned from WISDOM. *Trials*, 9, 5.
- Patterson, S. E., Mairs, H., & Borschmann, R. (2011). Successful recruitment to trials: a phased approach to opening gates and building bridges. *BMC Medical Research Methodology*, 11(1), 73-73.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, Calif.: Sage Publications.
- Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences : a practical guide*. Malden, MA ; Oxford: Blackwell Pub.
- Raynor, H. A., Osterholt, K. M., Hart, C. N., Jelalian, E., Vivier, P., & Wing, R. R. (2009). Evaluation of active and passive recruitment methods used in randomized controlled trials targeting pediatric obesity. *International Journal of Pediatric Obesity*, 4(4), 224-232.

- Rendell, J., Merritt, R., & Geddes, J. (2007). Incentives and disincentives to participation by clinicians in randomised controlled trials. *Cochrane Database of Systematic Reviews*, (2). Retrieved from <http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/MR000021/frame.html>. doi:10.1002/14651858.MR000021.pub3
- Robson, C. (2002). *Real world research : a resource for social scientists and practitioner-researchers* (2nd ed.). Oxford, UK ; Madden, Mass.: Blackwell Publishers.
- Rodrigo, S., Sinclair, M., Cunliffe, D., & Leder, K. (2009). Effectiveness and cost of recruitment strategies for a community-based randomised controlled trial among rainwater drinkers. *BMC Medical Research Methodology*, 9, 51.
- Rugkasa, J., & Canvin, K. (2011). Researching mental health in minority ethnic communities: reflections on recruitment. *Qual Health Res*, 21(1), 132-143.
- Schell, C. (1992). *The value of the Case Study as a Research Strategy*. Manchester: Manchester Business School.
- Scottish Executive. (2003). *Let's make Scotland more active*. Edinburgh: Stationery House.
- Snell, A. J., Briscoe, D., & Dickson, G. (2011). From the Inside Out: The Engagement of Physicians as Leaders in Health Care Settings. *Qualitative Health Research*, 21(7), 952-967.
- Swanson, G. M., & Ward, A. J. (1995). Recruiting Minorities Into Clinical Trials Toward a Participant-Friendly System. *Journal of the National Cancer Institute*, 87(23), 1747-1759.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology : combining qualitative and quantitative approaches*. Thousand Oaks, Calif.: Sage.
- Tashakkori, A., & Teddlie, C. (2003). *Handbook of mixed methods in social & behavioral research*. Thousand Oaks, Calif.: SAGE Publications.
- Teddlie, C., & Tashakkori, A. (2011). Mixed methods research: contemporary issues in an emerging field. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (4th ed., pp. xvi, 766 p.). Thousand Oaks: Sage.
- Thomas, D. R. (2006). A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27(2), 237-246.
- Toerien, M., Brookes, S. T., Metcalfe, C., de Salis, I., Tomlin, Z., Peters, T. J., et al. (2009). A review of reporting of participant recruitment and retention in RCTs in six major journals. *Trials*, 10, 52.
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349-357.
- Treweek, S. (2011). Recruitment to trials - why is it hard and how might we make it less so? *Trials*, 12(Suppl 1), A110.
- Treweek, S., & Loudon, K. (2011). Incomplete reporting of recruitment information in breast cancer trials published between 2003 and 2008. *Journal of Clinical Epidemiology*, 64(11), 1216-1222.
- Treweek, S., Pitkethly, M., Cook, J., Kjeldstrom, M., Taskila, T., Johansen, M., et al. (2010). Strategies to improve recruitment to randomised controlled trials. *Cochrane Database Syst Rev*(4), MR000013.
- WHO. (1984). *Health Promotion: A discussion document on the concepts and principles*. Copenhagen: WHO.

- WHO. (1986). Ottawa Charter for Health Promotion. Retrieved 11th October, 2007, from http://www.who.int/hpr/NPH/docs/ottawa_charter_hp.pdf
- Yin, R. K. (2009). *Case study research : design and methods* (4th ed.). Los Angeles, Calif.: Sage Publications.
- Young, B., Shilling, V., Hickey, H., Sowden, E., Smyth, R., & Williamson, P. (2011). What parents think about being approached about children's trials, how this differs from what practitioners expect, and what this tells us about enhancing recruitment. *Trials*, 12(Suppl 1), A116.

Chapter 3

“Insanity: doing the same thing over and over again and expecting different results”

(Albert Einstein)

Chapter 3: Contribution to this chapter

Title: Recruiting participants to walking intervention studies: a systematic review

My Role: My role in the completion of this chapter included:

- defining 'recruitment' as applied in the paper
- deciding on inclusion criteria for papers
- managing all the papers chosen for assessment at the IN/OUT phase
- assessing more than 50% of the full version articles at the IN/OUT phase
- design of the inclusion criteria document, design of the data extraction form
- data extraction of more than 50% of the data from the articles chosen for inclusion
- major contribution to the reporting quality assessment metric used in the review
- major contribution to the efficiency and effectiveness assessment criteria used in the review
- managing and analysis of the data used to fill tables 1-7
- completed the quorum/flow diagram of studies (figure 1)
- produced figure 2
- designed and produced first draft of the conceptual framework used in this study (figure 3)
- wrote the first draft of the introduction and helped with subsequent redrafts,
- assisted with redrafts of the methods section,
- co-wrote and co-completed the results section on-site in Oxford and completed tables 1-7
- applied all sub-script citations referring to the papers used in the study analysis

- provided a major rewrite of the discussion section from which the final version was produced including the evidence based principles for recruitment
- produced the included studies reference list
- drafted a cover letter to the Editor of IJBNPA
- attended to the majority of changes recommended by the reviewers

Progress: Accepted for publication to IJBNPA December 2011



REVIEW

Open Access

Recruiting participants to walking intervention studies: a systematic review

Charlie E Foster^{1*}, Graham Brennan², Anne Matthews¹, Chloe McAdam², Claire Fitzsimons² and Nanette Mutrie²

Abstract

Purpose: Most researchers who are conducting physical activity trials face difficulties in recruiting participants who are representative of the population or from specific population groups. Participants who are often the hardest to recruit are often those who stand to benefit most (the least active, from ethnic and other minority groups, from neighbourhoods with high levels of deprivation, or have poor health). The aim of our study was to conduct a systematic review of published literature of walking interventions, in order to identify the impact, characteristics, and differential effects of recruitment strategies among particular population groups.

Methods: We conducted standard searches for studies from four sources, (i) electronic literature databases and websites, (ii) grey literature from internet sources, (iii) contact with experts to identify additional "grey" and other literature, and (iv) snowballing from reference lists of retrieved articles. Included studies were randomised controlled trials, controlled before-and-after experimental or observational qualitative studies, examining the effects of an intervention to encourage people to walk independently or in a group setting, and detailing methods of recruitment.

Results: Forty seven studies met the inclusion criteria. The overall quality of the descriptions of recruitment in the studies was poor with little detail reported on who undertook recruitment, or how long was spent planning/preparing and implementing the recruitment phase. Recruitment was conducted at locations that either matched where the intervention was delivered, or where the potential participants were asked to attend for the screening and signing up process. We identified a lack of conceptual clarity about the recruitment process and no standard metric to evaluate the effectiveness of recruitment.

Conclusion: Recruitment concepts, methods, and reporting in walking intervention trials are poorly developed, adding to other limitations in the literature, such as limited generalisability. The lack of understanding of optimal and equitable recruitment strategies evident from this review limits the impact of interventions to promote walking to particular social groups. To improve the delivery of walking interventions to groups which can benefit most, specific attention to developing and evaluating targeted recruitment approaches is recommended.

Keywords: Recruitment, walking, physical activity, health promotion

Introduction

It is over a decade since Professors Jerry Morris and Adrienne Hardman described walking as the 'nearest activity to perfect exercise' (Hardman & Morris, p328, 1997) [1]. The epidemiological research underpinning their statement has rapidly increased, so that the promotion of walking is now a central pillar in many international physical activity strategies and national plans, e.

g. 2010 Toronto Charter for Physical Activity [2]. Regular walking, independent of other physical activity, can reduce the risk of overall mortality, of cardiovascular disease (CVD) and improve risk factors for CVD, including diastolic blood pressure and lipid profiles [3-5]. Regular walking is associated with a reduction in body mass index and body weight, with reduced risk of type 2 diabetes [6] and is suggested to improve self esteem, relieve symptoms of depression and anxiety, and improve mood [7,8]. From a public health perspective, enabling an increase in overall population levels of

* Correspondence: charlie.foster@dph.ox.ac.uk

¹Department of Public Health, University of Oxford, UK

Full list of author information is available at the end of the article

physical activity through walking will produce an effective reduction in risk of all cause mortality [9].

A systematic review of the effectiveness of walking interventions found evidence for a range of approaches [10]. These included brief advice to individuals, remote support to individuals, group-based approaches, active travel and community level approaches. Recent reviews have provided evidence to support environmental and school based travel interventions [10-12]. Despite the evidence for the benefits of walking for health, population rates of walking and overall physical activity remain low and below recommended levels [13-15]. Population surveys report that walking behaviour is socially patterned by gender, age, socio-economic status (SES) and by the purpose of walking i.e. for leisure or transport. For example, in the UK long brisk paced walks are more common among affluent groups, whereas walking for transport is more common among less affluent groups [14,16].

One criticism of the evidence base for walking interventions is a failure to recruit specific groups of the population and further studies are needed to broaden the reach of walking interventions [10-12]. Intervention reach, or recruiting specific population sub-groups, is only partially reflected in public health and clinical research. For example the RE-AIM framework is designed to guide the implementation of behaviour change interventions [17]. It recommends assessing both an intervention's effectiveness and ability to reach a targeted group. Similarly, recent CONSORT (2010) guidelines [18] recommend clearly displaying the flow of participants throughout a study. Despite identifying recruitment as part of their framework, the guidelines do not define the actions needed to identify and recruit potential populations of participants. There is an absence of conceptual frameworks for recruitment to intervention studies and also a lack of procedural models and systems for recruitment. There is a need to identify what factors are effective in engaging participation at the recruitment phase [19-21].

Research examining recruitment practice has focused on drug or medical interventions rather than public health interventions [22]. Little is known about recruitment to physical activity interventions. A Cochrane review identified three stages of recruitment (invitation, screening, intervention starting) for potential participants into physical activity randomised control trials (RCTs). The authors noted a considerable loss of participants across each stage limiting the effectiveness of interventions [23]. The CONSORT (2010) guidelines, suggest that studies report the number of eligible participants prior to randomisation but do not insist on the need to report the original overall number of responders invited to participate (prior to eligibility) [18].

Clearly the effectiveness of a walking programme is limited by not only its efficacy of dose (how well the intervention works on its participants) but also by its recruitment (maximising the numbers who will participate and receive the intervention dose). In response to frequent research calls to evaluate effective approaches to the recruitment of individuals to walking studies, the Scottish Physical Activity Research Collaboration <http://www.sparcoll.org.uk> undertook a series of studies to examine recruitment strategies for research and community based programmes of walking promotion. We defined recruitment for such walking studies or programmes as the process of inviting participation to a formal activity including the invitation, informing and facilitation of interested parties to take part in an organised study, activity or event. This paper reports the results of a systematic review to examine the reported recruitment procedures of walking studies, in order to identify the characteristics of effective recruitment, and the impact and differential effects of recruitment strategies among particular population groups.

Method

Identification of studies

We used The Quality of Reporting of Meta-analysis statement (QUOROM) to provide the structure for our review [24]. We identified four possible sources of potential studies, (i) electronic literature databases and websites, (ii) grey literature from internet sources, (iii) contact with experts to identify additional "grey" and other literature, and (iv) snowballing from reference lists of retrieved articles. In the first stage of the literature search, titles and abstracts of identified articles were checked for relevance. In the second stage, full-text articles were retrieved and considered for inclusion. In the final stage, the reference lists of retrieved full-text articles were searched and additional articles known to the authors were assessed for possible inclusion. We conducted a systematic search of electronic databases including OVID MEDLINE, EMBASE, PsychINFO, PubMed, Scopus, SIGLE and SPORTDiscus. We searched a number of web based databases including National Institute of Health and Clinical Excellence (NICE), Effective Public Health Project (EPHP Hamilton), Health Evidence Canada, and the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI). We conducted searches of internet sites of key international walking promotion agencies including Walk England, the Centers for Disease Control and Prevention (CDC) and the World Health Organisation (WHO).

Studies published from the end of 2000 up to and including the search date (05/2009) were considered for inclusion. Individualized search strategies for the

different databases included combinations of the following key words: (walk*) AND (recruit* OR participat* OR market*). Articles published or accepted for publication in refereed journals were considered for the review. Articles reported in UK grey and web based literature including any evidence of types of recruitment approaches and strategies, any evidence of effectiveness, economic costs, and evidence of any differential response to recruitment approaches were also considered in the review. Conference proceedings and abstracts were included if further searching of the databases or contact with the author was able to retrieve a full article from the study presented in the original piece of literature. We sent emails to international experts, identified in a previous systematic review on walking promotion [10].

Criteria for study inclusion/exclusion

Titles, abstracts and reports were independently assessed (by AM, CF and GB) for inclusion. Studies were considered to be eligible for inclusion according to the following criteria: (i) participants were of any age and were not trained athletes or sports students, (ii) studies of any type including randomised controlled trials, controlled before-and-after experimental or observational studies, (iii) studies that examined the effects of an intervention to encourage people to walk independently or in a group setting, (iv) interventions of any kind and in any field, whether targeted on individuals, communities, settings, groups or whole populations, (v) details of methods of recruitment were reported or were retrievable through correspondence with the authors, (vi) qualitative studies that examined the experiences of the participants during recruitment and which aimed to assess the effectiveness of the recruitment methods used, and (vii) studies published in English.

Included studies were categorised by study design using standardised criteria for quantitative experimental or observational studies (e.g. RCT, non-Randomised Control Trials (NRCT), before-and-after, cross-sectional), or qualitative studies (e.g. focus groups) [25].

Criteria for assessment of study quality in relation to recruitment

Two authors (GB and CF) independently assessed the quality of the studies in relation to recruitment description that met the inclusion criteria. The criteria for assessing the recruitment reporting quality of each study were adapted from Jadad (1998) [26], and in consultation with experts. A formal quality score for each study was completed on a 5-point scale by assigning a value of 0 (absent or inadequately described) or 1 (explicitly described and present) to each of the following questions listed: (i) did the study report where the

population was recruited? (ii) did the study report who conducted the recruitment? (iii) did the study report the time spent planning/preparing the recruitment? (iv) did the study report the time spent conducting the recruitment? (v) did the study target a specific population? Studies that scored 4-5 were considered as high quality studies while studies that scored 1-3 were considered low quality.

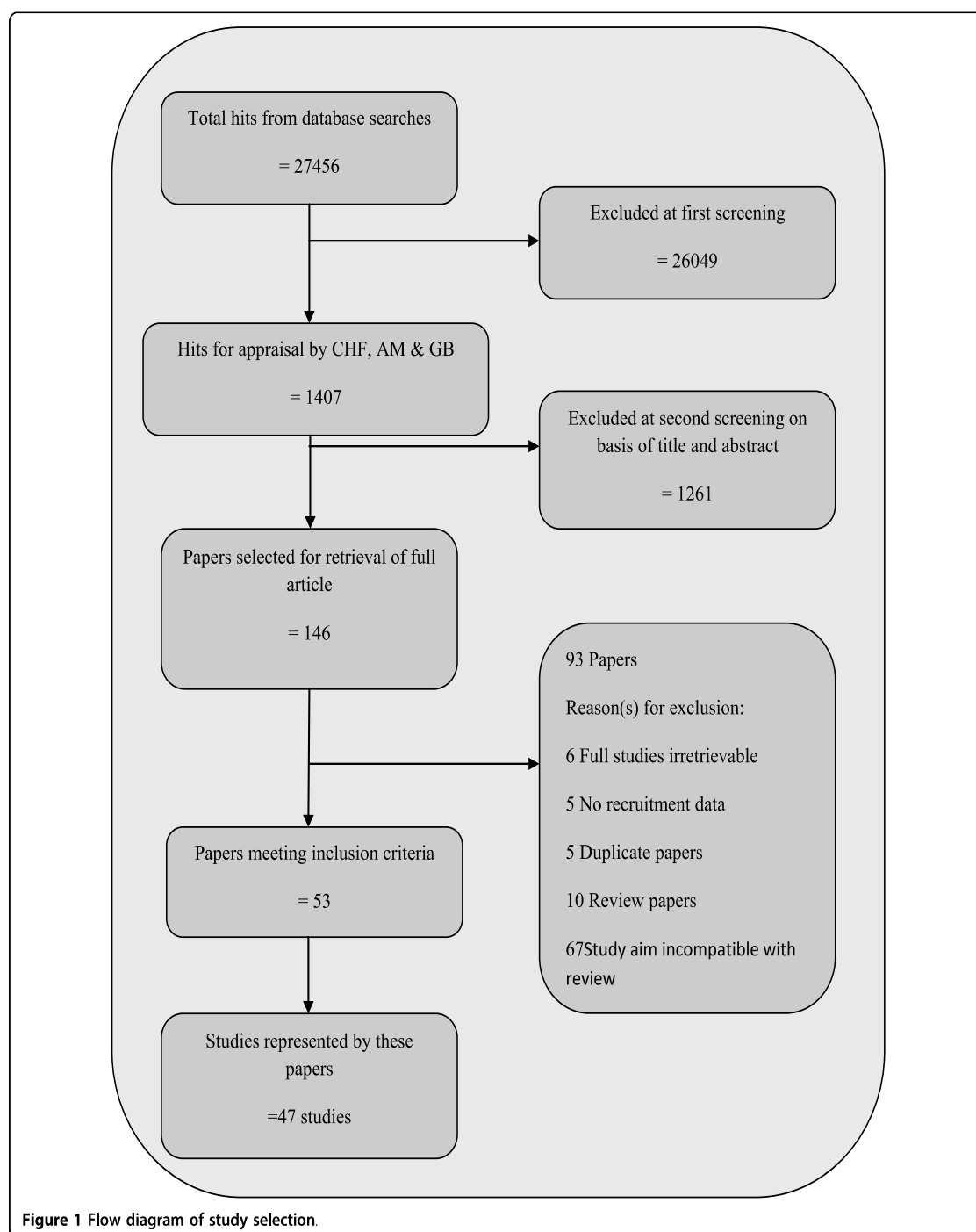
Criteria for assessing efficiency and effectiveness

Where possible we calculated recruitment rates and efficiency ratios for each study, based on a previous systematic review of interventions to promote physical activity [23]. We defined four terms, (i) "pool"-the total number of potential participants who could be eligible for study, (ii) "invited"-the total number of potential participants invited to participate in the study, (iii) "responded"-the total number of potential participants who responded to the invitation, (iv) "started"-the number of participants who were assessed as eligible to participate and began the programme. If data were reported we calculated ratios for each stage, e.g. started/pool-by dividing the number of participants who started into the study by the total reported in the pool, and expressed as proportions. If possible we attempted to calculate a weekly rate of recruitment for those studies on the number of weeks/months spent recruiting per participant.

Results

Study Characteristics

Fifty three papers representing 47 studies met our inclusion criteria. Duplicate studies were excluded and the journal article reporting the most recruitment data was analysed. The flow of studies through the review process is reported in Figure 1. Characteristics of included studies are presented in Table 1, ranked by quality score. Each included paper is referenced in the results and discussion sections in superscript, using their Study Number presented in Table 1. Full references for included papers are listed in additional file 1 and are presented in this paper in superscript form. Studies were located in the USA (24) [27-50], Australia (11) [51-61], UK (7) [62-68], Canada (3) [69-71], and one each from New Zealand [72] and Belgium [73]. Nearly all the studies were quantitative experimental studies in design, with twenty six randomised controlled trials, [4,27,28,32-34,36-38,42,43,46,47,49,52,54,56,58,62-67,70] two studies reporting methods only [28,35], three non-randomised controlled trials [31,41,73] and seventeen before-and-after studies [27,29,30,39,40,44,45,48,50, 51,53,55,59-61,68,71] (two reporting methods only) [27,30]. We found only two qualitative studies reporting on recruitment approaches



[57,69], with one paper reporting qualitative data as part of an RCT study [64]. No studies were located from grey literature sources.

Overview of study quality in relation to recruitment

Eight studies were classified as “high” quality [27-30,51,62,69,72] and the remaining thirty nine classified as “low” quality in relation to recruitment description

(Table 2-Assessment of study quality). Forty five studies reported a setting where the recruitment of participants took place [27-49,51-67,69-73] but only twenty two reported who conducted the recruitment [27-31,33,35-40,45,51-54,62,64,65,69,72]. Eleven studies reported the time spent conducting their recruitment [27-30,32,51,62,63,66,70,72] three studies reported the time spent planning/preparing recruitment [34,51,69].

Table 1: Characteristics of included studies

Foster *et al.* *International Journal of Behavioral Nutrition and Physical Activity* 2011, **8**:137
<http://www.ijbnpa.org/content/8/1/137>

Page 5 of 28

Table 1 Characteristics of included studies

| Study Number, Author and Pub. Year | Country | Study Type | Study aim | Target Population | Quality Metric Score |
|------------------------------------|-------------|---|---|--|----------------------|
| 1. Watson et al, 2005 | Australia | Before-and-after study | Evaluate the effect of pram walking groups on self-reported PA, mental health and social indicators. | Post-natal mothers | 5 |
| 2. Banks-Wallace et al, 2004 | USA | Before-and-after study Methods paper | Examine the effect of pre-intervention meetings as a strategy for recruitment of African American women to a walking programme. | African American women in a local community (Minority group) | 4 |
| 3. Kolt et al, 2006 | New Zealand | RCT | To investigate the effectiveness of a telephone-based counselling intervention aimed to increase physical activity in sedentary older adults. | Older sedentary adults (> 65) | 4 |
| 4. Nguyen et al, 2002 | Canada | Qualitative | To evaluate the experience of delivering a walking club (qualitative method) | General community | 4 |
| 5. Prestwich et al, 2010 | UK | RCT | To test the effect of implementation intentions and text messages on the promotion of brisk walking. | University students | 4 |
| 6. Rowland et al, 2004 | USA | RCT Methods paper | To report on the recruitment of sedentary adults to the SHAPE programme | Sedentary older adults | 4 |
| 7. Sherman et al, 2006 | USA | Before-and-after study | Effect of a brief primary care based walking intervention in rural women | Rural women | 4 |
| 8. Wilbur et al, 2006 | USA | Before-and-after study Methods paper | To identify strategies successful in the recruitment of African American women to a home-based walking programme and to examine the factors that contribute to attrition, eligibility, and ineligibility during the recruitment screening protocol. | African American Women | 4 |
| 9. Baker et al, 2008b | UK | RCT | Effectiveness of pedometer based community walking intervention on PA and health | Community members in areas of high deprivation (> 15% SIMD) | 3 |
| 10. Brownson et al 2005 | USA | NRCT | To evaluate the impact of community based walking approaches | Rural community members | 3 |
| 11. Cox et al, 2008 | Australia | RCT | Examine the effects of exercise mode and a behavioural intervention on short and long-term retention and adherence. | Previously sedentary older women | 3 |
| 12. Dinger et al, 2007 | USA | RCT | Compare the effectiveness of two email delivered, pedometer based interventions designed to increase walking and TTM constructs among insufficiently active women. | Insufficiently active women (University staff and local community members) | 3 |
| 13. Dubbert et al, 2002 | USA | RCT | Effect of nurse counselling on walking for exercise in elderly patients (10 months study) | Elderly primary care patients | 3 |
| 14. Dubbert et al, 2008 | USA | RCT | To evaluate the effects of counselling linked with PHC visits on walking and strength exercise in aging veterans | Elderly veterans | 3 |
| 15. Gilson et al, 2008 | UK | RCT, Qualitative | To compare two walking interventions and measure their effect on daily step counts in a work-place environment | Work-place employees | 3 |
| 16. Jancey et al, 2008 | Australia | Before-and-after study | To mobilise older adults into a neighbourhood-based walking programme | Older adults | 3 |
| 17. Lamb et al, 2002 | UK | RCT | To compare lead walks vs. advice only on PA (walking) | Middle aged adults | 3 |
| 18. Lee et al, 1997 | USA | RCT Methods paper | To compare the efficacy of a mail versus phone based behavioural intervention to promote walking for US adults | Sedentary ethnic minority women | 3 |
| 19. Matthews et al, 2007 | USA | RCT | To evaluate the effects of a 12-week home-based walking intervention among breast cancer survivors | Breast cancer survivors | 3 |
| 20. Merom et al, 2007 | Australia | RCT | Efficacy of pedometers to act as a motivational tool in place of face to face contact as part of a self-help package to increase PA through walking. | Inactive adults | 3 |
| 21. Ornes and Ransdell, 2007 | USA | RCT | To evaluate the impact of a web-based intervention for women | Women | 3 |

Table 1 Characteristics of included studies (Continued)

| | | | | | |
|-------------------------------|-----------|------------------------|---|---|---|
| 22. Richardson et al, 2007 | USA | RCT | To compare the effects of structured and lifestyle goals in an internet-mediated walking programme for adults with type 2 diabetes | Adults with type 2 diabetes | 3 |
| 23. Rosenberg et al, 2009 | USA | Before-and-after study | Feasibility and acceptability of a novel multilevel walking intervention for older adults in a continuing care retirement community (CCRC). | Older adults | 3 |
| 24. Whitt-Glover et al, 2008 | USA | Before-and-after study | Feasibility and acceptability of implementing a physical activity program for sedentary black adults in churches. (Information sessions and lead walks) | Black adult, church attendees | 3 |
| 25. Arbour & Ginis, 2009 | Canada | RCT | Evaluate the effectiveness of implementation intentions on walking behaviour | Women in the workplace | 2 |
| 26. Culos-Reed et al, 2008 | Canada | Before-and-after study | To assess the feasibility and health benefits of a mall walking programme. | NS | 2 |
| 27. Currie and Develin, 2001 | Australia | Before-and-after study | To evaluate the impact of a community based pram walking programme-organised pram walks. | Mothers and young children | 2 |
| 28. Darker et al, 2010 | UK | RCT | To examine whether altering perceived behavioural control (PBC) affects walking (6/7 weeks). | NS | 2 |
| 29. De Cocker et al 2007 | Belgium | NRCT | Describe the effectiveness of the '10,000 steps Ghent' project. | 'General population' adults in a local community | 2 |
| 30. Dinger et al, 2005 | USA | NRCT | Examine the impact of a 6 week minimal contact intervention on walking behaviour, TTM and self efficacy among women. | Female employees or spouses of university employees | 2 |
| 31. Engel and Lindner, 2006 | Australia | RCT | To evaluate the effect of a pedometer intervention on adults with type 2 diabetes | Adults with type 2 diabetes | 2 |
| 32. Foreman et al, 2001 | Australia | Qualitative | To increase the community's participation in physical activity through group walking | Community members | 2 |
| 33. Humpel et al, 2004 | Australia | RCT | Examine the effectiveness of self-help print materials and phone counselling in a study aimed specifically at promoting walking for specific purposes | Over 40 year old community members | 2 |
| 34. Nies et al, 2006 | USA | RCT | To increase walking activity in sedentary women (Video education, brief telephone calls without counselling, brief telephone calls with counselling) | European American and African America women. | 2 |
| 35. Purath et al, 2004 | USA | RCT | To determine if a brief, tailored counselling intervention is effective for increasing physical activity in sedentary women, in the workplace | Women in the workplace | 2 |
| 36. Shaw et al, 2007 | Australia | Before-and-after study | To evaluate a workplace pedometer intervention | Men and women in the workplace | 2 |
| 37. Sidman et al, 2004 | USA | Before-and-after study | Promote physical activity through walking | Sedentary women | 2 |
| 38. Thomas and Williams, 2006 | Australia | Before-and-after study | Increase activity through wearing a pedometer and encouraging participants to aim for 10,000 steps per day. | Workplace staff (Excluding hospital and community services staff) | 2 |
| 39. Tudor-Locke et al, 2002 | USA | Before-and-after study | Feasibility study of a community walking intervention | Sedentary diabetes sufferers | 2 |
| 40. Baker et al, 2008a | UK | RCT | Examine the effectiveness of pedometers to motivate walking. | NS | 1 |
| 41. Hultquist et al, 2005 | USA | RCT | To compare the impact of two walking promotion messages | NS | 1 |
| 42. Lomabrd et al, 1995 | USA | RCT | To evaluate the effects of low v high prompting for walking | NS | 1 |
| 43. DNSWH, 2002 | Australia | Before-and-after study | To evaluate the impact of park modification, promotion of park use and establishment of walking groups on physical activity (including walking) | NS | 1 |
| 44. Rovniak, 2005 | USA | Before-and-after study | Examine the extent to which theoretical fidelity influenced the effectiveness of two walking programmes based on SCT. | NS | 1 |

Table 1 Characteristics of included studies (Continued)

| | | | | | |
|------------------------|-----|------------------------|---|---------------------------------------|---|
| 45. Rowley et al, 2007 | UK | Before-and-after study | To examine the development of two walking programmes by a health visiting team to encourage undertaking of more exercise. | Parents and children | 1 |
| 46. Talbot et al, 2003 | USA | RCT | To evaluate the effects of a home based walking programme with arthritis self-management education | Older adults | 1 |
| 47. Wyatt et al, 2004 | USA | Before-and-after study | Increasing lifestyle physical activity (i.e. walking) for weight gain prevention | State wide residents of the community | 1 |

Forty studies reported a target population [27-45,48,50-60,62-65,68-70,72,73].

Characteristics of the participants

Thirty seven studies reported participant ages [28-30,32-47,49,51-54,56,58,59,62-67,70-73] with a mean age of 50.6 years, (SD \pm 8.1 years), and a range of 18 to 92 years (Table 3-Characteristics of participants). Sixteen out of forty two studies that reported gender data focused on recruiting female only participants [27,29,30,32,35-37,41-44,46,51,52,55,68,70], with one study recruiting men only [34]. From the remaining twenty five studies that did not recruit sex specific groups, 70% (SD \pm 20.8) of participants were female. Twenty two studies reported data on nationality and ethnicity, of which seventeen reported descriptive statistics for ethnicity or race [27-38,40-42,46,49,51, 54,58,68,70,71]. Three studies reported targeting one specific ethnic group, African-Americans [27,30,40]. Of the remaining studies, twelve reported other ethnicity data; 87% of these participants were white Caucasian [28,31-34,36,38,41,43,49,70,71]. Additional socio-demographic data (SES or income groups, education, urban/rural living and relationship status) were reported but not consistently across all studies. Seven studies reported data on participant's income level data, which tended to be higher than average [28,30,31,38,42,49,68]. Sample sizes of the studies ranged from 9 to 1674 participants.

Recruitment data reported

Two studies reported all data for all components of recruitment, i.e. where recruitment took place; who conducted the recruitment; the time taken to conduct the planning/preparing and delivery stages [27,51]. Thirty nine studies did report a specified target group (Table 4-Recruitment planning/preparing and implementation). Forty four studies provide some details of where recruitment was conducted [27-49,51-56,58-67,69-73] but the recruitment location was often given vague descriptions, for example "in the community". Most popular were medical/care settings (n = 12) [29-31,33,34,36, 38,43,49,51,55,63] or universities (n = 9) [37,40,41,43,44, 46,47,62,70]. Other community settings included for

example, places of worship [67], hair salons [29], food establishments [29,71] or specific events within such settings, for example meetings for new mothers [51].

Twenty one studies reported who conducted the study recruitment. Most popular recruiters were research staff [28,31,33,34,37,39,51,52,54,62,64,67,72], often with assistance from health professionals like doctors or nurses [29,33,51,65]. Five studies reported using a dedicated "recruitment specialist" [27,30,35,51,69]. Only three studies reported the time spent planning/preparing their recruitment phases [34,51,69]. Eleven studies reported the time spent on implementing recruitment [27-30,32,51,62,63,71,72] and this averaged as 35 weeks, with a range of 2 days to 56 weeks.

Recruitment procedures and approaches

The reporting of recruitment methods was often sparse and unstructured (Table 5-Number of methods and types of recruitment procedures). Forty five studies provided data on the number of recruitment methods used (mean 2.7, SD 1.97). Sixteen studies relied on one method of recruitment only [33,34,43-45,50-53,56,58,60,62, 64,65,72], and 26 studies used between two and four methods [27-32,35-41,54,55,63,66,69-71,73]. We identified two types of recruitment approaches, (i) active approaches; a recruitment method that requires those conducting the study to make the first contact with a participant (e.g. phone calls, face to face invitation, word of mouth, referrals), (ii) passive approaches; a recruitment method that requires a potential participant makes the first contact with the study (e.g. posters, leaflets drops, newspaper advertisements, mail outs). We did not observe any relationship between the quality of recruitment reporting and the number of recruitment strategies used. We did however observe that a number of studies used only passive techniques (n = 21) [32,34,38,41,42,44, 46-48,52,54,56,58-62,64,66,67,70], some used a mixture of active and passive techniques (n = 22) [27-31,33,35-37, 39,40,49,53,55,57,63,65,68,69,71-73] and a small number used solely active only methods (n = 4) [43,45,50,51].

Passive recruitment methods, which require no interaction with the potential participants, were popular (Figure 2). Flyers/posters/advertisements/mail drops were the most cited approach used, appearing in 31 studies.

Table 2: Assessment of study quality

Foster *et al.* *International Journal of Behavioral Nutrition and Physical Activity* 2011, **8**:137
<http://www.ijbnpa.org/content/8/1/137>

Page 8 of 28

Table 2 Assessment of study quality

| Study Author (Year) | Did the study report where the population was recruited? | Did the study report who conducted the recruitment? | Did the study report the time spent planning/preparing the recruitment? | Did the study report the time spent conducting the recruitment? | Did the study target a specific population? | Quality Metric score |
|------------------------------|--|---|---|---|---|----------------------|
| 1. Watson et al, 2005 | Yes | Yes | Yes | Yes | Yes | 5 |
| 2. Banks-Wallace et al, 2004 | Yes | Yes | No | Yes | Yes | 4 |
| 3. Kolt et al, 2006 | Yes | Yes | No | Yes | Yes | 4 |
| 4. Nguyen et al, 2002 | Yes | Yes | Yes | No | Yes | 4 |
| 5. Prestwich et al, 2010 | Yes | Yes | No | Yes | Yes | 4 |
| 6. Rowland et al, 2004 | Yes | Yes | No | Yes | Yes | 4 |
| 7. Sherman et al, 2006 | Yes | Yes | No | Yes | Yes | 4 |
| 8. Wilbur et al, 2006 | Yes | Yes | No | Yes | Yes | 4 |
| 9. Baker et al, 2008b | Yes | No | No | Yes | Yes | 3 |
| 10. Brownson et al 2005 | Yes | Yes | No | No | Yes | 3 |
| 11. Cox et al, 2008 | Yes | Yes | No | No | Yes | 3 |
| 12. Dinger et al, 2007 | Yes | No | No | Yes | Yes | 3 |
| 13. Dubbert et al, 2002 | Yes | Yes | No | No | Yes | 3 |
| 14. Dubbert et al, 2008 | Yes | No | Yes | No | Yes | 3 |
| 15. Gilson et al, 2008 | Yes | Yes | No | No | Yes | 3 |
| 16. Jancey et al, 2008 | Yes | Yes | No | No | Yes | 3 |
| 17. Lamb et al, 2002 | Yes | Yes | No | No | Yes | 3 |
| 18. Lee et al, 1997 | Yes | Yes | No | No | Yes | 3 |
| 19. Matthews et al, 2007 | Yes | Yes | No | No | Yes | 3 |
| 20. Merom et al, 2007 | Yes | Yes | No | No | Yes | 3 |
| 21. Ornes and Ransdell, 2007 | Yes | Yes | No | No | Yes | 3 |
| 22. Richardson et al, 2007 | Yes | Yes | No | No | Yes | 3 |
| 23. Rosenberg et al, 2009 | Yes | Yes | No | No | Yes | 3 |

Table 2 Assessment of study quality (Continued)

| | | | | | | |
|-------------------------------|-----|-----|----|-----|-----|---|
| 24. Whitt-Glover et al, 2008 | Yes | Yes | No | No | Yes | 3 |
| 25. Arbour & Ginis, 2009 | Yes | No | No | No | Yes | 2 |
| 26. Culos-Reed et al, 2008 | Yes | No | No | Yes | No | 2 |
| 27. Currie and Develin, 2001 | Yes | No | No | No | Yes | 2 |
| 28. Darker et al, 2010 | Yes | No | No | Yes | No | 2 |
| 29. De Cocker et al 2007 | Yes | No | No | No | Yes | 2 |
| 30. Dinger et al, 2005 | Yes | No | No | No | Yes | 2 |
| 31. Engel and Lindner, 2006 | Yes | No | No | No | Yes | 2 |
| 32. Humpel et al, 2004 | Yes | No | No | No | Yes | 2 |
| 33. Nies et al, 2006 | Yes | No | No | No | Yes | 2 |
| 34. Purath et al, 2004 | Yes | No | No | No | Yes | 2 |
| 35. Shaw et al, 2007 | Yes | No | No | No | Yes | 2 |
| 36. Sidman et al, 2004 | Yes | No | No | No | Yes | 2 |
| 37. Thomas and Williams, 2006 | Yes | No | No | No | Yes | 2 |
| 38. Tudor-Locke et al, 2002 | Yes | No | No | No | Yes | 2 |
| 39. Foreman et al, 2001 | No | Yes | No | No | Yes | 2 |
| 40. Baker et al, 2008a | Yes | No | No | No | No | 1 |
| 41. Hultquist et al, 2005 | Yes | No | No | No | No | 1 |
| 42. Lomabrd et al, 1995 | Yes | No | No | No | No | 1 |
| 43. DNSWH, 2002 | Yes | No | No | No | No | 1 |
| 44. Rovniak, 2005 | Yes | No | No | No | No | 1 |
| 45. Rowley et al, 2007 | No | No | No | No | Yes | 1 |
| 46. Talbot et al, 2003 | Yes | No | No | No | No | 1 |

Table 2 Assessment of study quality (Continued)

| | | | | | | |
|-----------------------|-------------|--------------|-------------|--------------|-------------|---|
| 47. Wyatt et al, 2004 | No | No | No | No | Yes | 1 |
| Totals | 45 Yes 2 No | 22 Yes 25 No | 3 Yes 44 No | 11 Yes 36 No | 40 Yes 7 No | |

This was almost twice as prevalent as the second most popular approach, newsletters/newspaper articles ($n = 18$) and was nearly three times more frequently used than word of mouth. Word of mouth appeared in 12 studies, but we were unable to identify whether this was a proactive recruitment strategy or a reactive strategy, responding to low recruitment numbers. Less popular methods included medical and health insurance referral, invitations derived from clinical or employment data, study information sessions, resident listings, announcements at group meetings or community events and information stands.

Locations for recruitment, interventions and target populations

Table 6 presents data on the setting and location of recruitment and the study. We observed some studies that “matched” where the recruitment was conducted with where the intervention was delivered. Culos-Reed et al, 2008 reported recruiting participants for a mall walking study at the mall where the intervention was going to be delivered [71]. Other studies did not match in this way, and recruited in many different locations, often relying on print material alone, and requiring potential participants to attend a location which may not be easily accessible to them. Studies reported that they were “community-based” ($n = 25$) [27-31,35,36,42,48-52,54-58,61,63,68,69,71-73] but asked community members to travel into a research setting to begin the process of participation; for example medical centres or universities ($n = 20$) [29,30,33-38,41,43,46,47,49,56,62-67]. These interventions used a mixture of recruitment approaches including media events and led walking groups, face to face interventions (e.g. counselling, pedometers) or mediated interventions, such as internet, e-health and mobile phone technology [74].

Recruitment rates and efficiencies

We originally planned to calculate recruitment rates and efficiency ratios for each study but we were unable to do so due to missing data (Table 7-Recruitment rates and efficiency ratios). Only three studies provided all the data points [33,36,65]. We were able to calculate a weekly recruitment rate using the final numbers of participants divided by the time spent recruiting in weeks for eleven studies (mean 38 participants per week, range 1 to 268 participants per week). We were not able to

see any pattern between recruitment approaches and weekly rates. Two studies reported some data on the efforts needed to undertake recruitment. Jancey et al (2008) reported that after potential participants had received invitation cards it took approximately 9 calls to recruit one participant [53].

Developing Recruitment Approaches

We identified factors that may have helped or hindered recruitment from qualitative [57,64,69] and protocol [27,28,30,35] papers. These factors emerged as possible principles of recruitment and were related to training, engaging possible participants in the recruitment process and allowing sufficient time to pilot-test approaches. Watson et al (2009) used trained post-natal health care staff to actively recruit participants during their first home and health centres visits, and at group meetings for new mothers [51]. Recruitment approaches used by Banks-Wallace et al (2004) were based on a 5 month needs assessment study of the concerns and priorities of their target group [27]. The authors reported this process established trust between the research team and participants and ensured active participation in the study and in fact over-recruited from this population. Nguyen et al (2002) reported promoting participation via word of mouth, e.g. one participant tells/recruits another participant [69]. These appeared to have more impact on recruitment than passive approaches like posters or media stories [69]. These data suggest that developing recruitment approaches is a time and resource intensive activity, requiring skilled research and recruitment staff.

Discussion

We conducted a systematic review to examine the reported recruitment procedures of walking studies, in order to identify the characteristics of effective recruitment and the impact and differential effects of recruitment strategies among particular population groups. We identified the need for a common understanding of the recruitment process for walking studies in terms of conceptual definition, defining effectiveness and more detailed reporting. Due to the heterogeneity of studies we were not able to identify what specific recruitment approaches were most successful with particular population groups.

We identified eighteen recruitment strategies from 47 studies but did not see any relationship between one

Table 3: Characteristics of participants

Foster *et al.* *International Journal of Behavioral Nutrition and Physical Activity* 2011, **8**:137
<http://www.ijbnpa.org/content/8/1/137>

Page 11 of 28

Table 3 Characteristics of participants

| Study Number, Author and Pub. Year | Mean age, SD or Range | Gender (% Female) | Ethnicity | SES/Income | Education | Quality Metric Score |
|------------------------------------|--------------------------------|-------------------|--|---|--|----------------------|
| 1. Watson et al, 2005 | 29.4 | 100 | NS (20% Not Australian born) | 96% married, 80% Australian born. Competent at filling in a questionnaire in English | 39.2% third level education | 5 |
| 2. Banks-Wallace et al, 2004 | 18+ | 100 | African American | NS | NS | 4 |
| 3. Kolt et al, 2006 | 74 (SD 6) | 66 | NS | Urban, Patients from three GP lists. Phone lines at home. | NS | 4 |
| 4. Nguyen et al, 2002 | NS | NS | NS | NS | NS | 4 |
| 5. Prestwich et al, 2010 | 23.44 | 64 | NS | Students | Undergraduate | 4 |
| 6. Rowland et al, 2004 | 74 (SD 6.2) | 69 | White (Non-Hispanic) 89% | Income > 35 K US 26%, Married, 57.5%. | Edu. > High school diploma 45% | 4 |
| 7. Sherman et al, 2006 | 42.5 (Range 22-64) | 100 | Caucasian | Rural, 42% Medicare, 43% private insurance, 15% self pay or unknown insurance details, mean BMI 30.6 (78% overweight or obese), 90% with one or more risk factors for CV disease, | NS | 4 |
| 8. Wilbur et al, 2006 | 48.6 (Range 40-65) | 100 | African American | Urban, 60% unmarried, 88% mothers (2.1 children ave.), 70% full time employed, 61% earning > \$30 K annually, 57% reporting no 'hardships'. | 87% some or full third level education | 4 |
| 9. Baker et al, 2008b | 49 (SD 9) | 78 | NS | NS | NS | 3 |
| 10. Brownson et al 2005 | 18+ | 79.7 | 95% white | 31.3% 35 K+ pa | 45% some or full third level Edu. | 3 |
| 11. Cox et al, 2008 | 55 (Range 50-70) | 100 | NS | Urban, English Speakers, married (76%), employed (56.5%), children (2.83). Non-smokers. | Educated (13 years ave.) | 3 |
| 12. Dinger et al, 2007 | 41.5 years (Range 25-54 years) | 100 | 86% White | Urban, BMI > 30 (57%), access to email | 68% 3rd Level Edu. | 3 |
| 13. Dubbert et al, 2002 | 68.7 yrs (60-80 range) | 1 (99% Male) | 28% Non-white | 56.4% rural, 79.6% married/cohabiting, 12.7% tobacco users, 8.8% in financial hardship, 7.4 hrs per week employment, 20% used alcohol, 3.8 comorbid medical conditions. | 51.9% high school or more | 3 |
| 14. Dubbert et al, 2008 | Mean 72 (Range 60 to 85 years) | 0 (100% Male) | 14% African-American, 86% White | Urban | Majority high school Educated | 3 |
| 15. Gilson et al, 2008 | 41.4 (SD 10.4) | 91% | NS | All employees at a University | NS | 3 |
| 16. Jancey et al, 2008 | 69 (65-74) | 67 | NS | 67% Australian born, Urban ('Metropolitan Perth'), 66% had a partner | NS | 3 |
| 17. Lamb et al, 2002 | 50.8 (Range 40-70) | 52 | NS | NS | NS | 3 |
| 18. Lee et al, 1997 | 36.5 (Range 23-54) | 100 | Latino, African-American, Asian, Pacific Islanders, other (ns) | "Middle class, well educated, English speaking" | "Well educated" | 3 |
| 19. Matthews et al, 2007 | 53 | 100 | 84% White. 16% African-American/ Other | NS | NS | 3 |
| 20. Merom et al, 2007 | 49.1 (Range 30-65) | 85 | NS | Rural and Urban, 74% married, 92.9 English speakers (primarily), 57.7 employed, 72.2% BMI > 25, 90% non-smokers, 81% self rated health good or more. | 45.5% university degree | 3 |
| 21. Ornes and Ransdell, 2007 | 20 (SD 2.6) | 100 | "Mostly Caucasian volunteers" | Students | Undergraduate | 3 |

Table 3 Characteristics of participants (Continued)

| | | | | | | |
|-------------------------------|-----------------------------|-----------------|--|---|---|---|
| 22. Richardson et al, 2007 | 52 (SD 10.5) | 65 | 76% white, 13% black, 10% other | 64% high income > \$70,000 | NS | 3 |
| 23. Rosenberg et al, 2009 | 83 (Range 74-92) | 50% | NS | NS | NS | 3 |
| 24. Whitt-Glover et al, 2008 | 52 (Range 20-83) | 89 | Black Americans | Urban, average BMI 34.7, married (49%), 85% had at least one chronic health condition. | 96% high school education or higher | 3 |
| 25. Arbour & Ginis, 2009 | 48.7 (SD 9.61) | 100 | 90% White | 90% Employed | 86% Some or full 3rd Level edu. | 2 |
| 26. Culos-Reed et al, 2008 | 66 (Range 46-83) | 81 | 96% White | 76% retired, 70% higher education, urban | NS | 2 |
| 27. Currie and Develin, 2001 | NS | 100 | NS | NS | NS | 2 |
| 28. Darker et al, 2010 | 40.6 (Range 16-65) | 71 | NS | NS | NS | 2 |
| 29. De Cocker et al 2007 | 48.7 (Range 25-75) | 52.8 | NS | Urban, 68.1% employed, 63.7% reporting good or better than good health | 60% with third level degrees | 2 |
| 30. Dinger et al, 2005 | 41.7 (SD 6.8) (Range 25-54) | 100 | 89% White | Employees or spouses of university employees, Overweight or obese (77.7%), not FT students, not pregnant | University degree (69%) | 2 |
| 31. Engel and Lindner, 2006 | 62 | 46 | NS | NS | NS | 2 |
| 32. Foreman et al, 2001 | NS | Male and Female | NS | NS | NS | 2 |
| 33. Humpel et al, 2004 | 60 (SD 11) | 57% | NS | NS | 46.9% < 12 yrs edu., 32.1% had a trade edu., 21% Uni. | 2 |
| 34. Nies et al, 2006 | 45 (Range 35-60) | 100 | European-American and African-American | 41% > 50 K (US) household income, 49% married, 33% southern American | 74% college edu. or higher | 2 |
| 35. Purath et al, 2004 | 43.9 | 100 | 81.5% White | 100% employed at a university (62% in admin/professional), 92% non-smokers, BMI 30.5, 68% married | 14.25 years edu. (mean) | 2 |
| 36. Shaw et al, 2007 | 40 | 99 | NS | Employed in an urban workplace | NS | 2 |
| 37. Sidman et al, 2004 | 43.2 | 100 | NS | NS | NS | 2 |
| 38. Thomas and Williams, 2006 | 18-50+ | 75.5 | NS | Employed, Both Urban and Rural locations. 'wide variety of professions, ages, incomes, education standards and levels of health and fitness not considered, disadvantaged in terms of the social determinants of health' 'almost all could be described as sedentary' | NS | 2 |
| 39. Tudor-Locke et al, 2002 | 53 (SD 6) | 66 | NS | NS | NS | 2 |
| 40. Baker et al, 2008a | 40 (SD 8.6) | 86 | NS | NS | NS | 1 |
| 41. Hultquist et al, 2005 | 45 (SD 6 yrs) | 100 | 3 non-white among completers | NS | NS | 1 |
| 42. Lomabrd et al, 1995 | 40 (SD 9) | 98 | NS | University staff | NS | 1 |
| 43. DNSWH, 2002 | (Range 25-65) | NS | NS | Suburban | NS | 1 |

Table 3 Characteristics of participants (Continued)

| | | | | | | |
|------------------------|--|---------------------------------------|--|---|----|---|
| 44. Rovniak, 2005 | Men (Range 20-44) Women (Range 20-54) | 93.5 | NS | Urban, at least access to email, sedentary, no more than one health risk factor, BMI < 39.9, no metabolic, pulmonary or CV disease, no bone joint or foot problems, not pregnant. | NS | 1 |
| 45. Rowley et al, 2007 | Children 0-4 Adults not reported | 100 (Adults) Children not reported | There were no children or babies from ethnic minority groups'. | Affluent' | NS | 1 |
| 46. Talbot et al, 2003 | 69 (SD 6) | 76 | 17% Non-White | 60% > \$30 K pa | NS | 1 |
| 47. Wyatt et al, 2004 | NS | NS | NS | NS | NS | 1 |

particular strategy or group of strategies and recruitment rates. Many studies blended different recruitment approaches and strategies, adopting an almost "trial and error" approach. Only two studies reported the effectiveness of their approaches to recruitment [28,35]. We were able to distinguish active and passive recruitment approaches. Further research is needed to directly compare specific recruitment strategies.

Very few studies examined the successes of recruitment approaches to physical activity interventions. Harris et al (2008) conducted a randomized controlled trial of four recruitment strategies in their physical activity promotion intervention study for older adults [75]. The authors reported that telephone follow up a week post invitation significantly increased recruitment compared to invitation only. Certainly the principle of follow up was found in a number of our included studies [53,63,72] but we could not assess the efficacy of these strategies. The efficacy of phone recruitment has been questioned by Margitic et al (1999) [76] who compared three recruitment strategies for Project ACT: patient mailings, office-based questionnaires and telephone contact. However their participants were not randomized to a particular strategy. The authors also reported that despite telephone recruitment appearing to be productive this strategy was dropped in two out of eight recruitment sites on cost grounds. This behavioural approach of using phone follow up has previously been reported to be more effective than no follow up in changing physical activity and walking behaviour [10,23] and certainly warrants further testing in terms of a possible recruitment strategy.

Tai and Iliffe's (2000) experiences of conducting physical activity studies also support our observation that piloting and pre-testing of recruitment methods would improve rates of recruitment and precision in recruiting specific target groups [77]. Our review clearly shows that current recruitment strategies resulted in recruiting mostly white, well-educated, middle aged women. The attraction of walking projects to particular social groups

has also been reported in previous evaluation studies of community walking programmes both in the UK [78] and USA [27,31]. Our review found that recruitment rates were poorer for men, especially within workplace or community settings but we were unable to determine if it is a fault of the recruitment, or the offer of walking or a combination of both that is at fault.

We identified a number of studies that "matched" where the recruitment was conducted, with where the intervention was delivered. This principle supports the notion that connecting the place of recruitment and intervention may be more efficient both for the participants, recruiters and interventions teams. We found studies that did not effectively match these aspects and perhaps this was reflected in the total number of participants recruited and the longer time it took to conduct their recruitment phase. For example, Baker et al (2008) reported that participants were expected to travel to the university to receive their intervention. We found little data on the time spent planning/preparing and implementing recruitment so any potential learning from recruitment remains unreported [63].

We identified a number of studies that also aimed to match those recruiting with those being recruited. Banks-Wallace et al (2004) reported in detail their use of a recruitment mediator [27]. The mediator was the same gender as the target group, was a prominent local figure, trained in delivering community interventions and female. Her role was to introduce the study to key significant figures in the area and increase awareness, to assist directly with the recruitment phase and to introduce the researchers to the potential participants at an information session. Banks-Wallace et al (2004) described this approach as increasing trust and decreasing differences between the recruiters and recruited [27].

Our review clearly found there was very little consistency in the definition or reporting of recruitment. We found many different interpretations of (i) what is the recruitment process? and (ii) what is an appropriate metric for evaluating the effectiveness of recruitment?

Table 4: Recruitment planning and implementation (Quality Metric categories)

Foster *et al.* *International Journal of Behavioral Nutrition and Physical Activity* 2011, **8**:137
<http://www.ijbnpa.org/content/8/1/137>

Page 14 of 28

Table 4 Recruitment planning and implementation (Quality Metric categories)

| Study Author (Year) | Where did the Recruitment take place? | Who did the Recruitment? | Time spent Planning/Preparing recruitment | Time spent Executing recruitment (Weeks) | Population Targeted (Yes/No)? | Quality Metric score |
|------------------------------|--|--|---|--|-------------------------------|----------------------|
| 1. Watson et al, 2005 | Home, health centre visits, at mothers group meetings | Nurses trained in recruitment and research staff | 1 month including all training of nurses and intervention by researchers to help with recruitment difficulties. | 6 weeks | Yes | 5 |
| 2. Banks-Wallace et al, 2004 | In the community at venues typically used for hosting African American community events | Recruitment Protocol Specialist | NS | 21.6 weeks | Yes | 4 |
| 3. Kolt et al, 2006 | By mail and a follow up home visit | Researchers | NS | 39 weeks | Yes | 4 |
| 4. Nguyen et al, 2002 | Mainly passively in the community but also used press conferences and info/taster sessions | Public health official | 3 years (Rolling development) | NS | Yes | 4 |
| 5. Prestwich et al, 2010 | University | Researchers | NS | 2.5 weeks | Yes | 4 |
| 6. Rowland et al, 2004 | Via telephone, direct mail and then at multiple locations and media in the community | Research team members | NS | 43.3 weeks | Yes | 4 |
| 7. Sherman et al, 2006 | In a clinic, hair salons-and food establishments | Nurses | NS | 0.28 weeks | Yes | 4 |
| 8. Wilbur et al, 2006 | Two federally qualified community health centres serving poor and working class urban populations. Screening and data collection was carried out here to reduce power differences (perceived) and increase trust. Concentrated on an area within a 3-mile radius of the data collection sites. Also interacted in the community at health fairs and presentations. | Team specifically set up to deliver the recruitment made up of AA female nurses, either living in the community or who had family ties to the community. | NS | 121.3 weeks | Yes | 4 |
| 9. Baker et al, 2008b | Local community, GP surgeries, shops, community stalls | NS | NS | 21.6 months | Yes | 3 |
| 10. Brownson et al 2005 | Through media, at physicians practices, at community centres, on walking routes, in the community active and passively | Community organisation staff, research staff, physicians | NS | NS | Yes | 3 |
| 11. Cox et al, 2008 | Ads delivered in the community. Screening took place at the community centre | Research assistants | NS | NS | Yes | 3 |
| 12. Dinger et al, 2007 | Local media and electronically | NS | NS | 4.3 weeks | Yes | 3 |
| 13. Dubbert et al, 2002 | By mail, phone and at the clinic | Researchers and Research Nurse | NS | NS | Yes | 3 |
| 14. Dubbert et al, 2008 | Primary care medical centre as part of routine care | NS | 2 to 3 years | NS | Yes | 3 |
| 15. Gilson et al, 2008 | Via work email | Researchers | NS | NS | Yes | 3 |
| 16. Jancey et al, 2008 | Over the phone to home phone numbers | Researchers | NS | NS | Yes | 3 |
| 17. Lamb et al, 2002 | Via post, phone and info sessions at primary care setting | Researchers, via GP, and staff nurse | NS | NS | Yes | 3 |
| 18. Lee et al, 1997 | Directly and indirectly in the community | Female students trained in recruitment methods | NS | NS | Yes | 3 |

Table 4 Recruitment planning and implementation (Quality Metric categories) (Continued)

| | | | | | | |
|-------------------------------|---|---|----|------------|-----|---|
| 19. Matthews et al, 2007 | Clinic | Clinical staff | NS | NS | Yes | 3 |
| 20. Merom et al, 2007 | Passively in the community and actively by phone via another study | Researchers in the NSW Health survey (recruitment by proxy) and researchers on this study | NS | NS | Yes | 3 |
| 21. Ornes and Ransdell, 2007 | University campus | Researchers | NS | NS | Yes | 3 |
| 22. Richardson et al, 2007 | Medical centre | Physicians | NS | NS | Yes | 3 |
| 23. Rosenberg et al, 2009 | Care community | Researchers | NS | NS | Yes | 3 |
| 24. Arbour & Giniis, 2009 | University and Local Community | NS | NS | NS | Yes | 2 |
| 25. Baker et al, 2008a | University campus | NS | NS | NS | NS | 2 |
| 26. Culos-Reed et al, 2008 | In the community and at the malls | NS | NS | 2 weeks | No | 2 |
| 27. Currie and Develin, 2001 | Places where pre and post natal mums engage with health care, shopping and school | NS | NS | NS | Yes | 2 |
| 28. Darker et al, 2010 | In the local media (Passive) | NS | NS | 30.3 weeks | No | 2 |
| 29. De Cocker et al 2007 | By mail or phone to participants homes. Indirect but active | NS | NS | NS | Yes | 2 |
| 30. Dinger et al, 2005 | University | NS | NS | NS | Yes | 2 |
| 31. Engel and Lindner, 2006 | In community via newspapers | NS | NS | NS | Yes | 2 |
| 32. Foreman et al, 2001 | NS | Walk leaders and organisers | NS | NS | Yes | 2 |
| 33. Humpel et al, 2004 | Via post. No face to face | NS | NS | NS | Yes | 2 |
| 34. Nies et al, 2006 | Through media and fliers in the community | NS | NS | NS | Yes | 2 |
| 35. Purath et al, 2004 | Health screening day within a university | NS | NS | NS | Yes | 2 |
| 36. Shaw et al, 2007 | Workplace (Health centre) | NS | NS | NS | Yes | 2 |
| 37. Sidman et al, 2004 | Two University campuses | NS | NS | NS | Yes | 2 |
| 38. Thomas and Williams, 2006 | Workplace (Electronically) | NS | NS | NS | Yes | 2 |
| 39. Tudor-Locke et al, 2002 | Diabetes Centre | NS | NS | NS | Yes | 2 |
| 40. Whitt-Glover et al, 2008 | At churches | Church pastors and researchers | NS | NS | Yes | 2 |

Table 4 Recruitment planning and implementation (Quality Metric categories) (Continued)

| | | | | | | |
|-----------------------|---|----|----|----|-----|---|
| 41. | University | NS | NS | NS | No | 1 |
| Hultquist et al, 2005 | | | | | | |
| 42. | University campus | NS | NS | NS | No | 1 |
| Lomabrd et al, 1995 | | | | | | |
| 43. | In local area via media and advertising and information | NS | NS | NS | No | 1 |
| DNSWH, 2002 | | | | | | |
| 44. | At multiple locations in the community. Mainly passive. | NS | NS | NS | No | 1 |
| Rovniak, 2005 | | | | | | |
| 45. | NS | NS | NS | NS | Yes | 1 |
| Rowley et al, 2007 | | | | | | |
| 46. | Senior centres, ads in local newspapers | NS | NS | NS | NS | 1 |
| Talbot et al, 2003 | | | | | | |
| 47. | NS | NS | NS | NS | Yes | 1 |
| Wyatt et al, 2004 | | | | | | |

The lack of conceptual clarity about recruitment as a process is surprising and potentially impacts on cost-effectiveness. The RE-AIM framework emphasises the need to judge the success of an intervention from both the reach and uptake of an intervention [79]. In light of this we constructed a conceptual framework for our review by defining the stages of recruitment and potential pool of participants (Figure 3). This framework offers a starting point for further debate and refinement. The framework offers a clear concept of the stages and steps of recruitment and the chance to record the numbers of participants at each stage and action.

Our framework divided recruitment into two phases, planning/preparing and implementation, with four stages involving discrete actions by researchers/recruiters, (i) identification of participant pools, (ii) invitation and monitor response and uptake, (iii) assessment, screening and facilitation and (iv) re-invitation of responders, before the delivery of intervention to starters. This framework highlights the actions needed at the start of a recruitment process, i.e. planning/preparing the recruitment process. It also emphasises the importance of the reach of an intervention i.e. the pool of participants used to provide recruits. This differs from the recent new CONSORT framework which asks for dates of recruitment period (i.e. delivery) and enrolment stage [18]. CONSORT stipulates data must be reported for numbers of participants eligible for study which we feel not only ignores the overall pool of possible participants, especially in community based studies of walking interventions, but also ignores the population deemed ineligible, as seen in pre-screenings of patient lists for existing conditions [18]. The “pool” of participants perhaps provides a more realistic denominator for assessing overall recruitment rates. This metric will allow new studies to (i) consider if the recruitment was

efficient (i.e. study recruited expected numbers of participants) and/or (ii) consider if it was effective (i.e. study recruited the right target group), and/or (iii) reflect the true costs of all recruitment actions within overall cost benefit calculations. The need for better reporting of recruitment actions and numbers is essential to improve the assessment of present recruitment strategies. This view is mirrored in recruitment studies of other health behaviours, and better reporting must begin before we can start to identify which strategies provide the best recruitment rates [80].

The results of our review were limited to walking intervention studies. We were limited by only including studies written in the English language. We were limited by what was reported in papers but our consistent application of inclusion, quality and data extraction criteria have illustrated the need for improvement in both the reporting and science of recruitment. As journals look to keep research reports within word limits, it is likely that there will continue to be a lack of journal space to report recruitment details, and we would like to call on editors and authors to report recruitment details or provide short methods papers for the insight of future researchers. As far as we are aware this review is the first of its kind focusing on one domain of physical activity behaviour. The lack of understanding and studies into recruitment may reflect some of the findings about the existing weaknesses of the evidence base for walking interventions, e.g. lack of generalisability of interventions across different social groups [10].

The evidence base for the benefits of walking is now expanding but until it is clearer what strategies are effective in both recruiting and initiating people to begin walking, such benefits may be out of reach for particular population groups. Practitioners would benefit from the assurance of having an evidence based best

Table 5 Recruitment planning and implementation (Quality Metric categories)

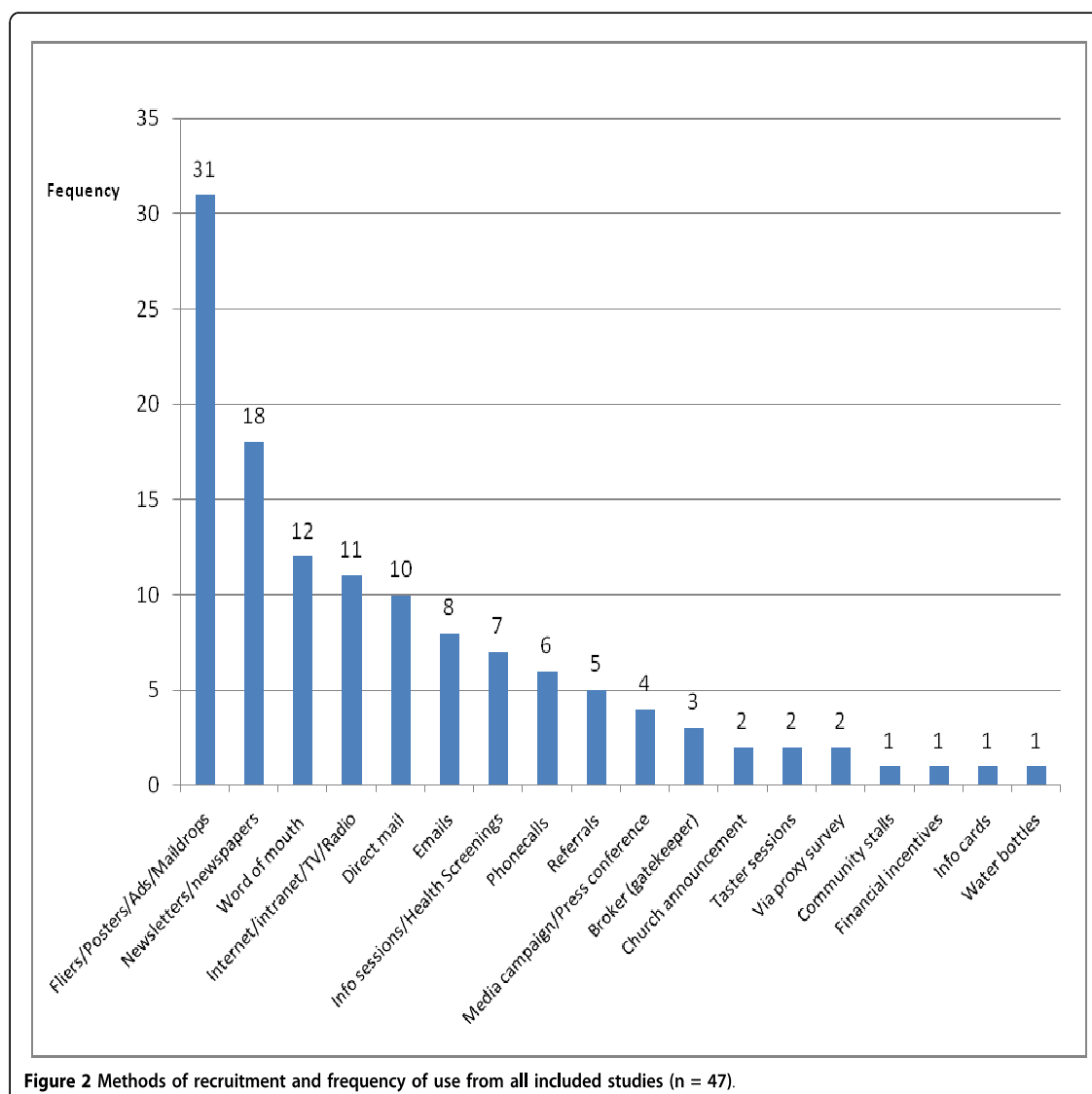
| Study Author (Year) | No. Of Methods Used | Procedures including who conducted the recruitment, where it took place and what was done | Active, passive or a mixture of approaches | Quality Metric Score |
|------------------------------|---------------------|--|--|----------------------|
| 1. Watson et al, 2005 | 1 | Nurse conducted face to face recruitment at clinics, mothers' group meetings and home visits. | Active | 5 |
| 2. Banks-Wallace et al, 2004 | 4 | Researchers placed flyers in church bulletins and the community, health practitioner referrals were generated, word of mouth was used and structured pre-intervention meetings took place. | Passive/Active | 4 |
| 3. Kolt et al, 2006 | 1 | A three phased and sequenced approach was conducted by the researchers, the GP and staff nurse. An invitation letter was sent from the GP surgery a pre-paid response card for those expressing interest. Follow up screening calls then follow up visits to provide info and gain consent. | Passive/Active | 4 |
| 4. Nguyen et al, 2002 | 3 | A public health official co-ordinated the recruitment and used the local media, network construction and face to face recruitment of volunteer walk leaders. Press conferences and promotional materials were sent to local media outlets, community health centres, libraries, senior's club networks to promote the club. Leaflets on local community settings, ads in free newspapers, promotional messages placed on light panels around the city, community TV ads and features, press releases for local media, newsletters, press conference, celebration events. Comments elsewhere stated that face to face recruitment was the most successful for this study, but this was only used to recruit walk leaders. | Passive/Active | 4 |
| 5. Prestwich et al, 2010 | 1 | Researchers sent emails to the current students at their university. Course credit or cash were used as an incentive. | Passive | 4 |
| 6. Rowland et al, 2004 | 11 | Computer assisted telephone interviews (CATI) was initially conducted by researchers. A database of potential participants was screened for telephone numbers. If this was not successful in recruiting the sample size needed the direct mailing was used. Finally, to complete the sample size quota canvassing in the local community (including face to face, door to door, posters and flyers at churches and senior housing units, snowballing, utilising 'community brokers', and newspapers) was conducted. Recruitment was systematic, purposeful and carried out in the order described but was somewhat inequitable as the first screening criterion was the availability of a phone number. It also required significant community assistance to reach those harder to engage. | Active/Passive | 4 |
| 7. Sherman et al, 2006 | 2 | Active recruitment by a nurse at a health clinic, advertisements in hair salons and food establishments. The paper states that the 'main source of recruitment came from advertisements in the community and word of mouth'. | Active/Passive | 4 |
| 8. Wilbur et al, 2006 | 3 | Researchers designed a flyer with community input and received advice on where to place it. Emails and newspaper announcements were also used. Recruitment staff distributed print material at specified schools, churches, grocery shops, libraries, clinics, community agencies and community fairs and at 10 presentations in community agencies, clinics, and churches. Email announcement at local medical centre workplaces and an announcement in the community newspaper were used. A good aim of matching the invitation to the invitee and finding the best place to distribute it was a positive here. Unfortunately word of mouth wasn't actively used or reported and only the research team recruitment staff acted as recruiters for face to face recruitment. | Passive/Active | 4 |
| 9. Baker et al, 2008b | 4 | Mail drops were carried out and adverts were placed in local papers and posters in GP surgeries and shops. Manned community stalls were also set up. This approach was modified and expanded throughout the recruitment phase as the researchers identified their lack of impact on the target group. However, the methods were mainly passive and not altered to be more engaging or mediating with the target group. It is not specifically stated who conducted the recruitment. | Passive/Active | 3 |
| 10. Brownson et al 2005 | 8 | Recruitment was initially by proxy during a baseline survey for another piece of work (no details or what survey was). Awareness of the walking group was also promoted at community events, by physician recommendation, trail signage advertising and word or mouth. Recruitment methods were not explicitly reported but intervention communities used participatory approaches to develop their intervention options. Taster events, one off walks, clean up trail days, and 5 media events were held. | Passive/Active | 3 |
| 11. Cox et al, 2008 | 1 | Research assistants placed advertisements in the local community. | Passive | 3 |

Table 5 Recruitment planning and implementation (Quality Metric categories) (Continued)

| | | | | |
|------------------------------|---|---|----------------|---|
| 12. Dinger et al, 2007 | 3 | Flyers were placed in the community, emails were sent to university staff and a television advertisement was broadcast. It is not specifically stated who conducted the recruitment. | Passive | 3 |
| 13. Dubbert et al, 2002 | 1 | A three phased sequenced approach was used. Researchers and a research nurse reviewed medical records. Potential participants were sent a letter and recruited during their scheduled visits with the primary health care providers or following an expression of interest. Nurses conducted a pre screening and financial compensation to offset costs of visits to the centre was provided. | Active/Passive | 3 |
| 14. Dubbert et al, 2008 | 1 | Participants were recruited via referral by primary care providers, but which specific type of care provider was not reported. It is not specifically stated who conducted the recruitment. | Passive | 3 |
| 15. Gilson et al, 2008 | 1 | Researchers recruited participants via workplace email. | Passive | 3 |
| 16. Jancey et al, 2008 | 1 | A two phased sequenced approach was used. Researchers marched electoral roll lists against telephone directory lists to identify potential participants who owned phones. A preceding postcard informing the recruit about the study and the likelihood of a phone call to follow. Phone calls were then made by members of the research team and approximately 9 calls were required to recruit one participant. | Passive/Active | 3 |
| 17. Lamb et al, 2002 | 1 | A three phased sequenced approach was used. Researchers, assisted by staff nurses sent an eligibility questionnaire to a randomly selected group from a GP client list (GP letters included). This was followed by a letter explaining the study to those expressing an interest and then a phone call to the responders to arrange which info session they could attend. | Passive/Active | 3 |
| 18. Lee et al, 1997 | 4 | Researchers and trained female students conducted telephone calls, face to face approaches at supermarkets, direct mailing and flyers. | Passive/Active | 3 |
| 19. Matthews et al, 2007 | 3 | Clinical staff recruited women by letter and phone follow up in two health centres. The paper also states that in another centre clinical populations were recruited, but this is not clearly explained. Women who were also past participants in a case control study and had agreed to take part in future research. | Active/Passive | 3 |
| 20. Merom et al, 2007 | 3 | Invitation by proxy during the NSW phone Health Survey. Researchers in this study then produced a community based newspaper and sent intranet messages in the area health services (it is not clear what they meant by that). | Passive | 3 |
| 21. Ornes and Ransdell, 2007 | 4 | Researchers placed newspaper ads and posters on a university campus. Researcher also visited classes on college campus and conducted face to face recruitment on campus. | Passive/Active | 3 |
| 22. Richardson et al, 2007 | 3 | Researchers placed adverts in a local newspaper and flyers at local hospital, clinics, and other public locations. A listing was placed on a medical research recruitment site. Information and water bottles were given to potential participants and doctors to raise the profile of the study and encourage referrals from doctors. | Passive | 3 |
| 23. Rosenberg et al, 2009 | 2 | Researchers used flyers and information meetings. | Passive/Active | 3 |
| 24. Whitt-Glover et al, 2008 | 5 | Pastors who attended luncheons regarding health promotion and disease prevention strategies among African Americans were recruited to help introduce the intervention and aid recruitment of participants. Following this, researchers placed flyers in churches, bulletins in newsletters, announcements at Sunday services and held information meetings. | Active/Passive | 3 |
| 25. Arbour & Ginis, 2009 | 2 | Posters and internet ads were sent as part of an employee health programme. It is not specifically stated who conducted the recruitment. | Passive | 2 |
| 26. Culos-Reed et al, 2008 | 4 | Posters, cards on food hall tables and two community newspapers were used to circulate information. Three presentations were held at local health programme meetings. It is not stated who conducted the recruitment. | Passive/Active | 2 |
| 27. Currie and Develin, 2001 | 4 | Flyers were placed at the local maternity wards, doctors' surgeries, early childhood centres, day care centres, immunization clinics, baby product stores and playgrounds. Adverts placed in school bulletins; local newspapers and also paid adverts in newspapers. Information sessions were conducted for new mothers in childhood centres. It is not specifically stated who conducted the recruitment. | Passive/Active | 2 |
| 28. Darker et al, 2010 | 2 | Adverts were placed in local newspapers. Radio interviews were conducted. It is not specifically stated who conducted the recruitment. | Passive | 2 |

Table 5 Recruitment planning and implementation (Quality Metric categories) (Continued)

| | | | | |
|-------------------------------|---------|---|----------------|---|
| 29. De Cocker et al, 2007 | 3 | Telephone calls and postal mail invites to 2500 randomly selected members of the registered population. A multi-media campaign was carried out to raise awareness of the programme. It is not specifically stated who conducted the recruitment. | Active/Passive | 2 |
| 30. Dinger et al, 2005 | 2 | Emails were sent to university staff and adverts were placed on the University television station. It is not specifically stated who conducted the recruitment. | Passive | 2 |
| 31. Engel and Lindner, 2006 | 1 | A 'local Media campaign' was conducted. It is not specifically stated who conducted the recruitment. | Passive | 2 |
| 32. Foreman et al, 2001 | 2 | This qualitative paper did not clearly describe the processes behind their recruitment approach. It emphasises the need for the walk leaders and organisers to become actively engaged in the process and how interpersonal approaches are highly necessary and more effective in engaging a broader range of participants or specific target groups. | Active/Passive | 2 |
| 33. Humpel et al, 2004 | 1 | Letters were sent to individuals listed in an insurance company client list, with follow up letters to non-responders. It is not specifically stated who conducted the recruitment. | Passive | 2 |
| 34. Nies et al, 2006 | 2 | Flyers were placed in the local community and the programme was promoted on the radio. It is not specifically stated who conducted the recruitment. | Passive | 2 |
| 35. Purath et al, 2004 | 1 | Participants were recruited at annual workplace health screenings. May have been pre-notified but this isn't stated. It is not specifically stated who conducted the recruitment. | Active | 2 |
| 36. Shaw et al, 2007 | 4 | The study was promoted via workplace intranet, staff newsletter and flyers. Emails were sent to managers of departments to be forwarded to staff. It is not specifically stated who conducted the recruitment. | Passive | 2 |
| 37. Sidman et al, 2004 | 1 | Flyers were posted on two University campuses. It is not specifically stated who conducted the recruitment. | Passive | 2 |
| 38. Thomas and Williams, 2006 | 1 | Emails were distributed in the workplace. It is not specifically stated who conducted the recruitment. | Passive | 2 |
| 39. Tudor-Locke et al, 2002 | 1 | Recruited at/after an diabetes education session. Convenience sample, first come first serve. It is not specifically stated who conducted the recruitment. | Active | 2 |
| 40. Baker et al, 2008a | 3 | Posters and newsletters were placed on a University campus. Emails were sent to University staff. It is not specifically stated who conducted the recruitment. | Passive | 1 |
| 41. Hultquist et al, 2005 | 2 | Flyers were placed on a University campus and in the surrounding area. The study was publicised in a local newsletter. It is not specifically stated who conducted the recruitment. | Passive | 1 |
| 42. Lomabrd et al, 1995 | 2 | Newspaper advertisements and flyers were posted on campus at a University. It is not specifically stated who conducted the recruitment. | Passive | 1 |
| 43. DNSWH, 2002 | 4 | Flyers distributed via letter box drop. Use of a 'feature' newspaper article. Information sent to local community groups (e.g. Rotary and Lions), schools, preschools, playgroups, community nurses, doctors' surgeries, local rugby club, and local business (e.g. chemists' shops, real estate agents, car dealerships). Poster and flyers placed in parks, at bus stops, local streets, shops, libraries and other public facilities. It is not specifically stated who conducted the recruitment. | Passive | 1 |
| 44. Rovniak, 2005 | 5 | The methods are reported as: the use of local list-servs for direct mailing; churches; a news brief on a local radio and television station, a university newspaper article, and flyers. It is not specifically stated who conducted the recruitment. | Passive | 1 |
| 45. Rowley et al, 2007 | Unclear | The paper reports only the following details regarding recruitment: 'There was an enthusiastic response from invited mothers and many requests to join from other who had heard about the programme through local publicity and word of mouth'. It is not specifically stated who conducted the recruitment. | Passive/Active | 1 |
| 46. Talbot et al, 2003 | 2 | Participants were recruited through senior centres and advertisements in local newspapers. It is not specifically stated who conducted the recruitment. | Passive/Active | 1 |
| 47. Wyatt et al, 2004 | 1 | Word of mouth at a 'kick start' session. It is not specifically stated who conducted the recruitment. | Active | 1 |



practice model which details how best to recruit participants as well as what is the best intervention to promote walking. Our conceptual framework offers researchers, practitioners and policy makers a way forward to develop and assess the success of a recruitment strategy to target particular groups. The model offers options through the four stages to assess how many people are responding and engaging in a walking intervention, but also whether any bias is occurring and if efforts need to be refined towards a specific group. It could also provide a true picture of the costs of the intervention as the inclusion of recruitment development and implementation should be included in economic evaluations.

The results of our review could translate into a series of recruitment principles for further evaluation by researchers. These principles include (i) form

recruitment plans and strategies on evidence of what the target group feels would be appropriate, based on formative research, (ii) conduct a pilot phase of testing, (iii) recruit in places where the participants are located, (iv) allow sufficient time to recruit participants and monitor the uptake, (v) provide training in recruitment methods for recruitment staff, (vi) monitor the participants response to recruitment approaches and use different recruitment strategies where necessary.

The future of walking and physical activity promotion will lie not only in establishing the effectiveness of different interventions but also in improved recruitment practice. Currently, generalisability is limited by reach within studies; but while the current methods being used are applied, the current limited reach will prevail. We offer principles for recruitment that require further

Table 6: Settings and location of recruitment, study and populations

Foster *et al.* *International Journal of Behavioral Nutrition and Physical Activity* 2011, **8**:137
<http://www.ijbnpa.org/content/8/1/137>

Page 21 of 28

Table 6 Settings and Locations of recruitment, study and populations

| Study Author (Year) | Stated Study setting | Target population | Where did the Recruitment take place? | Intervention delivery site | Where Participants came from | Quality Metric Score |
|------------------------------|--|--|--|--|---|----------------------|
| 1. Watson et al, 2005 | Community | Post-natal mothers | Home, health centre visits, at mothers group meetings | Community via lead walks | Mothers using community health centres or early childhood health centres or mothers visited by local childcare nurses | 5 |
| 2. Banks-Wallace et al, 2004 | Community Setting: African American (AA) | African American women in a local community (Minority group) | In the community at venues typically used for hosting African American community events | Local community venue used for hosting AA community events | African American Community | 4 |
| 3. Kolt et al, 2006 | Community | Older sedentary adults (> 65) | By mail and a follow up home visit | By phone and a home visit at screening (Community) | GP Patient lists | 4 |
| 4. Nguyen et al, 2002 | Community | General community | Mainly passively in the community but also used press conferences and info/ taster sessions | | Community | 4 |
| 5. Prestwich et al, 2010 | University | University students | University | University | University students | 4 |
| 6. Rowland et al, 2004 | Community | Sedentary older adults | Via telephone, direct mail and then at multiple locations and media in the community | At home | Community members identified through a commercial database of household data | 4 |
| 7. Sherman et al, 2006 | Community (Rural) | Rural women | In a clinic, hair salons-and food establishments | Clinical centre | Residents in the local community | 4 |
| 8. Wilbur et al, 2006 | Community and Home | African American Women | Two federally qualified community health centres serving poor and working class urban populations. Screening and data collection was carried out here to reduce power differences (perceived) and increase trust. Concentrated on an area within a 3-mile radius of the data collection sites. Also interacted in the community at health fairs and presentations. | Community health centres. Purposely chosen to reduce power differences and increase trust. Within three miles of the participants residential area | Predominantly African American women within a 3-mile radius of the intervention centre | 4 |
| 9. Baker et al, 2008b | Community | Community members in areas of high deprivation (> 15% SIMD) | Local community, GP surgeries, shops, community stalls | University campus | Residents within a surrounding area of West Glasgow university (1.5 km)-defined as a suitable walking distance from intervention site | 3 |
| 10. Brownson et al 2005 | Community (Rural USA) | Rural community members | Through media, at physicians practices, at community centres, on walking routes, in the community active and passively | Community | Within targeted community | 3 |
| 11. Cox et al, 2008 | Community | Previously sedentary older women | Ads delivered in the community. Screening took place at the community centre | Community centre | Recruited from the community' | 3 |
| 12. Dinger et al, 2007 | University | Insufficiently active women (University staff and local community members) | Local media and electronically | Intervention delivered by email (Virtual) | University staff and local community | 3 |

Table 6 Settings and Locations of recruitment, study and populations (Continued)

| | | | | | | |
|------------------------------|--|--|---|---|--|---|
| 13. Dubbert et al, 2002 | Care setting (Veterans Affairs Medical Centre) | Elderly primary care patients | By mail, phone and at the clinic | Medical centre | Attendees at a Veterans Affairs Medical centre | 3 |
| 14. Dubbert et al, 2008 | Care setting | Elderly veterans | Primary care medical centre as part of routine care | Primary care clinic | Primary care clinics for veterans | 3 |
| 15. Gilson et al, 2008 | Workplace (University) | Work-place employees | Via work email | University | University employees | 3 |
| 16. Jancey et al, 2008 | Community | Older adults | Over the phone to home phone numbers | Selected green space areas within the neighbourhood local to the recruited participants | Urban areas of Perth, identified through electoral roll | 3 |
| 17. Lamb et al, 2002 | Care (Primary care) | Middle aged adults | Via post, phone and info sessions at primary care setting | Primary care facilities | Primary care client list | 3 |
| 18. Lee et al, 1997 | Community | Sedentary ethnic minority women | Directly and indirectly in the community | Baseline screening at a University, then indirectly delivered to participants homes | Members of women, children and infant groups, local area San Diego | 3 |
| 19. Matthews et al, 2007 | Care: Clinical and Home (Community) setting | Breast cancer survivors | Clinic | Clinical centres | Former or existing clinical populations | 3 |
| 20. Merom et al, 2007 | Community | Inactive adults | Passively in the community and actively by phone via another study | This was a passively delivered intervention and participants received intervention material and equipment entirely by post. | Non-clinical sample of individuals in the community | 3 |
| 21. Ornes and Ransdell, 2007 | University | Women | University campus | University | University | 3 |
| 22. Richardson et al, 2007 | Care: Clinical | Adults with type 2 diabetes | Medical centre | Clinical centre | Adults with diabetes living in the community | 3 |
| 23. Rosenberg et al, 2009 | Care setting (Retirement community) | Older adults | Care community | Continuing care retirement community | Residential care facility | 3 |
| 24. Whitt-Glover et al, 2008 | Churches | Black adult, church attendees | University and Local Community | Church meeting rooms | Church groups | 3 |
| 25. Arbour & Ginis, 2009 | Workplace | Women in the workplace | University campus | Workplace (University) | University | 2 |
| 26. Culos-Reed et al, 2008 | Community: Malls | NS | In the community and at the malls | Mall | Mall users from the local community | 2 |
| 27. Currie and Develin, 2001 | Community | Mothers and young children | Places where pre and post natal mums engage with health care, shopping and school | Community | NS | 2 |
| 28. Darker et al, 2010 | Clinical lab setting | NS | In the local media (Passive) | Laboratory | NS | 2 |
| 29. De Cocker et al 2007 | Community | 'General population' adults in a local community | By mail or phone to participants homes. Indirect but active | In the community with contact via phone and mail for pedometer packs | General population members as listed on the population register | 2 |

Table 6 Settings and Locations of recruitment, study and populations (Continued)

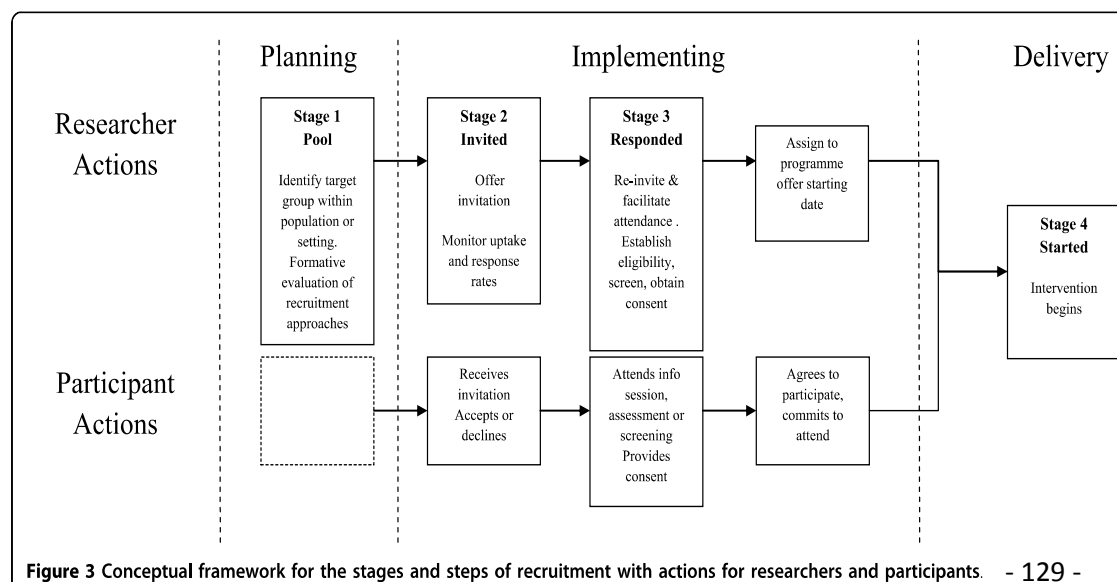
| | | | | | | |
|-------------------------------|---------------------------------|---|---|--|--|---|
| 30. Dinger et al, 2005 | University | Female employees or spouses of university employees | University | University campus | University staff and spouses | 2 |
| 31. Engel and Lindner, 2006 | Community | Adults with type 2 diabetes | In community via newspapers | At research institute or at home | Local Community | 2 |
| 32. Foreman et al, 2001 | Community | Community members | NS | NS | NS | 2 |
| 33. Humpel et al, 2004 | Community | Over 40 year old community members | Via post. No face to face | No face to face contact, but participants encouraged to walk in their local area | Insurance company client list | 2 |
| 34. Nies et al, 2006 | Community | European American and African America women. | Through media and fliers in the community | NS | NS | 2 |
| 35. Purath et al, 2004 | Workplace (University) | Women in the workplace | Health screening day within a university | University | Staff attending a voluntary university provided health screening as part of a wellness programme | 2 |
| 36. Shaw et al, 2007 | Workplace (Health Centre staff) | Men and women in the workplace | Workplace (Health centre) | Workplace (Urban workplace) | Health Centre staff | 2 |
| 37. Sidman et al, 2004 | University (Seems Uni) | Sedentary women | Two University campuses | NS | NS (Recruited on Uni campus) | 2 |
| 38. Thomas and Williams, 2006 | Workplace | Workplace staff (Excluding hospital and community services staff) | Workplace (Electronically) | NS | Workplace staff (Dept. of Human Services staff) | 2 |
| 39. Tudor-Locke et al, 2002 | Health centre | Sedentary diabetes sufferers | Diabetes Centre | Diabetes care centre | Diabetes care centre | 2 |
| 40. Baker et al, 2008a | University | NS | At churches | University campus | University campus | 1 |
| 41. Hultquist et al, 2005 | University | NS | University | University | University campus | 1 |
| 42. Lomabrd et al, 1995 | University | NS | University campus | University | University staff | 1 |
| 43. DNSWH, 2002 | Community | NS | In local area via media and advertising and information | Community | Residents of local community | 1 |
| 44. Rovniak, 2005 | Community | NS | At multiple locations in the community. Mainly passive. | NS | NS (Seems community) | 1 |
| 45. Rowley et al, 2007 | Community | Parents and children | NS | In the community along planned walking routes in and out of parks/green spaces | Affluent community in semi-rural England' | 1 |
| 46. Talbot et al, 2003 | Community (Home) | Older adults | Senior centres, ads in local newspapers | University clinic | Local Community | 1 |
| 47. Wyatt et al, 2004 | Community | State wide residents of the community | NS | Worksite and Church via a starter kit | Workplaces and church | 1 |

Table 7 Recruitment rates and efficiency ratios

| Study Author (Year) | Pool | Invited | Responded | Started | Efficiency A (%) (Started/Pool) | Efficiency B (%) (Started/Invited) | Efficiency C (%) (Started/Responded) | Efficiency D (N) (Started only) | Weekly Recruitment Rate | Quality Metric Score |
|------------------------------|-------|---------|-----------|---------|---------------------------------|------------------------------------|--------------------------------------|---------------------------------|-------------------------|----------------------|
| 1. Watson et al, 2005 | NS | NS | NS | 139 | - | - | - | 139.0 | 23.17 | 5 |
| 2. Banks-Wallace et al, 2004 | NS | NS | 38 | 21 | - | - | 55.3 | 21.0 | 0.97 | 4 |
| 3. Kolt et al, 2006 | NS | NS | NS | 186 | - | - | - | 186.0 | 4.77 | 4 |
| 4. Nguyen et al, 2002 | NS | NS | NS | NS | - | - | - | NS | | 4 |
| 5. Prestwich et al, 2010 | NS | NS | 173 | 149 | - | - | 86.1 | 149.0 | 59.60 | 4 |
| 6. Rowland et al, 2004 | 73828 | NS | NS | 582 | 0.8 | - | - | 582.0 | 13.44 | 4 |
| 7. Sherman et al, 2006 | 1700 | NS | 75 | 75 | 4.4 | - | 100.0 | 75.0 | 267.86 | 4 |
| 8. Wilbur et al, 2006 | NS | NS | NS | 281 | - | - | - | 281.0 | 2.32 | 4 |
| 9. Baker et al, 2008b | NS | NS | 169 | 80 | - | - | 47.3 | 80.0 | 3.70 | 3 |
| 10. Brownson et al 2005 | NS | NS | NS | NS | - | - | - | - | | 3 |
| 11. Cox et al, 2008 | NS | NS | 1312 | 124 | - | - | 9.5 | 124.0 | | 3 |
| 12. Dinger et al, 2007 | NS | NS | 87 | 74 | - | - | 85.1 | 74.0 | 17.21 | 3 |
| 13. Dubbert et al, 2002 | 576 | 576 | 253 | 212 | 36.8 | 36.8 | 83.8 | 212.0 | | 3 |
| 14. Dubbert et al, 2008 | 572 | 572 | NS | 224 | 39.2 | 39.2 | - | 224.0 | | 3 |
| 15. Gilson et al, 2008 | NS | NS | 102 | 70 | - | - | 68.6 | 70.0 | | 3 |
| 16. Jancey et al, 2008 | NS | 7378 | NS | 260 | - | 3.5 | - | 260.0 | | 3 |
| 17. Lamb et al, 2002 | 26500 | 2000 | 960 | 260 | 1.0 | 13.0 | 27.1 | 260.0 | | 3 |
| 18. Lee et al, 1997 | NS | NS | 387 | 128 | - | - | 33.1 | 128.0 | | 3 |
| 19. Matthews et al, 2007 | 117 | 117 | 102 | 36 | 30.8 | 30.8 | 35.3 | 36.0 | | 3 |
| 20. Merom et al, 2007 | NS | NS | 692 | 369 | - | - | 53.3 | 369.0 | | 3 |
| 21. Ornes and Ransdell, 2007 | NS | NS | 210 | 121 | - | - | 57.6 | 121.0 | | 3 |
| 22. Richardson et al, 2007 | NS | NS | 76 | 35 | - | - | 46.1 | 35.0 | | 3 |
| 23. Rosenberg et al, 2009 | 400 | 400 | NS | 22 | 5.5 | 5.5 | - | 22.0 | | 3 |
| 24. Whitt-Glover et al, 2008 | NS | NS | NS | 87 | - | - | - | 87.0 | | 3 |
| 25. Arbour & Ginis, 2009 | NS | NS | 129 | 75 | - | - | 58.1 | 75.0 | | 2 |
| 26. Culos-Reed et al, 2008 | NS | NS | 87 | 52 | - | - | 59.8 | 52.0 | 26.00 | 2 |
| 27. Currie and Develin, 2001 | NS | NS | 110 | NS | - | - | - | NS | | 2 |
| 28. Darker et al, 2010 | NS | NS | 176 | 132 | - | - | 75.0 | 132.0 | 4.36 | 2 |

Table 7 Recruitment rates and efficiency ratios (Continued)

| | | | | | | | | | |
|-------------------------------|------|------|------|------|------|-------|-------|--------|---|
| 29. De Cocker et al, 2007 | 5000 | 4065 | NS | 1674 | 33.5 | 41.2 | - | 1674.0 | 2 |
| 30. Dinger et al, 2005 | NS | NS | 43 | 36 | - | - | 83.7 | 36.0 | 2 |
| 31. Engel and Lindner, 2006 | NS | NS | NS | 57 | - | - | - | 57.0 | 2 |
| 32. Foreman et al, 2001 | NS | NS | NS | NS | - | - | - | NS | 2 |
| 33. Humpel et al, 2004 | NS | 982 | 429 | 399 | - | 40.6 | 93.0 | 399.0 | 2 |
| 34. Nies et al, 2006 | NS | NS | 313 | 253 | - | - | 80.8 | 253.0 | 2 |
| 35. Purath et al, 2004 | NS | NS | NS | 287 | - | - | - | 287.0 | 2 |
| 36. Shaw et al, 2007 | NS | NS | NS | 35 | - | - | - | 35.0 | 2 |
| 37. Sidman et al, 2004 | NS | NS | NS | 114 | - | - | - | 114.0 | 2 |
| 38. Thomas and Williams, 2006 | 3500 | NS | 1195 | 1195 | 34.1 | - | 100.0 | 1195.0 | 2 |
| 39. Tudor-Locke et al, 2002 | NS | 9 | 9 | 9 | - | 100.0 | 100.0 | 9.0 | 2 |
| 40. Baker et al, 2008a | NS | NS | 61 | 52 | - | - | 85.2 | 52.0 | 1 |
| 41. Hultquist et al, 2005 | NS | NS | 73 | 58 | - | - | 79.5 | 58.0 | 1 |
| 42. Lomabrd et al, 1995 | 5000 | NS | NS | 135 | 2.7 | - | - | 135.0 | 1 |
| 43. DNSWH, 2002 | NS | NS | NS | NS | - | - | - | NS | 1 |
| 44. Rovniak, 2005 | NS | NS | 235 | 65 | - | - | 27.7 | 65.0 | 1 |
| 45. Rowley et al, 2007 | NS | NS | NS | 165 | - | - | - | 165.0 | 1 |
| 46. Talbot et al, 2003 | NS | NS | 64 | 40 | - | - | 62.5 | 40.0 | 1 |
| 47. Wyatt et al, 2004 | NS | NS | 735 | 735 | - | - | 100.0 | 735.0 | 1 |



evaluation, (i.e. matching “where to where” and “who to who”). Future research to identify “what is effective recruitment?” may best lie in identifying approaches that reflect the needs and expectations of hard to recruit target groups. This will allow researchers the opportunity to investigate the strategic use of the *right recruitment methods*, for the *right group*, in the *right order*.

Acknowledgements & funding

We would like to thank the participants and researchers who gave their time to provide our data. NM is the principle investigator for The Scottish Physical Activity Research Collaboration (SPARColl) is based at the University of Strathclyde. The collaboration is funded by the Scottish Government and managed by NHS Health Scotland.

The authors would like to acknowledge the SPARColl advisory group for feedback during the study design and manuscript preparation stage. GB's PhD is funded by SPARColl. CF is funded by the British Heart Foundation Project Grant (BHF/PG/03/045).

Author details

¹Department of Public Health, University of Oxford, UK. ²Scottish Physical Activity Research Collaboration (SPARColl) & School of Psychological Sciences and Health, University of Strathclyde, Glasgow, UK.

Authors' contributions

CF, GB & NM conceived of the study, and participated in its design, coordination and helped to draft the manuscript. CFtz & CMcA participated in its design and coordination and helped to draft the manuscript. CF, GB & AM participated in review screening, data extraction and helped to draft the manuscript. All authors read and approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

Received: 20 May 2011 Accepted: 15 December 2011

Published: 15 December 2011

References

- Hardman AE, Morris JN: **Walking to health.** *Sports Med* 1997, **23**:306-332.
- Global Advocacy Council for Physical Activity ISiPAaH: **The Toronto Charter for Physical Activity: A Global Call for Action.** *J Phys Act Health* 2010, **7**(Suppl 3):S370-385.
- Committee PAGA: **Physical Activity Guidelines Advisory Committee Report, 2008** Washington, DC: US Department of Health and Human Services; 2008.
- Lee IM, Skerrett PJ: **Physical activity and all-cause mortality: what is the dose-response relation?** *Med Sci Sports Exerc* 2001, **33**:S459-471, discussion S493-454.
- Murphy MH, Nevill AM, Murtagh EM, Holder RL: **The effect of walking on fitness, fatness and resting blood pressure: a meta-analysis of randomised, controlled trials.** *Prev Med* 2007, **44**:377-385.
- Hu FB, Sigal RJ, Rich-Edwards JW, Colditz GA, Solomon CG, Willett WC, Speizer FE, Manson JE: **Walking compared with vigorous physical activity and risk of type 2 diabetes in women: a prospective study.** *Jama* 1999, **282**:1433-1439.
- Department of Health PA, Health Improvement and Prevention: **At least five a week: Evidence on the impact of physical activity and its relationship to health. A report from the Chief Medical Officer.** *Book At least five a week: Evidence on the impact of physical activity and its relationship to health. A report from the Chief Medical Officer* City; 2004, ed. ^eds.
- MIND: **The MIND guide to physical activity** London: MIND; 2008.
- Hamer M, Chida Y: **Walking and primary prevention: a meta-analysis of prospective cohort studies.** *Br J Sports Med* 2008, **42**:238-243.
- Ogilvie D, Foster CE, Rothnie H, Cavill N, Hamilton V, Fitzsimons CF, Mutrie N: **Interventions to promote walking: systematic review.** *BMJ* 2007, **334**:1204.
- Excellence NiHaC: **Promoting and creating built or natural environments that encourage and support physical activity (NICE public health guidance 8)** London: NICE; 2008.
- Excellence NiHaC: **Promoting physical activity for children and young people** London: NICE; 2009.
- Bauman A, Bull F, Chey T, Craig CL, Ainsworth BE, Sallis JF, Bowles HR, Hagstromer M, Sjostrom M, Pratt M: **The International Prevalence Study on Physical Activity: results from 20 countries.** *Int J Behav Nutr Phys Act* 2009, **6**:21.
- Centre TI: **Health Survey for England 2008: Physical activity and fitness. Summary of key findings.** *Book Health Survey for England 2008: Physical activity and fitness. Summary of key findings* City; 2009, ed. ^eds.
- Executive S: **The Scottish Health Survey 2008** Edinburgh: The Stationery House; 2008.
- Transport Df: **Transport Statistics Bulletin: National Travel Survey 2008.** *Book Transport Statistics Bulletin: National Travel Survey 2008* City: Department for Transport; 2009, ed. ^eds.
- Glasgow RE, Vogt TM, Boles SM: **Evaluating the public health impact of health promotion interventions: the RE-AIM framework.** *Am J Public Health* 1999, **89**:1322-1327.
- Schulz KF, Altman DG, Moher D: **CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials.** *BMJ* 2010, **340**:c332.
- Swanson GM, Ward AJ: **Recruiting minorities into clinical trials: toward a participant-friendly system.** *J Natl Cancer Inst* 1995, **87**:1747-1759.
- Froelicher ES, Lorig K: **Who cares about recruitment anyway?** *Patient Educ Couns* 2002, **48**:97.
- Treweek S, Pitkethly M, Cook J, Kjeldstrom M, Taskila T, Johansen M, Sullivan F, Wilson S, Jackson C, Jones R, Mitchell E: **Strategies to improve recruitment to randomised controlled trials.** *Cochrane Database Syst Rev* 2010, MR000013.
- Toerien M, Brookes ST, Metcalfe C, de Salis I, Tomlin Z, Peters TJ, Sterne J, Donovan JL: **A review of reporting of participant recruitment and retention in RCTs in six major journals.** *Trials* 2009, **10**:52.
- Hillsdon M, Foster C, Thorogood M: **Interventions for promoting physical activity.** *Cochrane Database Syst Rev* 2005, CD003180.
- Moher D, Cook DJ, Eastwood S, Olkin I, Rennie D, Stroup DF: **Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. Quality of Reporting of Meta-analyses.** *Lancet* 1999, **354**:1896-1900.
- Excellence NiHaC: **Methods for the development of NICE public health guidance (second edition)** London: NICE; 2009.
- Jadad A: **Randomised controlled trials; A users guide** London: BMJ Books; 1998.
- Banks-Wallace J, Enyart J, Johnson C: **Recruitment and entrance of participants into a physical activity intervention for hypertensive African American women.** *ANS Adv Nurs Sci* 2004, **27**:102-116.
- Rowland RM, Fishera JK, Greena M, Dunnb AM, Pickeringa MA, Lia F: **Recruiting inactive older adults to a neighborhood walking trial: The SHAPE project.** *Journal of Aging Studies* 2004, **18**:353-368.
- Sherman BJ, Gilliland G, Speckman JL, Freund KM: **The effect of a primary care exercise intervention for rural women.** *Prev Med* 2007, **44**:198-201.
- Wilbur J, McDewitt JH, Wang E, Dancy BL, Miller AM, Briller J, Ingram DL, Nicola TL, Ju S, Lee H: **Outcomes of a home-based walking program for African-American women.** *Am J Health Promot* 2008, **22**:307-317.
- Brownson RC, Hagood L, Lovegreen SL, Britton B, Caito NM, Elliott MB, Emery J, Haire-Joshu D, Hicks D, Johnson B, et al: **A multilevel ecological approach to promoting walking in rural communities.** *Prev Med* 2005, **41**:837-842.
- Dinger MK, Heesch KC, Cipriani G, Qualls M: **Comparison of two email-delivered, pedometer-based interventions to promote walking among insufficiently active women.** *J Sci Med Sport* 2007, **10**:297-302.
- Dubbert PM, Cooper KM, Kirchner KA, Meydrech EF, Billrew D: **Effects of nurse counseling on walking for exercise in elderly primary care patients.** *J Gerontol A Biol Sci Med Sci* 2002, **57**:M733-740.
- Dubbert PM, Morey MC, Kirchner KA, Meydrech EF, Grothe K: **Counseling for home-based walking and strength exercise in older primary care patients.** *Arch Intern Med* 2008, **168**:979-986.
- Lee RE, McGinnis KA, Sallis JF, Castro CM, Chen AH, Hickmann SA: **Active vs. passive methods of recruiting ethnic minority women to a health promotion program.** *Ann Behav Med* 1997, **19**:378-384.

36. Matthews CE, Wilcox S, Hanby CL, Der Ananian C, Heiney SP, Gebretsadik T, Shintani A: **Evaluation of a 12-week home-based walking intervention for breast cancer survivors.** *Support Care Cancer* 2007, **15**:203-211.
37. Ornes LL, Ransdell LB: **Web-Based Physical Activity Intervention for College-Aged Women.** *Percept Mot Skills* 2007, **10**:126-137.
38. Richardson CR, Mehari KS, McIntyre LG, Janney AW, Fortlage LA, Sen A, Stretcher VJ, Piette JD: **A randomized trial comparing structured and lifestyle goals in an internet-mediated walking program for people with type 2 diabetes.** *Int J Behav Nutr Phys Act* 2007, **4**:59.
39. Rosenberg D, Kerr J, Sallis JF, Patrick K, Moore DJ, King A: **Feasibility and outcomes of a multilevel place-based walking intervention for seniors: a pilot study.** *Health Place* 2009, **15**:173-179.
40. Whitt-Glover MC, Hogan PE, Lang W, Heil DP: **Pilot study of a faith-based physical activity program among sedentary blacks.** *Prev Chronic Dis* 2008, **5**:A51.
41. Dinger MK, Heesch KC, McClary KR: **Feasibility of a minimal contact intervention to promote walking among insufficiently active women.** *Am J Health Promot* 2005, **20**:2-6.
42. Nies MA, Partridge T: **Comparison of 3 interventions to increase walking in sedentary women.** *Am J Health Behav* 2006, **30**:339-352.
43. Purath J, Miller AM, McCabe G, Wilbur J: **A brief intervention to increase physical activity in sedentary working women.** *Can J Nurs Res* 2004, **36**:76-91.
44. Sidman CL, Corbin CB, Le Masurier G: **Promoting physical activity among sedentary women using pedometers.** *Res Q Exerc Sport* 2004, **75**:122-129.
45. Tudor-Locke CE, Myers AM, Bell RC, Harris SB, Wilson Rodger N: **Preliminary outcome evaluation of the First Step Program: a daily physical activity intervention for individuals with type 2 diabetes.** *Patient Educ Couns* 2002, **47**:23-28.
46. Hultquist CN, Albright C, Thompson DL: **Comparison of walking recommendations in previously inactive women.** *Med Sci Sports Exerc* 2005, **37**:676-683.
47. Lombard DN, Lombard TN, Winett RA: **Walking to meet health guidelines: the effect of prompting frequency and prompt structure.** *Health Psychol* 1995, **14**:164-170.
48. Rovniak LS, Hovell MF, Wojcik JR, Winett RA, Martinez-Donate AP: **Enhancing theoretical fidelity: an e-mail-based walking program demonstration.** *Am J Health Promot* 2005, **20**:85-95.
49. Talbot LA, Gaines JM, Huynh TN, Metter EJ: **A home-based pedometer-driven walking program to increase physical activity in older adults with osteoarthritis of the knee: a preliminary study.** *J Am Geriatr Soc* 2003, **51**:387-392.
50. Wyatt HR, Peters JC, Reed GW, Grunwald GK, Barry M, Thompson H, Jones J, Hill JO: **Using Electronic Step Counters to Increase Lifestyle Physical Activity: Colorado on the Move.** *J Phys Act Health* 2004, **1**:181-190.
51. Watson N, Millat AJ, Thomas M, Currie J: **The feasibility and effectiveness of pram walking groups for postpartum women in western Sydney.** *Health promotion journal of Australia: official journal of Australian Association of Health Promotion Professionals* 2005, **16**:93-99.
52. Cox KL, Burke V, Beilin LJ, Derbyshire AJ, Grove JR, Blanksby BA, Puddey IB: **Short and long-term adherence to swimming and walking programs in older women—the Sedentary Women Exercise Adherence Trial (SWEAT 2).** *Prev Med* 2008, **46**:511-517.
53. Jancey JM, Clarke A, Howat PA, Lee AH, Shilton T, Fisher J: **A physical activity program to mobilize older people: a practical and sustainable approach.** *Gerontologist* 2008, **48**:251-257.
54. Merom D, Rissel C, Phongsavan P, Smith BJ, Van Kemenade C, Brown WJ, Bauman AE: **Promoting walking with pedometers in the community: the step-by-step trial.** *Am J Prev Med* 2007, **32**:290-297.
55. Currie J, Develin E: **Factors to consider when designing community pramwalking programs.** *American Journal of Health Education* 2001, **32**:48-51.
56. Engel L, Lindner H: **Impact of using a pedometer on time spent walking in older adults with type 2 diabetes.** *Diabetes Educ* 2006, **32**:98-107.
57. **Assessing the sustainability of the 'Just Walk it' program: Is it effective and will it engage programm success.** [http://www.transport.wa.gov.au/conferences/walking/pdfs/B1.pdf].
58. Humpel N, Marshall AL, Iverson D, Leslie E, Owen N: **Trial of print and telephone delivered interventions to influence walking.** *Prev Med* 2004, **39**:635-641.
59. Shaw G, Alfonso H, Howat P, Corben K: **Use of pedometers in a workplace physical activity program.** *Australasian Journal of Podiatric Medicine* 2004.
60. Thomas L, Williams M: **Promoting physical activity in the workplace: using pedometers to increase daily activity levels.** *Health promotion journal of Australia: official journal of Australian Association of Health Promotion Professionals* 2006, **17**:97-102.
61. Department NSW: **Walk it: active local parks: the effect of park modifications and promotion on physical activity participation: summary report.** *Book Walk it: active local parks: the effect of park modifications and promotion on physical activity participation: summary report* City: NSW Health Department; 2002, ed. Aeds.
62. Prestwich A, Perugini M, Hurling R: **Can implementation intentions and text messages promote brisk walking? A randomized trial.** *Health Psychol* 2010, **29**:40-49.
63. Baker G, Gray SR, Wright A, Fitzsimons C, Nimmo M, Lowry R, Mutrie N: **The effect of a pedometer-based community walking intervention "Walking for Wellbeing in the West" on physical activity levels and health outcomes: a 12-week randomized controlled trial.** *Int J Behav Nutr Phys Act* 2008, **5**:44.
64. Gilson N, McKenna J, Cooke C: **Experiences of route and task-based walking in a university community: qualitative perspectives in a randomized control trial.** *J Phys Act Health* 2008, **5**(Suppl 1):S176-182.
65. Lamb SE, Bartlett HP, Ashley A, Bird W: **Can lay-led walking programmes increase physical activity in middle aged adults? A randomised controlled trial.** *J Epidemiol Community Health* 2002, **56**:246-252.
66. Darker CD, French DP, Eves FF, Sniehotta FF: **An intervention to promote walking amongst the general population based on an 'extended' theory of planned behaviour: a waiting list randomised controlled trial.** *Psychol Health* 2010, **25**:71-88.
67. Baker G, Mutrie N, Lowry R: **Using pedometers as motivational tools: Are goals set in steps more effective than goals set in minutes for increasing walking? International Journal of Health Promotion and Education 2008, **46**:21-26.**
68. Rowley C, Dixon L, Palk R: **Promoting physical activity: walking programmes for mothers and children.** *Community Pract* 2007, **80**:28-32.
69. Nguyen MN, Gauvin L, Martineau I, Grignon R: **Sustainability of the impact of a public health intervention: lessons learned from the laval walking clubs experience.** *Health Promot Pract* 2005, **6**:44-52.
70. Arbour KP, Martin Ginis KA: **A randomised controlled trial of the effects of implementation intentions on women's walking behaviour.** *Psychol Health* 2009, **24**:49-65.
71. Culos-Reed SN, Stephenson L, Doyle-Baker PK, Dickinson JA: **Mall walking as a physical activity option: results of a pilot project.** *Can J Aging* 2008, **27**:81-87.
72. Kolt GS, Oliver M, Schofield GM, Kerse N, Garrett N, Latham NK: **An overview and process evaluation of TeleWalk: a telephone-based counseling intervention to encourage walking in older adults.** *Health Promot Int* 2006, **21**:201-208.
73. De Cocker KA, De Bourdeaudhuij IM, Brown WJ, Cardon GM: **Effects of "10,000 steps Ghent": a whole-community intervention.** *Am J Prev Med* 2007, **33**:455-463.
74. Napolitano MA, Marcus BH: **Targeting and tailoring physical activity information using print and information technologies.** *Exerc Sport Sci Rev* 2002, **30**:122-128.
75. Harris TJ, Carey IM, Victor CR, Adams R, Cook DG: **Optimising recruitment into a study of physical activity in older people: a randomised controlled trial of different approaches.** *Age Ageing* 2008, **37**:659-665.
76. Margitic S, Sevik MA, Miller M, Albright C, Banton J, Callahan K, Garcia M, Gibbons L, Levine BJ, Anderson R, Ettinger W: **Challenges faced in recruiting patients from primary care practices into a physical activity intervention trial.** *Activity Counseling Trial Research Group.* *Prev Med* 1999, **29**:277-286.
77. Tai SS, Illiffe S: **Considerations for the design and analysis of experimental studies in physical activity and exercise promotion: advantages of the randomised controlled trial.** *Br J Sports Med* 2000, **34**:220-224.
78. Dawson J, Hillsdon M, Boller I, Foster C: **Perceived barriers to walking in the neighbourhood environment and change in physical activity levels over 12 months.** *Br J Sports Med* 2007, **41**:562-568.
79. Klesges LM, Estabrooks PA, Dzewaltowski DA, Bull SS, Glasgow RE: **Beginning with the application in mind: designing and planning health**

behavior change interventions to enhance dissemination. *Ann Behav Med* 2005, **29** Suppl: 66-75.

80. Raynor HA, Osterholt KM, Hart CN, Jelalian E, Vivier P, Wing RR: **Evaluation of active and passive recruitment methods used in randomized controlled trials targeting pediatric obesity.** *Int J Pediatr Obes* 2009, **4**:224-232.

doi:10.1186/1479-5868-8-137

Cite this article as: Foster *et al.*: Recruiting participants to walking intervention studies: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity* 2011 **8**:137.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



Chapter 3: Key learning points

Introduction: The aim of this systematic review was to identify which methods were used and which were deemed effective for recruitment to walking programmes. The dearth of data available to assess this was disappointing. It did, however, confirm what had been identified in the background reading for Chapter 1, that a major issue in learning about what works in recruitment is the inability to understand what was done due to a lack of information on the planning, doing, monitoring and reporting of the actions of the recruiters and the responses of the participants. As a result, the following key issues were identified as major learning points and issues to be addressed going forward.

Key Learning points:

- The reporting of recruitment data is typically poor and may be influenced by two factors:
 - limitations in the size of research articles, particularly when recruitment is not the focus of the article,
 - a lack of theoretical frameworks, conceptual models, definitions and reporting metrics to guide and standardise reporting.
- There appeared to be an overdependence on passive methods for recruitment and in turn a demographic profile of participants in walking groups that was dominated by women, typically Caucasian and middle class.
- There were not enough data or research findings to identify a 'most effective' way to recruit to walking groups, but there was enough information to suggest a series of principles and a conceptual model.
- The assumptions at this stage in the Thesis were that effectiveness in recruitment to walking programmes may be increased if the process is seen as more of a project management activity, but how to test this was still a challenge.

- A major limitation to learning within research was the current state of reporting in research.

Next steps: The next phase in the PhD Thesis was to investigate within practice what the issues, approaches and insights were. This would allow for a comparison to research and a broader understanding of what actions are conducted and what actions are effective in recruitment to walking programmes. Interviews and case studies across the UK contributed to the data analysed in Chapter 3.

Chapter 4

“An ounce of practice is worth more than tons of preaching”

(Mohatma Gandhi)

Chapter 4: Contribution to this chapter

Title: *“Don’t wait for them to come to you, you go to them”*. A qualitative study of recruitment approaches in community based walking programmes in the UK

My Role: My role in the completion of this chapter included:

- co-writing the ethics application which applied to this study
- recruiting all participants for a workshop and group interviews held in Glasgow
- presenting a summary of the literature findings to date at the workshop
- assisting in the design of the interview schedule
- conducting one of the focus groups carried out in Glasgow
- contributing to the writing of the paper including the structure of the results and discussion sections
- contributing to all sections during write up and editing in the pre-submission phase.

Accepted for publication July 2012.

RESEARCH ARTICLE

Open Access

"Don't wait for them to come to you, you go to them". A qualitative study of recruitment approaches in community based walking programmes in the UK

Anne Matthews^{1*}, Graham Brennan², Paul Kelly¹, Chloe McAdam³, Nanette Mutrie³ and Charles Foster¹

Abstract

Background: This study aimed to examine the experiences of walking promotion professionals on the range and effectiveness of recruitment strategies used within community based walking programmes within the United Kingdom.

Methods: Two researchers recruited and conducted semi-structured interviews with managers and project coordinators of community based walking programmes, across the UK, using a purposive sampling frame. Twenty eight interviews were conducted, with community projects targeting participants by age, physical activity status, socio-demographic characteristics (i.e. ethnic group) or by health status. Three case studies were also conducted with programmes aiming to recruit priority groups and also demonstrating innovative recruitment methods. Data analysis adopted an approach using analytic induction.

Results: Two types of programmes were identified: those with explicit health aims and those without. Programme aims which required targeting of specific groups adopted more specific recruitment methods. The selection of recruitment method was dependent on the respondent's awareness of 'what works' and the resource capacity at their disposal. Word of mouth was perceived to be the most effective means of recruitment but using this approach took time and effort to build relationships with target groups, usually through a third party. Perceived effectiveness of recruitment was assessed by number of participants rather than numbers of the right participants. Some programmes, particularly those targeting younger adult participants, recruited using new social communication media. Where adopted, social marketing recruitment strategies tended to promote the 'social' rather than the 'health' benefits of walking.

Conclusions: Effective walking programme recruitment seems to require trained, strategic, labour intensive, word-of-mouth communication, often in partnerships, in order to understand needs and develop trust and motivation within disengaged sedentary communities. Walking promotion professionals require better training and resources to deliver appropriate recruitment strategies to reach priority groups.

* Correspondence: anne.matthews@dphpc.ox.ac.uk

¹British Heart Foundation Health Promotion Research Group, Department of Public Health, University of Oxford, Oxford, UK

Full list of author information is available at the end of the article

Background

Walking has been described as the nearest activity to perfect exercise [1]. Walking at a pace of 5 km/hour expends sufficient energy to be classified as moderate-intensity, defined as 3-6 Metabolic Equivalent Tasks (METs) [2], and contributes to achieving current physical activity guidelines [3]. Indeed the promotion of walking is featured within many international physical activity strategies and national plans [4]. Walking can reduce the risk of all-cause mortality and in particular, cardiovascular disease (CVD) mortality. It also improves diastolic blood pressure (normal range between 60-80 mm Hg) and lipid profiles (a range of cholesterol and triglycerides tests, usually undertaken to assess coronary heart disease risk), both risk factors for CVD and metabolic disease risk factors [5-7]. Regular walking is associated with a reduced risk of type 2 diabetes, reduction in body mass index and body weight, and can improve mood and relieve symptoms of depression and anxiety [8-10]. Increasing overall levels of physical activity by promoting walking will deliver real public health gains via reductions in risk of all-cause mortality [11].

Systematic reviews of the effectiveness of walking interventions found evidence from a range of strategies including brief advice to individuals, remote support to individuals, group-based approaches, active travel (including school based), environmental and community level approaches [12-14]. Indeed, this final strategy was adopted by the large cardiovascular risk reduction programmes of the 1980s which saw the first inclusion of walking promotion in the United Kingdom. In the late 1990s community walking programmes (known as 'Health Walks') with designated walk leaders and volunteers, were developed to encourage sedentary adults to become more active. Evaluations of these early projects showed a disparity in the recruitment of different groups. Older active adults were easier to recruit and retain than older inactive adults, with poor health assuming increasing importance as a barrier with increasing age [15]. Other 'hard to reach' groups such as families and children, may need greater flexibility in terms of walking programme implementation, given the wide range of participant ages and activity levels [16]. Population levels of walking (as with levels of overall physical activity) remain below recommendations [17-19] and walking behaviour is socially patterned by gender, age, socio-economic status (SES) and type of walking (leisure or transport) [18,20]. These facts readily indicate that the difficulties in walking programme recruitment include not only *how many* but also *who* is recruited.

One criticism of the evidence base for walking interventions is a failure to recruit representative samples of the population. Further studies are needed to broaden the reach of these interventions [12-14] but guidance on

achieving this is only partially reflected in public health and clinical research, with the most notable absence relating to conceptual frameworks, procedural models and systems. Indeed research indicates the need to identify what factors are effective in engaging participation at the recruitment phase [21-23]. Further, what is known about recruitment practice relates to drug or medical rather than public health interventions [24], with even less being known about those focusing on physical activity.

The impacts of a walking programme are limited by the efficacy of dose (how well does the intervention works on its participants) and also by recruitment (maximising the numbers of participants from the target populations who will receive the intervention dose). The Scottish Physical Activity Research Collaboration (SPARColl) (www.sparcoll.org.uk) has piloted a series of studies to examine the effectiveness of different recruitment strategies for community based programmes of walking promotion. We defined recruitment for such walking studies or programmes as '*the process of inviting participation to a formal activity including the invitation, informing and facilitation of interested parties to take part in an organised study, activity or event.*' This paper examines the experiences of walking promotion professionals and the range of recruitment strategies adopted by community based walking programmes within the United Kingdom, and discusses their views of effectiveness of such strategies in relation to particular population groups.

Method

Research team

The research was undertaken by two members of the research team, one a female doctoral qualitative researcher of 15 years experience and the other a male Ph.D candidate. No relationship was established with the participants prior to research commencement, but on initial contact participants were provided with some background to the researchers and the research groups to which they belonged. The research team had a long-standing interest in physical activity recruitment, latterly focusing on walking as an area needing research development. The proposed research was awarded ethics approval from the University of Strathclyde Ethics Committee in March 2009.

Design

The aim of the research was to identify the experiences of walking promotion professionals on the range and evidence of effectiveness of different recruitment strategies to encourage adults and children to participate in walking promotion projects. In addressing this aim the research adopted a phenomenological theoretical orientation, practiced through qualitative techniques. Such an approach seeks to study actions, situations and the realities constructed within particular spheres of human life [25].

Sampling

In seeking to gather data from those likely to possess the greatest knowledge and experience of walking programme recruitment the study employed purposive sampling, where the sample units possess particular characteristics which enable detailed exploration of particular issues [26]. Three walking promotion agencies (to be known as Agency A, Agency B and Agency C) were chosen to provide research participants – all agencies had national representation across England and Scotland, were experienced in providing community walking programmes, and possessed personnel (either paid or volunteer) with specific responsibility for programme recruitment. Senior managers from each agency were contacted by telephone. Information about the research was shared and all three agencies agreed to their involvement. The senior managers forwarded a list of personnel based on the following criteria pertinent to the research: likely to agree to participate, working at local level, managing or organising walking programmes, and having direct responsibility for recruitment.

Potential participants on all contact lists were either emailed or telephoned (if no email address) with a research outline and an invitation to participate. Of thirty-seven contacts, eight failed to respond and one felt they could not participate as they were not involved with recruitment currently. Twenty eight participants were drawn into the sample, spread across the UK: 5 from Scotland, 7 from the North West, 1 from Yorks and the Humber, 4 from the West Midlands, 2 from the East Midlands, 1 from London, 5 from the South West and 3 from the South East. Table 1 shows how the 28 walking programmes were distributed by aim and target population.

Data collection

Data collection adopted two techniques: telephone interviews (conducted with participants in their workplaces or homes), and case study participant observation [27] with face to face interviews (conducted in the field).

Telephone interviews, an approach commonly adopted when budgetary restrictions limit travel and time [28] were undertaken using a data collection tool containing standard questions developed to facilitate systematic data gathering. Included in this tool were questions addressing the purpose and structure of walking projects, participant target groups, recruitment method selection, successes and failures, participant retention, and recruitment evaluation. The interviews were audio-recorded and were semi-structured, an approach useful for gathering facts, identifying motives, commenting on actions and eliciting reasons and explanations [29]. Field notes were made during and immediately after interviews. By the end of the telephone interview round it was felt that data saturation had been achieved.

Since the aim of the research was to explore the issue of recruitment in the greatest depth, case studies (which provide data facilitating deeper understanding of aspects of routine and culture), were included on completion of an initial review of participant programmes. Three were selected on the criteria of working with hard-to-reach groups and also demonstrating innovative recruitment methods. Informal, semi-structured and group interviewing alongside participant observation of project leaders and walkers provided a richer understanding of the 'experience' of recruiting [30], from the viewpoint of both the recruiter and the recruitee.

Analysis

Exploratory research, such as this study which seeks to find out what recruitment methods are adopted by walking recruiters, may draw on multiple strategies. For example, case studies *within* surveys serve to enable the researcher to answer 'how' or 'why' questions [31]. As such, strategies are not seen as mutually exclusive but as providing complementary explanation to the issues explored, and therefore contributing to the theory building process (see Figure 1).

Data analysis adopted an approach using analytic induction. Such an approach, common to qualitative

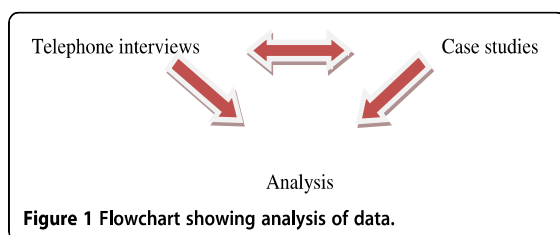
Table 1 Walking programmes by aim and target population

| Target population | Agency A* | Agency B / Agency C* | Other | Programmes with health aims** | Programmes with no health aims |
|-----------------------|-----------|----------------------|-------|-------------------------------|--------------------------------|
| | | | | Total (n = 21) | Total (n = 7) |
| Open to all | 6 | | | | 6 |
| Aged 20-40 | 1 | | | | 1 (case study A) |
| Children and families | 2 | | | 2 (inc. case study B) | |
| Aged 55+ | | 1 | | 1 | |
| Sedentary | 2 | 15 | | 17 (inc. case study C) | |
| Mental health groups | | | 1 | 1 | |

* Agency A (England) primarily promotes walking.

* Both Agency B (England) and Agency C (Scotland) primarily promote walking for health.

** Programmes which specifically seek to improve the health of individuals.



research, proceeds through the following series of steps [32]: (i) data are scanned to generate categories of phenomena, (ii) relationships between categories are sought, (iii) working typologies and summaries are written on the basis of the data examined, (iv) subsequent case analysis enables refinement and redefinition, and (v) negative and discrepant cases are deliberately sought to modify, enlarge or restrict the original explanation or theory. Using the Excel software package, the data were coded in the first instance by one researcher, followed by a cyclical pattern of thematic verification and revision during analysis with two other researchers (see Figure 2 for an example of this 'step' procedure in practice).

Results

Programme aims: why purpose drives recruitment

Key drivers for recruitment are the aims and objectives of programmes. In general, the data indicate that the less programmes are driven to capture specific populations, the less targeted the recruitment drive. Health walks programmes – 'specifically designed and carried out to improve one's health' [33] – seek out particular population groups based on health criteria. 'Walking-focused' programmes (on the other hand, as typified by those run by Agency A, seek out individuals based on walking criteria. Although as a subscription-driven walking charity Agency A now cites the promotion of social welfare (incorporating health) within its aims, historically it was formed to promote access to the countryside and the 'right to roam'. These are aims which still predominantly define the way open walking programmes are structured within the organisation.

the problem they have is, some of their traditional members have a lot of discomfort with promoting the urban walking agenda. . . I think they see it as detracting from the core stuff about footpaths. . .
 Respondent 5, Case study A (Agency A)

Data from the six Agency A walking leaders who provide 'open to all' programmes, showed that the typical demographic of recruited members is white, middle class, and retired. Given that such programmes are not seeking to recruit from specific groups, non-targeted recruitment methods are typically employed, e.g. placing

promotional material in community spaces and/or local media in order to engage anyone interested in walking from the population at large.

Data from the health walks programme leaders on the other hand, show recruitment strategies driven in part by health aims. Typically programmes had pre-identified target groups (e.g. sedentary people, people living in areas of deprivation) defined within their aims, which led to targeted recruitment strategies. Although most respondents did mention the use of promotional material, it was recognised that this type of recruitment would not engage those for whom lifestyle changes were a necessary precursor.

To me that's not the target group that we want [those that read posters] because obviously if they're out and about they've seen them anyway, so they are getting out and about. We prefer to try to get to the people that need to walk.

Respondent 17, (Agency B)

Commonly adopted strategies were clearly linked to working in face to face contexts.

Our mission statement is to get more people more active more of the time. . . When you're targeting a certain group of people [i.e. the inactive] they're not going to read something in a health and fitness magazine, they're not necessarily going into a leisure centre to pick up information from there. So rather than waiting for them to come to us, we're going to them.

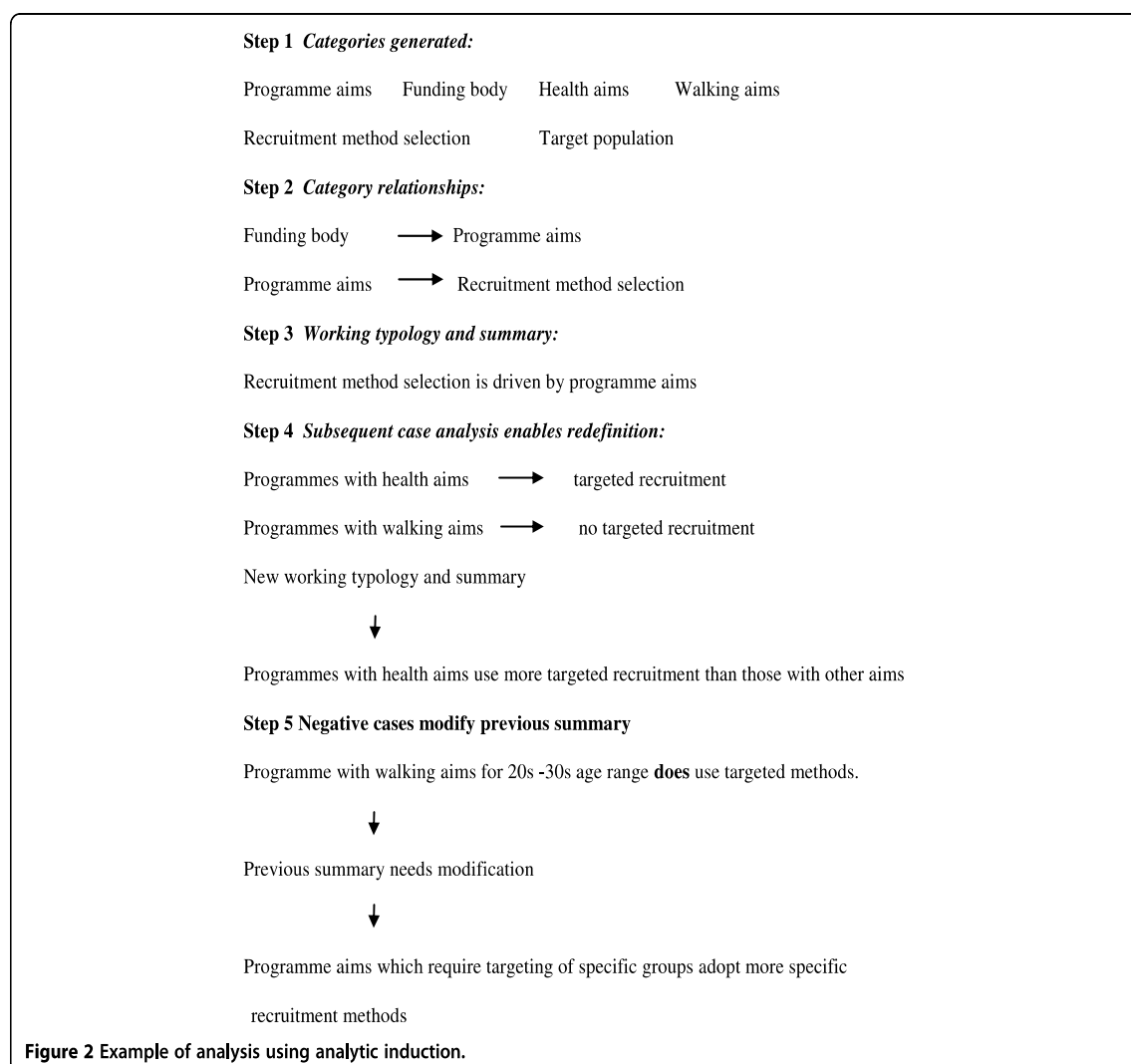
Respondent 15, (Agency B)

The majority of respondents who worked within programme aims which targeted 'hard to recruit' groups e.g. Black and Minority Ethnic (BME) or vulnerable children and family groups, mentioned the need to work in partnership with those organisations and agencies currently working with those groups.

[Agency A have] not really [got] the expertise or contacts to do it with children or families. So we needed help in that direction and [named children's agency] have got that national spread of working with children and contact through family centres throughout the country"

Respondent 3, Case Study B (Agency A)

In terms of actually recruiting to walking programmes those from 'hard to recruit' groups who had never walked, there was a recognition that engagement is largely achieved through the trust and motivation which partner organisations build up with their clients.



Recruitment at this level was typically observed as inter-personal – intensive face-to-face, word-of-mouth prompting.

Walk leader: I don't know if it would have been possible [to run the programme without the help of a partner], because all the BME groups that I've run, I've always had some sort of community worker attached to them... [without that] they probably didn't know who Agency A were, they wouldn't have heard of [named walking programme].

Community Programme Manager: ...my Assistant has worked her socks off to get them women... The day before you're ringing, you're sending letters out, ringing the morning before, you've got to really motivate [the Asian women to participate in the walking sessions]...
Group interview, Case Study C, (Agency A)

To summarise this finding, programme aims which require targeting of specific groups adopt more specific recruitment methods.

Recruitment processes: what guides the activity of recruitment?

A key principle which guides recruitment is the conceptual framework, if any, underpinning each programme. Of the 28 walking programmes, only 5 (all with health aims) were working within a conceptual framework which established recruitment strategy. Of these, 3 programmes were staffed by paid coordinators, where the remit was to work with partner organisations and community groups to reach 'hard to recruit' groups. These were guided by the adoption of actively targeted approaches as described above.

Two other programmes operated under theoretical models which informed the recruitment process. One was a health walks programme guided by the Stages of

Change model [34], which led to the provision of walking interventions of differing intensities designed to cater for the needs of the local population at differing stages of engagement. Here, longevity was perceived as facilitating effective 'word of mouth' recruitment. The other, a walking programme run by a drug addiction team, operating under a bio-psychosocial model [35] to bring about mental and physical health improvement, used 'word of mouth' recruiting firstly via therapy sessions and encouraging clients to bring others. These programmes indicate at least some kind of formative evaluation through participatory planning with other stakeholders [36]. Data from the remaining 23 programmes indicated the decision about which recruitment methods to adopt was largely the responsibility of walking programme coordinators, who operated under no guiding conceptual framework.

Having established that most respondents had no conceptual framework to guide their recruitment activity, we now examine which recruitment methods were selected. Figure 3 categorises the methods according to two types of recruitment approach – 'passive' and 'active'.

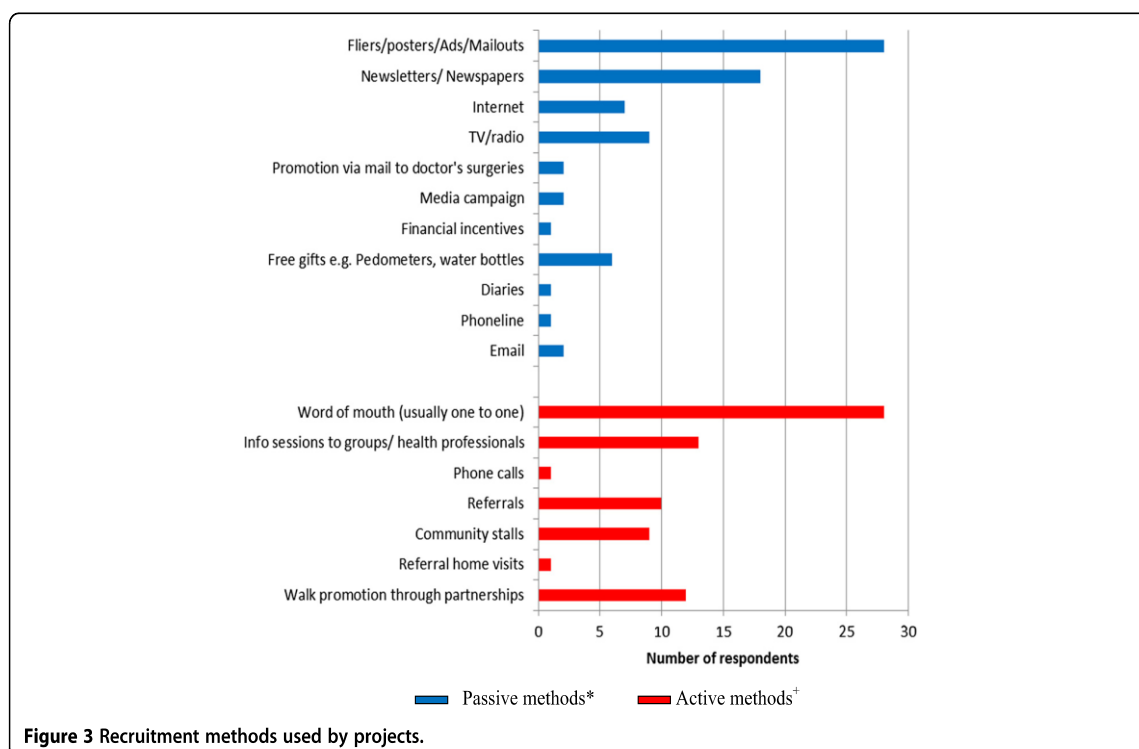
Passive methods are defined as ones which require the potential programme participant to make the first contact with the programme. Active methods are defined as ones which require a programme representative to make the first contact with the potential participant. The data show a fairly even distribution between passive and active methods used, although the only active method used

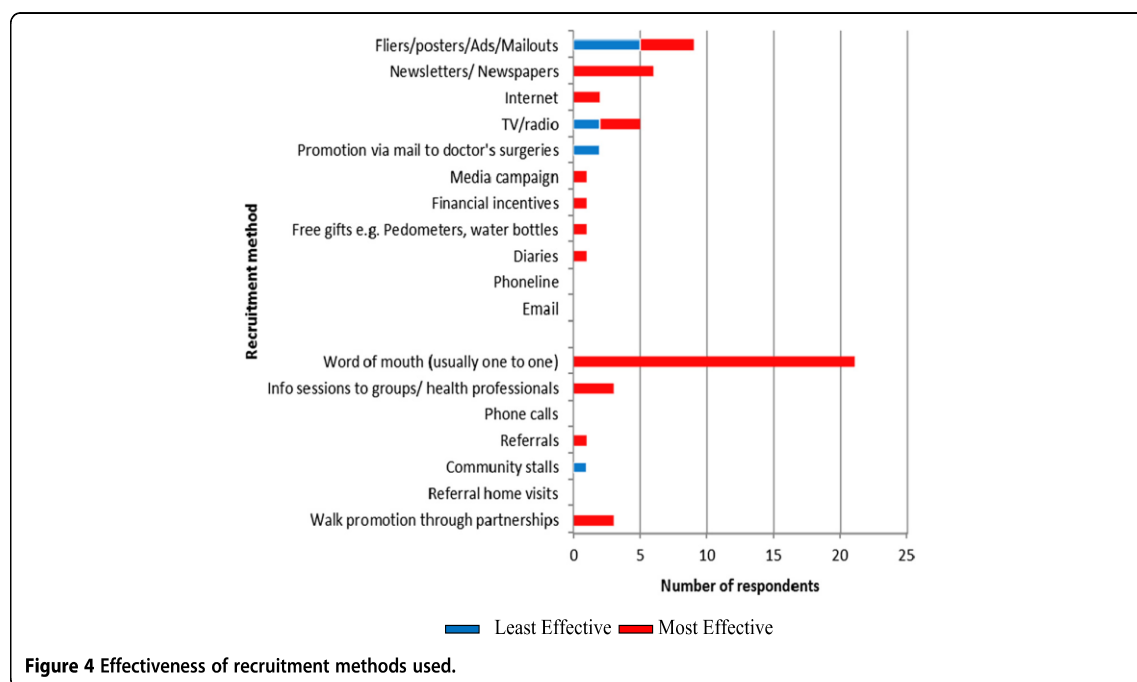
by 'open to all' programmes was 'word of mouth'. Programme leaders were then asked to nominate the method thought to be the most and least effective. Figure 4 shows that active methods – particularly 'word of mouth' – were overwhelmingly believed to be the most effective.

Despite the popularity of the use of fliers and posters shown in Figure 3, only a small number of programme leaders believe them to recruit effectively, with some regarding them negatively. The data seem to indicate a mismatch between the methods respondents believe to be *effective* and the ones they actually *adopt*. Other than the 'open to all' Agency A groups, who typically used the fewest number of recruitment methods (typically programme fliers and word of mouth), the majority of respondents, none of whom were guided by presence of a conceptual framework, used a 'belt and braces' approach encompassing as many methods as their capacity allows.

Everything can work. You just have to try everything.
Respondent 27, (Agency C)

Three respondents with a personal background in marketing were identified during interviewing. Notable was their adoption of 'what works' recruitment, all favouring active 'word of mouth' community-based approaches. In this sense their recruitment activity appeared to be more strategic than many other





respondents, where the start-point focused on recruitment *outcomes* (how best to recruit the target group) not recruitment *processes* (how many potential recruitment methods could be employed). In explaining why respondents were so process- rather than outcome-focused in their recruitment, the data indicated the influence of resource availability. Although respondents thought of active recruitment methods as more effective, they described them as time-intensive and draining of human resources.

...we have no budget for advertising or promotions or anything. It was purely salary-based. . . We're doing a lot of social and community promotions. . . Which is actually quite labour intensive
 Respondent 15, (Agency B)

Of the 28 programmes, none worked within a specific recruitment budget, although a few possessed a 'publicity' budget. Funded post respondents commonly spoke of recruitment being under-resourced. For example, those programmes which fell under the Agency B umbrella – typically gathering meagre funding from multiple sources – tailored to their recruitment methods according to resource capacity which drove them to adopt the cheapest methods.

Yes, it is NHS [National Health Service] funding, if you classify my wages as funding. Other than my time to coordinate the scheme, the other funding pot comes from the [named] Council. They will print my

timetable for me but then it's down to me to distribute that. There's no other funding set aside for the walking scheme as such. . . with regards to targeting the population groups and the ways in which we do it, because I've got no budget I'm restricted to leaflets. . .
 Respondent 18, (Agency B)

To summarise this finding, without the guiding principles of a conceptual framework for recruitment method selection, very few recruiters are strategic in thinking of 'what works'. Most focus on multiple method selection processes often driven by resource-poor contexts.

Sustainability: the contribution of evaluation and training to recruitment

Evaluation – planning and measures of success

A key component of sustainability is effective programme evaluation. There was a wide variation in the degree of evaluation found. Twenty-seven of the 28 interviewees engaged in some kind of 'process' (assessing implementation) evaluation. Of these, 5 had also either been or were about to be evaluated by independent researchers. It was clear that the vast majority of evaluations focused on evaluating participation with none methodically collecting exposure, delivery or context data. All programme evaluations noted numbers of participants, a measure of primary importance.

We do count up how many people we get on a walk. I wouldn't say there was competition exactly [between

walk leaders], but if you get 30+ the leader gets a certain smugness!

Respondent 10, (Agency B)

In the case of health walk programmes run under the Agency B umbrella, evaluations were usually based on data obtained from the Outdoor Health Questionnaire (OHQ) which walkers complete on their first visit. Questions about method of recruitment, health status, background as a walker, and weekly engagement in moderate levels of physical activity, are collated at local level by coordinators and at national level by Agency B. No respondent reported interrogating the OHQ data to relate numbers of participants to their health or physical activity status, and therefore whether or not they were representatively capturing the 'sedentary' target populations they sought to recruit. Thus, despite respondents' awareness of the target population, the focus of most evaluation seemed to be *descriptive* rather than *diagnostic* in terms of prospective recruitment direction. As shown by Figure 4, respondents believed the most effective recruitment method to be 'word of mouth', often quoting their OHQ data as evidence, but no programme evaluated recruitment methods used and their relative success in achieving a representative sample population.

We do have a database and record how many participants there have been to the programme, but we don't necessarily relate that to whether we've just delivered a load of leaflets or whatever.

Respondent 13, (Agency B)

Other than one respondent (whose programme measured Body Mass Index 'before and after' no programme evaluated outcomes (treatment effectiveness) systematically, although anecdotal evidence was widely offered. Across all programmes, it was the *number of participants* and the *level* of recruitment, i.e. process evaluation data, which was used and accepted as evidence of effectiveness instead.

We feed into Agency B's database now... what I'm able to use if for now is the number of new walkers. I can certainly track every single walker now to see how regularly they are walking. We have a Service Level Agreement... I have to report the number of walker attendances. The expectation is that that will have increased.

Respondent 16, (Agency B)

Training – knowing how to recruit

The Agency A Membership Recruitment and Publicity Handbook [37] lists ideas for recruitment, but local groups are advised to consider using a whole range of

methods in a 'belt and braces' approach. Word of mouth is encouraged as a successful method, but is phrased as 'recommendation to a friend', a suggestion likely to succeed only insofar as recruiting those from similar backgrounds. Agency B and Agency C now embrace health-related social marketing, defined as

'the systematic application of marketing, alongside other concepts and techniques, to achieve specific behavioural goals, to improve health and reduce health inequalities'. [38]

In thinking carefully about the barriers to walking for particular groups [39], the skill of the publicity officer in Case Study A, who came from a marketing background, was in matching the nature of the group to the motivations of the 20s to 30s audience.

We unashamedly did a Valentine's feature this year, because it is like a dating club, our group.

Respondent 5, Case study A (Agency A)

In a contrast to all other programmes, fliers and posters were not adopted by Case Study A as recruitment tools, although word-of-mouth between friends was still cited as important. Innovative recruitment practices included the use of new social communication media – the group used the internet exclusively to communicate (and recruit) via their website, Time Out, Facebook and Twitter – including 'piggybacking' walking onto existing events e.g. 'Films on Foot', walking to well-known film locations as part of a city film festival. Such strategies thus tapped into the cultural norms and behaviours of young urban populations, presenting walking as 'cool' and therefore appealing.

Under social marketing principles, recruiters of health walks should emphasise social rather than health benefits, a strategy thought to be more persuasive. Indeed one interviewee alluded to these potential 'negative' perceptions of promoting 'health'.

I don't advertise it as a health walk any more. All my promotion says, 'get out, make friends, have fun,'... just telling them the walk will do them some physical good won't necessarily motivate them... the social aspect is much more motivating.

Respondent 13, (Agency B)

Indeed this social aspect of walking programme sustainability was emphasised by many respondents, particularly in relation to combating social isolation [40], believing that participants are retained on programmes by the interactions they have with volunteers and fellow walkers.

... participants pick up that enthusiasm from the volunteers. . . Most of the time people are going on the walks because they want a chat. . . [volunteers] listening to the stories if someone's been poorly or something's happened to someone in their family. Respondent 20, (Agency B)

Such 'easy' retention, perhaps amongst programmes attended by long-standing walkers, may not be the experience of those trying to recruit in more challenging settings. Three research case studies, working with 'hard to recruit' groups, richly demonstrated that recruiters working with groups that *don't already* walk need to understand what will *persuade* them to walk. However, the interview data show that most recruitment decisions are taken by programme coordinators 'on the ground', often piecemeal, none of whom have received any formal recruitment or marketing training in effectively reaching the target population. Therefore, whilst it is clear that some walking organisations have embraced the need to market persuasively to the inactive [41] and now offer social marketing training courses [40], the data here show gaps in the effective delivery of that training which might help to facilitate sustainable walking programmes for targeted groups.

To summarise this finding, sustainability seems dependent on *how many* rather than *which* participants are recruited to walking programmes. Recruiters know from experience how to retain participants who are already committed to walking programmes, but do not receive standard training to help them recruit the correct participant representation at the outset.

Discussion

We successfully identified a range and views of the effectiveness of different recruitment strategies to encourage adults and children to participate in walking promotion projects, from the experiences of walking promotion professionals. Our research has findings which indicate three key messages.

1. Walking programmes with aims which necessitate recruiting specific groups seem to adopt 'targeted' recruitment methods; participants perceive such methods as the most effective in engaging 'hard to recruit' groups.
2. Weak programme structures, including the lack of conceptual frameworks and resources, may lead recruiters to focus on less expensive but potentially less effective recruitment processes.
3. Sustainability seems dependent on *how many* rather than *which* participants are recruited to walking programmes. Recruiters know from experience how to retain participants who are already committed to

walking programmes, but do not receive standard training to help them recruit the correct participant representation at the outset.

The finding that the aim of a walking programme directly influences the recruitment framework, demonstrates the inadequacy of a 'one size fits all' approach to walking programme recruitment. For programmes that are walking-focused, such as the traditional volunteer-led programmes offered by Agency A, 72% of whose membership consists of professionals, there is no surprise that they tend to recruit from similar demographic groups – the retired, middle class, largely female constituency.

However, it has been suggested that walking as an activity in England is decreasing [42], a trend reflected in the falling membership of Agency A. A recent Agency A strategy document advocates the need to '*Build a more diverse supporter base, less dependent on those retired or approaching retirement*' [43]. This aspiration is clearly a challenge at local level where the recruitment work is undertaken through the goodwill of untrained volunteers, not equipped to adopt the community-based targeted messaging approaches which Agency A recognises is a necessary strategy to engage inactive groups in walking [44].

It has already been shown that health walks tend to recruit people who already walk, who are already reasonably fit [45], and that 'new' walkers from disadvantaged groups form a small percentage of health walks in general [15]. The finding here, that health walks programmes can recruit successfully by adopting more 'active' approaches, demonstrates an acceptance that walking interventions may present barriers to specific groups which require an understanding of individual needs, as reflected in recent trends endorsing social marketing techniques. Walking interventions have the potential to increase physical activity levels at least in the short term. This research indicates the importance of recognising the connection between recruitment to any given walking intervention and the life circumstances of potential participants.

Beyond the finding that coordinators recruit in specific ways because of programme aims, the data seems to indicate that recruitment method selection is affected by two other factors: awareness of effectiveness and financial capacity. For those programmes where there was a paid coordinator in post, of interest is the finding that despite perceiving 'word of mouth' as the most effective method, the adoption of a range of methods, including those perceived to be the least effective, predominated. Coordinators with a background in marketing were notable for not taking this approach; instead selecting methods strategically based on their perceived effectiveness.

It is therefore suggested that a necessary precursor to effective recruitment is personnel training, a finding which carries financial implications for programme funders. 'Word of mouth', at its most effective when face-to-face [46], is labour intensive when compared with other recruitment methods. Programme coordinators privilege some recruitment methods over others because of budgetary constraints. This research indicates that weak programme structures lead to weak recruitment processes, a message which may be opaque for funders since, irrespective of the original target groups, recruiters are indeed successful at drawing participants into walking programmes.

Previous research has indicated the paucity of research examining the effectiveness of community-based physical activity interventions which operate by tapping into existing interpersonal links [47]. This research indicates that such interventions will be more likely to succeed in recruiting and retaining the target population effectively, only by building the capacity to deliver adequate and standard training.

Good process evaluation should examine key elements – programme exposure, participation, delivery and context [36]. For the most part, programmes undertook fairly basic process evaluation, largely concerned with participation rates. The finding that programmes do not evaluate recruitment method effectiveness may in part reflect the hand-to-mouth nature of some programmes. For many coordinators, the on-going struggle for financial sustainability and survival could explain the focus on numerical attendance, rather than on who is being recruited and how. More widely, this may mean that programmes without evaluation to reveal the ongoing representativeness of the target population within the sample, will be unable to demonstrate their true effectiveness, despite their popularity in general.

This study of walking recruitment has certain limitations. There were the usual research constraints of time and money. It therefore confined its respondents to those from only three organisations which promote walking, and limited the number of respondents. In addition, the respondents' experiences of recruitment are unverified by any other sources and may be weakened by 'telephone' rather than 'face-to-face' interviewing. The small and un-representative nature of the sample also limits the extent of generalisability. However, this area of enquiry is under-researched and therefore these findings provide a useful background to understanding what constitutes effective walking recruitment methodology in relation to sedentary populations.

Conclusions

Ogilvy et al (2007) warn that targeted walking interventions may preferentially be taken up by better-off groups

and may therefore have the potential to increase health inequalities [12]. Indications from this research resonate with similar anxieties – effective walking programme recruitment, as perceived by recruiters, seems to require trained, strategic, labour intensive, word-of-mouth communication, often in partnerships, in order to understand needs and develop trust and motivation within disengaged sedentary communities. Participants from such communities seem often to be the hardest to recruit but nevertheless are often those who stand to benefit the most. Unless this issue is recognised by policymakers, inadequate resources may compromise the sustainability of effective walking programme recruitment processes for such target audiences.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

CF, GB & AM conceived of the study, and participated in its design and coordination and helped to draft the manuscript. PK collected data and helped to draft the manuscript. CMcA and NM helped study coordination and drafting the manuscript. All authors read and approved the final manuscript.

Acknowledgements

This study was funded as part of the research programme of The Scottish Physical Activity Research Collaboration (SPARColl). SPARColl is managed by NHS Health Scotland and funded by the Scottish Executive Health Department.

Author details

¹British Heart Foundation Health Promotion Research Group, Department of Public Health, University of Oxford, Oxford, UK. ²Psychological Sciences and Health, University of Strathclyde, Glasgow, UK. ³SPARColl, Psychological Sciences and Health, University of Strathclyde, Glasgow, UK.

Received: 25 November 2011 Accepted: 10 July 2012

Published: 10 August 2012

References

1. Hardman AE, Morris JN: **Walking to health**. *Sports Med* 1997, **23**:306–332.
2. Ainsworth BE, Haskell WL, Herrmann SD, Meckes N, Bassett DR Jr, Tudor-Locke C, Greer JL, Vezina J, Whitt-Glover MC, Leon AS: **2011 Compendium of Physical Activities: A Second Update of Codes and MET Values**. *Med Sci Sports Exerc* 2011, **43**:1575–158.
3. Department of Health PA, Health Improvement and Protection: *Start Active, Stay Active: A report on physical activity from the four home countries' Chief Medical Officers*. London: Department of Health; 2011.
4. Global Advocacy Council for Physical Activity ISIPAaH: **The Toronto Charter for Physical Activity: A Global Call for Action**. *J Phys Act Health* 2010, **7**(Suppl 3):S370385.
5. Committee PAGA: *Physical Activity Guidelines Advisory Committee Report*, 2008. Washington, DC: US Department of Health and Human Services; 2008.
6. Lee IM, Skerrett PJ: **Physical activity and all-cause mortality: what is the dose-response relation?** *Med Sci Sports Exerc* 2001, **33**:S459–S471. discussion S493593 454.
7. Murphy MH, Nevill AM, Murtagh EM, Holder RL: **The effect of walking on fitness, fatness and resting blood pressure: a meta-analysis of randomised, controlled trials**. *Prev Med* 2007, **44**:377–385.
8. Department of Health PA, Health Improvement and Prevention: *At least five a week: Evidence on the impact of physical activity and its relationship to health. A report from the Chief Medical Officer*. London: Department of Health; 2004.
9. Hu FB, Sigal RJ, Rich-Edwards JW, Colditz GA, Solomon CG, Willett WC, Speizer FE, Manson JE: **Walking compared with vigorous physical activity**

- and risk of type 2 diabetes in women: a prospective study. *JAMA* 1999, **282**:1433–1439.
10. MIND: *The MIND guide to physical activity*. London: MIND; 2008.
 11. Hamer M, Chida Y: **Walking and primary prevention: a meta-analysis of prospective cohort studies**. *Br J Sports Med* 2008, **42**:238–243.
 12. Ogilvie D, Foster CE, Rothnie H, Cavill N, Hamilton V, Fitzsimons CF, Mutrie N: **Interventions to promote walking: systematic review**. *BMJ* 2007, **334**:1204.
 13. Excellence NIfHaC: *Promoting and creating built or natural environments that encourage and support physical activity (NICE public health guidance 8)*. London: NICE; 2008.
 14. Excellence NIfHaC: *Promoting physical activity for children and young people*. London: NICE; 2008.
 15. Dawson J, Hillsdon M, Boller I, Foster C: **Perceived barriers to walking in the neighbourhood environment and change in physical activity levels over 12 months**. *Br J Sports Med* 2007, **41**:562–568.
 16. Milton K, Kelly P, Bull F, Foster C: **A formative evaluation of a family-based walking intervention – Furness Families Walk4Life**. *BMC Public Health* 2011, **11**:614.
 17. Bauman A, Bull F, Chey T, Craig CL, Ainsworth BE, Sallis JF, Bowles HR, Hagstromer M, Sjostrom M, Pratt M: **The International Prevalence Study on Physical Activity: results from 20 countries**. *Int J Behav Nutr Phys Act* 2009, **6**:21.
 18. Centre TI: *Health Survey for England 2008: Physical activity and fitness. Summary of key findings*. NHS edition. London: Department of Health; 2009.
 19. Executive S: *The Scottish Health Survey 2008*. Edinburgh: The Stationery House; 2008.
 20. Transport v: *Transport Statistics Bulletin: National Travel Survey 2008*. London: Department for Transport; 2008.
 21. Swanson GM, Ward AJ: **Recruiting minorities into clinical trials: toward a participantfriendly system**. *J Natl Cancer Inst* 1995, **87**:1747–1759.
 22. Froelicher ES, Lorig K: **Who cares about recruitment anyway?** *Patient Educ Couns* 2002, **48**:97.
 23. Treweek S, Pitkethly M, Cook J, Kjeldstrom M, Taskila T, Johansen M, Sullivan F, Wilson S, Jackson C, Jones R, Mitchell E: **Strategies to improve recruitment to randomised controlled trials**. *Cochrane Database Syst Rev* 2010, :MR000013.
 24. Toerien M, Brookes ST, Metcalfe C, de Salis I, Tomlin Z, Peters TJ, Sterne J, Donovan JL: **A review of reporting of participant recruitment and retention in RCTs in six major journals**. *Trials* 2009, **10**:52.
 25. Silverman D: *Interpreting qualitative data: methods for analysing talk, text, and interaction*. London; Thousand Oaks Calif.: Sage Publications; 1993.
 26. Mason J: *Qualitative researching*. 2nd edition. London, Thousand Oaks Calif.: Sage Publications; 2002.
 27. Yin RK: *Case study research: design and methods*. Newbury Park, Calif.: Sage Publications; 1989.
 28. Miller C: **In-depth interviewing by telephone:some practical considerations**. *Eval Res Educ* 1995, **9**:29–38.
 29. Patton MQ: *Qualitative evaluation and research methods*. Newbury Park, Calif.: Sage Publications; 1990.
 30. Yin RK: *Applications of case study research*. 2nd edition. Thousand Oaks: Sage Publications; 2003.
 31. DeWalt KM, DeWalt BR: *Participant observation: a guide for fieldworkers*. Walnut Creek, CA: AltaMira Press; 2002.
 32. LeCompte MD, Preissle J, Tesch R: *Ethnography and qualitative design in educational research*. 2nd edition. San Diego: Academic Press; 1993.
 33. Walking for Health Website. <http://www.wfh.naturalengland.org.uk/about-us/health-walks>.
 34. Prochaska JO, Velicer WF: **The transtheoretical model of health behavior change**. *Am J Health Promot* 1997, **12**:38–48.
 35. Halligan PW, Aylward M: *The power of belief: psychosocial influence on illness, disability and medicine*. Oxford; New York: Oxford University Press; 2006.
 36. Nutbeam DB: *A: Evaluation in a Nutshell*. Sydney: McGraw-Hill; 2006.
 37. England N: *Guidance Note 2 Planning a scheme*. Cheltenham: Walking for Health; 2010.
 38. French JB-SC: *Social marketing national benchmark criteria*. UK: National Social Marketing Centre; 2006.
 39. Mori I: *Promoting Walking in High Deprivation Communities*. London: Ramblers Association; 2006.
 40. Paths for All Website. <http://www.ramblers.org.uk/info/everyone/health.html#Mental>.
 41. Walking for Health Website. <http://www.pathsforall.org.uk/pathstohealth/article.asp?id=859>.
 42. HCB G: *Walk this Way. Recognising value in active health prevention*. London: Local Government Information Unit for Natural England; 2010.
 43. Association R: *Fresh air, firm ground. Working for a Walking Britain: The Ramblers' Association Strategy 2008-2013*. London: Ramblers Association; 2008.
 44. Association R: *Walking Facts and Figures 2: Participation in walking*. London: Ramblers Association; 2010.
 45. Dawson J, Boller I, Foster C, Hillsdon M: *National Evaluation of Health Walk Schemes*. London: Department of Health; 2006.
 46. Marketing Made Simple Website. <http://www.marketing-made-simple.com/articles/word-of-mouth-advertising.htm>.
 47. Hillsdon M, Foster C, Cavill N, Crombie H, Naidoo B: *The effectiveness of public health interventions for increasing physical activity among adults: A review of reviews. Evidence Briefing (2nd Edition)*. London: Health Development Agency; 2005.

doi:10.1186/1471-2458-12-635

Cite this article as: Matthews et al.: "Don't wait for them to come to you, you go to them". A qualitative study of recruitment approaches in community based walking programmes in the UK. *BMC Public Health* 2012 **12**:635.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



Chapter 4: Key learning points

Introduction: The purpose of this investigation was to identify the approach practitioners took to recruitment, what was deemed to be effective and what issues were prevalent or challenging. Similar to Chapter 2, a lack of models or best practice guidance was evident among practitioners and this was an expressed request of the participants in the study. The following key learning went some way to understanding why.

Key learning points:

- Practitioners felt under pressure from funders to report attendance rates, not their effectiveness in reaching specific target groups.
- Funding restrictions compromised the practitioners' capacity to recruit in a way that they believed would be most effective. This represents a major limitation for practice and the translation of research recommendations to practice.
- Practitioners recognised that they are attracting participants most likely to attend anyway and are less effective in attracting those deemed 'hard to reach', but the apparent lack of guidelines, combined with funding restrictions limit their efforts and increase their dependence on enthusiastic but untrained volunteers, who likely recruit within their own psychosocial networks.
- A particularly important learning issue for practice was that a singular physical health message was not necessarily appealing and in fact could be dissuasive.
- The messages that were considered to be effective working in recruitment were that walking groups were an opportunity to be social and feel good mentally as a result of participation.

Next steps: The next phase of this PhD Thesis was an investigation of what participants in walking groups experienced when they were recruited. By investigating this aspect of recruitment I could investigate if the methods used in research and practice was actually what participants responded to. Focus groups held across Glasgow contributed to the data analysed in Chapter 5.

Post-script note: Clarity of figure 4.

Figure 4 refers to the presents data on what recruiters perceived were the least and most effective methods of recruitment. The frequency of response should be read as the width of each coloured bar. Therefore, five recruiters felt that fliers/posters/Ads/Mailouts were the least effective method, while four respondents believed it was the most effective method they used.

Chapter 5

“Sometimes we do a thing in order to find out the reason for it. Sometimes our actions are questions not answers”

(John Le Carre)

Chapter 5: Contribution to this chapter

Title: Recruiting adults to a community based walking promotion programme: the participants' perspectives

My Role: My role in completion of this chapter included:

- I designed the study protocol
- I sought ethical approval
- I wrote and developed the focus group questions
- I recruited all participants
- I conducted all the focus groups and transcribed all the data
- I analysed and coded the data and developed the thematic framework which was used to write the chapter
- The coding and thematic framework was reviewed in collaboration with the SPARColl coordinator, Dr. Chloe McAdam
- I wrote this chapter and all drafts were reviewed by my supervisors and Dr. McAdam

This chapter is presented in the format of a manuscript and is in submission with Health Promotion Practice

Chapter 5

Recruiting adults to a community based walking promotion programme: the participants' perspectives

Identifying information

Graham Brennan*, Claire Fitzsimons, Chloe McAdam, Nanette Mutrie
Address: Physical Activity for Health Group, School of Psychological Sciences
and Health, Faculty of Humanities and Social Sciences, University of
Strathclyde,
76 Southbrae Drive, Glasgow, G13 1PP.

Email: Graham Brennan*-graham.brennan@strath.ac.uk, Claire Fitzsimons-
claire.fitzsimons@strath.ac.uk, Chloe McAdam-chloe.mcadam@strath.ac.uk,
Nanette Mutrie-nanette.mutrie@strath.ac.uk

Acknowledgements

We would like to thank the participants who gave their time to provide our data. We would also like to thank Glasgow Life and all the walk leaders and walking group co-ordinators who assisted in and permitted access to the members of their groups. Nanette Mutrie is the principle investigator of the Scottish Physical Activity Research Collaboration (SPARColl) (www.sparcoll.co.uk) which is based at the University of Strathclyde. The collaboration is funded by the Scottish Government and managed by NHS Health Scotland. The research presented in this publication formed an aspect of Graham Brennan's PhD programme of research and was funded by SPARColl.

Abstract

Introduction: This article reports on the perspectives of participants recruited to walking programmes. This is a gap in the literature which could inform guidelines for recruitment. **Aim:** We sought to identify how participants had become aware of their walking programme, why they decided to take part and how they described it to others. **Methods:** Four focus groups with 17 walking group members from a range of walking groups in Glasgow, Scotland, were conducted. **Results:** The participants most often reported being recruited through word of mouth. This was usually facilitated by their membership in another social group and the endorsement or trust of the recruiter within networks associated with these groups. Broad health needs, satisfaction, and a good fit within the context of their lives were attractive features when deciding to take part. They struggled to explain how they described the group to others, but emphasised the satisfaction of social and psychological needs and the persuasiveness of taster sessions as important and attractive.

Contribution to the literature: These findings provide useful triangulation information for the planning of recruitment. This article highlights the benefit of social networks within recruitment strategies and recommends focusing on the health needs and context of the potential participants.

Keywords

social networks, physical activity, taster sessions, trust, focus groups

Background

Walking is highly recommended as an effective public health intervention (Department of Health, 2010; Morris & Hardman, 1997). It is supported at policy level (NHS Health Scotland, 2009) and has been implemented as a public health strategy in Scotland (Scottish Executive, 2003). However, walking programmes in research and practice are often struggle to recruit participants (Foster et al., 2011). Taking more initiative to actively recruit participants (Matthews et al., 2012; Swanson & Ward, 1995) and the evaluation of recruitment strategies (Toerien et al., 2009) have been recommended to improve recruitment outcomes, but few studies have included the participants perspective to inform their actions.

Reasons for taking part in community based physical activity programmes have been investigated qualitatively and include weight management, enjoyment and social interaction (Allender, Cowburn, & Foster, 2006). Despite its health benefits and the effectiveness of walking programmes (Ogilvie et al., 2007) women report enjoying being a member of a walking group (Ashley & Bartlett, 2001) while men are reportedly less attracted to walking programmes in the first instance (Burton, Walsh, & Brown, 2008). However, family based walking programmes which included activities throughout and at the destination point were popular among young families and provided a model for successful programme delivery (Milton, Kelly, Bull, & Foster, 2011). Although there is an increasing database of the benefits, popularity and characteristics of successful walking programmes, there is still a lack of information about asking participants to take part or overcoming barriers to participation at the recruitment stage.

Overuse of passive approaches to recruitment including fliers and posters has been reported in walking promotion programmes (Foster, et al., 2011;

Matthews, et al., 2012). However, fliers and posters aren't always effective in reaching the intended target (Harkins et al., 2010). Practitioners in walking programmes reported an overdependence on print material due to a lack of resources to recruit in-person, and lack of evidence to support their use of different methods (Matthews, et al., 2012).

The aim of this study was to examine recruitment to a walking programme from the participants' perspective and to identify how this information could inform the action of recruiters in walking programmes. Three points of interest directed the research: how the walkers heard about the group; what they considered once they initially became aware of the group; and what they discussed when describing the group to other people. Practitioners in walking programmes have reported 'word of mouth' as the perceived best method of recruitment, but little is elaborated regarding what the term means or how word of mouth conversations should be conducted (Matthews, et al., 2012). This data is important for comparison to previous research conducted by the authors of this study which has focused on the actions of the recruiter. Word of mouth was considered particularly important to practitioners, but no clear explanation of what might be discussed during word of mouth processes is described by practitioners (Matthews, et al., 2012). The inclusion of a question focused on how the participant describes their walking programme to others, may provide useful information on this topic, while asking how they heard about and what they thought about the walking programme can inform recruiters whether the methods used are resonating with the potential participant.

Methods

Settings

Glasgow City Council provide a range of activities for Glasgow residents, including walking programmes (Glasgow City Council, 2011a). A reported 1,538 Led Health Walks with 12,323 attendees took place in 2011 (MacLeod, 2011). Forty weekly walks, open to the public, are offered across five areas of Glasgow (Glasgow City Council, 2011b). These walks are community based and are provided in support of Scotland's and Glasgow's Physical Activity Policy (Scottish Executive, 2003, 2005).

Participants

Participants all attended walking programmes provided by Glasgow City Council as part of the Glasgow Life programme. We attempted to recruit at least one group from each of the areas (Table 1) but some groups had been discontinued. A total of 17, six male and eleven female, took part in this study and all participants were adults over eighteen years of age. Participants were from four different walking groups across three of five different areas of Glasgow (as described by Glasgow Life: North, East, West, South West and South East Glasgow) were recruited to take part in one of four focus groups. Table 1 describes the number and source of participants successfully recruited within the timescale of this study. The participants were a combination of employed part-time, unemployed or retired, members of addiction services, and all regularly resided in Glasgow.

Table 1 Number of groups and members approached, rates of response and attendance

| Area of Glasgow | North | West | East | South West | South East | Totals |
|---|-------|------|------|------------|------------|--------|
| <i>Groups approached per area</i> | | | | | | |
| Number of groups | 15 | 12 | 3 | 4 | 5 | 39 |
| Number of groups approached | 6 | 5 | 2 | 3 | 2 | 18 |
| <i>Registered walking group members and target focus group size per area</i> | | | | | | |
| Registered walking group members per area | 202 | 77 | 18 | 49 | 43 | 389 |
| Target sample size per focus group | 10 | 10 | 10 | 10 | 10 | 50 |
| Responders at the point of invitation | 11 | 13 | 16 | 0 | 2 | 42 |
| Percentage of total walkers registered | 6% | 17% | 89% | 0% | 5% | 11% |
| <i>Participants and % representation at each focus group per area</i> | | | | | | |
| Participants at focus groups | 4 | 2 | 11 | 0 | 0 | 17 |
| Percentage of total walkers registered | 2% | 3% | 61% | 0% | 0% | 4% |

Table 1 presents the absolute and percentage representations of who attended and a comparison between areas. Despite some shortcomings in the range of locations from which participants were recruited, the sample group was large enough for analysis purposes (Barbour, 2007).

Recruitment to this study

The recruitment process was guided by the Pathways Framework (Figure 1) and the A.N.I. Framework (Figure 2). Both are unpublished frameworks developed during formative research by the authors of this study. They are informed by the findings of research on recruitment to walking programmes (Foster, et al., 2011; Matthews, et al., 2012) as part of a mixed methods research thesis. The Pathways Framework was used to quantify the number of locations and mediators for recruitment. It proposes that recruitment efficiency improves when the locations to go and recruit are identified and where mediators are in place to help build trust between the recruiter and the target group. Table 1 presents some of the data related to this framework.

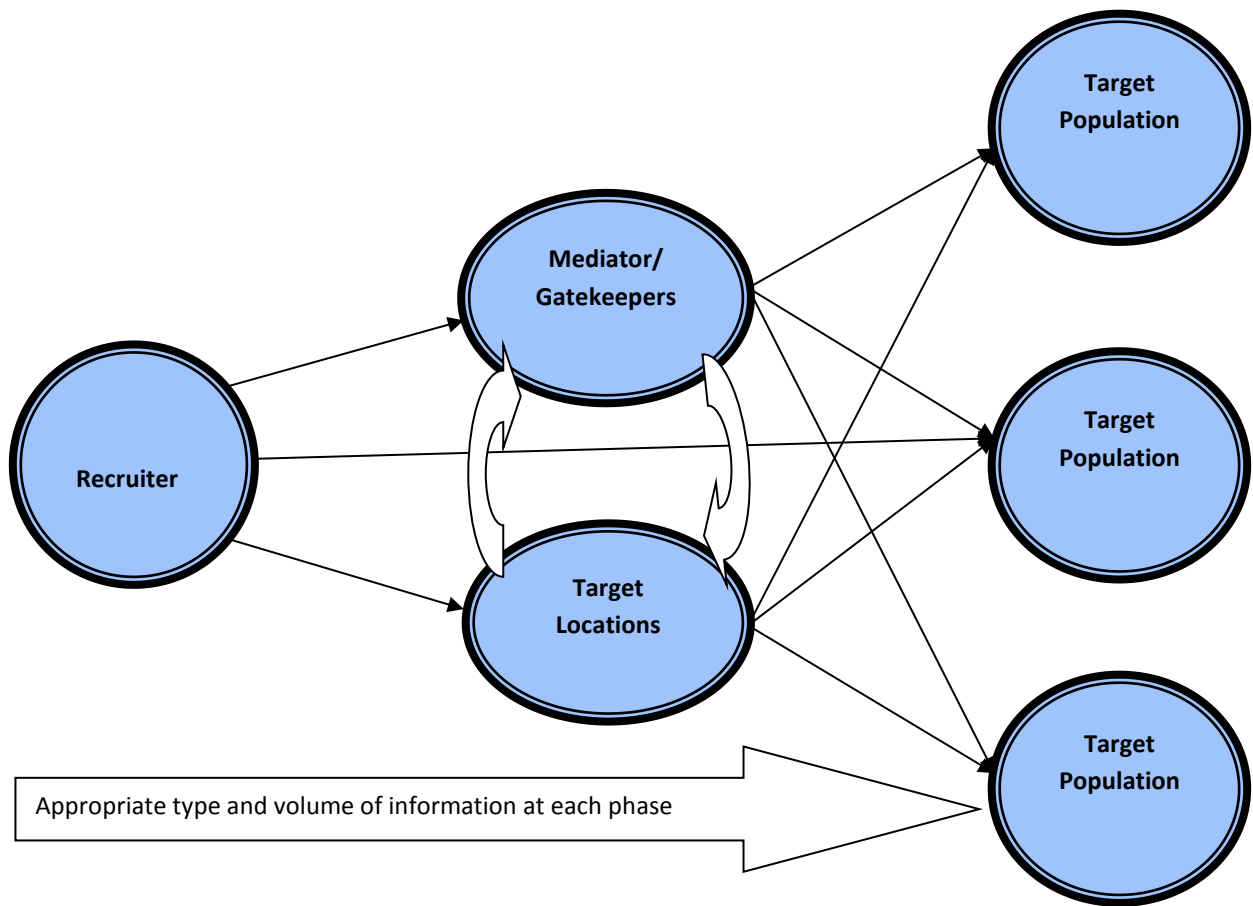


Figure 1 The Pathways Framework for Recruitment Planning

The A.N.I. Framework presents recruitment as a continuum with up to three phases: Awareness raising, Networking and In-person invitation. These phases are proposed as an effective way to reach and engage target groups who may present a challenge to recruit. In this case they were participants in walking groups who were not directly associated with the research team, so all three phases were used. Awareness building was focused on the mediators (1) the Glasgow Life walk co-ordinator; 2) individual walking group co-ordinators; and 3) walk leaders) identified through the Pathways Framework, who also communicated the awareness material (fliers and emails) to potential participants. The mediators facilitated our networking by allowing the recruiters in this study to meet with their walking groups. Their assistance

helped to create trust which supported our efforts at the in-person stage of recruitment.

Mediators were asked to provide a minimal level of information to their members about the study, and told that a researcher would be in contact to arrange a visit coinciding with a weekly walk. The researcher then provided a simple verbal explanation of the study, left written material about the study and collected contact information. Information sheets were provided on the day of the focus groups.

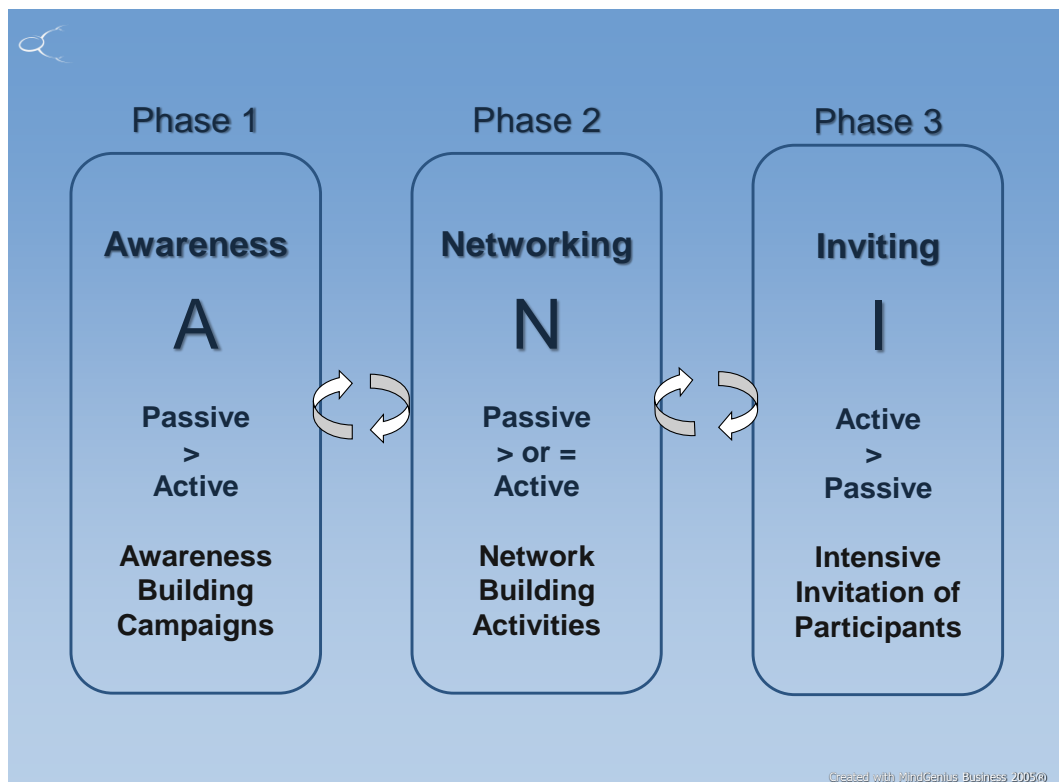


Figure 2 The Awareness, Networking, Invitation (A.N.I.) Framework for Recruitment Strategy Development

Relationship with participants

The authors have no personal or professional relationship with the participants or the health walks. The study is part of a PhD on the topic of recruitment to walking programmes.

Data Collection

This study was a qualitative investigation of the participants' perspective on recruitment to walking programmes. The walking programmes in this case were community based. Focus groups were used for data collection because they can be useful in exploratory research where an emerging topic is under investigation, and can create a safe and supportive environment for the exchange of thoughts and ideas (Barbour, 2007). Four focus groups were held at venues convenient to walkers from each area and facilitated by a trained qualitative researcher (GB). The average group size was four participants (range two to eight) and each focus group lasted approximately 22 minutes (ranging between 17 and 29). Data was audio recorded using a digital recording device.

The focus groups had a semi-structured design, using topic guides and follow-up probes where appropriate (see appendices). Questions were developed and piloted in-house with the advice of the Scottish Physical Activity Research Collaboration (SPARColl) and conformed satisfactorily to the objectives of the research. The questions explored how the participants became aware of the walking group, what they considered once aware of the group, and how they discussed the group with others.

The study was approved by the Departmental Ethics Committee of the Department of Sport, Culture and the Arts University of Strathclyde, Glasgow, United Kingdom. All participants gave informed consent.

Data Analysis

The conversations were transcribed verbatim using NVivo software (Version 9, QSR, Southport, UK), anonymised and analysed by GB in the first instance. A three stage approach was taken, where data were read line by line to identify key themes and for analysis. A second team member (CMcA) reviewed all

transcripts and resulting codes. Differences in coder interpretation were resolved in discussion with all members of the research team and a final reporting framework was agreed. Direct quotes were grouped under the thematic headings to illustrate the main points and support the research findings.

A general inductive approach was applied to the analysis (Thomas, 2006). It is considered an appropriate qualitative research analysis method for: condensing large amounts of data to themes; linking themes to the research objective; and applying the findings to an advisory framework (Thomas, 2006). Although it has not been used to investigate the perspective of participants to walking programmes, it has been used elsewhere in regard to engaging people in different health related roles (Searle & Patent, 2012; Snell, Briscoe, & Dickson, 2011). This data analysis process began with identifying categories in responses to each of the questions asked. This was followed by closer reading of the text to identify the meaning of these categories and to combine any categories which had similar meaning. Further reading of the text was carried out to identify emerging themes which were not direct responses to the questions asked, but which were of significance to this investigation. These themes were also categorised and combined where appropriate. This data was then summarised and presented in this manuscript, with supporting statements from the participants where appropriate.

The reporting frameworks used included COREQ for the overall reporting structure of the paper and the interview schedule and key emerging themes guiding for the reporting of the results (Thomas, 2006; Tong, Sainsbury, & Craig, 2007).

Results

Reported experiences of being recruited to the walking groups

The walkers' responses to three direct questions about being recruited to their walking group are reported under the following themes: 1) how they heard about the group; 2) what they thought when considering joining; 3) how they described the group.

1) How participants heard about the group

The participants in this study were a mix of men and women and walked with different groups across the city, but reported similar experiences while being recruited. They were actively recruited by word of mouth, via local community leaders/service providers, or as a result of word of mouth among other groups. More proactive walkers, who were actively seeking a walking group independent of other social networks, still identified face to face discussions which increased awareness about the walking group. The recruiters were generally described in a positive light and appear to have established a position of trust and influence.

“Well it was R, she told us about it and asked us if we would be interested in joining. She's one of the [community] leaders. We go to different churches [...] she just asked us would we be interested in going on the walking group, that they were trying to form one [...] One said to the other, 'are you going, and are you going?' And then that'd be us all starting to go”

(Female 1, North Glasgow)

“It was actually someone at work who got me involved in this [walking group]. It was a girl who did walking and that's how I got involved in that, but the ones locally it was the poster”

(Female 2, West Glasgow)

2) What participants thought when considering joining

How well the walking group fits with the person's day to day routine, and whether it matches their expectations were often discussed in relation to contemplating joining. Some of the men from the less affluent areas were tentative about whether walking was for them, until they experienced their first walk. Other walkers were interested in the opportunity to exercise, but a clearly important factor was the opportunity to interact with others and find companionship.

“My first reaction was just maybe it was going walking on the street or that [...] coz I never really heard about walking clubs, d’ya know what I mean [...] No I think I was a wee bit dubious at first but after my first walk, I just got hooked on it. It was just amazing”

(Male 1, East Glasgow)

“Yeah, well I would say I needed to exercise. I probably wasn't doing anything else because it was leading up to me retiring. And not just about the walking, it is a lot more than that. And I thought it would be fun, and obviously you would belong, be part of a group”

(Female 1, West Glasgow)

3) How participants described the group to other potential members

There was a high level of enjoyment and enthusiasm expressed regarding the groups. In contrast, translating that enthusiasm into a message for others was not easily done and there was recognition that not everyone could be easily convinced. However, a taster session to experience a walk first hand was considered to be a key selling point. The personal benefits of being part of a group were regularly stressed and included mental wellbeing and the social opportunities gained from being in the group.

“We just tell them what it's like. It's brilliant, like. We've had a few guys who've been and they've said, 'I've seen places I didn't even know existed,' and it's only 30 miles vicinity ya know. And tell them it's peaceful; it's relaxing; it's good for your health as well. Fresh air, serenity, I think that's got [to be] a really big part of it. Just peace in the head, ya know what I mean”

(Male 1, East Glasgow)

“Just advise them of all the benefits of being in the club [...] you meet new people [...] coz when you, say you're widowed or something like that, and you're on your own, your family's alright but they can't be at your beck and call all the time, so you have to get out there and meet new people...after the walking club I joined another club so you learn how to meet people and it leads to something else and you join that as well and you get out a lot more”

(Female 3, North Glasgow)

Experiences of being in a walking group

A number of themes, independent of recruitment, were discussed by the participants. These included: 1) motivations; 2) health benefits; and 3) community and network opportunities. They indicated that both the content of the walking group and the context in which it was presented have an overarching influence on willingness to take part. This in turn has implications for how a recruitment drive should be conducted and what should be considered when arranging and explaining a walking group.

1) Motivations

A range of motivations for participation were identified from analysis of the conversations. These motivations helped to explain both why the walkers came and why they maintained attendance. The group dynamic, the chance to walk in a non-urban or local environment, and opportunities for learning and

interaction, as a result of being part of the group emerged as motivating factors.

“We're doing these things and seeing different places that we never really seen before [...] We're learning something. You do really learn a lot when you are walking. When we're walking on the canal bank [...] like, I never knew the canal bank was as lovely as it is [...] it's just enjoyable and good company and keeps you healthy. You either sit in the house and mope, or you get up and do something about your life. And I think it is important”

(Female 4, North Glasgow)

“It wasn't just the walking, you get a whole lot of information, you know. People telling you about things as well, so it's quite a good source of information”

(Female 2, West Glasgow)

“A lot of it's about companionship. I'd say that it's right at the core of it. A lot of us are by ourself so it's a chance to get out and about, a nice, slow walk. It's a nice, slow, interesting walk as KV said”

(Female 5, North Glasgow)

2) Health benefits

The benefits described by the walkers were not solely focused on physical health. The physical gains of walking were frequently reported, but mental and social benefits were a motivating factor for participation in the group. Also, the provision of routine or a focal point of the week was discussed in a positive manner.

“It's peaceful, it's relaxing, it's good for your health as well. Fresh air, serenity, I think that's got a really big part of it. Just peace in the head, ya

know what I mean. Especially for the likes of us, we're all addicted [to substances]"

(Male 1, East Glasgow)

"This place is like family here, we discuss all the problems. We can sit and discuss and there's support"

(Male 2, East Glasgow)

"I'm just going to chat to people and it's nice to hear people's stories. It's a good way of getting out and you're exercising, so I think it's a good way to spend an hour or so"

(Female 6, West Glasgow)

"I think it's a highlight of the week for most of us. Coz we're stuck in the environment six days a week. That's the only day we really get away from your local area. So everybody looks forward to it. We're all here on time. It's just brilliant. I'd recommend to anybody to try it".

(Male 1, East Glasgow)

3) Community and network opportunities.

The chance to feel part of a community was highly regarded among all the walkers. Opportunities to expand their social circles, and in turn the social capital gained from this were discussed favourably. In addition, opportunities to become involved in other activities hosted by the same venues which support some of the walks were highly rated.

"I've only been here 2 months and I've never felt so welcome in a place. I've settled in here really, really quick and I know it's to do with 'X' and all the guys that are in here that makes me feel like they want me to be here,

so I want to be here...Aye, the walking club for me is just a wee part of this place. It's everything else, there's so much going on in here”

(Male 3, East Glasgow)

“It's really a good thing for people of our age. As MB said you would sit in the house and mope. Whereas this way, you look forward to getting out and going on the walk and meeting people. Otherwise you are in house. Being in the house all day, it's not very nice especially if you have nobody to talk to and the only thing you have got is television. It takes you away from all that”

(Female 7, North Glasgow)

Discussion

This study investigated and gathered data from the participant regarding how they were recruited. The methods reported represent the methods which most resonated with the participants and does not necessarily reflect the actions of the recruiters for these walking groups. However, participants in this study most often reported and discussed being recruited from within networks and groups that they already attended and through discussion with others. Although recruiters have reported their use of ‘word of mouth’ approaches (Matthews, et al., 2012), few have tried to understand why this method resonates with participants. The opportunity to learn more about what is involved in the programme and the building of trust have been proposed as successful factors for recruitment in other walking programmes (Banks-Wallace, Enyart, & Johnson, 2004; Wilbur et al., 2006). Participants in this study described known or trusted individuals as the recruiter, and discussed positive descriptions of the group when describing it to others. This provides some agreement between this study and Banks-Wallace et al. (2004) and Wilber et al. (2006) and also suggests it may be useful for walking groups to routinely collect information about recruitment to their groups.

Although the participants did discuss feeling more physically capable and fit, this did not appear to be the most important factor attracting them to their group. They were motivated to join by the chance to be part of a social group, relief of mental stress, and the opportunity to establish routine in their week. Men in particular in this study reported getting out of their house, meeting new people, finding avenues to other activities and enjoying other social events with the group members as highlights of the group. There is support in the literature for this finding and the opportunity for social interaction and the enjoyment derived from being part of a group as factors associated with participation (Allender, et al., 2006; Ashley & Bartlett, 2001). A mismatch between participants expectations and the programme delivered has also been noted as a barrier to participation (Sarkin, Marshall, Larson, Calfas, & Sallis, 1998). But, the findings in this study offer a positive message to the recruiter that participants are motivated to walking programmes that provide a range of health related benefits. Planning the recruitment messages for walking programmes could take account of the broader circumstances related to the participants circumstances, as advised elsewhere (Gomm, Lincoln, Pikora, & Giles-Corti, 2006) and the evidence from this study is that these are important and attractive factors for participants at the recruitment stage.

The participants were not clear on what they felt was a convincing way to discuss their walking groups with potential new members, but did emphasise positive messages and the 'try it and see' message. It is not possible to compare what they participant was exposed to during recruitment to what they report; therefore it is unfair to assume the recruitment actions by their groups were ineffective by comparison to word of mouth. However, it is interesting to compare the lack of detail but perceived effectiveness of word of mouth among practitioners (Matthews, et al., 2012) with the prevalence of word of mouth here, but the poor clarity of what message to pass on to new members. This could be a reflection on how structured or apparent

recruitment activities are to the participant, but overall it supports the need for evaluation of the process in order to better understand what has happened and why (Nutbeam & Bauman, 2006; Treweek, 2011).

Strengths and limitations

This is one of few studies to collect data on the participants and the first, to our knowledge, to do it qualitatively. It provides insight into what appeals to walkers when they are recruited as well as how they convey messages to others about their group. The contextual factors described complement published findings that participants negotiate participation based on its ability to satisfy their health needs (Milton, et al., 2011). This study also supports the suggestion that qualitative data can provide using insight and comparison to quantitative data, perhaps even an understanding of phenomena (Creswell, 2009).

This study is limited by the small sample sizes, and this may have impacted on the duration of the focus groups. However, despite the effect of this limitation on the generalizability of the findings, it does provide valuable data for comparison within a mixed methods framework, and in particular other research already conducted on this topic (Creswell & Plano Clark, 2011; Foster, et al., 2011; Matthews, et al., 2012). Furthermore, this study acts as a comparison study for future research applying the same approach and asking similar questions.

Conclusions

Active recruitment methods and word of mouth was most often reported as the way in which participants in this study heard about their walking group. Networks and groups were a useful way for recruiters to approach potential participants. Recruiting where the target group usually come together may

provide an effective way to reach the target group, but designing the walking programme to appeal to the broader health needs and benefits may increase appeal and make the communication process in recruitment more effective.

References

- Allender, S., Cowburn, G., & Foster, C. (2006). Understanding participation in sport and physical activity among children and adults: a review of qualitative studies. *Health Education Research, 21*(6), 826-835. doi: 10.1093/her/cyl063
- Ashley, A., & Bartlett, H. (2001). An evaluation of a walking scheme based in primary care: the participants' perspective. *Primary Health Care Research and Development, 2*, 98-106.
- Banks-Wallace, J., Enyart, J., & Johnson, C. (2004). Recruitment and Entrance of Participants Into a Physical Activity Intervention for Hypertensive African American Women. *Advances in Nursing Science, 27*(2), 102-116.
- Barbour, R. S. (2007). *Doing focus groups*. Los Angeles ; London: SAGE.
- Burton, N. W., Walsh, A., & Brown, W. J. (2008). It just doesn't speak to me: mid-aged men's reactions to '10,000 Steps a Day'. *Health Promot Journal of Australia, 19*(1), 52-59.
- Creswell, J. W. (2009). *Research design : qualitative, quantitative, and mixed methods approaches* (3rd ed.). Los Angeles ; London: SAGE.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Los Angeles, Calif. ; London: SAGE.
- Department of Health. (2010). On the state of public health: Annual report of the Chief Medical Officer 2009.
- Foster, C. E., Brennan, G., Matthews, A., McAdam, C., Fitzsimons, C., & Mutrie, N. (2011). Recruiting participants to walking intervention studies: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity, 8*(1), 137.
- Glasgow City Council. (2011a). Glasgow Life, from www.glasgowlife.org.uk
- Glasgow City Council. (2011b). Health Walks, from <http://www.glasgowlife.org.uk/sport/get-active/health-walks/Pages/home.aspx>

- Gomm, M., Lincoln, P., Pikora, T., & Giles-Corti, B. (2006). Planning and implementing a community-based public health advocacy campaign: a transport case study from Australia. *Health Promotion International, 21*(4), 284-292.
- Harkins, C., Shaw, R., Gillies, M., Sloan, H., Macintyre, K., Scoular, A., . . . Findlay, I. N. (2010). Overcoming barriers to engaging socio-economically disadvantaged populations in CHD primary prevention: a qualitative study. *BMC Public Health, 10*, 391.
- MacLeod, H. (2011). [Glasgow Health Walks Update, December 2011].
- Matthews, A., Brennan, G., Kelly, P., McAdam, C., Mutrie, N., & Foster, C. (2012). "Don't wait for them to come to you, you go to them". A qualitative study of recruitment approaches in community based walking programmes in the UK. *BMC Public Health, 12*, 635. doi: 10.1186/1471-2458-12-635
- 1471-2458-12-635 [pii]
- Milton, K., Kelly, P., Bull, F., & Foster, C. (2011). A formative evaluation of a family-based walking intervention-Furness Families Walk4Life. *BMC Public Health, 11*(1), 614.
- Morris, J. N., & Hardman, A. E. (1997). Walking to health. *Sports Medicine, 23*(5), 306-333.
- NHS Health Scotland. (2009). Five year review of 'Let's Make Scotland More Active' - A strategy for physical activity. Edinburgh: Stationery House.
- Nutbeam, D., & Bauman, A. E. (2006). *Evaluation in a nutshell : a practical guide to the evaluation of health promotion programs*. North Ryde, N.S.W. ; London: McGraw-Hill.
- Ogilvie, D., Foster, C., Rothnie, H., Cavill, N., Hamilton, V., Fitzsimons, C., . . . Collaboration, o. b. o. S. P. A. R. (2007). Interventions to promote walking: Systematic review. *British Medical Journal, 334*(7605), 1204 - 1207.
- Sarkin, J. A., Marshall, S. J., Larson, K. A., Calfas, K. J., & Sallis, J. F. (1998). A comparison of methods of recruitment to a health promotion program for university seniors. *Preventive Medicine, 27*(4), 562-571. doi: S0091-7435(98)90327-9 [pii]
- 10.1006/pmed.1998.0327
- Scottish Executive. (2003). Let's make Scotland more active. Edinburgh: Stationery House.

- Scottish Executive. (2005). Lets' make Glasgow more Active. Edinburgh: Stationery House.
- Searle, R. H., & Patent, V. (2012). Recruitment, Retention and Role Slumping in Child Protection: The Evaluation of In-Service Training Initiatives. *British Journal of Social Work*. doi: 10.1093/bjsw/bcs043
- Snell, A. J., Briscoe, D., & Dickson, G. (2011). From the Inside Out: The Engagement of Physicians as Leaders in Health Care Settings. *Qualitative Health Research*, 21(7), 952-967. doi: 10.1177/1049732311399780
- Swanson, G. M., & Ward, A. J. (1995). Recruiting minorities into clinical trials: toward a participant-friendly system. *Journal of the National Cancer Institute*, 87(23), 1747-1759.
- Thomas, D. R. (2006). A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27(2), 237-246. doi: 10.1177/1098214005283748
- Toerien, M., Brookes, S. T., Metcalfe, C., de Salis, I., Tomlin, Z., Peters, T. J., . . . Donovan, J. L. (2009). A review of reporting of participant recruitment and retention in RCTs in six major journals. *Trials*, 10, 52.
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349-357. doi: mzm042 [pii]
- 10.1093/intqhc/mzm042
- Treweek, S. (2011). Recruitment to trials - why is it hard and how might we make it less so? *Trials*, 12 Suppl 1, A110. doi: 1745-6215-12-S1-A110 [pii]
- 10.1186/1745-6215-12-S1-A110
- Wilbur, J., McDevitt, J., Wang, E., Dancy, B., Briller, J., Ingram, D., . . . Zenk, S. N. (2006). Recruitment of African American women to a walking program: eligibility, ineligibility, and attrition during screening. *Research in Nursing and Health*, 29(3), 176-189. doi: 10.1002/nur.20136

Appendices:

Interview schedule and topic guides

- 1) Look at hand out. Printed info is very popular and used a lot, but **how did you learn about your group?**
 - a. Prompts:
 - i. Different to what's on the list?
 - b. Probes:
 - i. Were you approached on your own or as a group
 - ii. Was this at an event of some sort
 - iii. Tell me about that person (who, where, relationship)
 - iv. Tell me about that info (what, where, why caught your attention)

- 2) So what did you learn about the walking group from (Him/Her: the info: the event)?
 - a. Prompts:
 - i. Health info?
 - ii. Practical info?
 - iii. Costs?
 - iv. Location?
 - b. Probes
 - i. So what was the most important piece of information you learned?
 - ii. Is walking a new activity for you?

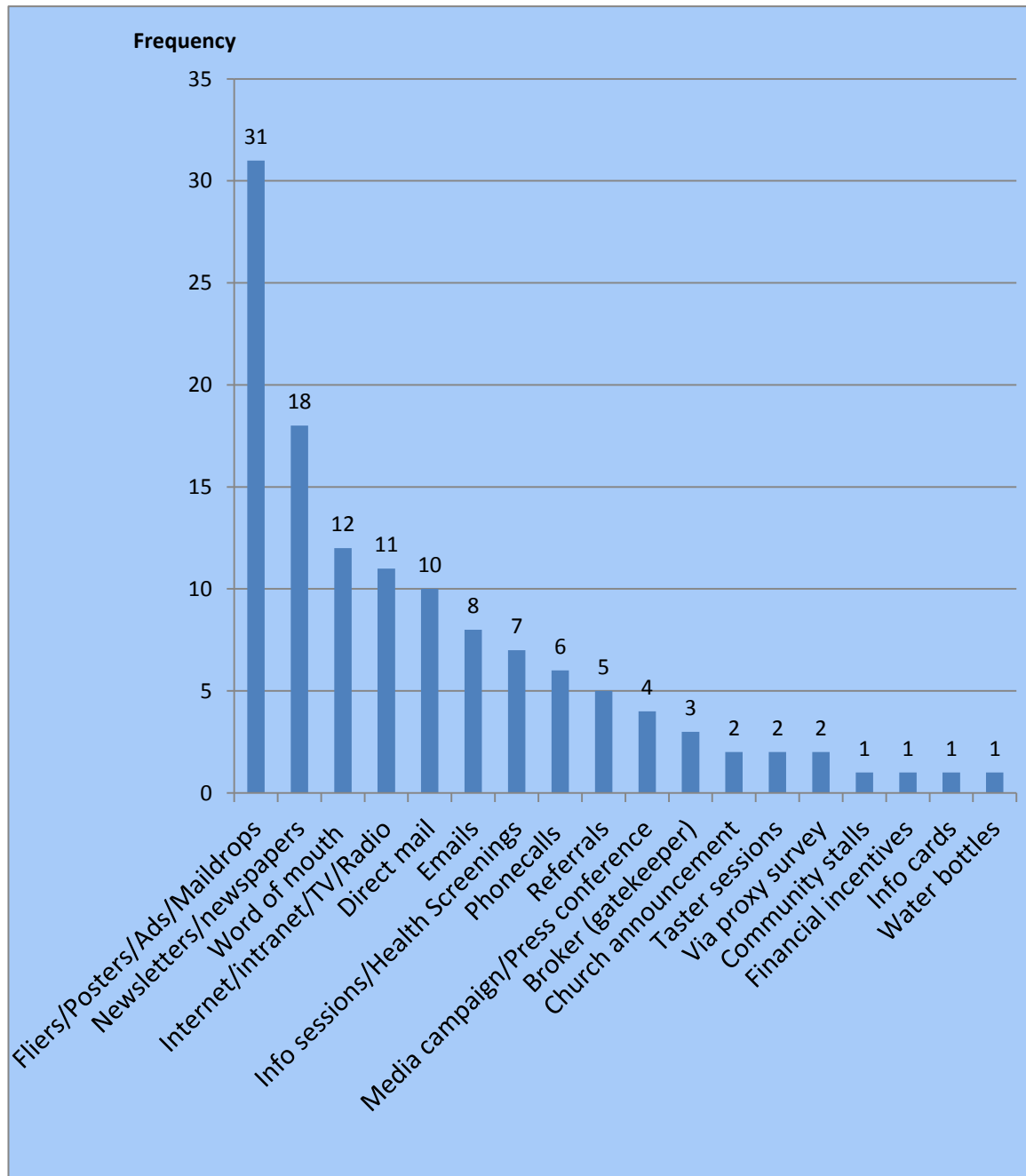
- 3) Look at the picture. People report many different reasons for walking. **I'd like to know about your reason for deciding to start walking with the group?**
 - a. Prompts
 - i. Was it just because you were told there was a walking group?
 - ii. Was it to do with what you heard about the group?
 - b. Probes
 - i. For you, once you heard a group was on what went through your mind when you considered joining it?

- 4) Your recommendation: **What would you do if the job was yours?**
 - a. Prompts

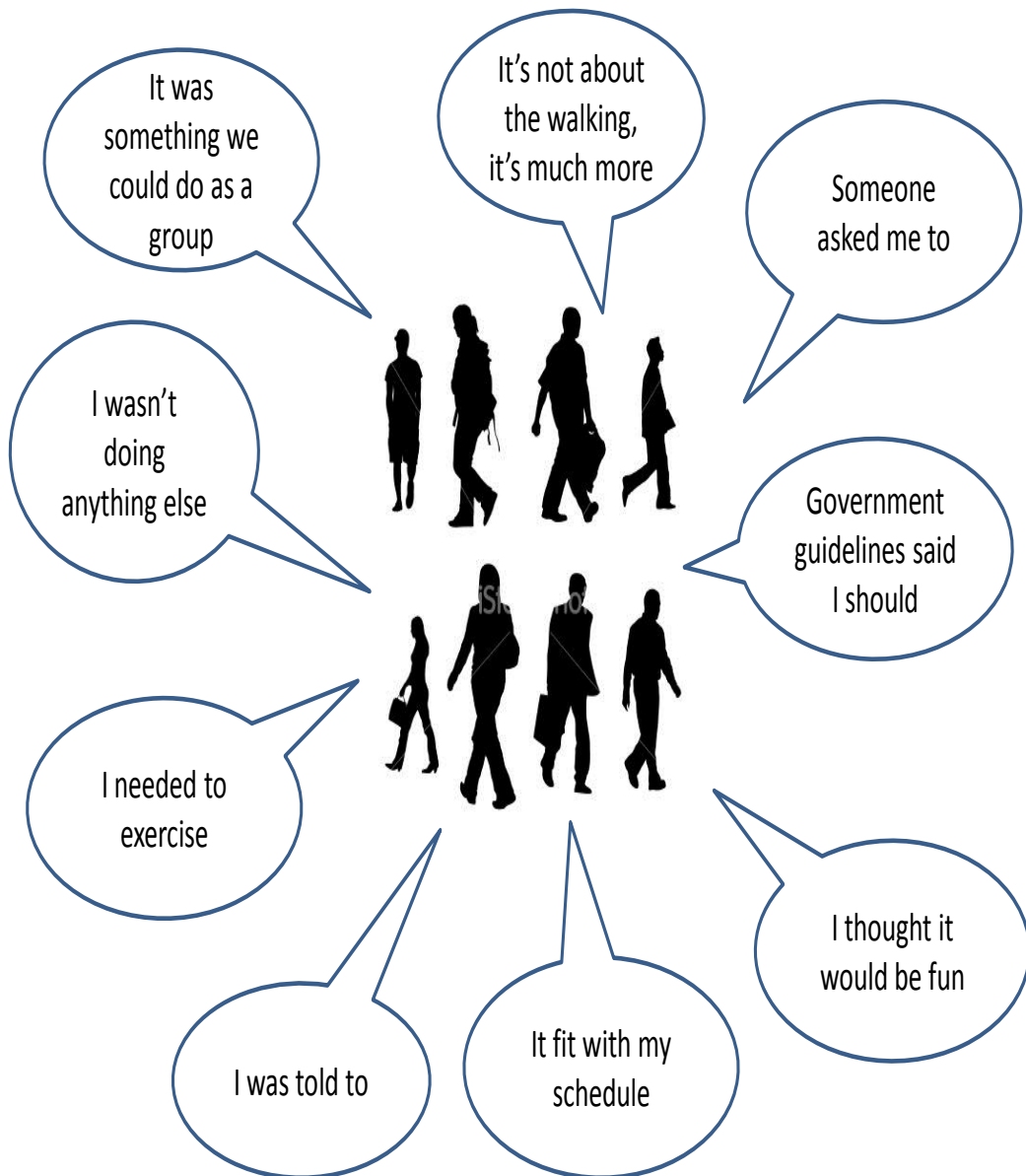
- i. Have any of you?
 - ii. Let's say you were the one asking....after your experience of your group, what do you say?
 - iii. Let's say your job was to oversee the recruitment process...what do you do or NOT do?
- b. Probes
- i. Who do you think should ask?
 - ii. What do you think they should tell?
 - iii. How do you think people should be invited?
 - iv. What should you not do when asking people to walking groups or what makes it difficult for you to take part?

Topic guide referred to in question 1:

Methods of recruitment and frequency of use



Topic guide referred to in question 3:



Chapter 5: Key learning points

Introduction: This study provided the opportunity to include the participants' perspectives; a lesser reported perspective in recruitment article. This also provided data for comparison to the findings in Chapters 2 and 3. By conducting focus groups, the participants' opinions were captured and contributed to this PhD Thesis in a way not typically observed in recruitment to walking programmes research. In addition to the participants' perspective on their own walking programmes, my field notes helped to identify what have become important questions guiding the face to face, or 'word of mouth' aspect of recruitment, in this case to research, but with an adaptation for practice.

Key learning points:

- Recruitment took place largely within networks and organisations and most participants had responded to active recruitment by walk leaders and community group leaders.
- The participants valued and responded to opportunities to be more socially involved and alleviate any psychological stress. This was viewed as a key message to convey during recruitment.
- Although word of mouth again featured in the conversations, actually describing what is involved in that process was difficult.
- Participants did value a positive first experience, and ongoing delivery of a quality walking programme as factors that would affect a new participants willingness to take part, continue to attend and discuss with other potential participants.
- While recruiting participants to this study, I noted four consistently and sequentially asked questions of me and my work.

1. Who are you?
2. What do you do?

3. What do you want me to do (take part in)?
4. What do I have to do? (i.e. the logistics and demands on the participant)

These questions allowed for the development of a concise script which I found useful when approaching potential participants. It seemed that these questions addressed issues of trust, interest in the topic and the practical aspects of taking part in a study in a manner that was logical and important to the participant. In light of the findings of both this and the previous three chapters, these questions could be amended for the purpose of practice based research.

Who are you?

What do you do?

What do you want me to do (take part in)?

What is the benefit to me?

Next steps: The next study in this PhD Thesis was an evaluation of a novel strategy to recruitment and an opportunity to apply the findings from Chapters 3 to 5.

Chapter 6

“Education is when you read the fine print. Experience is what you get if you don't”

(Pete Seeger)

Chapter 6: Contribution to this chapter

Title: The feasibility of the strategic recruitment of men to a walking promotion programme: a process evaluation

My Role: My primary role in this study was to coordinate the recruitment drive for a community walking initiative, the Go-Walkabout programme. This also included the provision of a framework for recruitment based on learning from the Thesis so far. My initial tasks included meeting with Glasgow Housing Association (GHA) staff and Sidekix staff to discuss my contribution and whether a study was feasible. Following this, a plan of action was outlined and training was provided as well as planning of how to execute the recruitment plan. Throughout the programme I liaised with the staff from GHA and Sidekix to monitor progress and provide support and advice.

As a research study, I used the findings from previous chapters to steer the recruitment drive. This included: providing feedback and suggestions on all literature produced to promote the walking group, proposing a model of best practice which outlined different phases of recruitment, timetabling all recruitment actions and monitoring the adherence to this plan, assessing the outcomes of these actions and the uptake of the walk. This study was written up as a process evaluation and used reporting devices and metrics suggested in other chapters of my thesis.

Progress: This chapter is ready for submission to the journal BMC Public Health.

Next Step: Submit to BMC Public Health and act as a corresponding author throughout the publication process.

Chapter 6

The feasibility of the strategic recruitment of men to a walking promotion programme: a process evaluation

Graham Brennan*, Claire Fitzsimons, Chloe Mc Adam, Nanette Mutrie

Address: Physical Activity for Health Group, School of Psychological Sciences and Health, Faculty of Humanities and Social Sciences, University of Strathclyde, 76 Southbrae Drive, Glasgow, G13 1PP

Email: Graham Brennan*: graham.brennan@strath.ac.uk, Claire Fitzsimons: claire.fitzsimons@strath.ac.uk, Chloe Mc Adam: chloe.mcadam@strath.ac.uk, Nanette Mutrie: nanette.mutrie@strath.ac.uk

Abstract

Background: Walking has been described as a near perfect form of exercise, beneficial to health and policy endorsed on a national and international level. However, walking programmes struggle to successfully attract an adequate number and range of participants. In the absence of validated approaches which can be replicated, many recruitment phases are ad-hoc, lack a structured approach and often go unreported. This study investigated a structured approach to recruitment, evaluated by researchers and delivered in a practice setting. **Methods:** A process evaluation methodology guided this study and an action research approach guided the implementation and analysis of the recruitment plan. The recruitment strategy was guided by two novel frameworks. These frameworks were used to: identify key mediators and appropriate locations to conduct the recruitment; and to structure the methods and sequences of actions taken during the recruitment process. Pro-forma data collection sheets, semi-structured interviews and researcher field notes were used to collect data. **Results:** Effective recruitment in this study was clearly influenced by fidelity to the proposed plan. A number of delays

and capacity issues affected adherence to the plan at the onset. As a result, disappointing attendance and extended timeframes for recruitment dominated the early stages of the study. However, these were contrasted by moderate and reassuring successes in the latter part of the study. The delivery agents expressed a clear appreciation of how poor fidelity to the proposed plan limited their effectiveness in reaching and engaging the men they targeted. The participants expressed positive opinions about walking and walking groups, and their responses compared favourably with studies conducted in different settings and demographic groups. **Conclusions:** Adherence to the strategized recruitment plan, when all the key elements were in place, successfully recruited this target group. However, it was clearly difficult to implement the plan in the timescale intended due to a number of external, but identifiable factors. The evaluation of our frameworks helped to identify which parts of the recruitment outcomes could be attributed to the recruitment team's execution of the process and which parts were related to the appeal of walking to the men. Walking programmes should be delivered as advertised and framed in context of the setting and target group. We have demonstrated that recruitment does not have a simple one size fits all approach and is a process which needs to be continuously managed.

Key Words

Strategy, Trust, Pathways Framework, Physical Activity, Action Research

Background:

Walking has been described as a near perfect form of exercise [1] and has a well-established evidence base [2]. It is a popular form of physical activity (PA) [3] and is broadly supported in policy [4, 5]. In addition, health issues such as coronary heart disease or type II diabetes, which are common causes of death and co-morbidities for men [3], can be effectively managed with an increase in moderate PA, for example walking [2, 6]. There is some evidence that walking is less appealing to men [7] but more research is needed which focuses on the recruitment process rather, not just the perception of walking groups. Walking programmes are reportedly attended more by women and by the more affluent [8] leading to a call for more robust methods of recruitment to be evaluated and reported upon [8-11]. However, there is an absence of protocols and reporting structures which limit learning about the recruitment process in walking programmes [8, 9, 12].

Recruitment is a complex process, but there are only a few examples of thorough process reporting in walking promotion programmes. An informed action plan, mediation, information exchange and trust building were all key factors in recruiting a group, typically described as hard to engage, to one walking programme [13]. Rowland et al., (2004) also demonstrated how a multi-phased approach can yield a large amount of participants across a number of sites [14]. Their strategy used and active approaches when as required to fill their quota of participants. In both of these examples, engaging a physically or psychosocially distant group, focused on labour intensive activity and understanding the context in which potential participants lived.

Bull and Milton (2010) evaluated direct mail invitations versus 'opportunistic' broad-scale canvassing at GP surgeries. The 'opportunistic' approach yielded a higher overall number of participants starting the programme, but de-selection bias occurred when GPs made subjective appraisals about suitability.

Also, limited capacity to manage a high response rate led to a loss of participants. The 'opportunistic' or in person approach did yield higher results, indicating that face to face contact is an important factor but there was a loss of potential participants due to management and capacity issues [15]. Careful management of the process, within the limitations of the recruitment team is an important consideration.

Effective communication with stakeholders (i.e. mediators, participants, volunteers, local media etc.) is an important part of the recruitment process. At the level of the participants printed material may not always reach the intended target and restrict the effectiveness of passive methods of recruitment (i.e. methods that depend on the participant to make contact with the recruiter first) [16]. But good communication and good relationships with gatekeepers (a third party who allows access to someone or something) can be an effective means of communication with the target group, if they are clear on what message they are being asked to communicate and they don't feel burdened [17]. Patterson et al (2011) make the point that if a gate-keeper will not grant access, or does not endorse the recruiter to the target group, then recruitment is restricted at that point. Positive relationships with gatekeepers may also increase trust, reduce time and minimize any potential barriers during recruitment [10]. This is a common theme in the literature on recruitment, but requires more evidence of its application and effectiveness.

Process evaluation may help to provide evidence and understanding about the recruitment process. Mapstone et al (2007) concluded that the quality and quantity of evidence was not sufficient to make predictions about what works in recruitment. Instead, it was recommended that the evaluation of recruitment processes should be conducted in all research studies [18].

The purpose of this study is to intervene at the level of the recruiter within a walking promotion programme being delivered in the community. This study

is a process evaluation of the recruitment to the walking programme and is informed by research on recruitment to a walking promotion programme, within a mixed methods thesis.

The recruitment process applied to the walking programme and evaluated in this study is informed by the following guidelines and frameworks. Firstly, Foster et al's (2011) definition of recruitment (*"The process of inviting, negotiating and facilitating participation in an event or activity, not merely the creation of awareness"*. Adapted from Foster and Brennan et al., 2011) has been adopted here [8]. Secondly, a novel framework 'The Pathways Framework' (Figure 1) has been applied for the identification and of the locations and mediators relevant to engaging with the target group. The Pathways Framework for Recruitment recruiters to identify the number of mediators and number of locations relevant to their recruitment efforts and helps to guide the allocation of effort and resources.

Figure 1 illustrates the 'Pathways Framework for Recruitment Planning'. It acts as a tool to identify the physical and social connections between recruiter and target group. These could be used as pathways to approach the target group being recruited, and are proposed as a means to increase efficiency of communications and to decrease the physical and psychosocial distances between both parties.

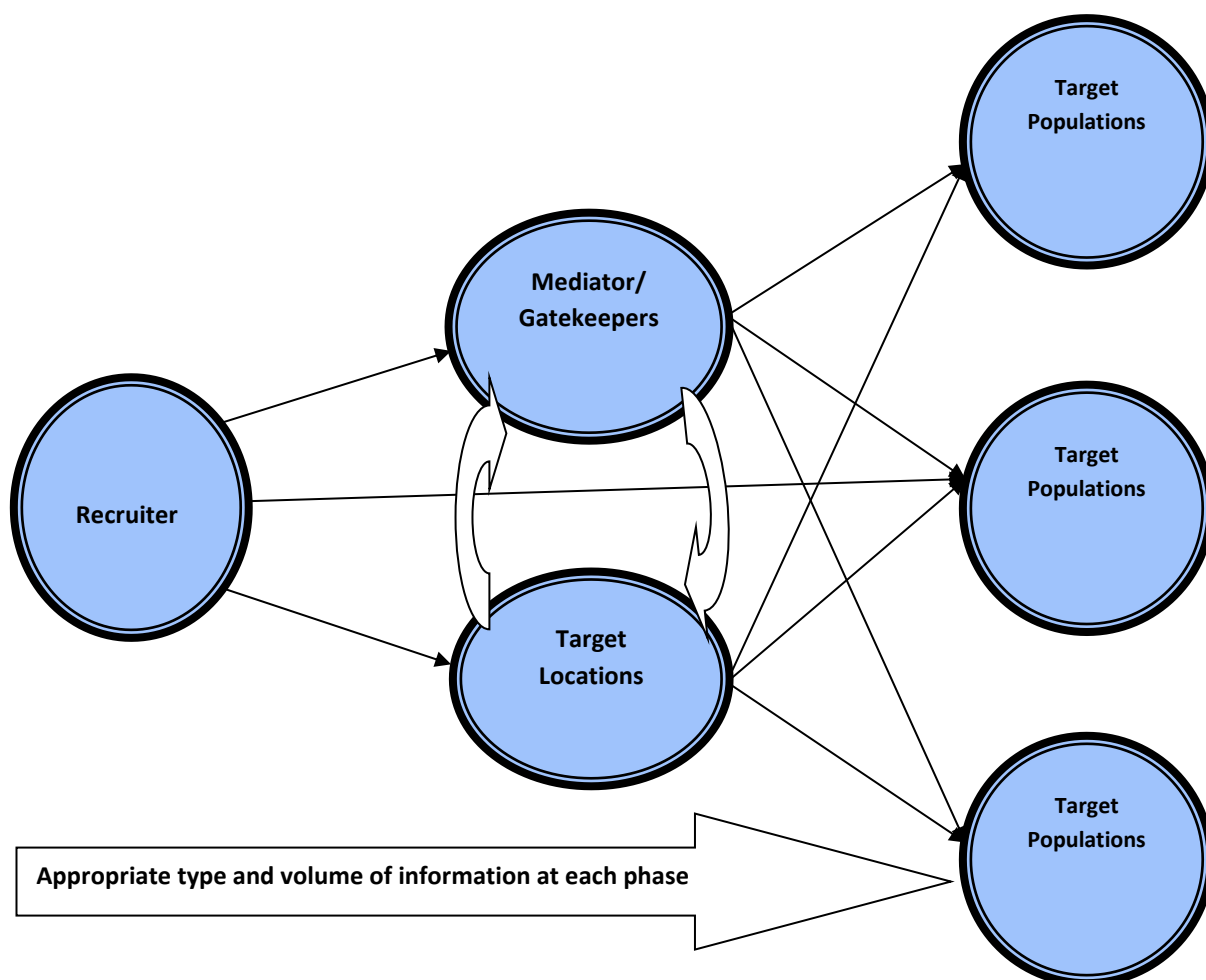


Figure 1 The Pathways Framework for Recruitment Planning

Finally, a second, novel framework (the A.N.I. Framework) (Figure 2) has been applied. The A.N.I. Framework proposes that the most successful recruitment campaigns include 'Awareness' building, 'Network' building and, 'In-person invitation' phases and each has clear, actionable methods. The key feature is the 'In-person' phase which aims to be the goal of all recruitment campaigns. We believe this phase works best if the previous two phases are present to some extent and examples of this can be seen in the physical activity literature [19, 20].

Figure 2: illustrates the 'A.N.I. Framework for Recruitment Strategy Development'. It provides a planning structure for the application of whatever methods of recruitment are available. It also highlights the phases of recruitment most apparent in comprehensively reported recruitment research

studies. Each model was developed from reviews of the literature, stakeholder interviews and informed by recruitment experiences of the authors of this study [8, 21].

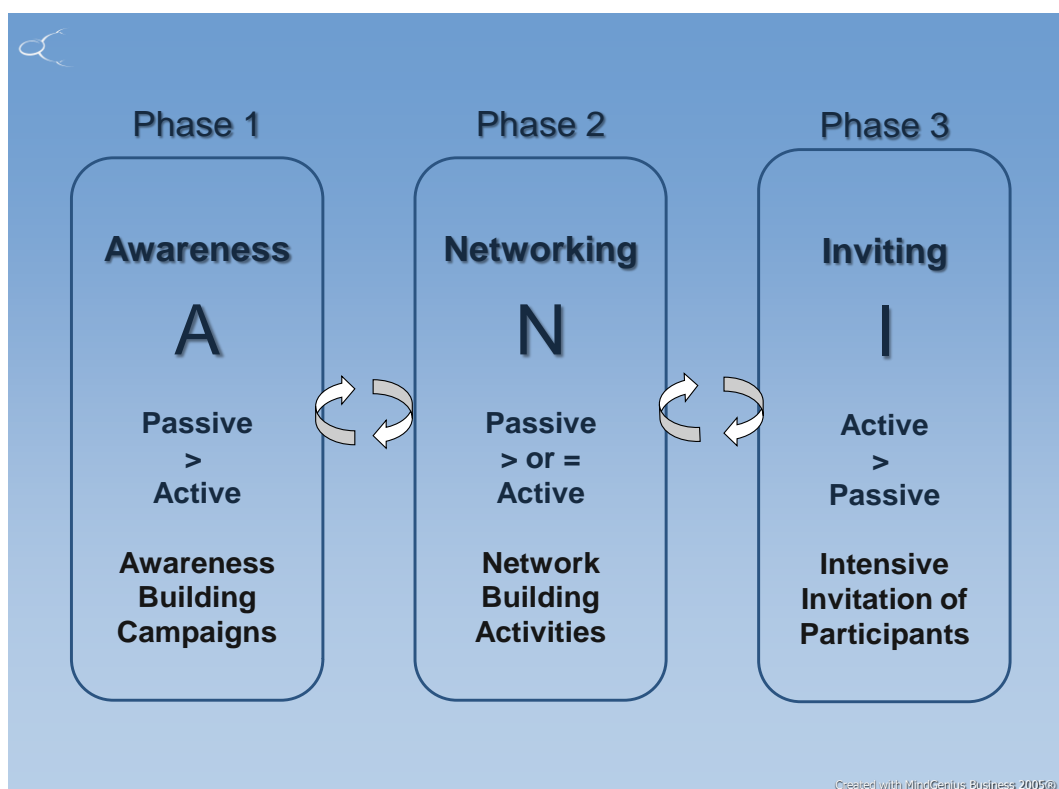


Figure 2 The Awareness, Networking, Invitation (A.N.I.) Framework for Recruitment Strategy Development

Recruitment process evaluated in this study

This study was an intervention at the level of the recruiter and evaluated a recruitment strategy designed for a walking programme in the East-end of Glasgow. During the planning stage, each phase of the model was populated with a list of methods that were available to the recruitment team. Therefore, the framework created an outline of methods to apply and their strategic order. A timeline of actions was informed by these outputs and is presented below (Table 1). Table 1 presents the main recruitment activities proposed to take place on a week by week basis. These actions were guided by the A.N.I. Framework and designed within the original four week timeframe agreed for

the study intervention. Each phase need not be mutually exclusive, but are sequential and may overlap.

Table 2: Proposed timeline and main actions at each phase of recruitment

| Week number and phase | Main Activities | | |
|---|--|--|---|
| | Recruitment actions were defined as an action which invited or negotiated participation. Sequence of actions taken, in order of execution | | |
| Week 1: Awareness (A) | Poster placement at all tower block clusters | Concierge staff make first contact with target group members | Follow-up and data collected from concierge staff |
| Week 2: Networking (N) | Canvassing on-site | Consult with concierge staff | Assess progress |
| Week 3: In-person invitation (I) | Community centre visits | Complete all canvassing and consulting | Prepare for information exchange session week 4 |
| Week 4: Reviewing | Direct invites to interested parties | Information exchange meeting | Assess overall progress |

The aim of this study was to evaluate the recruitment procedures used to establish a walking programme in Glasgow. Recruitment in this study refers mainly to the actions of the programme delivery team and the evaluation focuses on their actions. Although participants were also recruited by the research team to qualitative interviews, this was not the focus of the evaluation. Walking programmes in this study refer to organised walking programmes that aim to increase the independent walking behaviours of participants. In this case it was through the creation of a walking group which was established with a view to becoming self-sustained in the long run.

'Go-Walkabout' was a community based walking programme for men delivered by the local social housing association. It provided physical activity opportunities through active transport to locations deemed attractive to men (e.g. football grounds and sporting museums). Men were eligible to join the group if they were aged 25-54 years and residing in one of five tower block residences in a socially disadvantaged area of East Glasgow. The walks took place locally in these areas, and intended to take the men to destinations including local football grounds, museums, snooker halls and bowling greens. The group met weekly and the walks lasted at least twenty minutes each time.

A number of advantageous factors were in place and were in keeping with previous research recommendations [8]. These factors were: a recruitment team was available and had been provided with training; specific locations and target groups had been identified; a defined timescale had been agreed; a clear volume of participants had been agreed; and there were local gatekeepers in place. The programme aimed to recruit 20 participants after four weeks of recruitment and aimed to retain as many of those participants as possible 10 weeks after the walks began. The programme was implemented by an outsourced delivery agent and funded by a social housing association. Therefore it provided a unique opportunity to investigate the processes behind recruitment.

The plan was informed by the frameworks outlined above and the study aimed to answer the following questions:

- a) How did the men in this study become aware of 'Go-Walkabout'?
- b) What were the rates of response to the recruitment activities and what was the level of participation at the first walk?
- c) How feasible was the recruitment plan and what affected its fidelity?
- d) What contextual factors were apparent and what was their significance?

Methods

Study Design

A process evaluation methodology guided this study allowing investigation of not only what happened, but why [22]. An action research ethos guided the implementation of the recruitment plans as it is deemed inherently flexible and a good fit within the evaluation process [23]. Walk leader training was provided to the funding body and delivery team by the authors, which included and briefing on how to plan and implement a recruitment drive. A four week recruitment plan was agreed prior to the start of the walking programme (see Table 1 for recruitment actions). A phase of rolling recruitment was planned, once the walking programme had started, and aimed to foster word of mouth amongst new members within their social networks. This phase focused on assessing weekly attendance, targeted redistribution of fliers and provision of information sessions where the opportunity was identified.

Data Collection

Data collection tools were designed for both the quantitative and qualitative aspects of this study. Quantitative tools included: a simple tick-box , 'how you heard about us' questionnaire (Appendix 1); data collection sheets accounting for the distribution of the fliers and posters (Appendices 4-5); a record of actions taken by the recruitment team and concierge (maintenance and management) staff; and suggested scripts for the initial introduction to the walking group.

Qualitative data were collected during semi-structured interviews with five participants and three stakeholders (delivery team and funders) (Appendices 2. 3a and 3b). A set of questions from previous formative research was adopted for the interviews with participants [24], and a new set of questions was designed and agreed upon by the research team for the stakeholder

interviews. Participant interviews were focused on how the participants heard about the group, why they decided to take part and how they described it to others. Stakeholder interviews examined opinions about the plan of action, experiences implementing it, and key learning that took place.

All promotional material was designed by the funding agency's marketing communications department. Tailoring of fliers and posters was limited by the use of a branding template. Community centre visits were a combination of planned and reactive visits. They were scheduled during the initial canvassing plan or as a result of leads created by the funders and delivery agents during face to face discussions and meetings. An information session, on site at one of the tower block meeting rooms, took place a week prior to the first walking session a one hour meeting. The walk leaders hosted a discussion session with 15 men who had expressed interest in the walks and agreed to the meeting. The walk leaders proposed the walk schedule, format and suggested destinations for the walks. Participants were encouraged to provide feedback and suggestions and an agreement was made for the date and time of the first walk.

Finally, a research log was kept noting any observations of relevance throughout the recruitment phase and delivery of the programme. This data was used by the researcher to inform their knowledge of the area in which the men lived and to identify context related themes which emerged as the researcher reviewed these notes. Later, they informed the researcher when analysing the interview transcripts and understanding the emerging contextual information described by the men in this study.

Data Analyses

Data on the recruitment actions and responses (i.e. any expressions of interest where contact information was collected) were reported to the researcher by the recruitment team throughout. Information about how the participants

heard about the group was collected by the researcher on day one of the walking programme. All quantitative data were stored and analysed in Microsoft Excel to rate goal achievement (e.g. the number of people who started at Week 1). This was assessed by comparing the actions and responses data to the target and day one attendance data. This was presented in graph form and easily interpreted by both the researchers and stakeholders throughout.

Semi-structured interviews were transcribed verbatim, anonymised and analysed by a member of the research team. A general inductive approach was applied to the analysis for its relevance to the evaluation process. This approach allows an inductive and deductive analysis; it is appropriate for condensing large amounts of data to themes; it promotes linking themes to the research objective; and it allows application of the findings to an advisory framework [25]. Five participant interviews and three stakeholder interviews (one pair and one individual) were conducted. Data were analysed using NVivo (Version 9, QSR, Southport, UK). The same three stage approach was taken for all interview data. Data were read line by line to identify key themes and for inductive analysis. The deductive analysis question set were analysed with a view to providing answers to the interview questions. Also, other emerging inductive themes were interpreted from opinions about issues related to walking that were expressed by the participants during the interviews. A second team member (CMcA) reviewed all transcripts and the resulting codes. Differences in coder interpretation were resolved in discussion with all members of the research team and a final reporting structure was agreed upon. Direct quotes were grouped under the thematic headings to illustrate the main point and support the research findings. The reporting structure related back to the research questions, as advised by the general inductive analysis guidelines [25]. Findings are reported alongside quantitative data throughout the results.

The study was approved by the Departmental Ethics Committee of the Department of Sport, Culture and the Arts University of Strathclyde, Glasgow, United Kingdom. All participants gave informed consent.

Results

Five men attended the first walk. They were aged between 25 and 54 years, unemployed and some were recovering from addiction. Five separate tower block locations were used for the recruitment of the men. At Week 4, a review of progress resulted in an extension of the recruitment phase and resulted in a total of 12 weeks of recruitment.

a) How the men in this study became aware of 'Go-Walkabout'

Two participants indicated that they had heard about the group through community leaders, one indicated via friends/family and two indicated seeing posters. 'Word of mouth' methods were slightly more popular as reported by the 'how you heard about us' data collection methods.

Qualitative data analysis revealed more in-depth information regarding how the men heard about the walking group. The majority reported hearing about it through numerous, seemingly progressive channels. Word of mouth featured strongly and typically occurred between friends and family, local community leaders or service providers. Most men reported that they were informed about the group on more than one occasion.

"There was a gala day and there was a guy...and he asked us to join in a men's group...[then]...a leaflet through the door about when it was starting... at the men's group we found out about the walking group and... it was wee MX... She knew coz she's in the housing committee...she was telling me about it coz she is friendly with me and my wife... Aye we found out through a few people, different things ya know. And there were leaflets as well in the concierge station"

(Walker 5)

There was an overlap between the 'Go-Walkabout' recruitment drive and a previous men's health group. The men may have viewed 'Go-Walkabout' as an extension of the previous group and not something that distinguished itself or its purpose. However, the main finding is that these men were exposed to a number of messages about the walking group and word of mouth was popular, but did not occur between the men and the recruitment team until the information session.

b) Rates of response, rates of actions and participation rates

On average, 1.2 actions per week (range 0 to 3) yielded 2.6 responses per week (range 0 to 4) (Figure 3). Figure 3 illustrates the recruitment actions and responses to those actions during the 12 week recruitment period. The data are presented both as a cumulative total and as weekly response rate, both indicating a clear relationship between actions and responses. However, the second form of data presentation illustrates a more reactive relationship between actions and responses. At times no responses were recorded, while later in the process a clearer and consistent response rate occurred as actions took place. This revealed a need to analyse in more detail the events and types of actions which were taking place in order to gain a better understanding of what worked and why.

Twenty responses were obtained from 16 recruitment actions taken during the recruitment period, and 15 men attended the information session in the week prior to the first walk. This should not be interpreted as indicating that 20 men took part in the first walk, but is an important data set to identify how responsive participants were during recruitment and how active the recruiters were. Overall responses were low by week four and the planned four week recruitment period had to be extended to 12 weeks as a result of delayed arrival of print material, reduced availability of concierge staff, reduced availability of recruitment staff. By presenting the two rates of responses and

actions reported, it is possible to illustrate that response rates fluctuate and changes in response can be matched to the level of recruitment actions.

As opposed to the cumulative totals data, weekly action and response rate data demonstrate an inconsistency in the number of actions taken and a similar inconsistency in response rates. Figure 3 shows that there was a difference between weeks one to four and weeks five to twelve. The stakeholders attributed the eventual success in getting the walking group started to events in the second, eight week period. During this period, the gatekeeper, staffing and capacity issues were overcome by partnering with a well known, local housing manager and focusing all recruitment actions on one site location instead of four. As a result, fifteen men attended an information session but only five men attended the first walking group session. These findings highlight the need to monitor response rates during recruitment in order to identify whether there is sufficient interest before the walks commence. More importantly though, it highlights the need to identify whether ineffective actions and delays affect whether a response by a potential participant turns into attendance on day one of the walking programme.

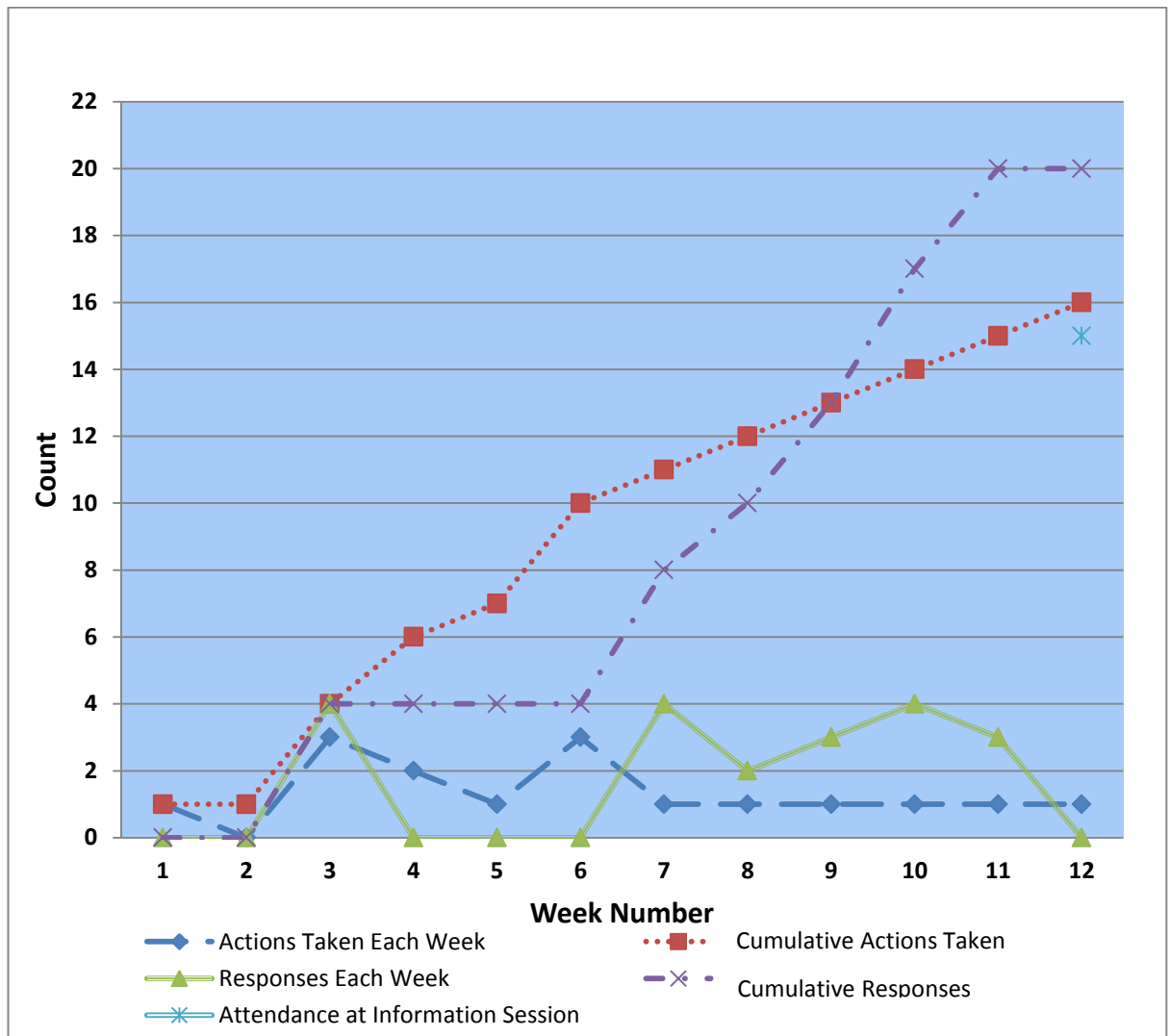


Figure 3 Recruitment actions taken and expressions of interest (responses) during the 12 week recruitment period

Figure 4 displays the attendance rates during 14 weeks of the walking programme. There was a decline in attendance, and a decline in recruitment actions taken by the programme deliverers. The plan to engage the participants in recruitment as an outcome of their positive experience with the programme did not happen. Few other recruitment actions took place as the programme delivery appeared to lack the capacity to both run the walking programme and invest time in fostering positive relationships within the community.

The number of participants attending the walk didn't reach the target of 20 (Figure 4). An average of 3.2 men per week (range 0 to 7) attended the walking group, but a steady decline was observed over 14 weeks. Recruitment had been planned to continue during the delivery phase of the programme, however, recruitment actions steadily declined and a clear decline in attendance followed. This simple relationship was also observed in Figure 3, and an observation can be made that without explicit and appropriate recruitment actions taking place, it is unlikely that any responses will be received. Potentially, the influence of previous short term programmes delivered in the area, and the lack of trust building which had been identified as a barrier during the training and planning phase, may have also affected response rates and is discussed further in section D.

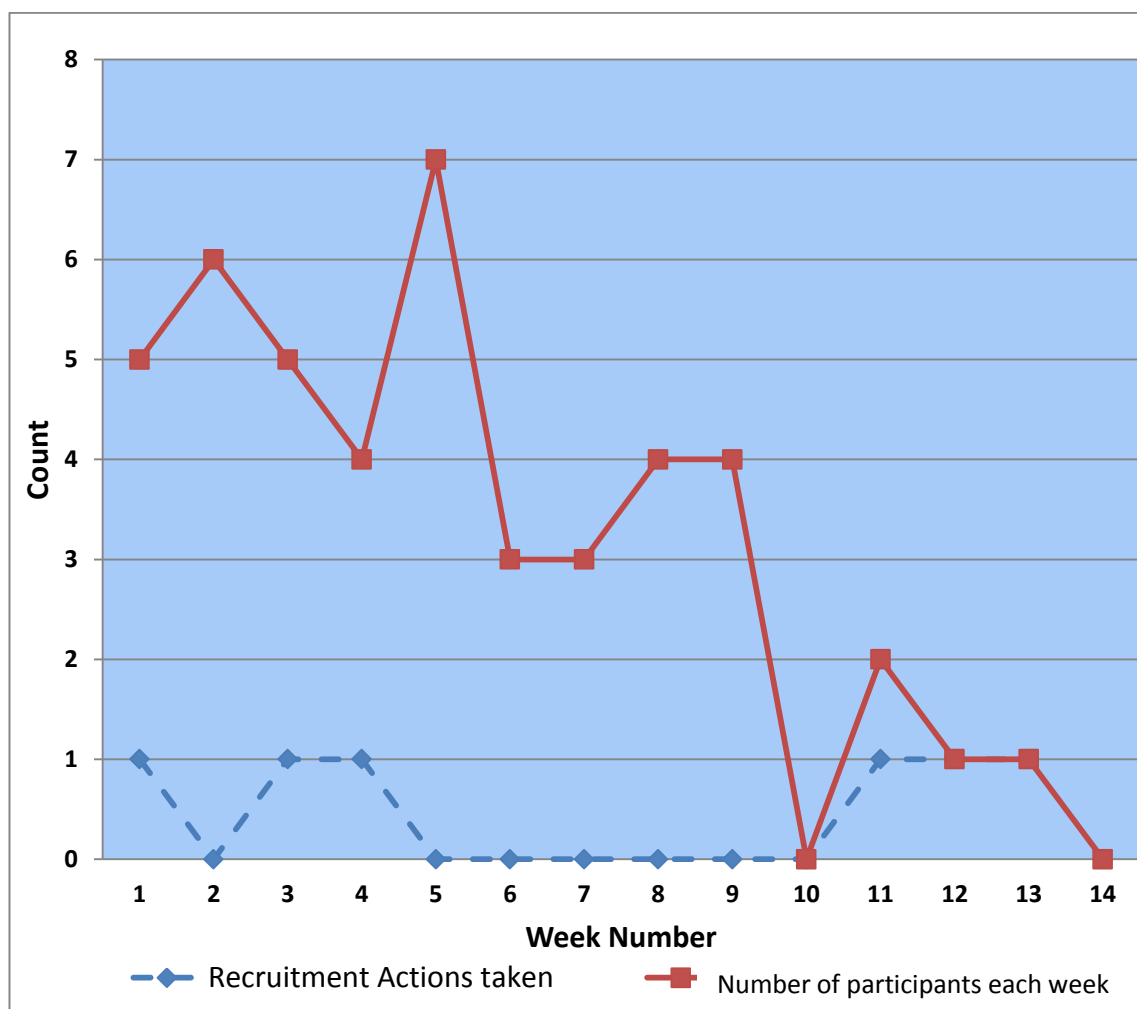


Figure 4 Weekly attendance rates and recruitment actions during 14 weeks of delivery of the walk programme

c) Feasibility and fidelity of the recruitment plan

Feasibility did not present itself as an issue at the planning phase. All stakeholders agreed upon and viewed the recruitment plans as achievable. Swift distribution of print material, followed by face to face canvassing with the assistance of concierge staff was an agreed and important strategy. However, a number of events affected the intended recruitment process delivery: leaflet and poster printing was delayed and did not meet the expectations of some of the stakeholders (Appendices 4 and 5); and working conditions changed for the concierge staff. The recruitment team were then limited in what they could do and were slow to react to change. Subsequently, staff availability, timing, management of contact databases, and the start date of the walks were all affected. In addition, the recruitment team had a lack of experience with the research processes which affected their capacity to adequately collect and report data.

“It looks really good when you see it... I think we tried to cover as many bases as we could. I think we always realised that the type of recruitment we were gonna do was gonna be difficult... but as we've said that hinged purely on the concierge staff because we knew the sites we were targeting that 90% of the concierge staff in those sites had been there for three, four, five years plus... they're almost part of the family for a lot of them living within the block so it was that friendly face, that person that they trusted and if Jim the concierge says this is a good idea then I might go”

(FL)

“I don't think the [fliers] bore any resemblance to the message we were trying to get across to people at all quite frankly. In terms of this delay...we can appoint[a recruiter] at a certain time to work a certain number of hours, so we've already had discussions and negotiations...so if the starting point is the distribution of the information...he's sitting around for two weeks because there's no materials to give out, that affects us at the other end as well because then we've got to find another two and a half weeks money, you

know... when one of the bigger organisations turns around and says oops, we're gonna be late that really has implications for programmes further down the line"

(DP1)

Table 2 presents an appraisal of the fidelity of the recruitment process. The duration of recruitment was considerably longer than intended and lasted 12 weeks instead of four. The original strategy (see table 1) was in most part executed as intended and the A.N.I. Framework was used to select and order the methods used. Awareness building and passive approaches were used first, followed by networking and direct invitation, assisted by gatekeepers. Timing was delayed and roll-out was clearly different from the intended plans. After six weeks of recruitment a key local gatekeeper helped to deliver all the phases in a timescale similar to the original planned recruitment phase. The result was that five men who attended the walking group on day one came from the same location. The key learning here is that the recruitment process is complex, sensitive to changes in circumstance and must be managed in a real-time manner. Our models may be scalable (expandable to other locations on a larger scale) but have a necessary condition that all the same elements are in place across all the locations in question.

Table 2 illustrates a simple comparison between intentions and outcomes to identify any major issues arising during the recruitment phase. Time delays were identified as an initial barrier. These delays are highlighted by the outcomes illustrated in Figure 3 and the expressed opinions of the recruitment team.

Table 3 Appraisal of plans and strategic application of chosen recruitment method

| Category | Number of methods | Active or Passive Approach? | Intended Strategy |
|-------------------|--------------------------------|------------------------------------|---|
| Intentions | Six separate methods (Table 1) | Active and Passive | A three phase strategy of awareness building, networking and interpersonal invitation |
| Outcomes | All six methods were applied | Active and Passive approaches used | All phases were executed in order as outlined, but significant time delays impacted affect. |

Fidelity to the recruitment plan was not a major challenge, but timing was. Mitigating circumstances leading to delays and change in the capacity of the recruitment team were important barriers to recruitment. All stakeholders recognised this but attributed varying degrees of internal and external responsibility to why the plan was not delivered within the timescale outlined at the start.

“We’ve ended up with the local friendly face and I think that's what's made the difference...if you were to take just the last four weeks where in my head we recruited properly, then I think that the eight weeks was trying to make do and mend with a situation that we hadn't quite anticipated. The lines of communication...weren't always as I would have expected for the way we had set up the project and how we had all committed, at the start the recruitment period was gonna be important particularly because of your involvement so we knew we had to be very particular about what we were doing, when we were doing it and why we were doing it. So for me there is a wee bit of disappointment that I don't think that's been followed through as well as it could have been”

(FL)

“Listen, that's where we create cracks that people fall into, all the time. That's why I was saying earlier we need to be hard set when we set some dates and [stay] hard set and really strive to achieve that date because that's the message that we need to be giving out to the participants. And that's a universal experience for us...Because the idea quite frankly any vagueness or leaving the decision up to the individual, the decision ,99 times out of 100, is, 'ah I'll no bother' so I think there were things like that they were completely knocked off kilter for us and made it difficult for us to get it going”

(DP1)

d) Contextual factors and their impact

The contextual information in this study relate to the men and the aims of 'Go-Walkabout'. The rationale for 'Go-Walkabout' was based on creating an opportunity for these men to take control of their health via a physical activity intervention. The funders had arranged previous similar interventions and aimed to serve the assumed needs of men who were often unemployed, and dealing with multiple personal and physical health challenges. By providing a free intervention with few exclusion criteria, the hope was to facilitate a sustainable, positive behaviour change after the funding stream had stopped. However, we knew little about what motivated these men to take part in a walking group, or fundamentally what they considered when they were invited to take part. Cost was clearly stated by one participant as important and saving money was a theme among others:

“They [the walk providers] pay. Once you say that people are a wee [bit] better interested”

(Walker 1)

Saving money was a clear factor in the men's general motivation to walk. Walking was not perceived negatively and was often the preferred mode of transport as it saved money, usually during purposeful activities.

"I could jump on the bus for 90 pence, but I walk...basically the people I know would rather walk to the Forge [shopping centre] to save a pound coz...I think guys walk everywhere, at least the guys I know... the flats to the bookies [bookmaker], from the bookies to the library, the library to the pub"

(Walker 1)

This could lead to the conclusion that financial incentives dictated these men's decisions to join the group. However, a desire to be engaged in something was a strong theme in discussion on why to join a group.

"I'll do any classes just to get out of the house and do something...I was doing nothing anyway so I said I'd do it. Anything to get out the house [for] a while...When I heard it was more than one week, more than one week out of the house. It gave me a chance to do something on a Tuesday, I don't do anything on a Tuesday. So I seen it as something to do for a couple of weeks to get out of the house"

(Walker 3)

Lastly, the men's description of the group revealed broad health appeals and considerations. The men were attracted to opportunities to engage in long term activities which fulfilled psychological and social needs as well as, if not more so than, the physical health benefits of walking with a group.

"You don't get nothing for nothing in this world, but obviously I've came a couple of times and it's been good, you know what I mean. I've had a lot of good times ya know...just a wee, simple walk. Going to Hampden [Scottish football ground] and that. Stuff I'd generally not do, I thought. I think it's been really interesting... I think it's been the things we do, talking to the boys, just basically getting out there, man. A big change from what I'd normally do... Something I look forward to... Aye, in a big way, man... Why is that? [cos] I'm just sitting in the house"

(Walker 2)

The most significant contextual factor and an overarching theme across the interviews was trust in the people and the programme. The men had an experience of being let down and in this case immediately before 'Go-Walkabout' started. Hence, trusting that the person was reliable and the programme would take place was key in negotiating recruitment.

"I went about and said to people living in the flats, this guy's brand new [he's good], he'll no let us down. He's a good guy to be going about...I just said turn up at this time you know, and we'll see. And the guy turned up and it went alright...Then I got a phone call off wee MR to say I took over the group. I trust wee MR coz I worked with him years and years ago....and I told the rest of the boys, it's just all kicked off again"

(Walker 1)

"[Mistrust] I mean that is a very real issue in that community, as in a number of communities across Glasgow. People won't answer the door if, when they're not expecting you...they look through and they don't know who you are, they'll just not answer the door. I think that there's also a degree of vulnerability involved in that process for the staff"

(DP1)

The influence of programme content was an emerging theme. As the walks progressed, a mismatch between what was being offered and delivered became apparent and may have affected retention.

"When I first heard about the walking I thought it was orienteering and hill wakin and all that, and I thought excellent. But obviously it was different...I know some of them boys aren't fit for that, orienteering and that, I understand that now. But at the time I was, ah yeah, a bit of hill walking or orienteering or something like that"

(Walker 3)

The stakeholders expressed opinions and insights into the circumstances they faced during the process, and their learning. In particular the funder reflected positively on what had been a challenging experience.

“[That] community [bought] into it because they had somebody they trusted promoting it...as soon as we got ourselves to a situation where we could do it the way we had planned to do it, it worked... for me, it just beautifully illustrates how you need that local person involved...if you've not got that local person, that's not gonna go anywhere and I think we could beautifully illustrate that. For me one of the fantastic things about having you involved in this was that we knew at the end of this that we were gonna have something that said in actual fact, no that didn't happen, you might have thought that was gonna happen or you might have said it was gonna happen but it didn't happen coz we've got it all documented here, and to be able to look at a project and see the reasons why some of the reasons, why it was more or less successful than you initially thought and take some evidence to back that up as well”

(FL)

The delivery agents also expressed positive appraisals of a challenging experience. Once more, key learning focused on the inter-personal and professional conduct aspects of successful recruitment. In particular, distinguishing the walk leaders from the perception of the funders was key to engaging the men.

“[DP2] I don't have anything but positive to say about [the funding agency] since I've been involved with them I don't...[but] from [the men's] perspective is pfft [so what] what have they done for us? ([DP1] Or we really only go there to complain about faults in our house or arrears with rent? [DP2] I'm not bigging you up there, but I'm coming back to what you said, sell yourself don't sell the GHA. Say who you are...That's a major learning curve”

(DP1 & DP2)

“The time commitment, the resources commitment to that end of the thing...it’s overlooked, and it’s absolutely essential to get right to have a good project, so when it’s not done properly because it’s under resourced or the service provider or the funder are not paying enough attention to it, what you end up doing is you just end up getting whoever you can. So the project doesn’t end up doing what it was meant to do. It does it with other people who didn’t really need the project in the first place. So it will be important information for us to be able to say, independently, we need to resource this part of the thing properly as well, and if you don’t resource this part of the thing properly as well, you’re setting up to fail. I think that for me is what will be a really big benefit to this whole relationship. We’ll be able to take that, not only to the GHA but to all funders and say look it’s been clearly demonstrated that if you don’t get this bit right, if you’re not at least setting up to fail, you’re at least setting up to chase your tail constantly. So let’s get this bit right and resource this bit properly and then the rest of it we can work on from there. Is that fair enough?”

(DP1)

Discussion

Summary of main findings

This study investigated a structured approach to recruitment to a walking programme, evaluated by researchers and delivered in a practice setting. The study utilised two novel frameworks for recruitment and provided useful insight into applying theoretical frameworks in a practice setting. Key lessons were learned about the recruitment team’s actions and the participants’ responses. Successful planning did not translate into effective implementation of what was considered to be a feasible recruitment strategy in the first instance. In the second half of the recruitment drive, gatekeeper issues, delays with the print material and their effect on capacity had been overcome by engaging with a local gatekeeper and conducting the recruitment drive more

regimentally. This study demonstrated that effectively implementing a complex recruitment process in a complex environment requires an assurance that all parts of the recruitment plan can be and are in place before day one of recruitment. All stakeholders agreed that the plan was feasible but accepted that inexperience with the process and a slowness to adapt to changing circumstances affected progress. The relative success of the second half of the recruitment drive illustrates that when all the considerations outlined in both novel frameworks (Pathways Framework and A.N.I. Framework) have been attended to, a target group can be engaged. It is not possible to predict what would have happened if these actions had not been taken, but the funding body expressed an opinion indicating that the programme would not have gone ahead had improvements in recruitment not taken place.

Trust was an essential factor in engaging the men in this group. The dialogue and discussion ('in-person invitation') which occurred was a result of multiple methods of awareness building and networking. The participants mentioned different gatekeepers who endorsed the programme, while the recruiters and delivery agents highlighted the importance of a local mediator. These people supported awareness building for the programme and attendance at the information session. The information session acted as an important exchange of thoughts and opinions and the chance for both sides to negotiate and facilitate their attendance and commitment to each other and is consistent with other previous studies [13, 20, 26].

The men in this programme were willing and motivated to take part in the group if it was: consistent with their health needs; didn't conflict with their priorities; and was reliable, at least by comparison to previous experience. Their health needs were broader than just physical fitness. They were dominated by social interaction and psychological stress relief. In addition, the logistics of the programme (when, where, how much and for how long) were important at the 'in-person invitation' phase. The men had a number of

priorities (seeking employment, being re-housed elsewhere, and dealing with addictions) which limited their capacity to take part in the programme. Success, therefore, in recruiting these men was borne out of creating a dialogue, familiarising the recruitment and implementation team with the men, ensuring that the programme was a 'best fit' within the context of their lives and an assurance that it would be delivered as stated. Arriving at the opportunity to engage in this discussion was influenced by the physical and psychosocial factors proposed in the Pathways Framework and the capacity and willingness to execute all phases of the A.N.I. Framework, while being flexible enough to react to change.

Relevance of the main findings

This study directly addresses two challenges faced in recruitment to walking programmes, in this case for men. Firstly, understanding what works and why was examined here by: monitoring the actions and responses as they occurred; capturing contextual data; and applying a mixed methods approach which could confirm or refute the observational and quantitative data. Secondly, understanding what affects men's willingness to take part in walking groups, and their opinions about walking, was investigated through qualitative interviews. Evaluation of recruitment is infrequent but recommended [18] and this study successfully evaluated the actions of the recruiter and the outcomes of their efforts.

There is a paucity of literature exploring recruitment processes in walking programmes [8]. In addition there is a demand for best practice guidelines on recruitment for walking programmes [9]. Despite a history of recruitment literature recommending the exploration of robust methods and strategies, little work of this type has been conducted and the majority is conducted in trials research [10, 11]. Recent literature supports our opinion that recruitment should be viewed more as a process with several phases consisting of multiple methods being applied at the same or similar times [15,

17]. Also, the burden of responsibility for non-attendance cannot easily be placed on the shoulders of the participant when recruitment fails to reach them due to ineffective recruitment actions [16, 27] or a lack of consideration for the circumstances in which the participants live [10, 28]. There is evidence to support our findings that groups physically and psychosocially distant from the recruiter can be successfully engaged if recruitment is conducted physically closer to them and with the assistance of all available mediators [9, 13]. Finally, there is a need for a clear framework, reporting metrics and stated outcome measures which can steer the recruitment process throughout and facilitate cross comparison between programmes afterwards [8, 17]. This study has attempted to apply such frameworks and report recruit metrics in a clear manner and in a way which provided a true reflection on the successes and failures of the process, and most importantly demonstrated that adaptability can help to overcome challenges that occur during the process

Strengths and limitations

The strengths of this study include the evaluation process, the flexibility of an action research approach and a mixed methods data collection design. The use of qualitative interviews allowed for a cross comparison with the observational contextual data and the quantitative data to understand the events occurring at each significant time point. The inclusion of participants, delivery agents and funders being observed in the qualitative data collection facilitated a triangulation of opinions to get a clearer understanding of how well the recruitment process was being delivered and received. Also, this study examines recruitment applied in practice through a community based intervention, thus providing insight into research findings applied in the community.

The limitations of this study include the failure to achieve the intended recruitment goals. A lack of understanding by the recruiters about the

recruitment data gathering was apparent and may have been overcome by more comprehensive training. The dependence on an external marketing communications agency created significant delays in the process. The study itself had little control over the planning and delivery of the walking programme. The planning frameworks, though evidence based, are novel and create a limitation for comparison to other studies. There is a need for cost benefit analysis of different recruitment methods and strategies, but this data was not consistently recorded. The cost of the print material was approximately £1,200, but the man hour costs remain unreported. Such data would create a more systematic analysis of recruitment processes in research and contribute to better knowledge exchange with practitioners.

Conclusions

Participation in physical activity is continuously endorsed as a 'best buy' in public health and walking is well established as a useful mode for the promotion of health [4, 29]. The gap between advocacy and participation is, however, not well reported or investigated and the complex nature of what occurs during the invitation process (recruitment) is not well understood. This investigation has demonstrated the complexity of conducting a comprehensive recruitment drive and highlights some positive and negative outcomes. The men in this study expressed a positive interest in both walking and being part of a group. However, trust in both the programme and people delivering it was affected by previous experiences in their community, some of which had been negative. The overall efficiency of the recruitment drive, however, was negatively affected by the preparation and experience of the delivery team and the capacity to monitor and react to the events throughout. The recruitment team expressed a need to improve their actions. This was a key finding of the study and indicates that future interventions should be targeted as much at the level of the recruiter as at the level of the people being recruited. Our finding that the frameworks applied were practically

useful to the delivery agents, and may warrant future theoretical investigation, is reassuring. Also, we demonstrated that recruitment does not have a simple one size fits all approach and is a process which needs to be continuously managed. Better understanding of the events which take place in recruitment in both research and practice demands a more comprehensive, clear and concise reporting structure, and the willingness of the recruiters to provide that information.

List of abbreviations

PA: Physical Activity

A.N.I. Framework: Awareness Networking In-person Invitation Framework

Competing interests

The authors declare that they have no competing interests

Authors' contributions

GB designed the study, analysed the findings and drafted the manuscript. CF, CMcA and NM reviewed all phases of the writing of the manuscript and refined the reporting structure. CMcA reviewed the qualitative transcriptions and coding structures. NM developed and approved the study design and the reporting structure. All authors read and approved the final draft of the manuscript.

Authors' information

GB is a PhD candidate at the University of Strathclyde conducting an investigation of the methods and strategies for the recruitment of participants to walking promotion programmes, a thesis in submission in 2012. He has co-authored a systematic review of the literature on recruitment to research studies in walking as part of his PhD. CMcA is the SPARColl project coordinator and has a special interest in children and physical activity. CF is a Lecturer in Physical Activity for Health at the University of Strathclyde. NM is the SPARColl

Director and grant holder, Professor of Exercise and Sport Psychology,
University of Strathclyde and head of the Physical Activity for Health group.

Acknowledgements

The authors wish to acknowledge the contributions of the walking group members and thank them for their time and willingness to take part in the qualitative section of this study. We would also like to thank the funding agency and delivery agents for their contribution to the qualitative process, and also for their unreserved inclusion in the entire process from conception through execution and their enthusiastic interest in all aspects of the outcomes. We would also like to thank the funding body for the opportunity to conduct this research, because recruitment research is simply much more difficult without something to be recruited to.

References:

1. Morris JN, Hardman AE: **Walking to health.** *Sports Medicine* 1997, **23**(5):306-333.
2. Department of Health: **On the state of public health: Annual report of the Chief Medical Officer 2009.** 2010.
3. Scottish Government: **The Scottish Health Survey 2009.** 2010.
4. NHS Health Scotland: **Five year review of 'Let's Make Scotland More Active' - A strategy for physical activity.** In. Edinburgh: Stationery House; 2009.
5. Daugbjerg SB, Kahlmeier S, Racioppi F, Martin-Diener E, Martin B, Oja P, Bull F: **Promotion of physical activity in the European region: content analysis of 27 national policy documents.** *J Phys Act Health* 2009, **6**(6):805-817.
6. World Health Organisation: **Global strategy on diet, physical activity and health.** In.; 2004.
7. Burton NW, Walsh A, Brown WJ: **It just doesn't speak to me: mid-aged men's reactions to '10,000 Steps a Day'.** *Health Promot Journal of Australia* 2008, **19**(1):52-59.
8. Foster CE, Brennan G, Matthews A, McAdam C, Fitzsimons C, Mutrie N: **Recruiting participants to walking intervention studies: a systematic review.** *International Journal of Behavioral Nutrition and Physical Activity* 2011, **8**(1):137.
9. Matthews A, Brennan G, Kelly P, McAdam C, Mutrie N, Foster C: **"Don't wait for them to come to you, you go to them". A qualitative study of recruitment approaches in community based walking programmes in the UK.** under review.
10. Swanson GM, Ward AJ: **Recruiting minorities into clinical trials: toward a participant-friendly system.** *Journal of the National Cancer Institute* 1995, **87**(23):1747-1759.
11. Toerien M, Brookes ST, Metcalfe C, de Salis I, Tomlin Z, Peters TJ, Sterne J, Donovan JL: **A review of reporting of participant recruitment and retention in RCTs in six major journals.** *Trials* 2009, **10**:52.
12. Mutrie N, Foster C, Easterbrooks P, Burton NW, Baker G: **Recruiting hard-to-reach populations to physical activity studies: Evidence and experiences.** *Journal of Physical Activity and Health* 2010, **7** (Supple).
13. Banks-Wallace J, Enyart J, Johnson C: **Recruitment and Entrance of Participants Into a Physical Activity Intervention for Hypertensive African American Women.** *Advances in Nursing Science* 2004, **27**(2):102-116.

14. Rowland RM, Fisher KJ, Green M, Dunn AM, Pickering MA, Li F: **Recruiting inactive older adults to a neighborhood walking trial: The SHAPE project.** *Journal of Aging Studies* 2004, **18**(3):353-368.
15. Bull F, Milton K: **A process evaluation of a "physical activity pathway" in the primary care setting.** *BMC Public Health* 2010, **10**:463.
16. Harkins C, Shaw R, Gillies M, Sloan H, MacIntyre K, Scoular A, Morrison C, MacKay F, Cunningham H, Docherty P *et al*: **Overcoming barriers to engaging socio-economically disadvantaged populations in CHD primary prevention: a qualitative study.** *BMC Public Health* 2010, **10**(1):391.
17. Patterson SE, Mairs H, Borschmann R: **Successful recruitment to trials: a phased approach to opening gates and building bridges.** *BMC Medical Research Methodology* 2011, **11**(1):73-73.
18. Mapstone J, Elbourne D, Roberts Ian G: **Strategies to improve recruitment to research studies.** In: *Cochrane Database of Systematic Reviews*. Chichester, UK: John Wiley & Sons, Ltd; 2007.
19. Sharp LK, Fitzgibbon ML, Schiffer L: **Recruitment of obese black women into a physical activity and nutrition intervention trial.** *J Phys Act Health* 2008, **5**(6):870-881.
20. Chang MW, Brown R, Nitzke S: **Participant recruitment and retention in a pilot program to prevent weight gain in low-income overweight and obese mothers.** *BMC Public Health* 2009, **9**:424.
21. Matthews A, Brennan G, Kelly P, McAdam C, Mutrie N, Foster C: **"Don't wait for them to come to you, you go to them". A qualitative study of recruitment approaches in community based walking programmes in the UK.** *BMC Public Health* 2012, **12**:635.
22. Nutbeam D, Bauman AE: **Evaluation in a nutshell : a practical guide to the evaluation of health promotion programs.** North Ryde, N.S.W. ; London: McGraw-Hill; 2006.
23. Barbour RS: **Introducing qualitative research : a student's guide to the craft of doing qualitative research.** Los Angeles ; London: Sage; 2008.
24. Brennan G, Fitzsimmons C, McAdam C, Mutrie N: **Recruiting adults to a community based walking promotion programme: the participants' perspectives.** *Manuscript in review* 2012.

25. Thomas DR: **A general inductive approach for analyzing qualitative evaluation data.** *American Journal of Evaluation* 2006, **27**(2):237-246.
26. Margitic S, Sevick MA, Miller M, Albright C, Banton J, Callahan K, Garcia M, Gibbons L, Levine BJ, Anderson R *et al*: **Challenges Faced in Recruiting Patients from Primary Care Practices into a Physical Activity Intervention Trial.** *Preventive Medicine* 1999, **29**(4):277-286.
27. Rendell Jennifer M, Merritt Rowena K, Geddes J: **Incentives and disincentives to participation by clinicians in randomised controlled trials.** In: *Cochrane Database of Systematic Reviews*. Chichester, UK: John Wiley & Sons, Ltd; 2007.
28. Jago R, Davis L, McNeill J, Sebire SJ, Haase A, Powell J, Cooper AR: **Adolescent girls' and parents' views on recruiting and retaining girls into an after-school dance intervention: implications for extra-curricular physical activity provision.** *International Journal of Behavioral Nutrition and Physical Activity* 2011, **8**:91.
29. Hardman AE, Morris JN: **Walking to health.** *Br J Sports Med* 1998, **32**(2):184.

Appendices

Appendix 1: 'How you heard about us' data collection sheet



How did you hear about us???

What was the main way you heard about the walking group?

Please tick one:

Posters

Fliers

GHA Concierge

Community Group Leader

Going Walkabout Team Members

Friends/Family

Other

Please specify: _____

Appendix 2: Interview schedule used with participants in the walking group

Q1) How did you hear about the walking group?

- Flesh out the source: who, where, when
- So you are a regular walker?
- No? Are you looking to be more active?

Q2) What did you think when you first heard about the group?

- What was it about a walking group that interested you?
- Was 'walking' the main thing you thought about?
- Something else that interested you about this group?

Q3) What do you tell others about the walking group?

- Focus on walking?
- Focus on cost?
- Focus on the destination?
- Focus on the walk leaders?
- Focus on other things?

Appendices 3a: Interview schedule, notes to and probes/prompts used for recruitment/delivery team

1. Can we talk about the recruitment plan that was designed and whether you thought it happened as was intended?

- Prompt:
 - Original 4 week Plan of Action
- Probes:
 - Was it planned well?
 - Did it appear achievable?
 - Was it clear?
 - What were the major barriers to carrying this out as planned?
 - Timing?
 - Resources?

2. What did you find most difficult about following the plan as we designed it?

- Probes:
 - Working hours?
 - Approaching people?
 - Knowing what to say?
 - Keeping an eye on progress?
 - Posters/Fliers?
 - Access to people or places?
 - Multiple venues?
 - Size of the recruitment team?

3. Looking at graph 1, on the one hand it appears that the more actions that took place the more people appeared interested. However, on the other hand, there was a drop off somewhere in the middle before more people responded. Can you tell me a little about what happened in that time around weeks 5 to 8 or later?

- Prompt:
 - Graph 1
- Probes:
 - Was there any responses to the office?
 - Was there much taking place on the ground (fliers, posters, meetings, making contact?)

4. Looking at graph 2, attendance didn't quite reach expectations and did drop off. We had planned for on-going recruitment throughout this phase, how feasible was it to do this?

- Prompts/probes:
 - Was there time?
 - Was there money?
 - Was there staff?
 - What barriers became apparent?
 - How could we overcome this?

5. How would you summarise the part I played in the process or the role I had?

- Prompts/Probes
 - Was it clear that I was advising on what actions to take?
 - Was it easy to report back to me what had taken place?
 - Did the channels of communication always seem clear?

6. What advice would you give to someone carrying out a similar project when it comes to recruitment?

- Prompts/Probes:
 - What do you think were the biggest barriers to implementing the plan as designed?

7. What do you think were the biggest positive points about what was done to recruit people to the project?

Appendices 3b: Interview schedule, notes to and probes/prompts used for funders

1. Can we talk about the recruitment plan that was designed and whether you thought it happened as was intended?

- Prompt:
 - Original 4 week Plan of Action
- Probes:
 - Was it planned well?
 - Did it appear achievable?
 - Was it clear?
 - What were the major barriers to carrying this out as planned?
 - Timing?
 - Resources?

2. My theory on recruitment focused on approaching people where they lived and getting to know them or people who knew them to increase the likelihood that they would take part. Do you feel that was feasible in the circumstances we were in?

- Probes:
 - Do you think there were any perceptions of the recruitment team that might be negative?
 - Was it really feasible to cover so many different areas with the number of staff we had?
 - What influence did the lack of assistance from concierge staff have on the recruitment plan?
 - Who else do you think could have played a part on the recruitment team?

3. Looking at graph 1, there appears to be a relationship between more recruitment actions and more people showing interest, but also, there was a drop off in actions for a while and then people seemed to show interest in the walk. Do we understand why this was?

- Prompt:
 - Graph 1 Recruitment actions and responses
- Probes:
 - Was it always clear to you what was happening?
 - Do we know what resulted in the interest levels going up around weeks 7?

4. Again, graph 1 also shows that the recruitment phase lasted for 12 instead of 4 weeks. Do we understand why this was?

- Prompt:
 - Graph 1 Recruitment actions and responses
- Probes:
 - There was also a change from focusing on 5 sites to concentrating on 1, Bluevale, did this have anything to do with the period of time being taken?

5. Looking at graph 2, we did reach our target group but attendance was low. The plan (Prompt 1) allowed for this and indicated that recruitment would be on-going. However, this didn't appear to take place. Was it less feasible to recruit once the walks had started?

- Prompt:
 - Graph 2 Attendance during the walk phase of the project
- Probes:
 - Were there any financial restrictions?
 - Could the team have conducted more face to face meetings or organised local meetings to build up an image of what the group did?

6. How would you summarise the part I played in the process or the role I had?

- Prompts/Probes
 - Was it clear that I was advising on what actions to take?
 - Was it easy to report back to me what had taken place?
 - Did the channels of communication always seem clear?

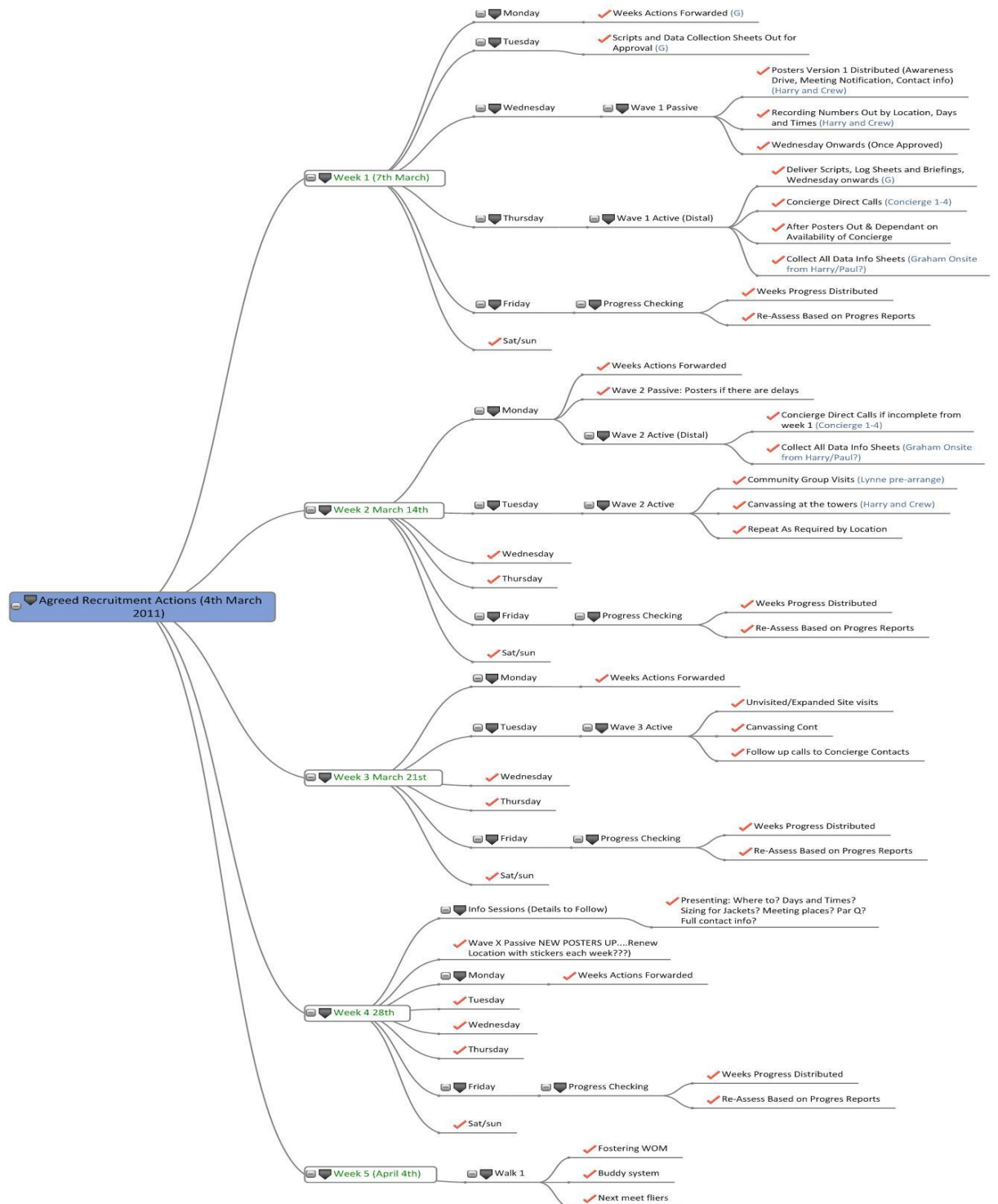
7. What advice would you give other project coordinators working with a recruitment coordinator?

- Prompts/Probes:
 - What do you think were the biggest barriers to implementing the plan as designed?

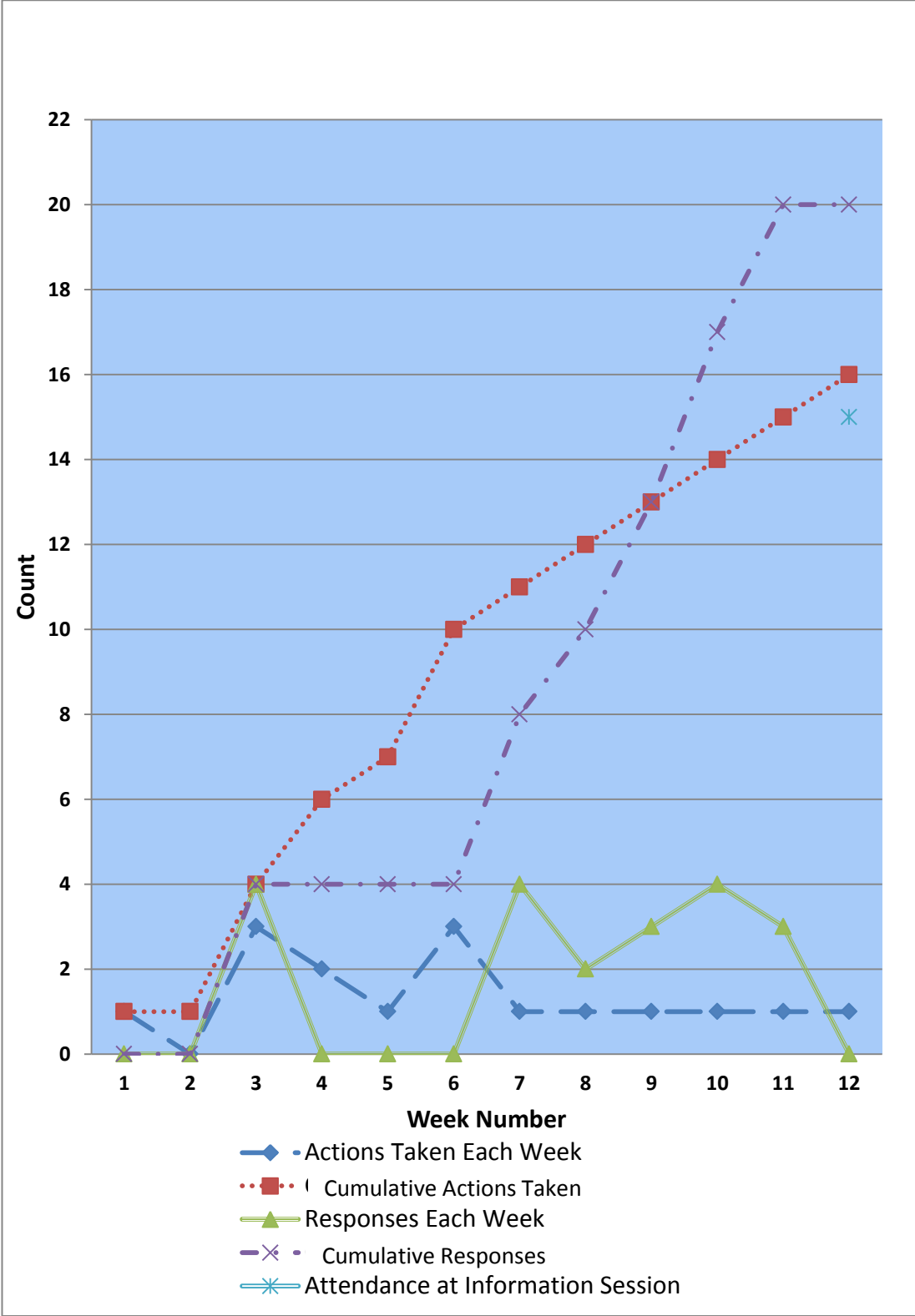
8. What do you think were the biggest positive points about what was done to recruit people to the project?

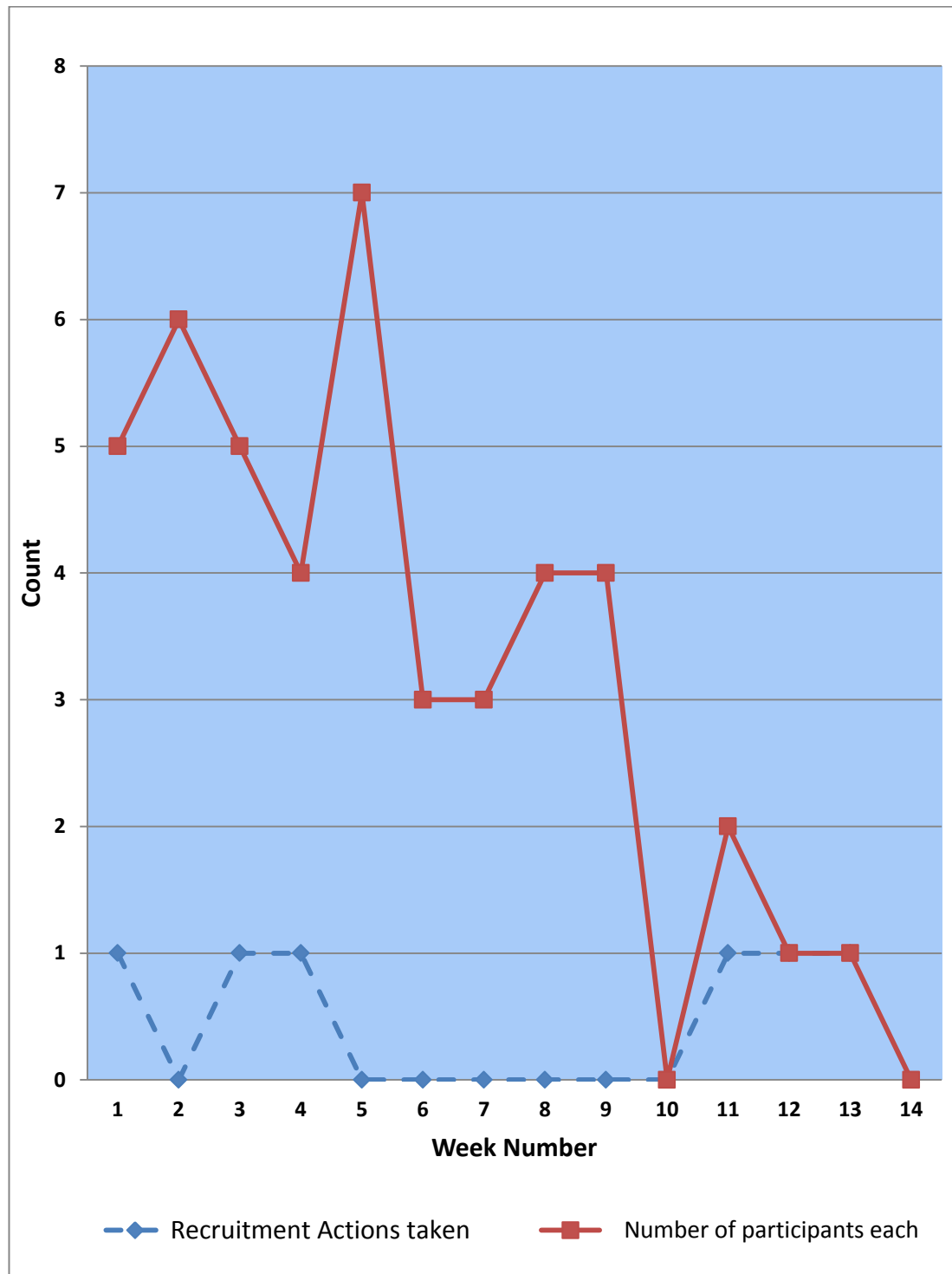
Topic guide used in both the recruitment/delivery team and Funder/Management team interviews

Topic Guide 1: The original four week recruitment plan, with all sub actions




Topic Guide 2: Recruitment actions taken and expressions of interest (responses) during the 12 week recruitment period



Topic Guide 3: Weekly Attendance Rates and Recruitment Actions during 14 weeks of delivery of the walk programme

Appendix 4: Flier and poster format used during the walking programme

Glasgow Housing Association
www.gha.org.uk



Going Walkabout

A Better Lives initiative

Are you male aged 25 - 59? Join us for a few hours as we Go Walkabout... It's FREE and it's fun and...you decide where we go.

We're Going Walkabout every week of Spring and Summer

COME ON GUYS

STEP ON IT

Put your best foot forward and come along to find out more:

What's next?

When?

For more details contact

Better homes, better lives, *a better Glasgow*

Appendix 5: Researchers proposed format for the flier and poster for 'Go-Walkabout'

GOING WALKABOUT

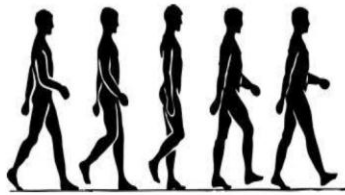


...ambling, rambling and getting outside

FREE health walk?

Are you male and aged 25 to 59?

Meet us and hear more about it



Feeling better and getting outside...



...walking in interesting places...



...all **free**, plus transport there and back!

Tell us what you think

[Date] [Venue]

FREE tea, coffee, biscuits

Or talk to [NAME AND NUMBER]

www.gha.org.uk



Chapter 6: Key learning points

Introduction: This chapter provided an opportunity to do something which has been called for in the literature, but to date not done. It was an attempt to test an evidence based strategy for recruitment, in a prospective not retrospective manner and to evaluate it on a number of levels. A significant challenge in conducting recruitment research is the need for an activity to recruit participants to. In the case of this PhD we were afforded that opportunity when the Glasgow Housing Association approached SPARColl for guidance. Although the compromise we had to make was a level of control regarding running the intervention and a limited capacity to influence the actions of the funders and delivery agents, we were openly allowed to guide and monitor our suggested approach, conduct research on all relevant stakeholders within the evaluation framework, and provided with open, honest and supportive feedback from the funders and delivery agents involved. The key learning points are below.

Chapter 6: Key learning points:

- Although challenging, we were able to evaluate the quantitative and qualitative aspects of the recruitment intervention as intended.
- Despite not achieving the overall recruitment goals, valuable insights about men and 'hard to reach' groups were made into their opinion of walking groups and being recruited.
- The men in this study valued similar things about the walking group as those in Chapter 4's study, and had also been recruited in similar ways.
- Trust and programme delivery were important factors affecting recruitment of the participants in this programme and were implied by the participants as factors that would affect successful recruitment of future programmes in their area.

- Understanding the context of the men in the area and how well the programme matched the perceived needs of those men were deemed as important by the delivery agent in this study and complimented the men's viewpoints.
- The major challenges in recruiting men to the walking programme were the organisational issues and clarity of recruitment actions issues observed at the start. A large amount of work went into preparing for the programme and the research on recruitment but without continuous and timely adjustment to events as they arose, recruitment became less effective.
- As mentioned in the stakeholder interviews, a recruitment plan should be driven by the capacity of the recruitment team, informed by knowledge of the target population and governed by the time allocated to achieve the recruitment goals. If this is not the case, recruitment is less effective, more timely and costly and may result in filling the programme with anyone who is available and not the intended group for whom it was designed.
- Recruitment can be prospectively evaluated and we can learn a great deal from the positive as well as negative outcomes of the intervention.
- At present, interventions that will teach us more about how best to do recruitment should be directed at the level of the recruiter.
- Interventions aimed at the recruiter can also contain research questions aimed at the participant.

Chapter 7

“Change brings opportunity”

(Nido Qubein)

Chapter 7: Contribution to this chapter

Title: Implications for the conduct of recruitment: discussion, conclusions and recommendations.

My Role: I wrote the chapter and my supervisors reviewed all writing throughout.

Chapter 7

Applications to Recruitment practice: Discussion, conclusions and recommendations

7.1 Introduction

This thesis investigated recruitment at the level of the recruiter. It began with what we felt was the most appropriate question. What can we learn about recruitment to walking programmes? This became a series of “what” questions including: what is recruitment, what is the best method or methods, what do we know about the topic, what appears to be the biggest barrier to our knowledge and went as far as what methodology is appropriate for a topic at this stage of its evolution in research? By addressing these issues first and not limiting the investigation to singular methods, or settings or methodology, this thesis contributes original insight into the complexity of understanding and learning about recruitment. The recommendations in this thesis are evidence based and come from analysis of the current literature, methodological investigation, reflection on the experiences and application of the learning gained during the doctoral study.

This chapter discusses the key learning points, outcomes and observations of each of the studies conducted. It provides recommendations for best practice in conducting and learning about recruitment and conclusions relevant to research, practice and policy. This includes a number of figures to aid in explaining the concepts being suggested and a summary set of guidelines for planning and implementing a recruitment strategy. Previous literature has described the topic, analysed methods retrospectively, and occasionally followed a strategic approach (Lee et al., 1997; Raynor et al., 2009; Sarkin, Marshall, Larson, Calfas, & Sallis, 1998). This thesis set out to be more comprehensive in its understanding of the topic than others by including

multiple perspectives, not least the participants'. It also went further by designing and evaluating a tailored and evidence based strategy for recruitment, which was pragmatically implemented when the opportunity arose. Lastly, we chose to address the topic at the level of the recruiter and understand the process, due to an overwhelming need, anecdotally and in print, to understand how best to do recruitment.

For the reasons above, this thesis provides more than common-sense or presumed knowledge and asks the fundamental questions of what do we do and how do we know we have achieved our goals? Recruitment has demonstrated itself to be complex, involved and at times frustrating. Failing to address the fundamentals aspects of planning and reporting limits what can be learned from any recruitment activities conducted. We have demonstrated the need for the recruiter to be clear, proactive and accountable for their actions during recruitment. The following sections aim to help in making that process easier to plan, easier to learn from and provide positive contributions to both research and practice.

7.2 Discussion:

This thesis had as its starting point, a clear definition of 'REACH'. *"The absolute number, proportion, and representativeness of individuals who are willing to participate in a given initiative"* (Glasgow, 2012c). We also had a sound health and equalities agenda in the form of the Scottish Government's policy on Physical Activity (PA) and their rationale to implement walking groups to affect health at a population level (NHS Health Scotland, 2009). What we lacked was widespread agreement on what recruitment was, how we measured its effectiveness and how we operationalized it in a manner that could be learned from and replicated. The context in this thesis was public health, and the

vehicle within which to examine recruitment was walking promotion programmes, in research and practice. However, the focus was recruitment and the process of recruitment, starting at the level of the recruiter. Our chosen methodology was Mixed-Method Research (MMR) because it provides a useful methodology for investigation when a topic, to date, has been under-investigated or requires its complex nature to be investigated from a number of perspectives (Greene, (2006); Tashakkori & Teddlie, 2003, 2010). Our aim was to better understand what we knew about recruitment and to learn how to better improve the process within walking promotion programmes. This section discusses the intentions, outcomes and learning of our concurrent studies (Chapters 3-5) and how they contributed to the development of our evaluation in Chapter 6.

Recruitment, as demonstrated by the literature reviewed in **Chapter 1**, has a sparse body of evidence (Mapstone, Elbourne, & Roberts Ian, 2007; S. Treweek & Loudon, 2011; S. Treweek, Pitkethly, et al., 2010). While the review of the literature in that chapter aimed to identify methods, descriptions and methodologies for recruiting and researching recruitment, it revealed more of a dearth in the literature than guidance. The literature often provided little in way of answers to such questions as: how is recruitment defined; what are the preferred methods; do these methods have differential outcomes; what theories are directly applied to recruitment; and how do we measure recruitment? In fact, a small but significant body of research identifying the absence of methodological investigation and a limiting lack of reported process data was revealed. Key, seemingly fundamental, guidance came from researchers and commentators who recommended the need for the who, what, where, when, how and why aspects of recruitment to be widely reported (Shaun Treweek, 2011; S. Treweek, Mitchell, et al., 2010). Also, a dearth of research at the level of the recruiter was revealed which left a gap in

our understanding of the process and a need to better understand the planning, implementing, monitoring and reporting aspects in general. Therefore, this thesis's MMR approach (**Chapter 2**) focused on investigating and understanding these gaps in the literature and provide key learning points which could be applied in a systematic or scientific manner. The limitations of MMR methodologies are well discussed in Chapter 2, but the strength it afforded this thesis was the ability to gain insight from multiple perspectives, to respond pragmatically to the discoveries made in our research and to be opportunistic when the chance for application arose. As a result we could work towards developing an evidence based approach to recruitment, which was also tested within the thesis.

Our systematic review, (**Chapter 3**), was the starting point of our investigation. It focused more specifically on walking promotion programmes and examined the published literature to identify the contribution researchers made to our understanding of recruitment. It began with a clear guiding question: what is the range and evidence of effectiveness of methods to recruit adults to walking promotion programmes? Our aim was to identify the methods used and the ways in which they were measured for effectiveness. As is often the case in systematic reviews, this data mining process can reveal gaps in the literature which limit the answer to the research question (Higgins, Green, & Cochrane Collaboration., 2008; Petticrew & Roberts, 2006), and this was the case here.

From the perspective of researchers who recruit to walking promotion programmes, methodological data was not widely reported. In fact, not only was the methodological data not reported or referenced, but measures of its effectiveness, fundamental statements of aims, referenced terms, theories, frameworks or reporting structures were all absent. In turn, we could identify

that our limitation in learning about the range and effectiveness of methods was largely due to the lack of reporting. However, by identifying this deficit we confirmed the need to address this issue if any improvement in recruitment and learning from the process was to be gained.

Despite this limitation, we were able to identify trends in recruitment actions and make positive recommendations. We observed a clear skew in the demographics of the participants in the studies included for the review, and could infer an association between current practice and current outcomes. That was, the current trend of applying more passive methods of recruitment (i.e. require the participant to approach the recruiter (Lee, et al., 1997)) in part resulted in the heterogeneity of the study samples. Furthermore, we were able to draw on the small number of papers that were comprehensive in their reporting, or had conducted qualitative or evaluative investigations to provide a series of recommendations (summarised in discussion below, section 7.1.). Of most importance from our perspective was the implication that being more passive than active in recruitment would not make significant outcome changes. In addition, establishing trust and identifying the most appropriate method to reach the target group for recruitment must be addressed at the planning stage.

Despite the limitations of the review, we had a firm starting point for the thesis and findings which were in keeping with limitations seen in the literature elsewhere (Chapter 1). Also, we had a strong case from which to recommend a more comprehensive reporting of the methods and strategies for recruitment. Finally, Chapter 3 allowed us to contribute a number of tables for future data collection, a model for consideration to conceptualise recruitment and our definition of recruitment. This definition focused on recruitment being a process, with a number of phases (inviting, negotiating

and facilitating) and our perspective that it should no longer be merely considered as a singular action.

Chapter 4 investigated the perspective of the recruiter in applied practice settings. It aimed to approach the same questions of range and effectiveness of methods from a qualitative perspective with recruiters who operated in walking programmes in the community. As was the case with Chapter 3, there was a general dearth of literature on this topic and again we were investigating a largely under researched area. Our rationale for using a qualitative approach was that it allowed us to examine the actions, situations and realities of those who were conducting the recruitment for their walking groups (Silverman, 2001). By conducting qualitative interviews and applying an inductive analytical approach we aimed to generate themes, establish their relationships, key learning points and case examples which represented the perspective of the recruiter in applied settings in the community. The provided a comparison set of data for Chapter 3 and allowed us to compare and contrast such issues such as reporting, guidance and barriers to recruitment.

Building on our previous study, this gave us a unique opportunity. We could present data from both qualitative and quantitative perspective and identify expert knowledge not necessarily captured in research at that point. While a range of opinions and suggestions were captured in this study, two significant points emerged which drove the actions of these recruiters. The first was the resource capacity of the programme with regard to recruitment, while the second was the perception of what worked. These two points seemingly worked in contrast as word of mouth was perceived to be most effective. However, the lack of resources to mount a word of mouth campaign limited recruiters to using more passive approaches while hoping that good will and volunteer involvement would bridge the gap between perceived effectiveness and resource limitations.

Despite this, there were several innovative approaches taken to recruitment. Social media, social and entertainment events and social marketing campaigns were being adopted. So too, was the opinion that broader health benefits (social and psychological) rather than singular physical health benefits were perceived to be key negotiating points when recruiting new members. This point is made elsewhere in the literature (Gomm, Lincoln, Pikora, & Giles-Corti, 2006; Sarkin, Marshall, Larson, Calfas, & Sallis, 1998; J. Wilbur et al., 2006) but this chapter was a first presenting qualitative data from the recruiter's perspective and within walking promotion programmes. Overall, the conclusions and contribution of this study was that recruitment was being described by those recruiters in the community as complex and something they required more expert advice on. They reported that partnerships and word of mouth were essential elements, and that building trust was key to effective recruitment outcomes. However, we could observe a lack of best practice guidelines informing these recruiters and could recommend the need for better training and the strategic use of resources if their priority groups being targeted were to be reached.

Chapter 5 was the third of the studies aimed at informing our knowledge about recruitment. This study approached the topic from the perspective of the participant and rather than identify and critique the methods of recruitment used by the walking group, it aimed to establish what methods were recalled by and resonated with the participant. This was an original contribution to the field as only a small number of qualitative studies on recruitment to walking programmes had been identified in our systematic review, Chapter 3 (Foster et al., 2011), none of which applied the same question set used here. Furthermore, it was conducted within a methodological framework which aimed to include its outcomes for any

emerging recommendations. Once again, we started from an aim to better understand the recruitment process and we used a basic question set and applied an inductive analytical approach (Thomas, 2006) to achieve our aims. Our focus was on how the participants heard about their walking programme, what they considered when contemplating taking part and how they described the group to others if they took part in a word of mouth campaign, formally or informally.

Despite the limitations in size and representativeness of this study there are interesting and valuable points to consider. The participants in the study widely reported being recruited through inter-personal activities such as campaigns conducted through groups they were already a part of, or via a member of the community they knew and trusted. Factors influencing their decisions to take part included their perception of the walking programme's fit within their broader health needs, including the opportunity to experience respite from some of their care commitments. Also, socialising, meeting new people and the opportunity to get involved in other things through the group were important factors at that point. Other walking and physical activity based research has revealed similar findings regarding the broader dimensions of health being appealing to them for participation (Allender, Cowburn, & Foster, 2006; Ashley & Bartlett, 2001) and this study can provide support for the findings in Chapter 4 where practitioners recognised that their walking groups needed to send more of a message about the opportunities for social, psychological and physical benefits to walking in their programmes.

With regard to how they describe the group to others, this was generally something which they found difficult. Although they emphasised the positive social, psychological and physical benefits, they felt a positive first experience was an important persuasive device in recruitment and would encourage new

members to 'give it a go' and see for themselves. This lack of clarity isn't necessarily a limitation and may warrant a closer investigation of how current members of walking groups are asked to promote the group. However, positive first experiences, matching the expectations of the participant with the delivery of the programme and quality of delivery are features of other qualitative research with participants in physical activity programmes (Jago et al., 2011; Sarkin, et al., 1998; C. J. Wilbur & Campbell, 2011).

This study presented useful points for comparison to our previous findings in chapters three and four. Those points raised regarding the programme's broader health benefits reflect well on observations expressed by recruiters in Chapter 4. Whether in research or practice settings, participants may be influenced by contextual and practical factors as early on as at the point of recruitment. This must be considered when identifying the key information being conveyed to the participant and this is supported by the perspectives of the participants in Chapter 5.

Key learning points can be observed from the participant focus groups (Chapter 5) regarding physical distances and psychosocial differences. When asked to recall the methods which influenced their reasons to take part, and when asked to describe how they inform others about the group, these participants frequently described close interpersonal contact. Although there is a possibility that these responses were influenced by recall bias or lack of awareness of other methods, word of mouth resonated with these participants. The decision to take part was influenced by the trust which was established when the participant came in contact with members of the walking programme. This thesis was limited in its opportunity to develop and test theory, but future research should certainly aim to explore the

relationship between perceived psychosocial differences and the location for recruitment.

The method participants in this study most resonated with involved word of mouth. Typically, a member of the walking programme actively approaching them, often in settings they frequented, and establishing trust while describing the activities of the walking programme. It is important again to make the point that in Chapter 3 we observed a pattern of passive recruitment methods and a skewed representativeness of participants. The inference there was that passive methods of recruitment were effective in attractive participants who were either already seeking to take part in the walking programme, or had a psychosocial link through affluence, experience or familiarity with the programme or its organisers. There is conflicting opinion regarding passive and active approaches to recruitment with some recruiters favouring one over the other (Lee, et al., 1997) but others recognising the value of active recruitment for reaching participants perceived as hard to reach (Raynor, et al., 2009; Sarkin, et al., 1998). In the case of this study, the participants were recruited from areas of Glasgow, recognised as less affluent and also from one group entirely made up of male addiction service users. Therefore, reaching these participants required the use of methods which ensure the message being delivered physically reaches them, and also overcomes the barriers of trust and conflict with other commitments in their life. Our conclusion therefore supports the A.N.I. framework which outlined a continuum of recruitment. Therefore, reaching those considered most difficult to reach (either for psychosocial or communication reasons) may be successfully recruited when interpersonal methods are used as a part of an overall strategy.

Despite its perceived effectiveness in Chapter 4, we observed that word of mouth didn't appear to have any clear format or applicable framework at that

point. It is worth considering for the future whether the difficulties the participants here in Chapter 5 had in describing their walking programme to others is a reflection on how well organised it is within the walking programmes recruitment strategy . However, on reflection of the recruitment process to this study, an unexpected insight into auctioning word of mouth did occur.

Finally, during the recruitment process for Chapter 5, a series of specific questions from the participants emerged. Despite the limitations we had in formally evaluating them, they became such a useful tool we felt it was worth including them as recommendations in this thesis. They are included in full in section 7.4.2 of this chapter, but in summary they provided a structure which appeared to address the trust issues and practical inquiries consistent with the participants' opinions within the chapter itself. We began to frame our recruitment information around the idea of presenting ourselves and our work, followed by the activity we were doing and the logistics of taking part in our programmes. As a first step towards creating trust, informing the participant of the relatedness of our programme, and their commitment in terms of time and effort, it appeared on reflection, to be effective way to structure the word of mouth aspect of our recruitment. This, we feel, warrants more and potentially valuable research in the future.

Chapter 6 applied the findings from Chapters 3-5 in a pragmatic way. Within the methodological framework guiding this thesis it was the fourth study, built on the findings of the previous three and focused on evaluating a strategic recruitment process. Consistent with the aims of this thesis, it focused on the actions of the recruiter. It was conducted within a walking promotion programme, which had as its rationale the provision of an opportunity for men in the East-end of Glasgow to take control of their health through participation

in a walking programme. The study was not responsible for the development or delivery of the walking programme, nor was it an evaluation of recruitment to the studies in this thesis. It did include the recruitment of the participants in the walking programme to the qualitative aspect of the study, but focused on the actions of the recruiters to the walking programme and evaluated their processes. Few other studies have monitored their recruitment actions in a similar way (Campbell, Whyte, & Mutrie, 2005; Ory et al., 2002), and where they have, the collection of retrospective and incomplete data makes data validation difficult. This study was also unique in its use of original frameworks to guide the recruitment strategy.

The aim of the study was to advise the delivery team for a walking programme on their recruitment process. It included the provision of training, strategic advice on the methods to be used and an assessment of the outcomes of their actions including qualitative and quantitative measures. The participants of the walking programme were also interviewed to gain insight from their opinions about the recruitment process and their related experience of the programme. This study was successful in advising, monitoring and evaluating the recruitment process and remained focused on the actions of the recruiter. It was an opportunistic study, facilitated by the willingness of the Glasgow Housing Association (GHA) to allow us to work within their programme. Although it was limited by our lack of control over the implementation and the availability of budget and specific demographic data, it was successful in providing the structure for the recruitment and in completing the process evaluation. We were able to monitor the actions of the recruiters, identify key incidences that affected the response rate, compare the experiences and perspectives of the recruiters and the participants, and crucially react when necessary to at least partially our goals. The recruitment outcomes were not as expected, but a key strength of the process was the flexibility of the

recruitment team to regroup and adjust their aims in light of a number of barriers.

Overall, this study traced the implementation of a recruitment strategy and its outcomes. It was aimed at reaching and engaging a specific target group, and would not be satisfied with filling the walking programme with individuals outside of that description. For the purposes of the programme to go ahead, up to twenty men from four residential tower blocks managed by the GHA would need to be recruited. For this reason, it was committed to the men targeted for the programme and was consistent with a health equalities rationale in keeping with this thesis and the Scottish Physical Activity Policy and the equitable provision of health promotion services (NHS Health Scotland, 2009; WHO, 1986). However, it also worked within the resource constraints of the GHA and did face events and barriers which extended the recruitment phase. This has been observed in other research in walking (Jolly et al., 2007; Keimer, Dreas, & Hassel, 2011) but we benefited from our MMR evaluation and learned valuable lessons which other studies often don't report.

While there was a trained team and specific mediators identified who could help with the delivery of the recruitment, their availability changed early in the process and. The team members were generally working part-time, the mediators became unavailable due to changes in their work circumstances and this imposed considerable delays on the project. Our assumption that passive methods of recruitment (fliers and posters) would not be effective without follow-up with face to face recruitment proved correct and response rates were initially low. However, quantitatively monitoring the recruitment actions and outcomes on a weekly basis identified when problems were arising and our pragmatic approach allowed for necessary actions to be taken. A scaling down of the recruitment actions on reflection of the team's capacity and

availability followed, but the focus remained on the target group and target numbers. We realised that attempting to recruit from four different locations, in the absence of mediators and full time staff was counter-productive and focused on one location instead.

Following these adjustments, notable outcome changes were observed. With the confirmed support of a mediator in the area who had established trust with the residents a pre-launch information session was attended by fifteen local residents this allowed for the walking programme to be launched. Although attendance at the weekly walks was modest in light of the initial goals to recruit twenty participants across four sites, it did represent a third of the initial target number from one location. However, by continuing to evaluate attendance, and by conducting the other qualitative aspects of the review, a better understanding of what contributed to the outcomes could be achieved.

Qualitative interviews with the programme funder and the programme deliverers were positive and reflective. These stakeholders approved the initial recruitment strategy and felt well poised to implement it successfully. However, delays with print materials, difficulties coordinating staff and a lack of face to face recruitment despite the advice that establishing trust was highly important, were recognised as limiting factors in the first half of the recruitment process. There was recognition among the stakeholders that poor response rates were a result of delays, unexpected barriers, and less effort on building relationships within the context of the deprivation and personal challenges faced by the target group. The positives of the recruitment process however, were also noted, and focused on the regrouping and the value of having had an initial clear plan and an evaluation that reflected fairly on the men in the area. The stakeholders felt that following the regrouping, the

identification and successful inclusion of a local mediator provided a gateway to the target group, and that by working within their capacities they were successfully able to manage the process of recruitment and programme delivery more realistically. Regarding attendance to the programme and the difference between the pre-launch meeting and first walking session, the stakeholders felt a lesson was learned and a key point could be demonstrated. That was, they had not really established the trust they needed and had not differentiated themselves from the past negative experiences which became apparent during the programme and were described by some participants in this study. Although their non-attendance was a negative outcome, it should be considered a positive observation that the men who did not attend this programme were not considered unwilling or unmotivated. The delivery team expressed a satisfaction that they could at least identify where the barriers in recruitment had occurred. Furthermore they could bring practical lessons onto their next programme and felt more empowered going forward to reach their target group in the future.

Finally, the opinions of the participants in the programme further supported the observations of this evaluation and the previous research within this thesis. Again, the men were asked how they heard about the group, what they contemplated and how they described it to others. In light of our knowledge about the poster and fliers aspect of the recruitment, it was not surprising that most of the men described word of mouth processes relating to how they heard about the programme. However, they were consistent with our previous study in reporting that they were favourable towards walking and were motivated to take part as it seemed relevant to their interests, health requirements and were attracted by its lack of cost. However, describing it to others was challenging again, and they did advise other men to 'give it a go' but the contextual factors in this circumstance were insightful and

enlightening. They typically received support from a number of services in their area and were informed about the group by local service providers who they trusted based on past. The men associated walking with a money saving measure, and were protective of the support they were receiving financially from the GHA and other services. Therefore, although they valued walking for the health benefits it provided, any association with an activity which might conflict with the support they were receiving was initially perceived as compromising and to be avoided. This may account in some way for the drop off in attendance between the information meeting and the first walk, but one other contextual factor was observed. Previous short term programmes had been introduced in the area and these men had felt that their delivery was inconsistent and did not offer a long term opportunity for involvement. Previous programmes had made claims which they had not delivered, and this became a factor which influenced the perception of any subsequent programmes coming in. Again, this highlights the importance of engaging in face to face and active recruitment methods within a strategy which includes the awareness of all the contextual factors affecting the potential participant.

The study presented in Chapter 6 was unique in the extent to which it informed the recruitment strategy based on evidence. It was committed to evaluating the activities of the recruiters and collecting data from multiple sources to examine the fidelity and explain the outcomes of the recruitment process. It was pragmatic while taking advantage of the opportunity to apply a set of recommendations in partnership with an agency outside of the university where this thesis was being conducted. Despite a certain loss of control over key delivery factors, the intentions of the study were not to design or deliver a walking programme, but rather to provide guidance and evaluate its implementation. The study itself highlighted the involved nature of researching recruitment and went further than any studies observed within

this thesis to gather data from multiple sources and provide qualitative and quantitative outcome and explanatory information.

Despite the limitations and shortcomings, it reaffirms points made in Chapters three and four that examining the actions of the recruiter is still a valid starting point and under-researched area at this point. Furthermore, and a strength of the study is that it worked within a framework which may be novel and would benefit from further testing, but which resonated with the programme deliverers and provided a structure for analysis. By applying the A.N.I Framework and collecting quantitative data we could closely monitor the actions of the recruiter and whether those actions were affecting a response. Where there was a lack of response we could assess whether this was a reflection on the recruitment strategy and its delivery or other factors worth investigating. In this case it was, at the early stage due to a failure to deliver the intended strategy and we were able to adjust for this and make best use of the resources to hand. Furthermore, disinterest or motivation was not prematurely presumed to be an explanation for non-response among the target group and the health agenda and equitable access remained paramount in the programme.

This was an involved study, informed by the research conducted in this thesis, but also challenged by the dearth of process data available at this point. It faced the challenge and complexity of conducting an MMR evaluation and highlighted the influence recruitment process delivery has on outcome, particularly where the context of the target group add further challenges to the process. In the absence of evidence, specific theory and guidance on the topic we devised and applied our own, which we concede require further development, but acted as useful devices for all the stakeholders in this study.

7.3 CONCLUSIONS

This thesis approached the topic of recruitment with an initial focus on reach. It began by investigating what expert knowledge was available and could be applied within this thesis. Our initial findings were that the most immediate limitation to learning was the availability of information within research and practice which outlined the recruitment process or measured its effectiveness in a comparable way. This led to the conclusion that it was more valuable to focus on the actions of the recruiter and use multiple methods to measure and explain the outcomes of their actions. By doing this we have been able to differentiate outcomes of a recruitment campaign from the capacity or resource issues that affect how a recruiter reaches their target group. Chapter 6 most notably demonstrated the impact of planning, strategic implementation and monitoring during recruitment, plus the willingness to adapt to changing circumstances in order to achieve our aims. By doing this we captured the most relevant information for our purposes and delivered results which could be used to modify future practice. However, Chapter 6 depended on the development of novel frameworks to design the programme and this still limits our comparison to other research.

In the introduction to this thesis (Chapter 1), reporting was described as a major restriction to our learning about recruitment. Not least because it is difficult to critique a process which is not fully described in the literature but also because we could not identify rationales for the recruiters' actions, position it theoretically, analyse comparatively or replicate it in our own work. Clearly research is conducted on a regular basis which is successful in its recruitment, as are community based interventions run which are highly popular and beneficial to their participants. However, when recruitment becomes challenging there are limited sources of guidance to support the

recruiter and this has already been noted in the current literature (Mapstone, et al., 2007; Ogilvie et al., 2007; Rendell, Merritt, & Geddes, 2007; S. Treweek, Pitkethly, et al., 2010). This may be related to the labour intensive nature of recruitment, particularly in challenging circumstances, resulting in an unwillingness to go as far as evaluating an already burdensome process. It may also be a reflection of the focus of the researcher who must complete their work and may accept a skewed representativeness as observed in Chapter 3, or the practitioner under pressures and limited budgets who must provide a service for their members as observed in Chapter 4. But, it also raises the question of whether there is currently enough expert knowledge and skill development in this area and if it warrants as a specialist activity description in its own right. Our belief is that this is the case, and until it is approached in a manner similar to that of designing research, delivering interventions or managing projects it will remain ad hoc and ineffective and continue to under-report and under-inform recruiters.

Despite the lack of available evidence an opportunity was presented here. That opportunity was to make an assumption that no one best method of recruitment exists, and to develop a framework for assessing how to reach a specified target group and how to organise the available methods into a strategic framework. The Pathways Framework we propose is a useful device for identifying the possible locations, mediators and volume of participants who could be reached through actively recruiting participants and seeking partners in the process. This ties in well with Glasgow et al's (2012d) definition of reach as it provides the recruiter with an opportunity to estimate a relevant denominator for the quantitative measurement of reach. Also, it focuses the recruiter to identify locations specific to their target group and identify the resources required to recruit at those sites. The A.N.I. Framework was informed by the review of the literature in Chapter 1 and Chapter 3. It

assumes that while recruitment can be categorised into active and passive categories, so to can participants. Passive participants (i.e. those who are not aware or consciously in pursuit of a walking programme) can be reached through active methods, and vice versa, active participants will be attracted by passive methods. The framework itself though proposes that to reach the passive participant, it is useful to begin by creating awareness for both the participant and mediators, then pursue mediators at the networking stage to create trust and stakeholder buy-in, and follow this with interpersonal and active recruitment, preferably done by the recruiters rather than mediators. These models are clearly limited in their testing so far, but they provided useful tools within this thesis and we feel warrant further testing.

Finally, this thesis has gone further than the research observed within and outside of walking promotion programmes, to propose a fundamental definition of recruitment, presented in Chapter 3. Again this is up for contention, but by describing recruitment as a process, and one which has an invitation, negotiation and facilitation stage, we believe it frames recruitment within a project management mind-set and encourages the recruiter to think of it as a dynamic and interactive process. The recommendations which follow this section include proposals for the recruiter that are reflective of the planning, doing/implementing, monitoring and reporting issues described in Chapter 1. Although a great deal of work is yet to be done in this area, and a number of recommendations for research are proposed later in this chapter, our contribution to the topic has been focused, specific and we believe, the correct starting point. This thesis could have employed theoretical frameworks used to guide research and health interventions, but we believed these frameworks focused on the activities which took place once the programme had started, and were not transferable to the recruitment process. By assuming a pragmatic perspective and applying an MMR approach we believe

our investigation of what was known about the process and what could be investigated at the level of the recruiter was justified. We encourage others to contest and report on the rest of our recommendations and guidelines.

7.4 Concept description and guidelines for conducting recruitment

The following recommendations provide guidance for recruiters on the methods and strategies of recruiting participants to walking promotion programmes. They are presented here as an opportunity for debate and discussion and a means to help guide future work in the area. In keeping with the main issues of planning, doing/monitoring and reporting described in Chapter 1, this section will use those same headings to describe and illustrate the proposed guidelines from this thesis. Recommendations for research, practice and policy will also be included at the end of this section.

It should also be clearly stated again here that the process of recruitment is generally the same for research and practice, but the commitment and rationale for recruitment of the target group will differ. It is the role of the recruiter to convey this information to the target group and the script generator in section 7.4.2.2 may be useful in differentiating recruitment to research from recruitment to practice. However, it is a role of future research to distinguish between the two and apply the recommendations of this thesis in doing so. This will be revisited in section 7.5.

7.4.1 Conceptual description of recruitment, definition and proposed theory

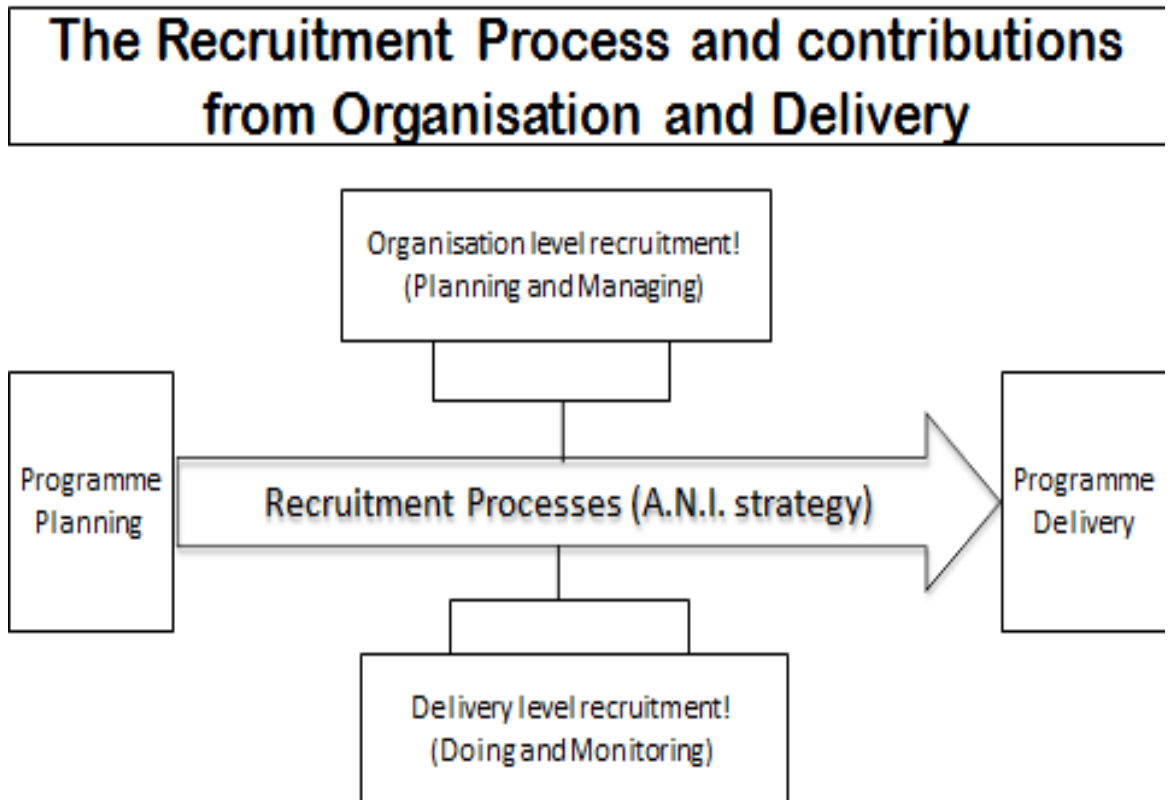


Figure 1 Conceptual model of the recruitment process:

Figure 1 is a basic conceptual framework to illustrate and help to explain recruitment. We propose that recruitment is a set of actions which take place between the time a programme is planned and the time it is delivered. This is a simple, but important point as it should be given its own set of actions, timing, resources and management process. By situating it between the planning and delivery phase we propose that recruiters should view this as a period of action, with two separate levels of recruitment almost concurrently taking place. On the organisational level, explicit planning and managing must take place and this should

include designing the strategy and assigning all the resources required to implement it. On the delivery level, implementation (doing) and monitoring are key with responsibility placed on the recruiter to relay the actions taken, outcomes and progress of the recruitment process. Finally, we have highlighted the A.N.I. Framework as the model to guide the strategic delivery of the available and appropriate methods being used. The key point of this figure is to emphasise that recruitment has its own specific place within programme delivery, it has a number of key and interactive elements and it should be driven by the aims of the recruitment as well as the available time and resources available during this period.

Recruitment is defined in this thesis as:

“The process of inviting, negotiating and facilitating participation in an event or activity, not merely the creation of awareness”

(Adapted from Foster et al., 2011)

The definition is slightly adapted from that which appears in Chapter 3, with the addition of “not merely the creation of awareness”. Our aim in this definition is to further highlight that recruitment is a process, with three key phases; invitation, negotiation and facilitation. Furthermore, we look to distinguish it from awareness building alone as this, it can be argued, is too close to our understanding of passive recruitment (Lee, et al., 1997) and our observations of that as an incomplete method of recruitment.

Finally, we suggest the following hypothesis and propose it could be tested in future research as a theory underpinning recruitment effectiveness. It draws on observations from Chapter 1 and the investigations and actions taken in each of the four studies in this thesis. Although it resonates with us as a good starting point and hypothesis for the future, we can only propose here on

reflection of our experiences during the thesis. We welcome its use and scrutiny in research. This hypothesis states that:

Recruitment becomes more efficient and effective as the physical psychosocial distances between the recruiter and the potential participant are reduced.

7.4.2 Guidelines for conducting recruitment

7.4.2.1 Planning

Planning of the recruitment process should focus on who, what, where, when, how and why aspects of the actions to be taken. The answers to each of these questions should have a clear rationale and be made explicit in a recruitment planning document. To guide this process, use this eight-point check list for:

1. Who is/are the target group(s) being recruited?
 - Supply as much descriptive information as possible including gender, age, specific profile descriptions and the number of participants needed.
2. Who will carry out the recruitment?
 - This should include a description of who is responsible for coordinating and managing, plus who will perform each specific task (for example face to face canvassing, poster, phonecalls etc.)
3. Who can you identify that will act as mediators for the process?
 - Use the Pathways Framework (Figure 2) to map the mediators you can identify and the target groups they are likely to help you reach.

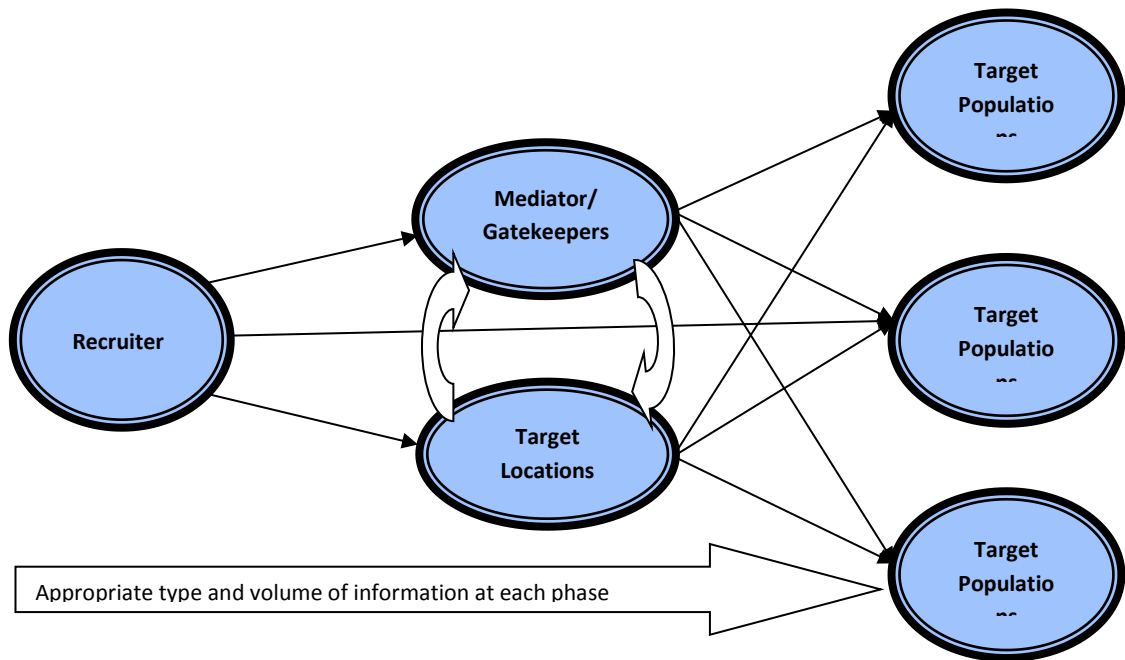


Figure 2 The Pathways Framework for Recruitment Planning

The Pathways Framework (Figure 2) is proposed as a planning framework. Its purpose is for identifying the geographical location of participants and the mediators available to assist in doing recruitment. It is relevant to phases two and three of the A.N.I. framework, because it can provide a list of key mediators with whom to network and a list of locations within which to network. Also, it can be used to display best estimates of the number of people potentially reached at each location or via each mediator. This helps in estimating the allocation of resources and plan of action for the doing phase of recruitment.

4. What resources are available?

- Include: staff, budgets, recruitment materials, contact databases, resources and reports from previous recruitment activity etc.

5. Where will the recruitment activities take place?

- Identify where the recruitment team will be based and compare this to where the target group will most likely be found. Use the Pathways Framework (Figure 2) here to identify the locations where you are likely to find your target group and start a list of venues, a timescale for visiting these sites, and an estimate of how many people can be reached at each location.
6. When will recruitment take place?
- This should be determined by the available time between the planning of the programme and the first day of delivery.
 - A planning for recruitment phase should be included within the time available for recruitment.
 - This must act as a primary driver for action and represents a key metric for efficiency.
7. How will the methods available be implemented as a strategy?
- The A.N.I. framework (Figure 3) should be used at this stage to illustrate the methods available, whether they are considered passive or active and whether they will be sufficient to reach the target group.

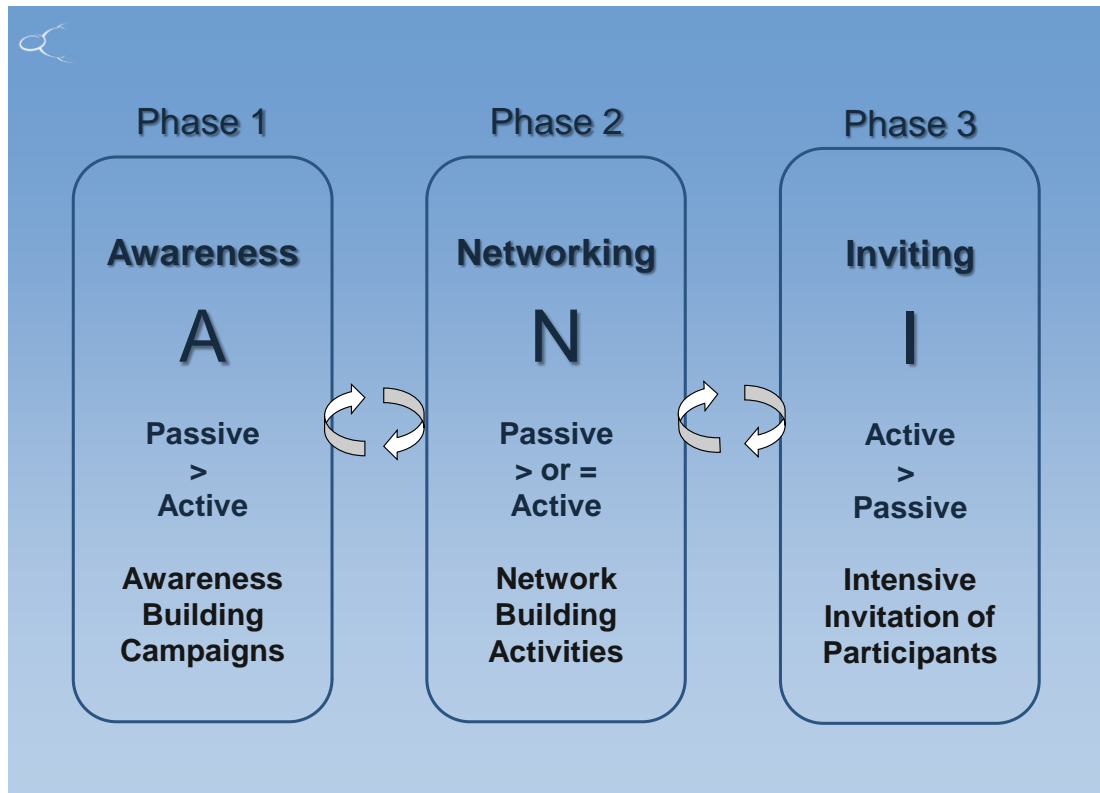


Figure 3 The Awareness, Networking, and Invitation (A.N.I.) Framework for recruitment strategy development

The Awareness, Networking, Invitation (A.N.I.) Framework (Figure 3) is a tool for identifying whether your current methods are appropriate for reaching your target group. It should be used to categorise the chosen methods of recruitment as awareness building, networking or intensive interpersonal depending on whether they are more highly active or passive. At this stage of planning, if the methods and categorisation are appropriate to reach the target group, then recruitment should go ahead. If there is a perceived lack of reach, for example, if a social media or email campaign will not reach your target group, the next phase of the framework should be considered included what methods could be used which are appropriate in that phase. The aim of this framework is to translate the list of available methods and resources into a target appropriate strategy with a clear rationale.

8. Why are the above points considered appropriate for your programme, your target group and your recruitment team?
- This represents the final stage in preparation and is the rationale for the recruitment activities.
 - The rationale statement is essential for later assessment of effectiveness, efficiency and reach and to direct and inform future recruitment activities.

The aim of this stage is to produce an action plan for recruitment which can be implemented by the recruitment team, monitored and reported on. The goal of the recruitment process is to reach the target group, and in sufficient numbers, as well as clearly identify the actions taken, the rationale and recommendations going forward. This will be addressed in the monitoring and reporting phases of recruitment, but need to be grounded in explicit planning outcomes.

7.4.2.2 Doing/Implementing

This phase directly follows the development of an action plan at the planning phase. The aim of this stage is to implement the plan of action in a manner that maximises efficiency and effectiveness. Differential responses to passive and active methods have been observed in this thesis and elsewhere (Ory, et al., 2002; S. Treweek, Pitkethly, et al., 2010), so the implementation and doing of recruitment should commit to a plan appropriate to the target group and must be implemented in accordance with the timescale available. The goal of this phase of recruitment is to implement the strategy in a way which allows for the recruitment team to be directed, while the recruitment coordinators can assess whether the target group is being reach and by which means. It is an alternative to applying multiple methods

at once which lacks control of resources and does not support assessing the impact of each method within the strategy.

An important aspect of this phase is the message which is being conveyed and communicated to the target group. Table one outlines a script generator developed pragmatically on reflection of the recruitment conducted in Chapter 5 of this thesis. Although it has not been validated and requires further testing, it is worth including here because we perceive it to be useful in creating a script for initiating face to face (word-of-mouth) recruitment. It is also worth considering if the information suggested in this script generator is effectively communicated through any passive recruitment methods used.

Table 4 Script generator for the description of the activity during active recruitment

| | |
|--|--------------------------------------|
| Question 1: | Who are you? |
| Question 2: | What do you do? |
| Question 3: | What do you want me to take part in? |
| Question 4a (<i>Research oriented</i>): | What do I have to? |
| Question 4b (<i>Practice oriented</i>): | What are the benefits to me? |

These questions may have helped to communicate the recruitment messages and alleviate issues of trust, relevance, benefit and burden for the participant. They should be viewed as the information the potential participant would like to know, and in the order that is relevant to them. These questions should be viewed as the ones a participant would ask the recruiter and should be developed as a short and concise introduction with an aim to engage in further conversation with the potential participant.

7.4.2.3 Monitoring

Monitoring of the recruitment process in Chapter 6 of this thesis made it possible for the team to react during recruitment and achieve a successful outcome. These guidelines aim to support a dynamic and flexible approach to recruitment which reacts during the process rather than after the fact. The following suggestions are metrics which can be established at the planning phase, collected and monitored during implementation and clearly reported during and after recruitment. They fall into two categories; monitoring throughout and monitoring at the end stage.

Monitoring throughout should include:

- Time spent recruiting and percentage of allocated time elapsed.
- Actions taken in accordance with the recruitment plan
- Rates of actions taken, in two formats:
 - Cumulative
 - By time segment (e.g. day, week, month)
- Responses received and the manner (e.g. phone calls, emails, in person inquiries, registration)
- Response rates to recruitment in two formats:
 - Cumulative
 - By time segment (e.g. day, week, month)
- Progress checks and appraisal of the strategy
- Spend and allocation of budget
- Specific unaccounted for events (e.g. discovery of discontinued groups)
- Reactions and key decisions taken
- Noteworthy key information for amending the strategy.

Table two is a proposed data set required to assess the overall REACH and efficiency of the recruitment process in quantitative terms. It is adapted from the analysis table used during the systematic review of walking literature (Foster, et al., 2011) and is presented in full as appendix B.

Table 5 Reach data and efficiency metrics for recruitment

| Data Category | N | Efficiency Rate | % |
|--------------------------------|----------|-------------------------------------|----------|
| Pool of potential participants | A | Efficiency A (Started/Pool) | E/A |
| Number Invited | B | Efficiency B (Started/Invited) | E/B |
| Number Responded | C | Efficiency C (Started/Responded) | E/C |
| Number Screened | D | Efficiency D (Started/Screened) | E/D |
| Started | E | | |

An assessment tool to analyse the application of the RE-AIM framework lists four criteria in assessing reach and include the use of a valid denominator (i.e. total pool size) and the use of qualitative and quantitative methods to assess reach (Glasgow, 2012a). This is in keeping with the findings presented in this thesis but our suggested inclusion of the numbers invited and responding facilitates a better assessment of spend and response in real time.

7.4.2.4 Reporting

In Chapter 1, and throughout this thesis we have made the point that a lack of reporting has hindered the progress of recruitment in general. Therefore, it should not go unstated that more reporting of the actions and outcomes of, preferably planned, recruitment strategies is encouraged. The data collected during the monitoring phase should constitute the key data points to report, and should be used to reflect on the intended plans and goals of recruitment. RE-AIM have recently released some planning tools and reporting diagrams which complement the findings from this thesis. An extension of the CONSORT flow diagram has been proposed which also emphasises reporting of the total potential pool size for recruitment and the characteristics of non-participants (Glasgow, 2012b). We also recommend presenting a flow chart of participants which can extend into the retention phase of recruitment and believe it is a crucial part of the overall analysis of a programme. Our suggested metrics though, also focus on the process of recruitment and guide the recruiter while actively engaging in recruitment and, we feel, advance the suggestions of RE-AIM.

With regards to the outputs presented from reporting, the following is recommended. Process evaluation is appropriate when identifying what was done, what worked and why (Nutbeam & Bauman, 2006) and should be considered by all researchers, particularly where the opportunity to conduct quantitative and qualitative research is present. Where this is not possible, reporting the data could also include methods paper outlining the details usually unavailable in a standard study report, or a case study. Case studies are useful when reporting analysis of the case in its context; and development of detailed intensive knowledge about a single case or number of related cases (Robson, 2002). At this early stage of recruitment research, both of these approaches would be valuable and help to create a larger evidence base. Outside of the research arena, practitioners could also collect and report

summary documents of what happened which would be just as valuable. In summary, these reports could include:

- The stated recruitment aims and strategy
- Who was recruited in terms of:
 - how many
 - the timeframe
 - the spend
- The strategy applied and an appraisal of their effectiveness
- Quantitative metrics with table 2, section 7.4.2.3
- Field notes or logs that captured important events or observations during the process.
- Whether or not the recruitment process was successful in achieving its stated aims.

Reporting procedures have yet to evolve into a clear and standardised system (S. Treweek & Loudon, 2011), but we hope that these guidelines contribute to better, more comparable data. It has been noted elsewhere that a lack of consistent and heterogeneous data limits cross study comparisons and that a lack of randomised control trials highlights the lack of investment in scientific scrutiny of the process (Mapstone, et al., 2007; Rendell, et al., 2007). Both reviews made reference to: the need for identifying beforehand what procedures are a best fit for the intervention being delivered; that recruitment be examined with reference to the conduct of the recruiter; and in particular for Mapstone et al. (2007), an evaluation framework be followed which would allow for the examination of what was planned, took place and was effective. Although this may be difficult to expect of the current field of research, if nothing else three key pieces of information, collected in any format, would

greatly advance our knowledge of recruitment. They are: what did the recruiter do; how did the participant hear about the programme; and why did they decide to take part? This data at least is achievably collectable by researchers in any field of health research and practice.

7.5 Recommendations for research, practice and policy:

7.5.1 Recommendations for Research

These recommendations fall into two categories: actions of the recruiter; and actions for the recruiter.

Actions of the recruiter include applying all the guidelines outlined in this chapter. We encourage researchers to more comprehensively plan, monitor and report their actions, if nothing else, to improve their own outcomes, but most certainly to increase the evidence base. We also encourage the researcher to move away from the belief that there is a one best method of recruitment and subscribe to our recommendation that it is a complex but achievable strategy.

Actions for the recruiter include the following proposals for research:

- Process evaluation, incorporating mixed method design as the standard method for investigating recruitment procedures.
- The application and scrutiny of the A.N.I and Pathways Frameworks proposed in this thesis.
- More qualitative research at the level of the recruiter to identify their opinions regarding doing recruitment, their perceptions of their own abilities in the area, their expressed needs and the barriers that affect them during the process.

- More qualitative data examining the participants' experience to provide comparison data for the study presented in Chapter 5 of this thesis.
- Routine collection of information regarding how participants heard about a programme and what influenced their decisions to take part.
- A thorough testing of the script generator suggested in this chapter and greater development and examination of word of mouth as a method for recruitment.
- The development of a more comprehensive model outlining all the factors which affect recruitment.
- A move towards the ability to multi-level model and statistically analyse complex and strategically implemented recruitment process, with a view to validating the proposition that multiple methods as a strategy are more effective than one single method of recruitment.
- The advancement and development of the hypothesis that recruitment is made more efficient and effective when the physical and psychosocial distances between recruiter and participant are reduced.
- Further investigation of the difference between recruitment in community based and research based studies to contrast and compare the effects of each on the recruitment of participants.

7.5.2 Recommendations for Practice

It should be stated at the offset that the practice perspective contributed a great deal to this thesis. Some of the recommendations here affirm the suggestions made in Chapter 4 and others encourage the practitioner to be more evaluative of their recruitment. As a starting point, practitioners are recommended to continue being innovative. Whether it was due to resource constraints or keen observations, innovative thinking such as the use of speed dating nights, and the modification of walking programmes in light of the appeal of opportunities to socialise at coffee mornings after the walk seem consistent with what was reported by the

participants in Chapters 4 and 5 of this thesis. Equally though there are recommendations here at two levels, the recruiter and the recruitment coordinator. For the recruitment coordinator, we encourage the adoption of the A.N.I. framework to help create a logical connection between your recruitment intentions and your recruitment outcomes. That is, tailor the recruitment process to best fit the target group being recruited and use methods most appropriate to reaching them. Furthermore, implement as a standard procedure, the questions of how you heard about us and why you decided to take part for all new members or even for current members if not already done so. In turn, collate and report this information, even internally, to help improve future practice. Finally, provide training to the recruitment team. This should include the use of the script generator described in section 7.4.2.2 and information regarding active and passive recruitment as well as new and emerging information about the perspective of the participant during recruitment.

For the recruiter, we recommend developing and engaging in data collection to help clarify and optimise the actions and outcomes relationship of recruitment. Also, we recommend building networks everywhere that a logical link between programmes can be seen. Furthermore we encourage recruiters to adopt the script generator (section 7.4.2.2) as a standard practice tool for conducting word of mouth recruitment and encourage them to embed elements of it in all print material used during recruitment. Finally, we recommend that practitioners continue to demand best practice guidelines be developed by, and in conjunction with research.

7.5.3 Recommendations for Policy

The first recommendation for policy is to be supportive of a paradigm shift in recruitment. Policy makers are encouraged to adopt the standpoint that one best method of recruitment does not exist and support the implementation and evaluation of recruitment strategies as a best practice approach in research and

practice settings. Support research that continues to promote equity across all populations affected by public health issues and interventions. By adopting a standpoint that all populations are reachable, but contextual and logistic factors such as personal circumstances or effective communication may be affecting recruitment more than an unwillingness to take part will support the research recommended in this thesis. Finally, support partnership in public health interventions if for no other reason than it promotes efficiency in communicating and recruiting between programmes.

References:

- Allender, S., Cowburn, G., & Foster, C. (2006). Understanding participation in sport and physical activity among children and adults: a review of qualitative studies. *Health Education Research*, 21(6), 826-835.
- Ashley, A., & Bartlett, H. (2001). An evaluation of a walking scheme based in primary care: the participants' perspective. *Primary Health Care Research and Development*, 2, 98-106.
- Campbell, A. M., Whyte, F., & Mutrie, N. (2005). Training of clinical recruiters to improve recruitment to an exercise intervention during breast cancer treatment. *Clinical Effectiveness in Nursing*, 9(3-4), 211-213.
- Foster, C. E., Brennan, G., Matthews, A., McAdam, C., Fitzsimons, C., & Mutrie, N. (2011). Recruiting participants to walking intervention studies: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, 8(1), 137.
- Glasgow, R. (2012a). Extended Consort Diagram. May 1st 2012, from <http://cancercontrol.cancer.gov/is/reaim/pdf/CONSORTDiagram.pdf>
- Glasgow, R. (2012b). Measuring the use of the RE-AIM model dimensions items: checklist. May 1st 2012, from http://www.re-aim.org/forms/re-aim_framework_constructs_checklist.pdf
- Glasgow, R. (2012c). REACH of Health Behavior Interventions. January 1st 2012, from <http://cancercontrol.cancer.gov/is/reaim/reach.html>

- Gomm, M., Lincoln, P., Pikora, T., & Giles-Corti, B. (2006). Planning and implementing a community-based public health advocacy campaign: a transport case study from Australia. *Health Promotion International, 21*(4), 284-292.
- Greene, J. C. ((2006)). Toward a methodology of mixed methods social inquiry. . *Research in the Schools, 13*(1), 93-98.
- Higgins, J., Green, S., & Cochrane Collaboration. (2008). *Cochrane handbook for systematic reviews of interventions*. Chichester, England ; Hoboken, NJ: Wiley-Blackwell.
- Jago, R., Davis, L., McNeill, J., Sebire, S. J., Haase, A., Powell, J., et al. (2011). Adolescent girls' and parents' views on recruiting and retaining girls into an after-school dance intervention: implications for extra-curricular physical activity provision. *International Journal of Behavioral Nutrition and Physical Activity, 8*, 91.
- Jolly, K., Taylor, R. S., Lip, G. Y., Greenfield, S. M., Davies, M. K., Davis, R. C., et al. (2007). Home-based exercise rehabilitation in addition to specialist heart failure nurse care: design, rationale and recruitment to the Birmingham Rehabilitation Uptake Maximisation study for patients with congestive heart failure (BRUM-CHF): a randomised controlled trial. [Comparative Study
Randomized Controlled Trial
Research Support, Non-U.S. Gov't]. *BMC cardiovascular disorders, 7*, 9.
- Keimer, K., Dreas, J., & Hassel, H. (2011). Recruiting Elderly with a Migration and/or Low Socioeconomic Status in the Prevention Study OptimaHI 60plus. *The Journal of Primary Prevention, 32*(1), 53-63.
- Lee, R., McGinnis, K., Sallis, J., Castro, C., Chen, A., & Hickmann, S. (1997). Active vs. passive methods of recruiting ethnic minority women to a health promotion program. *Annals of Behavioral Medicine, 19*(4), 378-384.
- Mapstone, J., Elbourne, D., & Roberts Ian, G. (2007). Strategies to improve recruitment to research studies. *Cochrane Database of Systematic Reviews, (2)*. Retrieved from <http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/MR000013/frame.html>.
doi:10.1002/14651858.MR000013.pub3

- NHS Health Scotland. (2009). *Five year review of 'Let's Make Scotland More Active' - A strategy for physical activity*. Edinburgh: Stationery House.
- Nutbeam, D., & Bauman, A. E. (2006). *Evaluation in a nutshell : a practical guide to the evaluation of health promotion programs*. North Ryde, N.S.W. ; London: McGraw-Hill.
- Ogilvie, D., Foster, C., Rothnie, H., Cavill, N., Hamilton, V., Fitzsimons, C., et al. (2007). Interventions to promote walking: Systematic review. *British Medical Journal*, 334(7605), 1204 - 1207.
- Ory, M. G., Lipman, P. D., Karlen, P. L., Gerety, M. B., Stevens, V. J., Singh, M. A., et al. (2002). Recruitment of older participants in frailty/injury prevention studies. *Prevention Science*, 3(1), 1-22.
- Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences : a practical guide*. Malden, MA ; Oxford: Blackwell Pub.
- Raynor, H. A., Osterholt, K. M., Hart, C. N., Jelalian, E., Vivier, P., & Wing, R. R. (2009). Evaluation of active and passive recruitment methods used in randomized controlled trials targeting pediatric obesity. *International Journal of Pediatric Obesity*, 4(4), 224-232.
- Rendell, J., Merritt, R., & Geddes, J. (2007). Incentives and disincentives to participation by clinicians in randomised controlled trials. *Cochrane Database of Systematic Reviews*, (2). Retrieved from <http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/MR000021/frame.html>.
doi:10.1002/14651858.MR000021.pub3
- Robson, C. (2002). *Real world research : a resource for social scientists and practitioner-researchers* (2nd ed.). Oxford, UK ; Malden, Mass.: Blackwell Publishers.
- Sarkin, J. A., Marshall, S. J., Larson, K. A., Calfas, K. J., & Sallis, J. F. (1998). A comparison of methods of recruitment to a health promotion program for university seniors. *Preventive Medicine*, 27(4), 562-571.
- Silverman, D. (2001). *Interpreting qualitative data : methods for analysing talk, text, and interaction* (2nd ed.). London ; Thousand Oaks, Calif.: Sage Publications.
- Tashakkori, A., & Teddlie, C. (2003). *Handbook of mixed methods in social & behavioral research*. Thousand Oaks, Calif.: SAGE Publications.

- Tashakkori, A., & Teddlie, C. (2010). *Sage handbook of mixed methods in social & behavioral research* (2nd ed.). Los Angeles: SAGE Publications.
- Thomas, D. R. (2006). A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27(2), 237-246.
- Treweek, S. (2011). Recruitment to trials - why is it hard and how might we make it less so? *Trials*, 12(Suppl 1), A110.
- Treweek, S., & Loudon, K. (2011). Incomplete reporting of recruitment information in breast cancer trials published between 2003 and 2008. *Journal of Clinical Epidemiology*, 64(11), 1216-1222.
- Treweek, S., Mitchell, E., Pitkethly, M., Cook, J., Kjeldstrom, M., Taskila, T., et al. (2010). Strategies to improve recruitment to randomised controlled trials. *Cochrane Database of Systematic Reviews*(1), MR000013.
- Treweek, S., Pitkethly, M., Cook, J., Kjeldstrom, M., Taskila, T., Johansen, M., et al. (2010). Strategies to improve recruitment to randomised controlled trials. *Cochrane Database Syst Rev*(4), MR000013.
- WHO. (1986). Ottawa Charter for Health Promotion. Retrieved 11th October, 2007, from http://www.who.int/hpr/NPH/docs/ottawa_charter_hp.pdf
- Wilbur, C. J., & Campbell, L. (2011). Humor in romantic contexts: do men participate and women evaluate? *Pers Soc Psychol Bull*, 37(7), 918-929.
- Wilbur, J., McDevitt, J., Wang, E., Dancy, B., Briller, J., Ingram, D., et al. (2006). Recruitment of African American women to a walking program: eligibility, ineligibility, and attrition during screening. *Research in Nursing and Health*, 29(3), 176-189.

Appendices

Appendix A: Study inclusion/exclusion form, data extraction form and data analysis form used in Chapter 3

Inclusion/Exclusion form used in Chapter 3: “Recruiting participants to walking intervention studies: a systematic review”

Initials of reviewer.....Today’s date.....Study ID Number

| Question | Yes | Not Clear | No | Notes |
|---|--|-----------|----|-------|
| Is the aim of the study to examine the effectiveness of an intervention to encourage people to walk more? | | | | |
| Is it an RCT, controlled before-and-after experimental or observational study? | <i>(Delete as appropriate)</i> RCT/ CB-4-A/ OBS | | | |
| Is it a comparative study of different behavioural strategies for promoting walking? (media, face to face, pedometer) | | | | |
| Is it a qualitative study reporting experiences of project participants or workers on participating in walking studies? | | | | |
| Does it report details of how participants were recruited to participate in the walking intervention? | | | | |
| Does it report sample size at baseline and follow-up? | <i>(Delete as appropriate)</i> Baseline Follow-up | | | |
| Does it report walking levels at baseline and follow up? | <i>(Delete as appropriate)</i> Baseline Follow-up | | | |
| Is the location of the study a clinical setting, but the study itself is not a clinical trial? | | | | |
| Is the focus of the intervention to change overall physical activity by offering a suite of physical activity options or recommendations rather than walking alone (e.g. counselling to promote physical activity)? | | | | |
| Is the intervention focused on encouraging behaviour change in nutrition as well as | | | | |

| | | | | |
|---|-----|----|--------|--|
| physical activity outcomes? | | | | |
| Is the study solely interested in the effect of walking upon physiological or psychological health outcomes (e.g. CVD risk, cancer, fitness or mental health)? | | | | |
| Is the study an assessment of the effects of the new development an environmental opportunity has on the levels of walking in the local population (e.g. rail trails, safe routes to school)? | | | | |
| Is it an intervention studying the effects of mass media campaigns on the levels of walking in the local population (e.g. Wheeling walks)? | | | | |
| Is it a cross-sectional study looking at the association between different environmental exposures and population levels of walking (e.g. provision of green space and local walking levels)? | | | | |
| Is the study reporting the effects of different strategies to change active travel behaviour (e.g. <i>Walk in to Work Out! Travelling Green</i>)? | | | | |
| Is it a study comparing different measures of physical activity or walking? | | | | |
| Are the participants trained athletes or sports students? | | | | |
| Are the participants taking part in the study voluntarily rather than as part of an assigned programme (e.g. school based modules, prison based rehab programmes, referral as part of a G.P. referral programme)? | | | | |
| For the purpose of this review do you think that this study should be (please circle): Included Excluded Not sure | | | | |
| Results published elsewhere? | Yes | No | Unsure | |

Data Extraction form used in Chapter 3: “Recruiting participants to walking intervention studies: a systematic review”

| | |
|---|--|
| Study ID no. | |
| First author, publication date, country of origin | |
| Study aim and target population | |
| Gender | |
| Age (Adults = >18, Teens = 12-17, Children = <12?) | |
| Ethnicity (If known) | |
| Socioeconomic status (SES) (If known) (Urban community, Rural community) | |
| Where participants came from (University, Primary care, client list, social grouping, service users) | |
| Setting intervention was delivered (Work, University, Clinical Setting, Community Intervention,) | |
| Methods used (List) | |
| Number of methods (Number) | |
| Who did the recruitment | |
| Where was the recruitment done | |
| Time spent on Recruitment Planning | |
| Time spent on Recruitment Execution | |
| Number of invitees (Pool) (If client list or a priori info known) | |
| Number of respondents | |
| Number of participants (Started or Randomised) | |

| | |
|---|--|
| Efficiency Ratio (FORMULA: Screened/Recruited) | |
| Number who finished the intervention | |
| Number lost to follow up (If applicable) | |
| Retention Rate (FORMULA: Number. Who Finished/Final number in analysis) | |
| Final number in analysis | |
| Did recruitment method match the characteristics of the group being targeted? (i.e. most appropriate method for effective REACH) | |
| Effect measure (Success and any link to recruitment) (Change in steps) | |

Data analysis categories transposed from data analysis sheet created in excel, used in Chapter 3: “Recruiting participants to walking intervention studies: a systematic review”

| Study Details | |
|---|--|
| Study ID no. | |
| Author, Year of Publication | |
| Country | |
| Study aim | |
| Study setting | |
| Intervention delivery site | |
| Target population | |
| Where participants came from (University, Primary care, client list, social grouping, service users) | |
| Study effectiveness | |
| Notes | |
| Participant Data | |
| Age (Mean)(SD)(Range) | |
| Gender (%Female) | |
| Ethnicity | |
| Socio-economic Status/Income | |
| Education | |
| Recruitment reporting criteria, data and score | |
| Where was the recruitment done? | |
| Who did Recruitment | |
| Time spent Planning recruitment (Months/Weeks/Days) | |
| Time spent Executing recruitment (Months/Weeks/Days) | |
| Population Targeted (Yes/No)? | |
| Quality Metric Score (Total points scored where one point is applied if the above data is reported): | |
| | |

| Methods and recruitment actions described | |
|---|--|
| No. Of Methods applied | |
| What methods were used and how? | |
| Recruitment comments (including matching to the target population and success reaching target) | |
| Active or Passive approach | |
| Commentary | |
| Sample size and recruitment rate metrics | |
| Sample Pool | |
| Total Invited | |
| Total Responded | |
| Started | |
| Finished | |
| Analysed | |
| Efficiency A (%) (Started/Pool) | |
| Efficiency B (%) (Started/Invited) | |
| Efficiency C (%) (Started/Responded) | |
| Efficiency D (N) (Started only) | |
| Retention Rate (%) (Finished/Started) | |

Appendix B: Fliers used in Chapters 5 and 6

Flier used in Chapter 4 to target and notify walk leaders and coordinators about the study

**Recruitment!
Want to
know about
it?**



I'm carrying out a PhD looking at recruitment to walking programmes.

My work involves talking to walk leaders, walkers, investigating the literature and testing a new protocol.

If you would like to know more please come see me today or contact me via the information below.

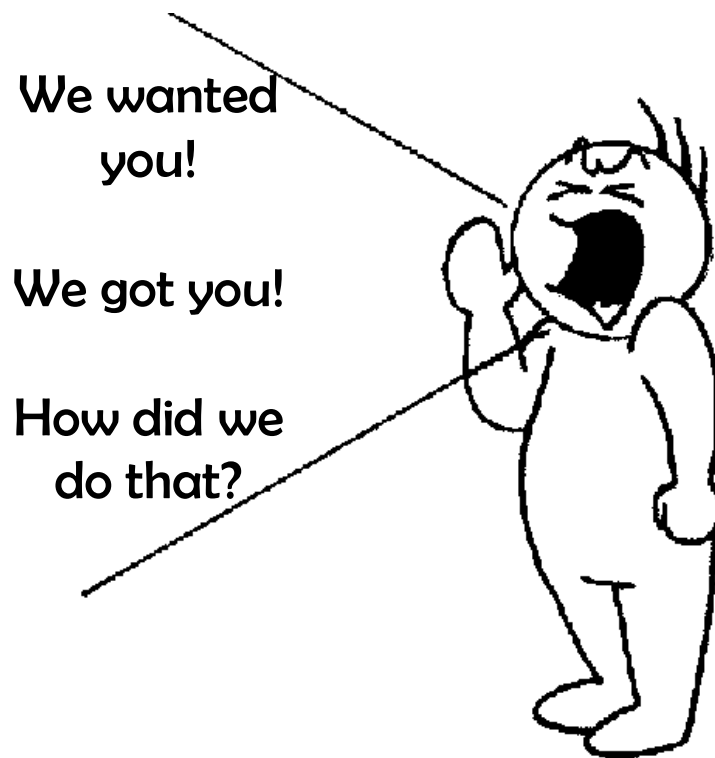
Graham Brennan

Email graham.brennan@strath.ac.uk

Ph 0141 950 3199



Flier used in Chapter 4 to inform and recruit participants to the study



We'd like to hear about why you joined your walking group. To do this, we are organising a small meeting called a focus group. This is a relaxed discussion about some of the things we find interesting and maybe don't know too much about, but think you can help us with.

This focus group will explore your experiences and feelings about coming to the walking group, in particular how you found out about it and why you decided to join up.

If you are interested in attending this group discussion please contact me or let your walk leader know.

Graham Brennan


Email graham.brennan@strath.ac.uk

Ph 0141 950 3199

Fliers used in Chapter 5: Original proposed version, suggested amendments and final version used during the study

Original proposed version

Glasgow Housing Association
www.gha.org.uk



Walking for Wellbeing
A Better Lives initiative

Calling all couch potatoes
25 and older? No stranger to the term 'couch potato'? Then this is for you... join our FREE Walking for Wellbeing sessions which are running over the Spring and Summer.

COME ON GUYS

STEP

ON IT

Put your best foot forward and come along to find out more:

When? _____

Where? _____

What time? _____

Better homes, better lives, *a better Glasgow*

Proposed amendments: Version 1

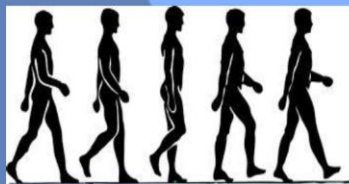
GOING WALKABOUT

...ambling, rambling and getting outside

Like to take part in a health walk?

Are you male and aged 25 to 59?

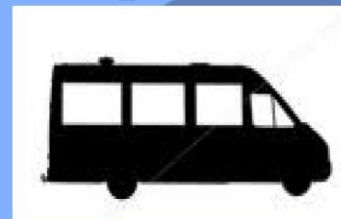
Come and meet us and hear more
about it



Walking in interesting
places...



...feeling better and
getting outside...



...free transport there
and back!

Free tea, coffee and biscuits on the [DATE]
at
[Venue]
and a chance to tell us what you think

Or talk to [NAME AND
NUMBER]

www.gha.org.uk



Proposed amendments: Version 2

GOING WALKABOUT

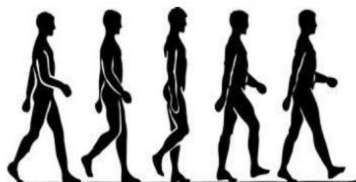


...ambling, rambling and getting outside

FREE health walk?

Are you male and aged 25 to 59?

Meet us and hear more about it



Feeling better and getting outside...



...walking in interesting places...



...all **free**, plus transport there and back!

Tell us what you think

[Date] [Venue]

FREE tea, coffee, biscuits

Or talk to [NAME AND NUMBER]

www.gha.org.uk



Final version used during the study

Glasgow Housing Association
www.gha.org.uk



Going Walkabout
A Better Lives initiative

Are you male aged 25 - 59? Join us for a few hours as we Go Walkabout... It's FREE and it's fun and...you decide where we go.

We're Going Walkabout every week of Spring and Summer

COME ON GUYS
STEP
ON IT

Put your best foot forward and come along to find out more:

What's next?

When?

For more details contact
Harry Faulds 0141 779 5688

Better homes, better lives, *a better Glasgow*

Appendix C: Data collection form used in Chapter 6

GOING WALKABOUT

...ambling, rambling and getting outside

**How did you hear about us???**

What was the main way you heard about the walking group?

*Please tick one:*Posters Fliers GHA Concierge Community Group Leader Going Walkabout Team Members Friends/Family Other *Please specify:* _____*Thank you*

Appendix D: Participants information sheets used in Chapters 4 to 6

Information sheets and consent forms used in Chapter 3:

Workshop and telephone interview information sheet



*Department of Sport, Culture and the Arts/
Creative and Aesthetic Studies
Research Volunteer
Information Form*
PLEASE READ THE FOLLOWING
CAREFULLY

*Title: **How best to recruit adults and children into walking programmes.***

What is the study about?

The aim of this study is to explore how different organisations and projects have recruited people into projects which promote walking. We are interested in finding out how you have approached the issue of recruitment. If you are a volunteer, staff member or manager within your organisation we are interested in your input. This information will contribute to a larger piece of work, including a review of the literature. We plan to present the most effective ways to recruit people into walking promotion projects.

We wish to identify strategies used by current walking promotion initiatives, using a mixture of practice based workshops and key stakeholder interviews. The organisations involved in the study include: Paths to Health; Natural England; Walking the way to Health (WHI); the Ramblers, Sustrans, Living Streets; and others from schools and workplace settings. Any adult (18 years or older) who is a staff member, volunteer or senior manager within one of the relevant walking promotion organisations with an interest in contributing to the workshops is invited to attend. Up to six regional workshops will take place with up to 10 participants at each session. If you are unable to attend a workshop, you are invited to take part in a telephone interview to facilitate your valued involvement in the study.

What will you be expected to do?

Your participation in one of the following sessions would be appreciated:

Workshops:

You are invited to take part in a workshop which will involve the presentation of walking related research to the group by the research team. We are interested in your thoughts and comments and would like to facilitate a discussion and debate regarding your experiences of using different approaches to recruit different population groups. All data gathered will be anonymised and presented in such a way as not to identify you. Your contribution is entirely voluntary and workshops are intended to take between 60-90 minutes. Your permission will be sought to take part

in follow up telephone interviews to clarify or seek additional information if needed. Up to six regional workshops will take place across the UK and Scotland and participants will be invited to attend the one nearest to their location.

OR

Telephone Interviews:

If you are unable to come to a workshop we are still interested in your comments. If you would still like to take part and a phone interview is preferred or more suitable, then we would appreciate you indicating this on the consent form and returning it by email to charlie.foster@dphpc.ox.ac.uk or by post to Dr. Charlie Foster, c/o SPARColl, Department of Sport, Culture and the Arts, University of Strathclyde (Jordanhill Campus), Sport and Arts Building, 76 Southbrae Drive, Glasgow, Scotland, G13 1PP. We will ensure that you are given adequate notice by email before the phone interviews.

PLEASE NOTE: With your permission, the group discussions and phone calls will be tape recorded to help with our analysis process. These will be securely stored during the data analysis period and destroyed once the study is complete.

What are the potential risks to you of taking part?

There are no apparent risks or hazards associated with this proposed study. Confidentiality and anonymity are of utmost importance to us, so in addition to our data handling procedures outlined below, all participants will be asked not to discuss any of the comments or opinions expressed in the group or to discuss who attended with anyone outside of the workshop sessions.

Do you have to take part?

Involvement in this study is voluntary and no financial compensation is offered. As a volunteer you are under no obligation to participate or to continue the study if you do not wish and you can withdraw at anytime without having to give a reason.

Will your participation in the research project be kept confidential?

All information which is collected about you during the course of the research will be kept strictly confidential. You will be identified by a code with your name and address removed so that you cannot be recognised from it. We may seek to publish any results from this study in the future but again, any information concerning you will be kept anonymous.

| | |
|---|---|
| <p>Who can you contact if you have any <u>questions</u> about the project?</p> <p>Professor Nanette Mutrie Department of Sport, Culture and the Arts University of Strathclyde 76 Southbrae Drive</p> | <p>Who can you contact if you have a <u>complaint</u> about the project?</p> <p>Dr. Anne Matthews British Heart Foundation, Health Promotion Research Groups</p> |
|---|---|

| | |
|--|---|
| Glasgow G13 1PP Phone: 0141 950 3371 Fax: 0141 950 3132 Email: nanette.mutrie@strath.ac.uk Dr. Charlie Foster British Heart Foundation, Health Promotion Research Groups Phone: +44 (0) 1865289241 E-mail: charlie.foster@dphpc.ox.ac.uk | Phone: +44 (0) 1865 289247 Email: anne.matthews@dphpc.ox.ac.uk |
| If you need to contact any of the above members of the project, please state the title of the project which you are inquiring about. | |

What next?

If you are happy to be involved in the process we would ask you to sign the consent form and return it to the researcher on the day or email it back should you prefer to have a telephone interview.

If after reading this information you do not wish to take part you do not have to do anything – Thank you for your time.

Case study information sheet

*Department of Sport, Culture and the Arts/
Creative and Aesthetic Studies*

Research Volunteer

Information Form

PLEASE READ THE FOLLOWING
CAREFULLY

Title: How best to recruit adults and children into walking programmes.

What is the study about?

The aim of this study is to explore how different organisations and projects have recruited people into projects which promote walking. We are interested in finding out how you have approached the issue of recruitment. If you are a volunteer, staff member or manager within your organisation we are interested in your input. This information will contribute to a larger piece of work, including a review of the literature. We plan to present the most effective ways to recruit people into walking promotion projects.

We wish to identify strategies used by current walking promotion initiatives, using a mixture of practice based workshops and key stakeholder interviews. The organisations involved in the study include: Paths to Health; Natural England; Walking the way to Health (WHI); the Ramblers, Sustrans, Living Streets; and others from schools and workplace settings. Any adult (18 years or older) staff member, volunteer or senior manager within one of the relevant walking promotion organisations with an interest in contributing to the workshops are invited to attend. Up to six regional workshops will take place with up to 10 participants at each session. If you are unable to attend a workshop, you are invited to take part in a telephone interview to facilitate your valued involvement in the study.

What will you be expected to do?

Case Studies

We feel it is important to offer real examples of innovative practice based recruitment strategies for walking projects and programmes. We are seeking your permission to use data collected during workshops and by phone to produce case studies to share with stakeholder organisations. Nothing is required of you as a participant but we would require and appreciate your permission to use the data collected at the workshops and by phone for these case studies. We would present data in such a way as to keep your contribution anonymous. Should data used in these case studies be based on your practice, we will show you the final draft of the case study before disseminating it elsewhere.

What are the potential risks to you of taking part?

There are no apparent risks or hazards associated with this proposed study.

Do you have to take part?

Involvement in this study is voluntary and no financial compensation is offered. As a volunteer you are under no obligation to participate or to continue the study if you do not wish and you can withdraw at anytime without having to give a reason.

Will your participation in the research project be kept confidential?

It may not be possible to guarantee confidentiality with regards to location or identity of the organisation used in each case study, but no participant's names or service user's names will be used.

| | |
|---|---|
| <p>Who can you contact if you have any <u>questions</u> about the project?</p> <p>Professor Nanette Mutrie Department of Sport, Culture and the Arts University of Strathclyde 76 Southbrae Drive Glasgow G13 1PP Phone: 0141 950 3371 Fax: 0141 950 3132 Email: nanette.mutrie@strath.ac.uk</p> <p>Dr. Charlie Foster British Heart Foundation, Health Promotion Research Groups Phone: +44 (0) 1865289241 E-mail: charlie.foster@dphpc.ox.ac.uk</p> | <p>Who can you contact if you have a <u>complaint</u> about the project?</p> <p>Dr. Anne Matthews British Heart Foundation, Health Promotion Research Groups Phone: +44 (0) 1865 289247 Email: anne.matthews@dphpc.ox.ac.uk</p> |
| <p>If you need to contact any of the above members of the project, please state the title of the project which you are inquiring about.</p> | |

What next?

Please indicate on the attached consent form whether or not you would like your organisations data to be used in a case study.

Consent form

University of Strathclyde, Department of Sport, Culture and the Arts/Creative and Aesthetic Studies
Research Volunteer CONSENT DECLARATION

Title: **How best to recruit adults and children into walking programmes.**

I confirm that I have read and understand the information sheet for the above project and the researcher has answered any queries to my satisfaction. I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences. I understand that any information recorded will remain confidential and no information that identifies me will be made publicly available.

Please indicate your consent or preference to the following by deleting the appropriate term (Yes or No):

| | | |
|--|-----|----|
| 1) I would like to attend a workshop. | Yes | No |
| 2) I do not want to attend a workshop but would be happy to receive a phone call interview. | Yes | No |
| 3) I would be happy to receive a follow-up phone call, if needed, to clarify any of the matters discussed in the workshops or phone calls. | Yes | No |
| 4) I would be happy to have data from my organisation used for a case study. | Yes | No |

I agree to take part in the above study

(PRINT NAME):

Signature of Participant:

Date:

If you would like a summary of the study results please supply your email address here:

Email:

Short form information sheet for emails and letters

(To be sent on University headed
note paper)

Destination address...

Dr. Charlie Foster

c/o SPARColl
Department of Sport, Culture and the Arts
University of Strathclyde (Jordanhill
Campus)
Sport and Arts Building
76 Southbrae Drive
Glasgow
Scotland
G13 1PP
Phone: +44 (0) 1865289241
E-mail: charlie.foster@dphpc.ox.ac.uk

Dear....

Re: How best to recruit adults and children into walking programmes

I am writing to you from the Scottish Physical Activity Research Collaboration (SPARColl) at the University of Strathclyde, and in relation to our ongoing work in the area of walking and health. We are interested in how different organisations have recruited people into projects which promote walking.

We would like to conduct focus group workshops or telephone interviews with staff members, managers or volunteers in your organization to discuss recruitment. We also intend to produce case studies of recruitment experiences, which can then be shared among walking groups and researchers. If you are interested in taking part, or if you would like to nominate any member of your staff or volunteers, we would be delighted to have you take part in the study.

Please find attached information sheets outlining the details of the workshops, telephone interviews and case studies, plus a consent form for this study. The consent form should be completed by the individual interested in taking part in the study and returned to **charlie.foster@dphpc.ox.ac.uk** or by post to **Dr. Charlie Foster, c/o SPARColl, Department of Sport, Culture and the Arts, University of Strathclyde (Jordanhill Campus), Sport and Arts Building, 76 Southbrae Drive, Glasgow, Scotland, G13 1PP.**

If you have any questions, queries or concerns about this project, or require any further clarification, please do not hesitate to contact me at the address or phone number above.

Kind regards,

Charlie Foster PhD

Information sheets and consent forms used in Chapter 5

Information supplied for walk leaders/coordinators explaining the study, requesting assistance in recruitment and seeking permission to approach their walking groups



*Department of Sport, Culture and the Arts/
Creative and Aesthetic Studies*
Walking Programme Leader Information Form
PLEASE READ THE FOLLOWING
CAREFULLY

Graham Brennan

c/o SPARColl
Department of Sport, Culture and the Arts
University of Strathclyde (Jordanhill Campus)
Sport and Arts Building
76 Southbrae Drive
Glasgow
Scotland
G13 1PP
Phone: +44 (141) 9503199
E-mail: graham.brennan@strath.ac.uk

Dear walk leader/co-ordinator

RE: 'The experiences and opinions of participants recently recruited to walking programmes'

I am writing to you from the Scottish Physical Activity Research Collaboration (SPARColl) at the University of Strathclyde, and in relation to our ongoing work in the area of walking and health. We are interested in the experiences of walkers while they were recruited to a walking group.

We would like to conduct focus groups with participants who recently joined your walking group. This is a way for me to gather data where a small number of people (6 to 8) discuss the topic as a group. This investigation will contribute to a bigger piece of work looking at methods of recruitment to walking programmes and will form part of a study on making recruitment more effective. We are currently investigating what is reported in research literature and what walk leaders/co-ordinators value as important and effective. We feel it is important to include walkers in our study and assess if what we as researchers/walk leaders do matches participants' reasons for attending the walking group.

If you would be interested in having members of your group take part in the focus group, we would be delighted to facilitate this. We aim to hold the meeting at a

location convenient to them and will provide light refreshments and snacks, plus reimburse the cost of travel by public transport.

Please find attached the participant information sheets outlining the details of the focus group plus a consent form for this investigation. We would be grateful if you could forward on this information to your members. Your members can contact us at the details provided or if it is convenient for you to take a list of interested walkers we can collect that list from you and take it from there.

If you feel it would help with this process and wouldn't inconvenience any of your walks, we could also meet at one of your walks and explain the details to your members. This could be done at the start of one of your walks and would take no longer than five minutes, the aim being to explain what we are doing and collect the names of interested people.

For any questions, queries or concerns about this project, or if you require any further clarification, please do not hesitate to contact me at the address or phone number above. I will contact you by phone within the next seven days to discuss whether you would like your members to take part and what would happen next.

Kind regards,
Graham Brennan.

Information sheet and consent form supplied to the participants of the walking groups approached



*Department of Sport, Culture and the Arts/
Creative and Aesthetic Studies
Research Volunteer
Information Form*
PLEASE READ THE FOLLOWING CAREFULLY

Title: 'The experiences and opinions of participants recently recruited to walking programmes'

What is the study about?

The aim of this study is to investigate the experiences and opinions of people who recently joined a walking group. We are interested in finding out how you heard about your walking group and also why you decided you would start walking with that group. This is part of a large project looking at research literature, walk leaders'/co-ordinators' opinions and walkers' experiences to understand how best to recruit people to walking groups.

Our aim is to hold a group discussion of between six to eight people to discuss the topic. This should last no longer than an hour and will be at a location local to your usual meeting point for walking. We will provide refreshments (tea, coffee, water, light snacks), and would like to reimburse you if you need to travel by public transport. With your permission the discussion will be audio recorded. The recording will be securely stored in our offices, used only for this research project and deleted once the study is complete.

If this interests you please contact Graham Brennan (contact details below) or let your walk leader know. If you can leave your name and details (phone number or email address) we will be happy to contact you to arrange a meeting time convenient to all participants. Please note that if you are not interested in this focus group, this has no effect on your attendance to the walking group.

At the end of this investigation I will be producing a research article as part of a PhD and will use these findings as part of a larger study on how to recruit people to walking programmes. There are no potential risks to you from this research and it is not compulsory to take part. Also, if you do start and want to leave at any point you are free to do so. Lastly, all information recorded and contact details will be kept confidential and all members of the group will be asked not to comment outside of the focus group on what has been discussed to respect the privacy of everyone involved.

Thank you for taking the time to read this information and should you have any questions at all, I would be delighted to hear from you. All my contact information is attached below and I can be reached by phone Monday to Friday and by email all week.

Kind regards,

Graham Brennan

| | |
|--|--|
| <p>Who can you contact if you have any <u>questions</u> about or are interested in taking part in the project?</p> <p>Graham Brennan PhD Postgraduate Student. Department of Sport, Culture and the Arts/Creative and Aesthetic Studies Telephone: 0141 950 3199 E-mail: graham.brennan@strath.ac.uk</p> | <p>Who can you contact if you have a <u>complaint</u> about the project?</p> <p>Dr David Rowe Reader in Exercise Science Department of Sport, Culture and the Arts/Creative and Aesthetic Studies Telephone: 0141 950 3712 E-mail: david.rowe@strath.ac.uk</p> |
| <p>Professor Nanette Mutrie Department of Sport, Culture and the Arts University of Strathclyde 76 Southbrae Drive Glasgow G13 1PP Phone: 0141 950 3371</p> <p>Email: nanette.mutrie@strath.ac.uk</p> | |
| <p>*If you need to contact any of the above members of the project, please state the title of the project which you are inquiring about.</p> | |

What next?

If you are happy to be involved in the process we would ask you to contact Graham Brennan either through the contact details listed, or by letting your walk leader know you would like to take part.

We would also ask you to sign the consent form and return it to the researcher on the day.

If after reading this information you do not wish to take part you do not have to do anything

Thank you

Consent form

University of Strathclyde, Department of Sport, Culture and the Arts/Creative and Aesthetic Studies

Research Volunteer CONSENT DECLARATION

Title: 'The experiences and opinions of participants recently recruited to walking programmes'

I confirm that I have read and understand the information sheet for the above project and the researcher has answered any queries to my satisfaction. I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences. I understand that any information recorded will remain confidential and no information that identifies me will be made publicly available.

Please indicate your consent or preference to the following by deleting the appropriate term (Yes or No):

Take part in the group discussion: Yes No

Tape recording of the meeting for analysis. All recordings are kept only for analysis by the researcher, are stored securely at one location only and are destroyed once the research is finished. The recorded information will not be used for any other purposes

Yes No

Contact information:

I can be contacted at the following phone number/address/email to confirm my attendance in the d the focus group

Phone:

Address:

Email:

Specific requirements:

If you have any requirements from dietary restrictions to access assistance to interpreter needs please state this below and we will make every effort to accommodate this on the day:

I agree to take part in the above study

(PRINT NAME):

Signature of Participant:

Date:

Information sheets and consent forms used in Chapter 6:

*Department of Psychological
Sciences and Health
Research Volunteer - Participant
Information Form*
**PLEASE READ THE FOLLOWING
CAREFULLY**

Title: Implementation of Walking for Wellbeing in the West. What is the study about?

Walking for Wellbeing in the West is a pedometer based walking programme that has been shown to increase walking and physical activity levels among adults in a controlled research trial. This study seeks to test how well the programme works in real world situations and to provide learning points for how it can best work in the future. This has acted as a template to guide the implementation of your walking programme and we'd like to know more about how the recruitment phase was run.

What will you be expected to do?

- Take part in a recorded interview for approximately 45 minutes

At the end of this investigation I will be producing a research article as part of a PhD and will use these findings as part of a larger study on how to recruit people to walking programmes. There are no potential risks to you from this research and it is not compulsory to take part. Also, if you do start and want to leave at any point you are free to do so. Lastly, all information recorded and contact details will be kept confidential and all members of the group will be asked not to comment outside of the focus group on what has been discussed to respect the privacy of everyone involved.

Thank you for taking the time to read this information and should you have any questions at all, I would be delighted to hear from you. All my contact information is attached below and I can be reached by phone Monday to Friday and by email all week.

Who can you contact if you have any questions about or are interested in taking part in the project?

Who can you contact if you have a complaint about the project?

Dr David Rowe

Graham Brennan

PhD Postgraduate Student.
Department of Psychological Sciences
and Health
Telephone: 0141 950 3199
E-mail: graham.brennan@strath.ac.uk

Reader in Exercise Science
Department of Psychological Sciences and
Health
Telephone: 0141 950 3712
E-mail: david.rowe@strath.ac.uk

Professor Nanette Mutrie

Department of Psychological Sciences
and Health
University of Strathclyde
76 Southbrae Drive
Glasgow G13 1PP
Phone: 0141 950 3371

Email: nanette.mutrie@strath.ac.uk

***If you need to contact any of the above members of the project, please state the title of the project which you are inquiring about.**

What next?

If you are happy to be involved in the process we would ask you to contact Graham Brennan either through the contact details listed, or by letting your walk leader know you would like to take part.

We would also ask you to sign the consent form and return it to the researcher on the day.

If after reading this information you do not wish to take part you do not have to do anything –Thank you

Consent form**Research Volunteer CONSENT DECLARATION**

Title: Implementation of Walking for Wellbeing in the West

I confirm that I have read and understand the information sheet for the above project and the researcher has answered any queries to my satisfaction. I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences. I understand that any information recorded will remain confidential and no information that identifies me will be made publicly available.

Please indicate your consent or preference to the following by deleting the appropriate term (Yes or No):

| | |
|-------------------------------------|-----|
| Take part in the recorded interview | Yes |
| No | |

I agree to take part in the above study

Print Name:

Date:

Signature:

Contact information: I can be contacted at the following phone number/address to confirm my attendance in the days before the focus group

Phone:

Email:

Appendix E: Interview schedule, draft and final version, used in Chapter 4***Title: How best to recruit adults and children into walking programmes.***

The workshops will focus on the research team presenting walking related research to practitioners, in order to encourage their participation. Practitioners will be asked to discuss and debate their experiences of using different approaches to recruit different population groups to their walking projects.

Draft interview Schedule:

- How do you currently recruit people to your walking group and walking activities?
- Do you have any groups, either in your programmes or in the local area, which you consider to be hard to reach?
- Do you have any different or specific ways that you use when trying to attract these 'hard to reach' groups?
- What are the major challenges you face in trying to encourage people to take part in your walking groups and programmes?
- Can you tell us about the most useful approach you use? The one which seems to work best for recruiting to your group.

Final Interview Schedule

1. Please could you tell us about the development of your project s– origins, funding and age.
2. Do your projects target specific groups?
3. Which methods are used to recruit participants?
4. Were these methods chosen specifically with target groups in mind?
5. Which of these methods do you think has been the most successful in recruiting people to your project/s? (What's worked well and what hasn't?)

6. Within your project/s, are you successful at retaining participants? What are the reasons why people stay or don't stay?
7. Do you evaluate your project/s, and if so, are your recruitment methods evaluated?
8. Anything else you'd like to add?

Interview schedule and topic guides used in Chapter 5

- 1) Look at hand out. Printed info is very popular and used a lot, but **how did you hear about your group?**
 - a. Prompts:
 - i. Different to what's on the list?
 - b. Probes:
 - i. Were you approached on your own or as a group
 - ii. Was this at an event of some sort
 - iii. Tell me about that person (who, where, relationship)
 - iv. Tell me about that info (what, where, why caught your attention)

- 2) So what did you learn about the walking group from (Him/Her: the info: the event)?
 - a. Prompts:
 - i. Health info?
 - ii. Practical info?
 - iii. Costs?
 - iv. Location?
 - b. Probes
 - i. So what was the most important piece of information you learned?
 - ii. Is walking a new activity for you?

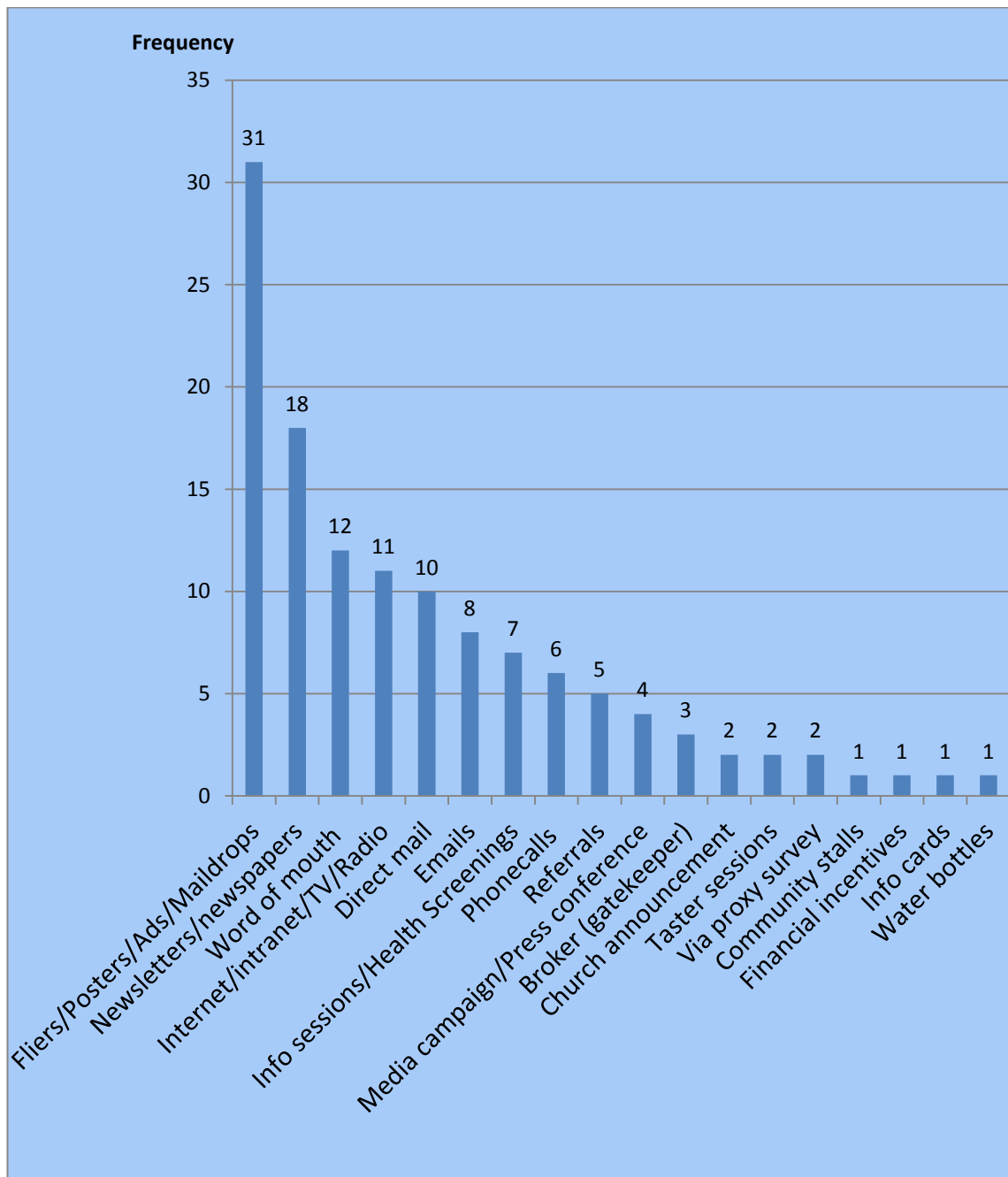
- 3) Look at the picture. People report many different reasons for walking. **I'd like to know about your reason for deciding to start walking with the group?**
 - a. Prompts
 - i. Was it just because you were told there was a walking group?
 - ii. Was it to do with what you heard about the group?
 - b. Probes
 - i. For you, once you heard a group was on what went through your mind when you considered joining it?

- 4) Your recommendation: **What would you do if the job was yours?**
- a. Prompts
 - i. Have any of you?
 - ii. Let's say you were the one asking....after your experience of your group, what do you say?
 - iii. Let's say your job was to oversee the recruitment process...what do you do or NOT do?

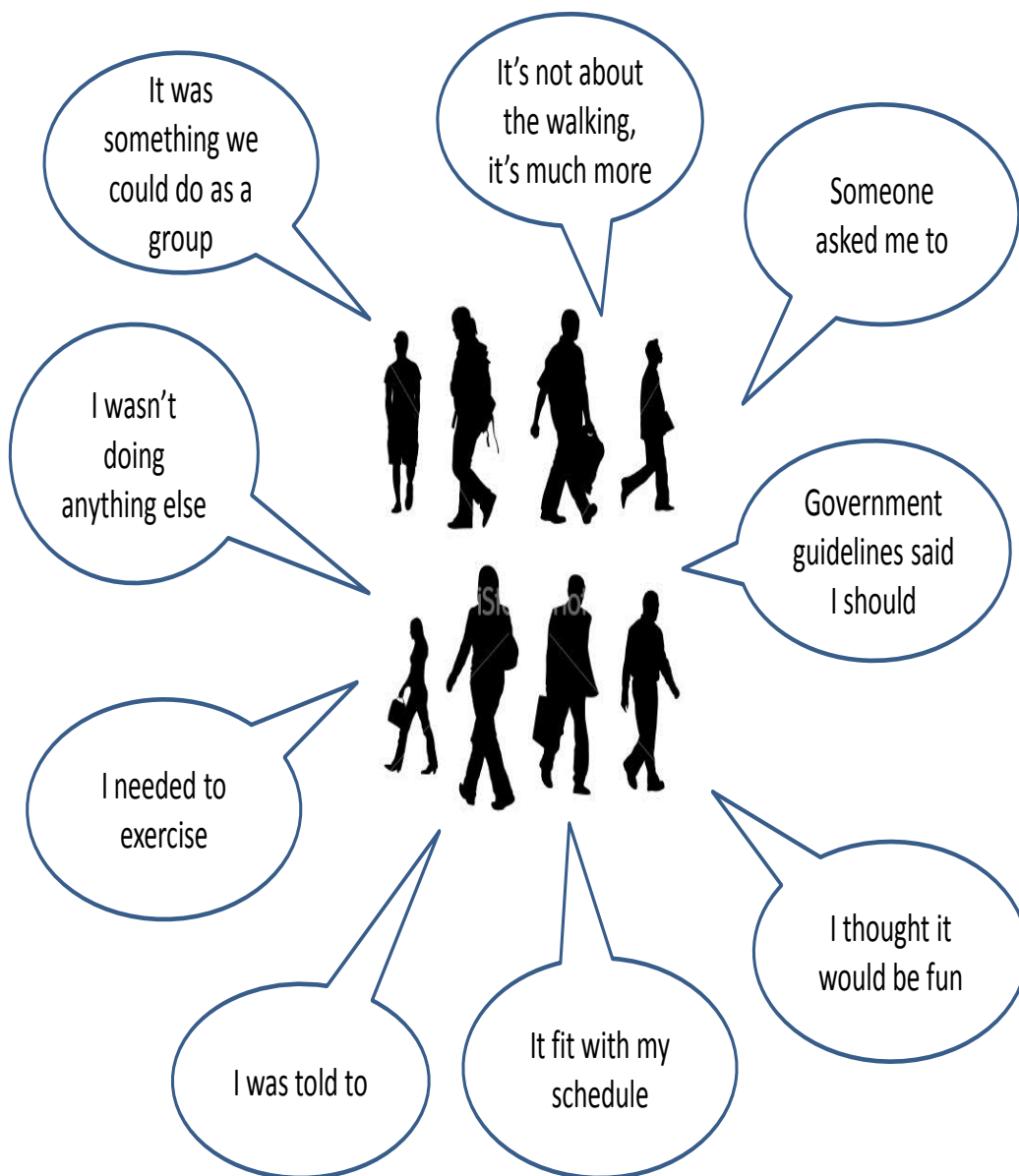
 - b. Probes
 - i. Who do you think should ask?
 - ii. What do you think they should tell?
 - iii. How do you think people should be invited?
 - iv. What should you not do when asking people to walking groups or what makes it difficult for you to take part?

Topic guide referred to in question 1:

Methods of recruitment and frequency of use



Topic guide referred to in question 3:



Interview schedule and topic guides used in Chapter 6:

Interview schedule used for participants in the walking programme:

Q1) How did you hear about the walking group?

- Flesh out the source: who, where, when
- So you are a regular walker?
- No? Are you looking to be more active?

Q2) What did you think when you first heard about the group?

- What was it about a walking group that interested you?
- Was 'walking' the main thing you thought about?
- Something else that interested you about this group?

Q3) What do you tell others about the walking group?

- Focus on walking?
- Focus on cost?
- Focus on the destination?
- Focus on the walk leaders?
- Focus on other things?

Interview schedule, notes to self and probes/prompts used for recruitment/delivery team:

1. Can we talk about the recruitment plan that was designed and whether you thought it happened as was intended?

- Prompt:
 - Original 4 week Plan of Action
- Probes:
 - Was it planned well?
 - Did it appear achievable?
 - Was it clear?
 - What were the major barriers to carrying this out as planned?
 - Timing?
 - Resources?

2. What did you find most difficult about following the plan as we designed it?

- Probes:
 - Working hours?
 - Approaching people?
 - Knowing what to say?
 - Keeping an eye on progress?
 - Posters/Fliers?
 - Access to people or places?
 - Multiple venues?
 - Size of the recruitment team?

3. Looking at graph 1, on the one hand it appears that the more actions that took place the more people appeared interested. However, on the other hand, there was a drop off somewhere in the middle before more people responded. Can you tell me a little about what happened in that time around weeks 5 to 8 or later?

- Prompt:
 - Graph 1
- Probes:
 - Was there any responses to the office?

-
- Was there much taking place on the ground (fliers, posters, meetings, making contact?)

4. Looking at graph 2, attendance didn't quite reach expectations and did drop off. We had planned for ongoing recruitment throughout this phase, how feasible was it to do this?

- Prompts/probes:
 - Was there time?
 - Was there money?
 - Was there staff?
 - What barriers became apparent?
 - How could we overcome this?

5. How would you summarise the part I played in the process or the role I had?

- Prompts/Probes
 - Was it clear that I was advising on what actions to take?
 - Was it easy to report back to me what had taken place?
 - Did the channels of communication always seem clear?

6. What advice would you give to someone carrying out a similar project when it comes to recruitment?

- Prompts/Probes:
 - What do you think were the biggest barriers to implementing the plan as designed?

7. What do you think were the biggest positive points about what was done to recruit people to the project?

Interview schedule used for funder/manager:

1. Can we talk about the recruitment plan that was designed and whether you thought it happened as was intended?

- Prompt:
 - Original 4 week Plan of Action
- Probes:
 - Was it planned well?
 - Did it appear achievable?
 - Was it clear?
 - What were the major barriers to carrying this out as planned?
 - Timing?
 - Resources?

2. My theory on recruitment focused on approaching people where they lived and getting to know them or people who knew them to increase the likelihood that they would take part. Do you feel that was feasible in the circumstances we were in?

- Probes:
 - Do you think there were any perceptions of the recruitment team that might be negative?
 - Was it really feasible to cover so many different areas with the number of staff we had?
 - What influence did the lack of assistance from concierge staff have on the recruitment plan?
 - Who else do you think could have played a part on the recruitment team?

3. Looking at graph 1, there appears to be a relationship between more recruitment actions and more people showing interest, but also, there was a drop off in actions for a while and then people seemed to show interest in the walk. Do we understand why this was?

- Prompt:
 - Graph 1 Recruitment actions and responses
- Probes:
 - Was it always clear to you what was happening?
 - Do we know what resulted in the interest levels going up around weeks 7?

4. Again, graph 1 also shows that the recruitment phase lasted for 12 instead of 4 weeks. Do we understand why this was?

- Prompt:
 - Graph 1 Recruitment actions and responses
- Probes:
 - There was also a change from focusing on 5 sites to concentrating on 1, Bluevale, did this have anything to do with the period of time being taken?

5. Looking at graph 2, we did reach our target group but attendance was low. The plan (Prompt 1) allowed for this and indicated that recruitment would be ongoing. However, this didn't appear to take place. Was it less feasible to recruit once the walks had started?

- Prompt:
 - Graph 2 Attendance during the walk phase of the project
- Probes:
 - Were there any financial restrictions?
 - Could the team have conducted more face to face meetings or organised local meetings to build up an image of what the group did?

6. How would you summarise the part I played in the process or the role I had?

- Prompts/Probes
 - Was it clear that I was advising on what actions to take?
 - Was it easy to report back to me what had taken place?
 - Did the channels of communication always seem clear?

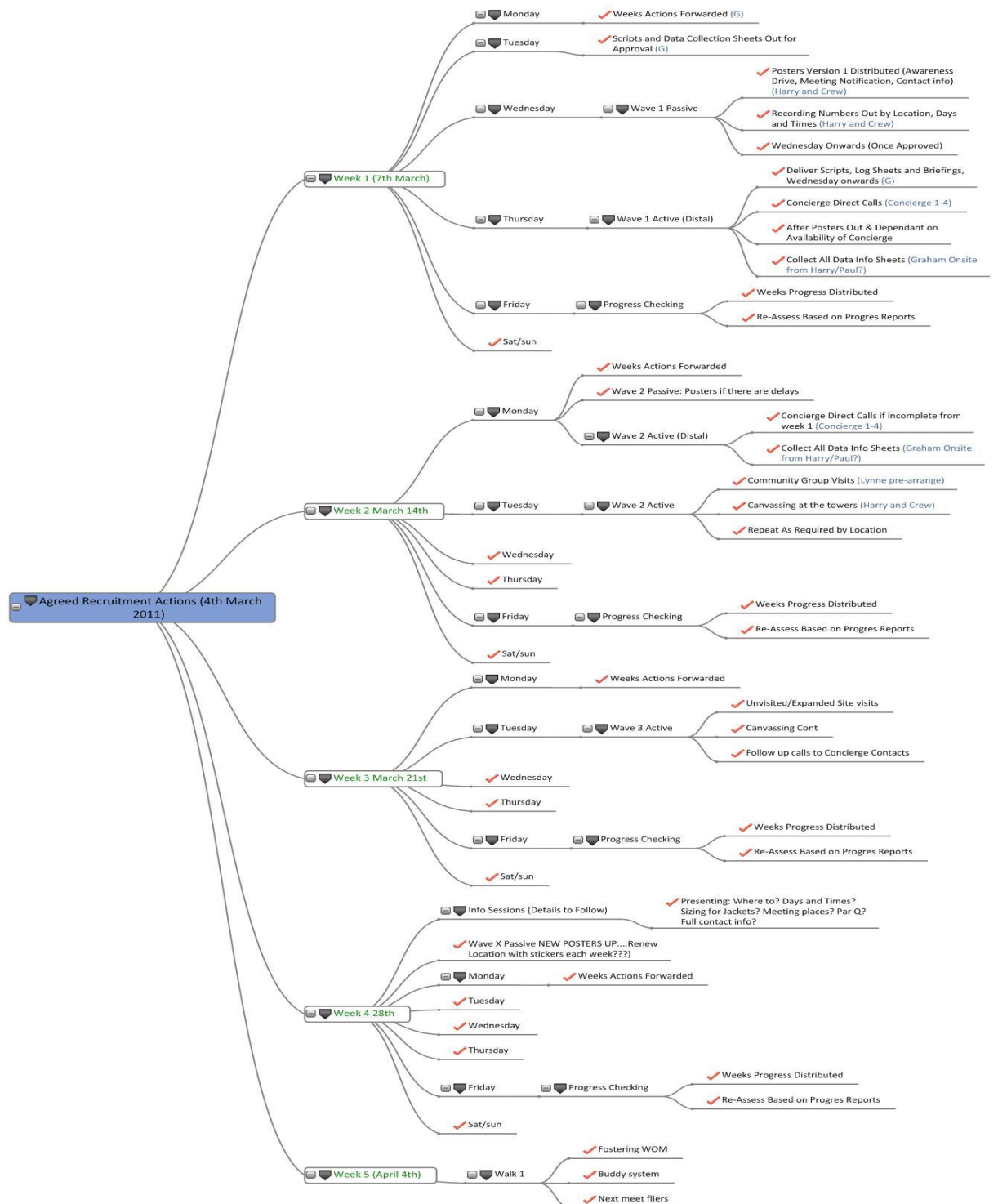
7. What advice would you give other project coordinators working with a recruitment coordinator?

- Prompts/Probes:
 - What do you think were the biggest barriers to implementing the plan as designed?

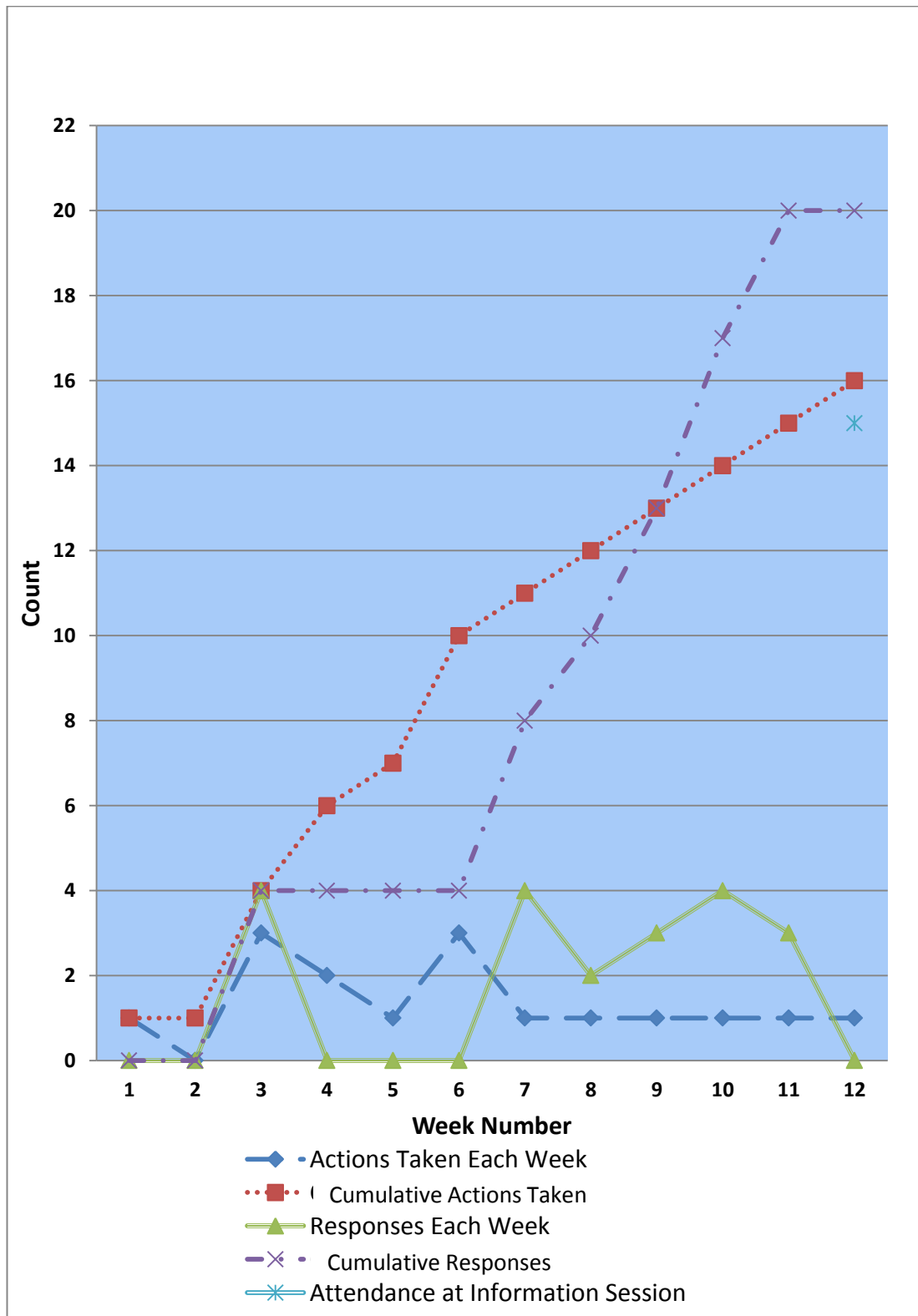
8. What do you think were the biggest positive points about what was done to recruit people to the project?

Topic guide used in both the recruitment/delivery team and Funder/Management team interviews

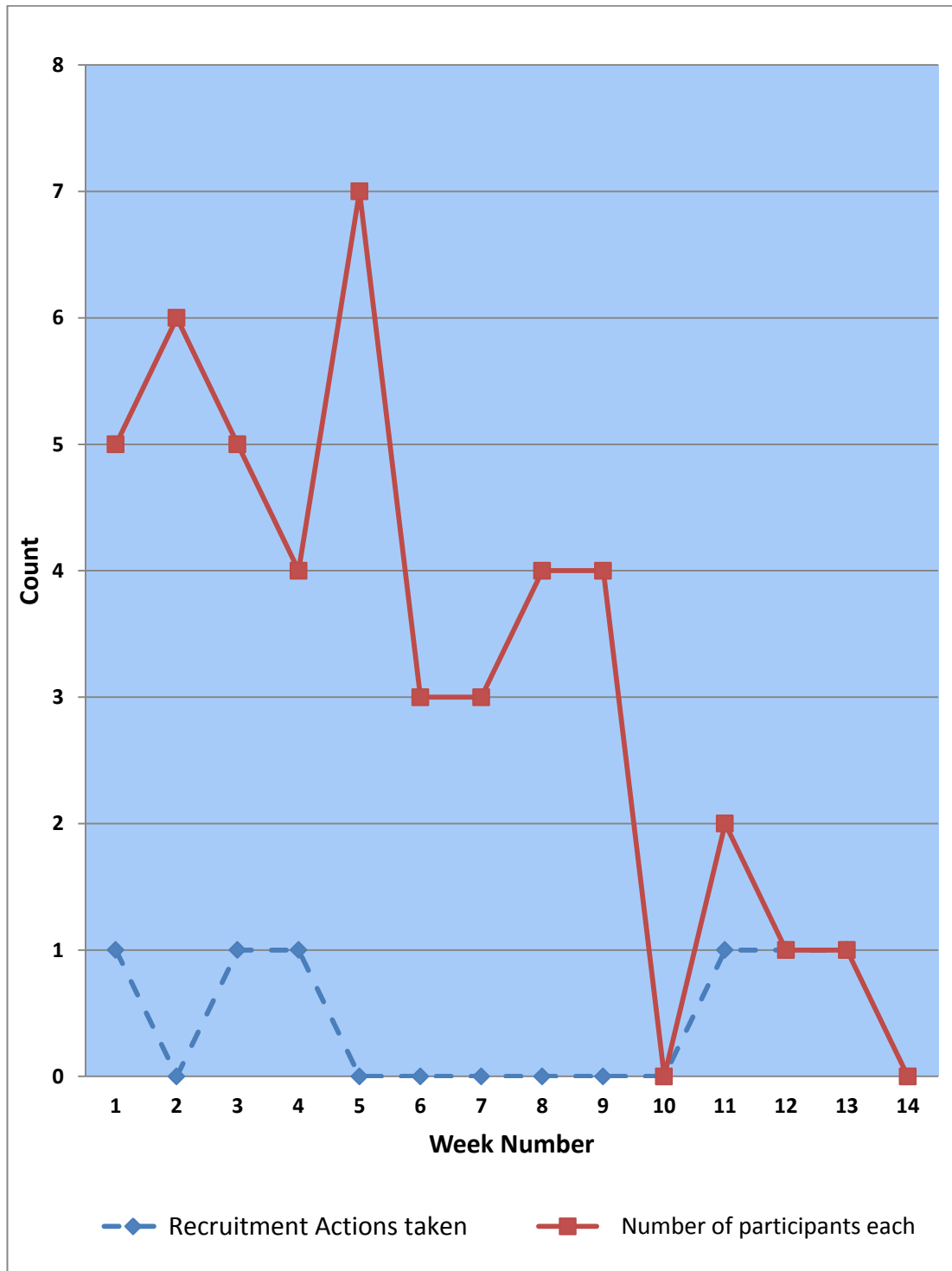
Topic Guide 1: The original four week recruitment plan, with all sub actions



Topic Guide 2: Recruitment actions taken and expressions of interest (responses) during the 12 week recruitment period



Topic Guide 3: Weekly Attendance Rates and Recruitment Actions during 14 weeks of delivery of the walk programme



Appendix G: Ethical approval forms applied to chapters 4, 5 and 6.

The following ethical clearance and amendment forms apply to the studies in this PhD. Forms 1 and 2 apply to the focus groups conducted in Chapter 4. Forms 3 and 4 apply to the focus groups and interviews conducted with participants in Chapter 5 and Chapter 6. These include an amendment for the extension of ethical clearance. Forms 5 and 6 apply to the interviews with the practitioners in Chapter 6 and include an extension of the ethical clearance and the addition of Graham Brennan as a researcher on the study.

Form 1

Email received from Dave Rowe, 24 March 09

Dear Claire:

In response to your recent ethics submission, please note that two reviewers have provided feedback (attached) and the Chair of the Ethics Committee has read your application and both reviews. The recommendation from the Department Ethics Committee is to approve your ethics application. Although your application was approved, there may be recommendations for you to consider, either in the two reviews or in this email (below).

Please note that if either of the following two conditions occurs during the project, you should contact the Department Ethics Committee Chair immediately: a) you need to make changes to the protocol that was approved; b) an event occurs during the study (e.g., an accident or complaint) that relates to ethical treatment of human participants.

Congratulations on receiving ethics approval and good luck with your project.

Decision: Approve

Feedback: Reviewer 2 has made some helpful suggestions regarding potential confusion about the number of participants. Minor changes to the wording may be made if desired, to clarify as suggested by the reviewer, without the need for an amendment form.

Regards,

Dave.

David A. Rowe, PhD, FACSM

Form 2

From: Anne Muir

Sent: 01 April 2009 09:47

To: Nanette Mutrie

Cc: Claire Fitzsimons

Subject: sponsorship approval - walking programmes

Dear Nanette,

Re Human Investigation – How best to recruit adults and children to walking programmes

R&I Number 090224

Pursuant to the University's Code of Practice on Investigations on Human Subjects, as the University is the proposed sponsor of the abovementioned project, the Senior Officer responsible for Research, Professor Allister Ferguson, and the Director of Research and Consultancy Services, Dr David McBeth, have agreed the project is Category B (no/low risk) and have agreed on behalf of the University that the University will sponsor this project. An authority letter confirming the University's sponsorship of this project upon certain standard conditions will be signed by the University's Secretary, Dr Peter West, and sent to you in due course.

You should ensure you are familiar with the responsibilities of a Sponsor under the Scottish Executive's Research Governance Framework for Health and Community Care and ensure the project is carried out according to the Research Governance Framework.

Please contact me if you have any queries.

Regards

Anne Muir

Anne Muir

Business Development Manager (Science Faculty)

Form 3

From: David Rowe
Sent: Thursday, June 24, 2010 3:17 PM
To: Graham Brennan
Cc: Evelyn Johnston; Nanette Mutrie; Claire Fitzsimons
Subject: RE: Ethics Submission: Response to reviewers
Attachments: Graham Brennan Response to Reviewers_Ammended Ethics(DR).doc

Dear Graham:

In response to your recent ethics re-submission, please note that the Chair of the Ethics Committee has read your application and response to major comments from the first review. Review of revisions is sometimes conducted by the Chair only (i.e., without additional reviewers) if the number of reviewer concerns was small and could be addressed in a straightforward way. Having read your resubmitted application, the recommendation from the Department Ethics Committee is to approve your ethics application. I apologise for the time it has taken to get to this.

Please note that if either of the following two conditions occurs during the project, you should contact the Department Ethics Committee Chair immediately: a) you need to make changes to the protocol that was approved; b) an event occurs during the study (e.g., an accident or complaint) that relates to ethical treatment of human participants.

Also, please ensure that any materials such as information sheets have the highlighted sections re-formatted (remove highlight, etc.) before using in your study.

Congratulations on receiving ethics approval and good luck with your project.

Regards,

d.r.

David A. Rowe, PhD, FACSM
Reader
Department of Sport, Culture and the Arts
University of Strathclyde

Form 4

From: David Rowe
Sent: Friday, May 20, 2011 2:17 PM
To: Graham Brennan
Cc: Nanette Mutrie
Subject: RE: Ethics Ammendment

Hi Graham:

I have read your attachment and the request for an extension to December is approved. If you need an official ethics "certificate" to include in your thesis, please remind me when I get back in mid-June, but in the meantime this formal email approval should suffice.

d.r.

David A. Rowe, PhD, FACSM
Reader in Exercise Science
School of Psychological Sciences and Health
University of Strathclyde

Form 5

From: Louise McKean
Sent: 18 November 2009 15:16
To: Nanette Mutrie
Cc: Sarah Currie; Zoe Wilson
Subject: University sponsorship

Dear Nanette

Project Entitled "Evaluation of implementation of the Walking for Wellbeing in the West intervention"

R&I Number 090949 (UEC0910/02)

Pursuant to the University's Code of Practice on Investigations on Human Subjects, as the University is the proposed sponsor of the abovementioned project, the Senior Officer responsible for Research, Professor Allister Ferguson, and the Director of Research and Innovation Services, Dr David McBeth, have agreed the project is Category B (no/low risk) and have agreed on behalf of the University that the University will sponsor this project. An authority letter confirming the University's sponsorship of this project upon certain standard conditions will be signed by the University's Secretary, Dr Peter West, and sent to you in due course.

You should ensure you are familiar with the responsibilities of a Sponsor under the Scottish Executive's Research Governance Framework for Health and Community Care and ensure the project is carried out according to the Research Governance Framework.

The decision on ethical approval will be communicated to you in due course.

Please contact me if you have any queries.

Regards

Louise McKean

Louise McKean LLM
Contracts Manager
Research & Innovation

Form 6



School of Psychological Sciences and Health
Physical Activity for Health Group
Ethics Amendment Approval Form

This form acknowledges that the following research project amendment has been given Ethics Approval to proceed from the date identified.

Name of researchers:

Graham Brennan

Name of Chief Investigator:

Professor Nanette Mutrie

Title of Project:

Evaluation of Implementation of the Walking for Wellbeing in the West Intervention

Signed on behalf of the Physical Activity for Health group by:

A handwritten signature in black ink, appearing to read 'D.A. Rowe'.

(David A. Rowe, Reader in Exercise Science)

Date: 17 August 2011
