Costing the Walking for Health programme
Foreword

Natural England commission a range of reports from external contractors to provide evidence and advice to assist us in delivering our duties. The views in this report are those of the authors and do not necessarily represent those of Natural England.

Background

When Walking for Health was launched in 2000 walking was not considered a serious form of exercise. Now the health benefits of short, regular, brisk walks are widely understood. The Department of Health considers that health walks can be a way of increasing people's levels of physical activity and improving their health.

In 2007, Department of Health and Natural England working in partnership with local statutory and voluntary organisations took the decision to invest in an expansion of Walking for Health as part of the package of public health initiatives aimed at getting people more active.

As part of the Walking for Health expansion a programme of evaluation was established. The aims of the programme were to evaluate, quantitatively and qualitatively, both health and environmental outcomes from the Walking for Health intervention.

To deliver the breadth and depth of evaluation Natural England has worked with research and academic partners.

This report was commissioned through University of East Anglia and RAND Europe. Walking for Health is a physical activity intervention with the primary purpose of making a positive difference to people’s physical health. Other studies have looked at the differences the intervention makes to people’s level of physical activity (NECR068, 2011).

This report presents research the economic costs of Walking for Health. Specifically, the economic costs involved in delivering the programme. These include financial (or accounting) costs and opportunity costs, which are the values of the foregone costs that could have been dedicated some other objective. The results presented in this report are based on a small sample of schemes representative of the variety across the programme as a whole.

The results of this work provide a useful insight into economic costs of running local Walking for Health schemes, and the overarching national support programme. The costs are presented by scheme type, walk hours, and walk register.

As the report concludes, these data do not provide insight into the cost-effectiveness of Walking for Health as health outcome data were not considered.

The purpose of Natural England commissioning this study was to increase our understanding of economic costs of establishing and running a volunteer lead initiative. Natural England will use these findings to inform and support communities in the development of local initiatives to facilitate access and engagement of people with their natural environments.

This report should be cited as:
RAND Europe and the University of East Anglia were commissioned by Natural England to carry out data collection and analysis of the economic costs of the Walking for Health (WfH) Programme for the financial year 2010–11. WfH was established in 2000 to support a network of health walk schemes offering regular short walks over easy terrain with trained walk leaders across England. The main purpose of WfH is to contribute to improving the health of people across the country. Additionally, it aims to engage and mobilise people to explore, understand and act for the natural environment.

This report will be invaluable to individuals thinking of setting up a scheme, and to managers and policymakers in local governments and in organisations involved in promoting health (such as PCTs and NGOs). This document should also be of interest to a wider audience of policymakers and researchers who are analysing and costing public health interventions.

RAND Europe is an independent not-for-profit policy research organisation that aims to improve policy- and decision-making in the public interest, through research and analysis. RAND Europe’s clients include European governments, institutions, NGOs and firms with a need for rigorous, independent, multidisciplinary analysis.

The University of East Anglia (UEA) is an internationally renowned research and teaching university providing top-quality academic, social and cultural facilities to over 14,000 students. It is ranked in the top one percent of universities in the world and is consistently in the top ten for student satisfaction. It is a leading member of the Norwich Research Park, one of Europe’s biggest concentrations of researchers in the fields of environment, health and plant science. The Public Health Economics unit at UEA is part of the Centre for Diet and Activity Research, a UKCRC-funded Public Health Research Centre of Excellence.
This report has been peer reviewed in accordance with RAND’s quality assurance standards.

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The 2004 Wanless Report emphasised the need to devote more attention to public health (as opposed to healthcare) interventions in order to address the health and economic burdens associated with health risk behaviours. This influential report also deplored the relative lack of evidence on the impact and cost-effectiveness of public health interventions. The present study aims to contribute to reducing the gap in the literature by estimating the economic costs of the Walking for Health schemes supported by Natural England. The benefits of these schemes are being evaluated in a separate study. While the exercise falls short of a complete economic evaluation, this is still a potentially important contribution in that to date little effort has been devoted to properly costing public health interventions.

Walking for Health (WfH) is the largest led walk intervention and one of the largest public health interventions for physical activity in the UK. The main aims of the programme are to encourage people to become more physically active in their local community and to help address health problems associated with modern lifestyles characterised by lack of physical exercise. It further aims to help people develop an appreciation of their local natural environment.

As part of the monitoring and evaluation of the WfH programme, Natural England (NE) and WfH partners wish to better understand the costs of WfH as a public health intervention. Specifically, they want to understand the economic costs involved in delivering the programme. These include financial (or accounting) costs and opportunity costs, which are the values of the foregone costs that could have been dedicated some other objective. The economic costing of the WfH schemes represents the primary task of this report.

We identify and describe the set-up costs of a WfH scheme. We also analyse the recurring economic costs of the WfH Scheme in the cases of five selected schemes and at the national level. The latter includes NE’s central costs of supporting the local schemes throughout England, plus the economic costs of all those local schemes.

Our findings may be summarised as follows:

(1) The total recurring (economic) costs for a local scheme range from just under £15,000 to almost £60,000 per annum. The costs of a given scheme do not appear to be directly related to its size, suggesting that factors other than size are involved. These include population density (i.e. urban vs rural areas) and the health status of the local population, which might have an impact on the funding available for supporting the scheme.
Labour costs represent around two thirds of the annual total estimated costs for a local WfH scheme, while non-labour costs account for the remaining third. Labour costs consist of paid work (i.e. that of the coordinator of a WfH scheme) and time spent by volunteers (e.g. leading walks or providing training). Volunteer costs represent approximately one half of the total labour costs. This large share of volunteer contribution appears to be a major characteristic of the WfH schemes.

The annual total economic cost of the WfH scheme nationally is estimated to range between £14.3 and £22.7 million. This includes the central costs borne by NE as well as the recurring economic costs of all local WfH schemes in England.

Looking at the detailed costs, we find annual costs per organised walk range from £231 to £368. The costs per hour walked range from £14.4 to £22.8 per year. Finally, the costs per participant range from £17.2 to £27.3 per year. From a local programme perspective, unit cost might be best expressed in terms of number of organised walks, which are most closely related to the costs of a scheme. Conversely, costs per participant appear to be more relevant to any future health benefit estimates, which most conveniently would also be expressed in per walker units.

Based on the analyses undertaken in this study, it is not possible to draw conclusions about whether the schemes, either individually or as a group, use their resources efficiently. Such a judgement would require taking into account relevant outcome indicators of the schemes, most notably their health and possibly other benefits. While a benefit assessment does not form part of this report, it is worth mentioning the range of benefits that the WfH scheme representatives reported. These included not only improvements in physical and mental health, but also ‘social’ benefits of friendship, company and community cohesion. In fact, the WfH schemes give people the opportunity to interact within the community and break the isolation that some people find themselves living in. In principle, any future ‘value for money’ calculations should factor in these less tangible benefits to avoid understating the true returns on investments. However, doing so presents a challenge since standard cost-effectiveness evaluations cannot easily factor in non-health benefits. This is a feature that may be common to many similar public health interventions, and how to take into account non-health data is an important area for future research.

The wide range of costs is partially explained by the challenges encountered during the costing of the schemes. The biggest difficulty was the limited availability of data from individual schemes. Another important limitation was the fact that in order to estimate costs at the national level we had to make extrapolations based on a very small sample of schemes (a total of five out of more than 500 active schemes).

The report also presents a modest sensitivity analysis. This shows that changes in the assumptions about the price of volunteers and about the weight of small, medium and large schemes participating in the national scheme have the highest impact on cost estimates at the national level.
We would like to thank the coordinators of the five Walking for Health schemes involved in this study for taking the time to supply us with information on the costs of their schemes. We are particularly grateful for their patience in providing us with valuable insights into the individual schemes.

We would further like to thank Dave Stone and Tim Fitches of Natural England for their continuous support and interest in discussing the ideas and concepts that led to this report.

We are also grateful to Dr Emma Coombes and Professor Andy Jones of the University of East Anglia for their valuable contribution of calculating the travel times and distances for participants in each of the schemes.

The views expressed in this report are those of the authors alone and do not necessarily represent those of Natural England. The authors are fully responsible for any errors.
CHAPTER 1  Introduction

1.1  Context

Health risk behaviours, including alcohol misuse, smoking, poor diet and physical inactivity, are recognised as major factors in the rising chronic disease burden in Organisation for Economic Co-operation and Development (OECD) countries. In the UK, the main contributors, accounting for an estimated 41 percent of the overall disease burden, have been identified as tobacco, high blood pressure, high cholesterol, high body mass index, and alcohol use (Health England, 2009). The 2004 Wanless Report emphasised the need to devote more attention to public health in order to address the health and economic burdens associated with health risk behaviours (Wanless, 2004). The report also highlighted and deplored the relative lack of evidence on the impact and cost-effectiveness of public health interventions, an observation also documented elsewhere (Schwappach, Boluarte & Suhrcke, 2007).

Economic evaluation of healthcare programmes and interventions has become a common feature of efforts to guide decision-making on the (public) funding of (typically) new health technologies and, more recently, wider public health interventions. However, while there is a wide body of literature discussing methodological approaches for the economic appraisal of clinical interventions, typically pharmaceuticals (Weatherly et al., 2009), there is much less guidance on the appraisal of broader public health interventions (Kelly et al., 2005). This poses challenges as there are certain aspects of economic evaluations of public health interventions that set them apart from those relating to standard healthcare, and they therefore require specific attention (Weatherly et al., 2009). For more detail on economic evaluations please refer to Appendix A.

A 2006 review of the published evidence pointed to a rapid expansion of economic evaluations in the public health sphere during the preceding decade (McDaid & Needle, 2006). However, evidence that is available has tended to focus on interventions for the prevention of communicable diseases or cancer screening programmes. Furthermore, much of the work has been undertaken in the US and is therefore not necessarily generalisable to other contexts. There are also several methodological and practical issues characterising the available evidence so far, highlighting the need to add to the evidence base on costs as well as on the effects of public health interventions, in order to inform public policy decision-making.

The present study aims to add to this literature by estimating the costs of the Walking for Health (WfH) schemes supported by Natural England (NE). WfH is the largest led walk intervention and one of the largest public health
interventions for physical activity in the UK. The main aims of the programme are to encourage people to become more physically active in their local community and to help address health problems associated with modern lifestyles characterised by lack of physical exercise. It further aims to help people develop an appreciation of their local natural environment (Box 1.1).

Box 1.1 About Walking for Health

The WfH programme was launched in 2000. It initially funded 205 schemes in areas of high health need for three years until 2005. For the 2010–11 financial year, WfH supported 523 local schemes running over 60,000 organised walks.

Individual WfH schemes are developed in local areas, led by volunteers and supported and funded through local partnerships. Schemes vary in size and ambition from a single volunteer-led walk in a small community with participants joining directly, through to city- or county-wide programmes of health walk groups. Local partner organisations may include primary care trusts, local authorities or voluntary community groups.

The programme is supported by resources and structures including free walk leader training; outreach work with hard-to-reach groups; accreditation; national resources, including a website, learning network, and publicity materials; and regional support teams (Hynds, 2011).

As part of the scheme, Natural England manages a database providing a means of evaluating WfH at the national and local level. The most relevant indicator for this study is the number of walk registers. The latter is defined as the number of organised walks or unique walk occasions. Other important data include the number of hours walked, and the number of attendants. For example, if a scheme organised one-hour walk each day for a week, with ten attendants per day, the database would show seven walk registers, seventy attendants and seventy walk hours.

SOURCE: Walking for Health (2011)

As part of the monitoring and evaluation of the WfH programme, NE and WfH partners wish to better understand the costs of WfH as a public health intervention. Specifically, they want to understand the costs involved in delivering the programme, which forms the main objective of this report. A parallel analysis undertaken by Natural England assesses the health benefits of the programme and will be reported elsewhere.

1.2 About this report

The primary aim of this report is to provide estimates of the costs of the WfH programme. While the focus is on estimating the costs of a small set of local schemes that reflect some degree of heterogeneity in their size and organisation, we seek to embed the figures into a broader picture to arrive at a national-level estimate of costs for the overall programme. Chapter 2 describes how we approached the costing of the WfH schemes. Chapter 3 reports on the core costing estimates, both for the five schemes examined specifically and – as a necessarily crude approximation – for all 523 active WfH schemes over the

1 See www.wfh.naturalengland.org.uk for further details
observation period (2010–11). We conclude with a final chapter that brings together the main points of learning from the study, outlines some of its limitations, and identifies areas for future enquiry.

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² Natural England estimates a higher number, between 650 and 700 active schemes. The discrepancies are explained by the fact that not all of them use the NE database.
CHAPTER 2  Methodological approach

The aim of our cost analysis is to provide an estimate of the monetary value of the resources used by the Walking for Health (WfH) programme. The costs taken into account are those incurred by Natural England (NE) directly, local provider organisations, and – in a separate exercise – those incurred by individual participants for their travel time and costs. We apply a bottom-up approach for costing by collecting information for individual participants and at the local provider level, complemented by information on the NE budget at the national level.

This chapter describes the general methodological approach used in the cost analysis. We first outline the conceptual framework guiding the costing approach and subsequently describe the actual approach, including scheme selection, data collection and approaches to estimating the relevant resource use and cost items.

2.1 Conceptualising the cost assessment of the WfH programme

The methodological approach used in this analysis seeks to assess the economic cost of WfH, which takes into account not only the resource use involving an actual financial transfer of funds (e.g. wages), but also resources where no financial transfer occurs (e.g. the use of donated goods and services, including volunteer time).

Figure 2-1 presents the conceptual framework guiding the economic assessment of the WfH programme. It considers all resource use during the set-up, operation and evaluation of a WfH scheme. This resource use inventory aims to capture a comprehensive list of the various factor inputs associated with the administration and delivery of walks at the programme level (national and local), and at the individual level. This resource use inventory formed the basis for data collection from the selected WfH schemes (see section 2.3.2).
Conceptually, we distinguish between fixed and variable costs. These can be further divided into labour (or personnel) and non-labour (or material) resource use. Material fixed costs consist of long-term investments, including buildings and equipment, telecommunication and information technology, as well as other consumable commodities such as marketing and advertisement material. Personnel fixed costs include administrative, organisational and maintenance staff involved in operating the programme at national or local level. Additional fixed costs might be incurred at the societal level, for example the resources employed for environmental maintenance.

Fixed costs can follow a ‘stepped’ trajectory whereby they change abruptly once a certain threshold is reached. For example, office space in the home of a volunteer might be appropriate for a scheme with ninety participants, but a more professional, larger space may be required for bigger schemes. Although these thresholds are difficult to capture in a small-scale survey such as this one, their existence should be borne in mind when programme expansion is planned.

Typical variable costs for personnel include time spent by walk leaders and by other volunteer staff. These costs vary with the number of participants or walks offered. Variable material costs include equipment for walk leaders and individual walkers as well as office supplies. While the resource use inventory in Figure 2–1 provides a conceptual framework guiding our assessment and data collection, the level of disaggregation it indicates exceeds what has been presented as part of this costing exercise.
2.2 Levels of assessment of the WfH programme

In line with the conceptual framework guiding the economic assessment of WfH, we distinguish three levels at which costs associated with the programme are incurred:

- The local programme level, which denotes the perspective of local delivery partners in the WfH schemes; associated costs may include the local WfH budget, voluntary time of walk leaders, equipment costs and funding provided by local councils and PCTs.

- The national programme level, i.e. the Natural England perspective, which includes the cost of insurance, local and national coordination staff time, cost of training walk leaders, etc.

- The individual level, i.e. the perspective of participants taking part in the WfH programme, which typically involves individual expenses to access the intervention and their time costs.

In an ideal setting, we would also seek to take into account NHS resource use changes resulting from variations in the health of participants (which would require a longer observation timeframe). Furthermore, we would look for intersectoral resource use emerging in other governmental departments (transport, social care, environment, etc.). Those resource uses can conceivably represent an additional cost or a cost saving. In practice, such an assessment has not been possible with the information available and therefore this type of resource use is excluded from the analysis. The estimates presented in this report may therefore under- or overestimate the ‘true’ economic costs of WfH schemes.

2.3 The local programme level

The main data source for resource use and cost estimation at the local programme level was a survey completed by selected WfH schemes. The following sections describe case selection, the development of the survey instrument, a description of the assumptions underlying the cost calculation, and the calculation of unit costs.

2.3.1 Scheme selection and reporting period

Since 2008 Natural England has managed the online WfH database. By 2011 it had been used by over 790 local schemes to record participation in more than 7,700 recurring walks. This equates to over 150,000 organised walks (or ‘walk registers’ as shown on Table 2-1 below), with almost 2.4 million hours walked by over 96,000 registered walkers.

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3 The Walking for Health database is a national database managed by Natural England that holds information on walkers and walks and other data provided by walk leaders such as attendance by gender and age. It was developed in conjunction with the National Institute for Health and Clinical Excellence with the objective of providing a tool for evaluating WfH at the national and local level.
Table 2–1 Walking for Health database: number of schemes, participants and walks recorded, 2008–11

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>EA</th>
<th>EM</th>
<th>LO</th>
<th>NE</th>
<th>NW</th>
<th>SE</th>
<th>SW</th>
<th>WM</th>
<th>YO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers added to the Natural England WfH database, 2008–11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk schemes</td>
<td>794</td>
<td>66</td>
<td>132</td>
<td>42</td>
<td>38</td>
<td>59</td>
<td>108</td>
<td>132</td>
<td>138</td>
<td>79</td>
</tr>
<tr>
<td>Walks</td>
<td>7,758</td>
<td>1,392</td>
<td>686</td>
<td>345</td>
<td>457</td>
<td>734</td>
<td>1,733</td>
<td>693</td>
<td>1,098</td>
<td>620</td>
</tr>
<tr>
<td>Walk registers</td>
<td>151,026</td>
<td>15,609</td>
<td>17,649</td>
<td>7,147</td>
<td>11,561</td>
<td>9,386</td>
<td>32,227</td>
<td>21,059</td>
<td>24,689</td>
<td>11,699</td>
</tr>
<tr>
<td>Walk hours</td>
<td>2,399,543</td>
<td>213,082</td>
<td>302,078</td>
<td>127,989</td>
<td>204,438</td>
<td>137,711</td>
<td>515,168</td>
<td>337,787</td>
<td>693</td>
<td>1,098</td>
</tr>
<tr>
<td>Registered walkers</td>
<td>96,296</td>
<td>10,406</td>
<td>12,540</td>
<td>4,882</td>
<td>5,625</td>
<td>8,113</td>
<td>19,152</td>
<td>12,468</td>
<td>14,132</td>
<td>8,978</td>
</tr>
</tbody>
</table>

Region key: EA = East of England; EM = East Midlands; LO = London; NE = North East; NW = North West; SE = South East; SW = South West; WM = West Midlands; YO = Yorkshire.

Unit key: Walk schemes = Total walk schemes added to the database (by region); Walks = Total walks added to the database (by region); Walk registers = Number of unique walk occasions; Walk hours = Total number of hours walked; Registered walkers = Number of walkers on the database who attended at least one walk.

We initially selected eight schemes, with two to be used for piloting our data collection instrument (see below), which was subsequently applied to the remaining six schemes for the actual cost estimation. Of these six, one was unable to provide the required data in time and had to be excluded from the analysis.

The selection was based on a long list of schemes that had expressed their interest in participating in the study to Natural England. As a result, our cost estimates may be subject to a self-selection bias since those volunteering to participate may be more likely to be successful in operating the scheme, through, for example, having a higher level of engagement of (volunteer) staff running the scheme, higher likelihood of attracting participants, and, potentially, greater health impacts. However, the direction of the bias, or in other words whether our cost estimates over- or underestimate true costs, is difficult to predict. For example, schemes with higher engagement levels might be more expensive or, conversely, more efficient in their use of resources and therefore less costly. Ultimately, the decision to select the schemes non-randomly was motivated by the expected gains in accuracy, as all schemes volunteering to participate had to express their capacity and willingness to complete their entries in the WfH database comprehensively and diligently.

Despite the small sample size, case selection sought to capture a fairly broad range of programmes, representing different levels of complexity, including scheme size, diversity of providers, and location:

- **Size of scheme:** we selected a number of schemes together with Natural England, based on the number of recurring walks and the number of walkers.
- **Type of provider:** the type of provider varies by scheme; while volunteer organisations play an important role in leading small schemes, larger schemes are usually led by local authorities and/or primary care trusts.
• Location of scheme: Natural England uses the six-category classification of location according to level of rurality provided by the Office of National Statistics (ONS, 2011), which we collapsed further into three categories:
  • major urban and large urban
  • other urban and significant rural
  • rural districts.

Using these three sets of criteria we arrived at a selection of schemes that, while representing different scheme sizes and location, inevitably also represented slightly different target groups among health walkers (see Table 2-2 and Table 2-3).

The primary sampling region was the East of England. This was chosen for pragmatic reasons, to ensure the geographical proximity of the evaluators, the University of East Anglia (Norwich) and RAND Europe (Cambridge). Of the fifty local walking schemes in the East of England, twenty-one were considered for inclusion. However, sampling criteria as set out above required us to consider additional regions; we therefore also included the East Midlands, London, Yorkshire and West Midlands.

Table 2-2 presents an overview of the two schemes were selected to pilot the costing study.

<table>
<thead>
<tr>
<th>Scheme name</th>
<th>Local authority</th>
<th>Region</th>
<th>Provider</th>
<th>Number of registered walks</th>
<th>Total attendance</th>
<th>Number of walk hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charnwood Healthy Walks</td>
<td>Charnwood</td>
<td>EM</td>
<td>Local authority</td>
<td>80</td>
<td>1,344</td>
<td>2,638</td>
</tr>
<tr>
<td>Letchworth Garden City Health Walks</td>
<td>North Hertfordshire</td>
<td>EA</td>
<td>Voluntary community group</td>
<td>69</td>
<td>659</td>
<td>659</td>
</tr>
</tbody>
</table>

Region key: EA=East of England, EM=East Midlands

Table 2-3 presents an overview of the main characteristics of the other six WfH schemes chosen for the costing exercise (one of which was later excluded).
Table 2–3 Main characteristics of the six WfH schemes chosen for analysis, April 2010–March 2011

<table>
<thead>
<tr>
<th>Scheme name</th>
<th>Local authority</th>
<th>Region</th>
<th>Provider</th>
<th>Location**</th>
<th>Scheme size</th>
<th>Number of registered walks</th>
<th>Total attendance</th>
<th>Number of walk hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breckland and Brandon</td>
<td>Breckland</td>
<td>EA</td>
<td>CSP</td>
<td>Rural districts</td>
<td>Large</td>
<td>557</td>
<td>9,383</td>
<td>11,508</td>
</tr>
<tr>
<td>Heart and Sole</td>
<td>Chelmsford</td>
<td>EA</td>
<td>Local authority</td>
<td>Other urban and significant rural</td>
<td>Large</td>
<td>367</td>
<td>4,283</td>
<td>2,224</td>
</tr>
<tr>
<td>Stepping Out in Suffolk*</td>
<td>Suffolk Coastal</td>
<td>EA</td>
<td>Local authority</td>
<td>Rural districts</td>
<td>Large</td>
<td>371</td>
<td>4,842</td>
<td>4,970</td>
</tr>
<tr>
<td>Horsforth Healthy Walking Group</td>
<td>Leeds</td>
<td>YO</td>
<td>Voluntary community group</td>
<td>Major urban and large urban</td>
<td>Small</td>
<td>62</td>
<td>1,964</td>
<td>3,425</td>
</tr>
<tr>
<td>Havering Walking for Health Initiative</td>
<td>Havering</td>
<td>LO</td>
<td>Local authority</td>
<td>Major urban and large urban</td>
<td>Medium</td>
<td>280</td>
<td>8,891</td>
<td>12,852</td>
</tr>
<tr>
<td>Mayfair Walking for Health</td>
<td>South Shropshire</td>
<td>WM</td>
<td>Community centre, PCT, local authority</td>
<td>Rural districts</td>
<td>Medium</td>
<td>322</td>
<td>2,633</td>
<td>3,476</td>
</tr>
</tbody>
</table>

Region key: EA=East of England, YO = Yorkshire, LO = London, WM = West Midlands
* Stepping Out in Suffolk includes the following schemes: Babergh, Breckland, Coastal, East Cambs, Forest Heath, Ipswich, Mid Suffolk, Bury St Eds
** For more detail please refer to ONS (2011)

2.3.2 Development of the survey instrument

Data on resource use by each local WfH scheme was collected using a questionnaire. While we assumed that some of the relevant information might be readily accessible from finance and accounting records of the local WfH schemes, we expected other resource items to be more difficult to capture, such as volunteer time and, in particular, donated resources (such as office space used at home, or utilisation of a private car). The latter type of resource use does not involve an immediate transfer of money and therefore the questionnaire explicitly asked about these items.

The structure of the questionnaire followed that of the resource use inventory (see Appendix B for a copy of the questionnaire). In order to assess the time spent by the voluntary or employed personnel on specific tasks, we distinguished the following activities:

- Administration
- Marketing and promotion
- Insurance
- Website maintenance
- Evaluation and monitoring

4 This scheme had to be excluded from the analysis, as the data could not be provided within the timeframe of the study
The survey instrument comprised two components: a questionnaire to elicit resource use and a detailed guide for completion. The questionnaire was initially prepared and made available in the form of an MS-Excel data file that was subsequently converted to an MS-Word document for some schemes who felt more comfortable using MS-Word. We collected information on labour and non-labour resource use by activity, as listed above. Labour resource use included paid and unpaid labour, information on hours worked and salaries (where applicable). In the (frequent) event that respondents could not provide precise figures, which was the case for donated goods and services in particular, we asked for estimates to be provided.

We also collected information on the general set-up costs of the scheme, as well as on the perceived benefits of the programme. Respondents were invited to provide information covering the past twelve-month period for which information was available. The overall aim was to explore set-up costs retrospectively and assess whether there were notable changes in the cost structure from the set-up stage to the present day.

The questionnaire was piloted in February to March 2011. The two pilot sites (Table 2-2) were sent the survey instrument by email, and were offered assistance in completing the questionnaire, by email or by telephone (although neither made use of this offer). Both pilot schemes expressed considerable concern about the complexity of the questionnaire, and felt uncomfortable using MS-Excel.

Using this information we revised and simplified the questionnaire, at the potential expense of some loss of detailed information, and reformatted the template for data collection. We also amended the guide for completion to further clarify the requested items. Finally, we converted the questionnaire into MS-Word to minimise any technical difficulties the schemes might encounter. We also repeatedly offered assistance by phone and in person. This offer was taken up by three schemes.

2.3.3 Estimation of opportunity cost

Although the questionnaire sought to collect information on personnel (or labour) and material (or non-labour) resource use associated with the set-up stage and the operating phase of their programmes, this information was not available for all schemes. As gaps emerged, we had to make assumptions related to:

- Set-up costs
- Estimation of volunteers’ time costs
- Estimation of office equipment and office space costs.
Set-up costs
Schemes were invited to estimate set-up costs by asking:

If possible, it would be really helpful if you could provide us with a brief description (quantitative/qualitative) of the time and costs involved in the set-up stage of your scheme. For the purposes of this, please regard the set-up stage to be the time from which you (i.e. the scheme coordinator) began conducting activities related to the establishment of the scheme to the time the scheme provided its first organised walk. It would be particularly useful if you can provide information on the time spent (per month) that it took you and other individuals involved in this enterprise and whether you were reimbursed partially (e.g. what percentage of time was reimbursed) or fully for spending this time. [Question 2.1 Set-up resource use and cost]

However, none of the schemes was able to document resource use and costs incurred during the set-up stage. This is mainly because schemes did not keep a record of the costs disaggregated by type of activity. Furthermore, in some cases those involved in the set-up of the schemes had left the organisation, leaving little or no ‘institutional memory’ of the details of the setting-up phase. We therefore describe the set-up costs (both labour and non-labour) by size of scheme and based on a number of interviews with scheme coordinators and with staff from Natural England involved in supporting WfH.

Time costs of volunteers
Based on the data obtained from the participating schemes, volunteers represented a wide age range (stretching from students to pensioners), with very different professional backgrounds, and from both genders. In light of this diverse volunteer profile, we applied the same average wage rate to all volunteers and estimated the opportunity costs without making distinctions based on occupation or experience. Similarly, we made no distinction by gender or age. As a reference source we used the 2010 median gross hourly earnings, excluding overtime, for the UK labour force, derived from the Annual Survey of Hours and Earnings (ONS, 2010). The median gross hourly earnings were multiplied by the time volunteers spent on the above mentioned activities, e.g. administration, marketing, and led walks (see section 2.3.2). In the sensitivity analysis, costs were also calculated based on the hourly minimum wage.

Our survey collected data in a variety of units to document the time spent per activity (weekly, monthly, quarterly, or annually). We subsequently converted these into a common unit, which we defined as the financial year commencing on 1 April 2010 and ending on 31 March 2011. To do this, we applied the rates shown in Table 2-4, which we computed by using the average annual working time in 2009 of 1,645.6 hours or 205.7 days (OECD, 2010).

5 Although on average there was a gender gap pay difference in 2008 of 21 percent in the UK (ONS, 2010)
Table 2-4 Conversion of working time of volunteers

<table>
<thead>
<tr>
<th>Description</th>
<th>Annual working days in a year</th>
<th>Annual working weeks in a year</th>
<th>Annual working months in a year</th>
<th>Annual working quarters in a year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual working days in a year</td>
<td>205.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual working weeks in a year</td>
<td>205.7/5 days a week = 41.14 weeks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual working months in a year</td>
<td>41.4/(365/12/7)= 9.47 months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual working quarters in a year</td>
<td>4 quarters (no conversion made)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Office equipment costs

In some cases the schemes were, for a number of reasons, not able to provide costs for certain items used in their local WfH programme. Sometimes this was because items were donated to the schemes; in other instances, the cost documentation was simply missing or unavailable during the time the questionnaire was circulated. The main gaps emerged in relation to costs for office equipment and costs for office space.

Table 2-5 below shows our estimates for office equipment costs and depreciation. Office equipment prices were estimated on the basis of quotes from commercial suppliers’ websites (e.g. PC World, Staples, BT). To estimate the depreciation of office equipment, we used the assumptions of HM Revenue & Customs (2011), which imply a linear depreciation over an asset’s estimated useful life (i.e. the total value of the asset divided by the number of useful life years).

Table 2-5 Estimation of office equipment cost and depreciation

<table>
<thead>
<tr>
<th>Office equipment</th>
<th>Description</th>
<th>Market price (£)</th>
<th>Useful life (years)</th>
<th>Yearly depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laptop</td>
<td>HP Pavillion: memory 5GB, Hard Drive 500GB, Intel Core Processor</td>
<td>579.00</td>
<td>5</td>
<td>115.80</td>
</tr>
<tr>
<td>Printer</td>
<td>EPSON Stylus Office BX305F All-in-One Inkjet Printer</td>
<td>44.97</td>
<td>5</td>
<td>8.99</td>
</tr>
<tr>
<td>Office chair</td>
<td>Staples Sinatra Mesh Operator Chair</td>
<td>58.32</td>
<td>7</td>
<td>8.33</td>
</tr>
<tr>
<td>Office desk</td>
<td>First Straight Desk 1400mm</td>
<td>160.00</td>
<td>15</td>
<td>10.66</td>
</tr>
</tbody>
</table>

Office space appears to be another frequently donated item to WfH programmes. For the estimation of the cost of office space we drew on governmental sources on the cost of the government estate, which in 2010 also covered the costs of civil estate. Civil estate is defined as the workspace, offices and other property used to deliver department activities that are owned, leased
or occupied by a government body including non-ministerial departments, agencies, and executive non-departmental bodies. The estate includes services, such as the costs of occupancy, the sum of rent, rates and other charges including service charge, repair and maintenance, security, cleaning and utilities (HM Government, 2011).

Based on these figures, we used the average cost included in the State of the Estate report (HM Government, 2011), which for 2010 was £383 per square metre. This cost is based on an average calculated for sixty-seven buildings owned by the Communities and Local Government department. To estimate the cost per full-time equivalent (FTE) it was further necessary to estimate the space required per FTE. We used the measure of overall space efficiency included in the State of the Estate report: 12 square metres per FTE. Costs of office space per FTE were therefore estimated by multiplying the costs per square metre (£383) with the square metres attributed by one FTE.

2.4 The national programme level

The costs at the national programme level are the sum of the costs born centrally, in this case by Natural England (NE), plus the local programme costs scaled up to the national level.

For the central costs borne by NE, we used the financial costs reported by NE for the WfH programme for 2010–11. To scale up the local programme costs to the national level, we multiplied the costs of a small, medium and large scheme by the proportion of these types of schemes at the national level. The ranges for a small, medium and large scheme were set arbitrarily by the research team:

- Small scheme: fewer than 100 organised walks
- Medium scheme: between 100 and 350 organised walks
- Large scheme: over 350 organised walks

The distribution of WfH schemes by size was 66 percent, 25 percent and 9 percent for small, medium and large schemes respectively. This distribution affects the calculations of the total costs of the WfH scheme, and the sensitivity analysis carried out as part of this study examines the cost impact of alternative definitions of the size of schemes.

2.5 Illustrating resource use at the individual level: travel time and costs

The resource use incurred by participants includes time costs and expenses arising from participation, in particular those relating to travelling to/from the walks. The information available for each scheme does not allow for a detailed assessment of the full costs incurred by each walker. Doing so would require the collection of new data, which was considered beyond the scope and resources of our study. Hence, we limited this exercise by focusing on the estimation of

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6 This does not include NHS estate, public corporations, etc., and also excludes local authorities. Figures used here can therefore only be seen as a very crude estimation.

7 Also denominated walk registers or alternatively described in the WfH database as unique walk occasions.
travel costs only – composed of the time costs of travel (capturing the opportunity cost of travel time) and the financial costs of travel (here assumed to be entirely accounted for by the costs of using the car for the travel) to and from the walk. We also limit the exercise by showing the estimated costs for just one scheme (Havering). This calculation should therefore be seen only as an illustration of these costs. Most existing studies do not factor in participant costs, especially if they focus on a healthcare perspective.

The first step was the calculation of the estimated distance and time (based on car travel times) that each walker participating in the WfH scheme would need to travel to reach each walk within their region. This estimation is based on participants’ residential postcodes, which were provided via the WfH database. The distance calculations were undertaken for each of the five schemes using the Geographical Information System package ArcGIS v9.3 produced by ESRI. (The maps illustrating the location of each registered walker and each walk for each scheme are given in Appendix C.)

For this purpose, the home location of each walker and the location of every walk were identified using the Ordnance Survey Code Point product, which is a dataset that provides a point location for every postcode in the UK. Next, a digital representation of the road network was constructed using Ordnance Survey Meridian data. This contained information on the location of every road within the UK and included details of road class, for example whether the road was a motorway, A-road, B-road or minor road. Each section of the road network was coded according to the estimated amount of time a car travelling at a typical speed would take to traverse it, based on the class of the road and also the type of area (urban or rural) it passed through. Finally, network routing algorithms were used in the GIS to identify the most direct (shortest) route along the road network from each walker to every walk in their region, and to calculate the total distance and travel time for that route.

A limitation of the data was the lack of information on individual-level participation in a given walk. Figures available were at aggregate level only, i.e. the number of walkers in each walk during the year, and the locations of all registered walkers in that year. We therefore had to base our calculations on a series of assumptions about individuals taking part in each of the walks. These were as follows: (1) The same set of walkers attended all walks for a given walk location (though the set of walkers was allowed to differ across walk locations). (2) The walkers were assumed to be those that had the least distance to travel to the given walk location. The latter is a big assumption, and may mean we have understated true costs, but there was no better information about the geographical locations of those who attended walks.

Following Jones et al. (2010), the travel time T (in minutes) of each walker was then multiplied by one-third of the hourly wage rate W (£) – here assumed to be the minimum wage of £5.93 – to calculate travel cost. Travel expenditure from outset location was calculated as the product of travel time and an assumed average speed of 40 mph (or 0.67 miles per minute) at average costs per mile. The average costs of driving a car were taken from the Automobile Association’s website (www.theaa.com). The running costs include the costs for fuel, tyres, service and labour costs, replacement parts, and parking and tolls. In 2010, those costs ranged from 21.85 to 33.29 pence per mile; we took the average cost figure of 27.57 pence per mile. Summing the travel time value and travel expenditure resulted in the travel cost per walk scheme. Table 2-6
presents the outcome of this exercise for the Havering WfH scheme. It turns out that the biggest share of the travel costs is accounted for by the costs of car use – a result that is critically dependant on the value assigned to travel time (here, a third of the minimum wage).

It is important to note that the travel costs measured in this illustrative example do not capture the true willingness to pay (and hence the consumer surplus) by walkers to pay for their trips to and from the walks. Such values would be higher than our cost estimates, and hence our values likely underestimate the true value of attending the walks.

Table 2–6 Travel costs for the Havering WfH scheme

<table>
<thead>
<tr>
<th>Type of costs</th>
<th>Costs (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Total travel time costs</td>
<td>4,672</td>
</tr>
<tr>
<td>(2) Costs of car use</td>
<td>26,471</td>
</tr>
<tr>
<td>(3) Total travel costs = (1)+(2)</td>
<td>31,143</td>
</tr>
<tr>
<td>(4) Costs per registered walk (organised walk)</td>
<td>111.2</td>
</tr>
<tr>
<td>(5) Costs per attendee</td>
<td>3.50</td>
</tr>
<tr>
<td>(6) Costs per hour walked</td>
<td>2.42</td>
</tr>
</tbody>
</table>

Note: Travel time costs include just the value of the time spent. Costs of car use include running costs of using the car for the estimated trip length.
This chapter presents and discusses the results of the costs estimated for five selected Walking for Health (WfH) schemes as well as, on the basis of the costs for these schemes, the total costs of WfH at the national level, including the central costs of administering the scheme by Natural England (NE).

We begin by describing the total costs by local WfH scheme, outlining first some of the caveats inherent in our estimations. We then present a description of the set-up costs, followed by a description of the recurring costs for specific small, medium and large WfH schemes. Recurring costs are broken down into: fixed vs variable costs, financial vs non-financial costs, and by type of costing activity, i.e. labour or non-labour related. In Section 3.2, we calculate the total recurring costs at the national programme level. Section 3.3 describes costs in previous years and Section 3.4 contains a modest sensitivity analysis, showing how costs change when assumptions about the cost of volunteers, the cost of office space and the weight of small, medium and large schemes at the national level are modified.

Before describing the findings, it should be reiterated that we present estimates only, with potentially important limitations that are detailed further below. It is also important to note that schemes varied, with multiple variables affecting the costs of operating a given scheme, such as the size and the nature of the local area (urban vs rural), the length of the walk routes (in hours), the total number of participants (or walkers) in a given walk, and the characteristics and health status of the target population. Thus, generalisability of cost and cost structures for any single scheme to other schemes remains limited.

3.1 Total costs by local WfH scheme

In this section we detail the costs at the local programme level of a small, medium and large scheme based on the inputs received from the five WfH schemes taking part in this study. Before turning to the results, we identify a number of important caveats:

- The costs and resource use provided by the schemes were based on ‘estimates’ by programme operators rather than on existing financial accounts. There were no data on labour costs broken down by type of activity, as such figures could only be captured if organisations were doing activity-based reporting. The sharing of other types of cost information such as office space and office equipment costs was considered to be sensitive.
The costs (resource use) provided by the schemes were incomplete in that they only provided information on a sub-set of the cost components requested. There were particularly large gaps in the data for non-labour resources.

Where information was lacking, assumptions had to be made to fill gaps. These related to estimating the economic cost of ‘in kind’ resources (such as the time of volunteers). We also had to make assumptions about certain non-labour-related costs and, in some cases, about the minimum costs of equipment not reported by sites. Assumptions were informed by relevant literature, market prices of goods (extracted from relevant websites), and – where none of the above was applicable – based on our own judgement.

The study only had access to a small sample of schemes, which are unlikely to be nationally representative of the schemes run across England as a whole.

Multiple factors influence the effort and resources needed to coordinate a scheme. To mention just a few, the number of attendants in urban areas tends to be higher than in rural areas, and some schemes put more emphasis on targeting groups with certain health risks (e.g. cardiovascular disease, diabetes). Schemes might offer the same walking hours per week, but in very different formats (e.g. the same thirty-minute walk six days a week or three different one-hour walks per week.

As a result of the variety of formats, walking options and objectives of each scheme, it is fair to say that schemes could potentially be classified in multiple ways (e.g. by number of hours walked, by number of organised walks, etc.), all equally valid. We chose organised walks (i.e. the number of walk registers per year) as the most appropriate unit to categorise WfH costs. Time spent administering a scheme and leading the walks tends to increase directly with the number of organised walks (or unique walk occasions), and hence we believe this is the unit that is most directly related to the costs of a scheme. On this basis, the schemes were classified as follows:

- Small scheme: fewer than 100 organised walks (or walk registers)
- Medium: between 100 and 350 organised walks
- Large: over 350 organised walks.

### 3.1.1 Set-up costs

Set-up costs are generally one-off costs, and include both labour (e.g. administration, marketing and promotion) and non-labour resources (e.g. initial supplies of goods such as office equipment and stationery and initial advertising and promotional costs). In theory, set-up costs include all costs incurred in the period up to the point at which a scheme starts to operate. In practice, collecting set-up cost data involved certain challenges. Firstly,
schemes interpreted set-up costs differently and there was no clear-cut distinction from recurring (or operating) costs. This is not entirely surprising as the division between the set-up and post-set-up phases (and the associated costs) are rarely unambiguous. Secondly, and most importantly, the schemes appeared to have rarely recorded data on set-up costs. Due to this lack of data, we provide qualitative descriptions of the set-up costs rather than actual total costs.

Table 3-1 and Table 3-2 provide a description of the set-up-related resource use for the three sizes of schemes, arranged by type of activity. This is to give an indication of what type of resources would be required for the development of potential future schemes.

Inevitably, collapsing the considerable variation between schemes into just three categories is a gross simplification, as set-up costs depend on a number of variables that may differ widely by scheme (such as the number of walking routes, the number of recruited walk leaders, etc.), and there may not be perfect correlation between each of these indicators.
Table 3-1 Labour resource use during set-up phase

<table>
<thead>
<tr>
<th>Event</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Starting the idea</strong></td>
<td>Costs are negligible. Typically involves a meeting between a person at NE and the person wanting to set-up the volunteer scheme.</td>
<td>Research in terms of the objectives and the target groups has already been done by the funder (e.g. PCT). Set up a steering group and invite different organisations and individuals such as Age Concern, MIND, practice nurses, or anybody who can provide advice and who has access to the community. For a large scheme, the labour resources would typically be around 4 hours per week until the first walk has been set up.</td>
<td></td>
</tr>
<tr>
<td><strong>Recruiting volunteers</strong></td>
<td>For small schemes, the first volunteers are recruited through the coordinator’s network.</td>
<td>Walk leaders are frequently recruited through the walks – many of the people that started as walkers become volunteers after a short period of time. Especially in large schemes, the coordinator ideally needs to provide volunteers with six weeks support (meeting, going together on the walk, etc.) before they become walk leaders.</td>
<td></td>
</tr>
<tr>
<td><strong>Marketing and promotion</strong></td>
<td>The labour efforts for marketing and promotion vary greatly. The resource use and costs depend on a number of factors such as size of the community, what established networks exist already in the community, etc.</td>
<td>Constantly attend meetings and events and be part of a network of meetings and presentations related to physical activity and health. A medium scheme would typically spend between 5 and 6 hours per week on marketing and promotion until the first walk has been set up.</td>
<td></td>
</tr>
<tr>
<td><strong>Route planning and risk assessment</strong></td>
<td>Coordinators are typically already familiar with the local area and hence need to do little research into route planning. Risk assessment consists of walking the route, and then completing the associated risk assessment paperwork. On average it is estimated that the risk assessment takes approximately half a day for a 1-hour route.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organise/attend training courses for walk leaders</strong></td>
<td>1 day preparing the course, collating application forms and booking a venue, plus 1 day providing the training course. Attending the training requires approximately 1 day (including travel to the venue). Total labour costs depend on the number of attendees, which may vary from 6 people (for a small scheme) to a maximum of 20 people for a large scheme.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Funding</strong></td>
<td>Some schemes may apply for small pockets of funding. The labour costs to apply for funding are variable and depend on the type of funding being applied for.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3-2 Non-labour resource during set-up phase

<table>
<thead>
<tr>
<th>Facilities (incl. rent and utilities)</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordinators of voluntary led schemes use their own home. The cost of renting a room in their house depends on the location. Occasionally voluntary schemes need to hire a venue for particular occasions (such as training or meetings).</td>
<td>The majority of non-voluntary led schemes use the office space of one of their partnership organisations. Typically these offices are rented or owned by a PCT or by the relevant local authority. The use of the office space (including utilities, maintenance, etc.) is provided in kind. The cost of the office space will depend on several variables: a) the unit cost of office space per full time equivalent (FTE) and b) the number of FTEs using the office space.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Office equipment (e.g. telephones, computers, fax machines, desks, chairs) | The cost of office equipment depends on the market price and on the total number of units. The minimum equipment needed to run a scheme effectively is a desk and a chair, a computer, a printer (which could be shared across a number of people), and a telephone (one per person). For the great majority of schemes, office equipment is provided in kind as part of the use of office space. |

| Supplies and materials | The costs of office supplies and materials are variable and tend to typically include paper, pens and pencils and print cartridges. Overall, these costs tend to be small and are provided in kind as part of the use of office space. |

| Walking equipment (e.g. walkie talkies, poles, uniforms, badges) | One high-visibility jacket per walk leader and a first aid kit is regarded as the only 'required equipment'. Alternative (but optional) equipment includes walkie talkies, blankets, rucksacks, etc. Walking equipment is typically provided by NE (especially for smaller schemes). However, schemes are often able to purchase walking equipment by applying for other funding. For example, the initial walking equipment costs for a medium scheme could typically include 10 units of a package worth £287 that includes rucksacks, first aid kits, high-visibility jackets, and blankets (i.e. £2,870). |

| Transportation | Variable. It typically includes mileage for distributing posters (which depends on size of local area), mileage to training venue, etc. Mileage is typically paid at £0.40–£0.45 per mile. |

| Educational materials | No costs to the schemes. These tend to be provided either by a PCT or centrally through Natural England (NE). |

| Marketing and promotion resources (incl. production, air time, and space) | Costs are small, as marketing and promotion is mostly done by word of mouth. Alternatively, a scheme may freely download poster templates and promotional leaflets from the NE website. There is also a free promotional DVD provided by NE. Costs of marketing and promotion are variable and depend on the marketing strategy chosen by the coordinator. The coordinator may choose to focus on the use of the free material available through the NE website. Alternatively, schemes typically produce A6 leaflets and A3 posters containing information about the walks, WfH banners, welcome back packages, or they may buy space in local newspapers, in 50+ magazines, etc. |

| Insurance (incl. services) | No costs to the schemes. Insurance tends to be provided centrally through Natural England (NE). |
3.1.2 Recurring costs

Recurring costs consist of the regular day-to-day costs schemes incur in running their ‘business’. These typically include the cost of staffing, but also non-labour-related costs such as rent, utilities and insurance fees.

In this section, we summarise the costs for a generic small, medium and large scheme. We provide different levels of disaggregation of these costs. Firstly we present ranges of costs for fixed and variable costs; then we illustrate the non-financial costs vs financial costs; finally, we report on costs by type of activity for both labour and non-labour resources.

Overall, our calculations show that (economic) recurring costs vary greatly between schemes, from as low as £15,000 per year for a small voluntary scheme to a maximum of almost £60,000 for a large scheme with over 370 walk registers and three part-time coordinators. On a per unit basis, costs range substantially from as low as £83 per organised walk to £425 per organised walk. However, if unit costs are measured against the number of hours walked, costs range from £3 to £14 per hour walked.

Fixed vs variable costs

A first relevant distinction is between fixed and variable costs. Fixed costs are those costs incurred (in principle) regardless of the number of outputs produced, whether outputs in our study are measured in terms of walk registers, or other output variables such as walk hours.

Overall, based on the results shown in Table 3-3, it is difficult to identify any pattern emerging for fixed and variable costs by size of scheme. What we can say, however, is that for non-voluntary based schemes fixed costs (in the main covering a paid coordinator, plus the use of office space – rent and utilities – and basic office equipment) appear to represent around 50 percent of total costs. Variable costs largely consist of the cost of volunteers, and, to a lesser extent, the costs of training.

Labour costs

Fixed labour costs varied from slightly over £2,000 per year for a small scheme to almost £22,000 for a large one, whereas variable labour costs varied from almost £8,000 to almost £29,000 (see Table 3-3).

We have assumed that fixed labour costs include administration, evaluation, accreditation, and marketing and promotion, all of which tend to be performed by the coordinators of a scheme. For non-voluntary schemes, coordinators work for a fixed number of paid hours per week.

Training is sometimes provided by the coordinator, but most commonly volunteers tend to cascade training to other volunteers. At the same time, walks are generally led by volunteers, although occasionally coordinators also take on the role of walk leaders. The number of hours spent leading a walk depends on many factors, including the number of routes walked per week, the length (in hours) of each walk, and the number of walk leaders participating in a given walk.9

9 Volunteers tend to lead walks based on a rota prepared and managed by the coordinator on a regular basis.
Non-labour costs

Fixed non-labour costs include both office space and office equipment costs. These costs differ considerably across the WfH programme and even within same-sized schemes (see Table 3-3). These differences derive from variations in terms of resource units (e.g. square metres of office space per FTE) and market prices (e.g. price per square metre). However, part of this variation may also be explained by how these costs have been estimated: only two schemes provided data for office space and office equipment, whereas the fixed costs for the other three schemes were estimated based on assumptions taken by the project team (for more details on the assumptions see previous chapter).

The non-labour variable costs are relatively small compared to other types of costs. The main items included are supplies and materials, walking equipment, transportation and other resources such as ‘thank you lunches’.

Table 3-3 Fixed vs variable costs

<table>
<thead>
<tr>
<th></th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Lower)</td>
<td>(Upper)</td>
<td>(Lower)</td>
</tr>
<tr>
<td>LABOUR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed labour costs</td>
<td>£2,184</td>
<td>£2,184</td>
<td>£15,670</td>
</tr>
<tr>
<td>Variable labour costs</td>
<td>£7,982</td>
<td>£19,786</td>
<td>£9,492</td>
</tr>
<tr>
<td>Subtotal Labour</td>
<td>£10,167</td>
<td>£21,970</td>
<td>£25,162</td>
</tr>
<tr>
<td>NON-LABOUR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed non-labour costs</td>
<td>£3,112</td>
<td>£3,112</td>
<td>£2,089</td>
</tr>
<tr>
<td>Variable non-labour costs</td>
<td>£1,270</td>
<td>£1,270</td>
<td>£3,715</td>
</tr>
<tr>
<td>Subtotal Non-labour</td>
<td>£4,382</td>
<td>£4,382</td>
<td>£5,084</td>
</tr>
<tr>
<td>Total fixed costs</td>
<td>£5,296</td>
<td>£5,296</td>
<td>£17,759</td>
</tr>
<tr>
<td>Total variable costs</td>
<td>£9,252</td>
<td>£21,056</td>
<td>£13,207</td>
</tr>
<tr>
<td>TOTAL WALKING FOR HEALTH SCHEME</td>
<td>£14,549</td>
<td>£26,353</td>
<td>£30,966</td>
</tr>
<tr>
<td>% in kind of fixed costs</td>
<td>36%</td>
<td>20%</td>
<td>57%</td>
</tr>
</tbody>
</table>

Source: own calculations; figures are rounded to the nearest pound

Financial vs non-financial costs

This section disaggregates the costs into financial costs (i.e. those which have involved an actual transfer of money) and non-financial costs (seeking to capture the value of the goods and services that were used but that did not involve a transfer of money, such as volunteer time or donated office space). Capturing non-financial costs is important if one is to fully reflect true resource use in order to inform the establishment of new, similar schemes, where in-kind and voluntary resources may not automatically be provided.

We find non-financial costs to be sizeable. For instance, at least half of the labour hours invested in the scheme stem from volunteers who act as walk leaders or contribute otherwise.

Table 3-4 illustrates that the in-kind resources represent an important percentage of the cost in the case of all five WfH schemes examined. For voluntary schemes, the non-financial costs entirely consist of in-kind resources. For non-voluntary, funded schemes, in-kind resources also form an important economic resource, representing between 46 percent and 74 percent of the total
economic costs (financial plus non-financial). Volunteers donate considerable time and effort to the schemes and partners tend to provide in-kind office space and office equipment to match the cash equivalent provided by the partner organisation, which typically is a PCT or local council.

Table 3–4 Financial vs non–financial costs

<table>
<thead>
<tr>
<th></th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TOTAL (Lower range)</td>
<td>TOTAL (Upper range)</td>
<td>TOTAL (Lower range)</td>
</tr>
<tr>
<td>LABOUR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In kind labour costs</td>
<td>£10,167</td>
<td>£21,970</td>
<td>£12,136</td>
</tr>
<tr>
<td>Actual labour (financial costs)</td>
<td>£0</td>
<td>£0</td>
<td>£13,026</td>
</tr>
<tr>
<td>Subtotal Labour</td>
<td>£10,167</td>
<td>£21,970</td>
<td>£25,162</td>
</tr>
<tr>
<td>NON-LABOUR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In kind non-labour costs</td>
<td>£4,382</td>
<td>£4,382</td>
<td>£1,954</td>
</tr>
<tr>
<td>Actual non-labour (financial costs)</td>
<td>£0</td>
<td>£0</td>
<td>£3,850</td>
</tr>
<tr>
<td>Subtotal Non-labour</td>
<td>£4,382</td>
<td>£4,382</td>
<td>£5,804</td>
</tr>
<tr>
<td>In kind costs</td>
<td>£14,549</td>
<td>£26,353</td>
<td>£14,090</td>
</tr>
<tr>
<td>Actual (financial) costs</td>
<td>£0</td>
<td>£0</td>
<td>£16,676</td>
</tr>
<tr>
<td>TOTAL WALKING FOR HEALTH SCHEME</td>
<td>£14,549</td>
<td>£26,353</td>
<td>£30,966</td>
</tr>
<tr>
<td>% in kind of total economic cost</td>
<td>100%</td>
<td>100%</td>
<td>46%</td>
</tr>
</tbody>
</table>

Source: own calculations; figures are rounded to the nearest pound

Costs by type of activity

Labour costs
As Table 3–5 documents, labour costs represent the majority of the costs, accounting for more than two thirds of the total in all cases. Within the labour cost category, administration and led walks represent the most resource-intensive tasks. Administration, which includes administrative support to volunteers, coordination of walks, accreditation, route assessment, attendance at meetings, etc., tends to be carried out by paid coordinators, except in the case of volunteer-led schemes.

The number of hours worked by the coordinators of the WfH schemes varies greatly from approximately five hours per week for a small scheme to more than fifty hours per week for a large one. Considerable differences also exist within same sized schemes (following our definition of size based on walk registers).

The total efforts required for leading walks is also variable, as shown in Table 3–5. These efforts do not only depend on the number of walk occasions offered each month by a particular scheme, but also on the total number of participants in each walk. Most often, the walks have two walk leaders, one at the front, the other bringing up the rear. However, there might be occasions in which more walk leaders are required than just the minimum two, for instance when the group becomes very large, or when there are people with challenging health conditions or disabilities. Occasionally there may also be more than two walk leaders because they voluntarily chose to take part.
Other important labour costs relate to marketing and promotion. These costs vary greatly across schemes. They are substantially lower for voluntary led schemes, as in most cases marketing and promotion is through word of mouth, and often via the circle of acquaintances volunteers have in the community. For larger schemes, typically funded by a council or PCT, the costs of marketing and promotion are higher for many reasons. For instance, funded schemes often target people with certain health problems or harder to reach groups with the aim of helping them manage their condition.

Training includes both the training provided and that received. In the case of a small scheme, the training is usually based around informal half-hour sessions where volunteers jointly analyse any issues and discuss ways in which walks could be improved. In medium and large schemes, there is a dedicated trainer, who tends to be the coordinator of the scheme, or else one of the volunteers. The time spent by walk leaders attending training is also included in the costs of training.

Evaluation and monitoring typically only absorbs just above one hour a week, although there is important variation between schemes.

**Non-labour costs**

Schemes provided very little data on non-labour costs. In some instances, they gave a description of the non-labour resources employed as part of their scheme. If this was the case, we estimated costs based on the market price of the goods described. We also included the estimates provided by the schemes for certain cost elements, although in no circumstances were these based on their financial accounts.

The most relevant non-labour resources are office space and office equipment, which together represent up to 86 percent of the total non-labour costs.

---

### Table 3-5 Costs by type of activity for a small, medium and large scheme

<table>
<thead>
<tr>
<th></th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TOTAL (Lower range)</td>
<td>TOTAL (Upper range)</td>
<td>TOTAL (Lower range)</td>
</tr>
<tr>
<td><strong>LABOUR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>£1,856</td>
<td>£1,856</td>
<td>£7,672</td>
</tr>
<tr>
<td>Marketing &amp; promotion</td>
<td>£328</td>
<td>£328</td>
<td>£4,753</td>
</tr>
<tr>
<td>Evaluation &amp; monitoring</td>
<td>£0</td>
<td>£0</td>
<td>£3,244</td>
</tr>
<tr>
<td>Training</td>
<td>£113</td>
<td>£113</td>
<td>£2,395</td>
</tr>
<tr>
<td>Led walks</td>
<td>£7,869</td>
<td>£19,673</td>
<td>£7,097</td>
</tr>
<tr>
<td><strong>Subtotal Labour</strong></td>
<td>£10,167</td>
<td>£21,970</td>
<td>£25,162</td>
</tr>
<tr>
<td><strong>NON-LABOUR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office space</td>
<td>£1,250</td>
<td>£1,250</td>
<td>£900</td>
</tr>
<tr>
<td>Use of office equipment</td>
<td>£1,862</td>
<td>£1,862</td>
<td>£1,189</td>
</tr>
<tr>
<td>Supplies and materials</td>
<td>£70</td>
<td>£70</td>
<td>£572</td>
</tr>
<tr>
<td>Walking equipment</td>
<td>£400</td>
<td>£400</td>
<td>£0</td>
</tr>
<tr>
<td>Transportation</td>
<td>£800</td>
<td>£800</td>
<td>£1,054</td>
</tr>
<tr>
<td>Other resources</td>
<td>£0</td>
<td>£0</td>
<td>£2,089</td>
</tr>
<tr>
<td><strong>Subtotal Non-labour</strong></td>
<td>£4,382</td>
<td>£4,382</td>
<td>£5,804</td>
</tr>
<tr>
<td><strong>TOTAL WALKING FOR HEALTH SCHEME</strong></td>
<td>£14,549</td>
<td>£26,353</td>
<td>£30,966</td>
</tr>
</tbody>
</table>

Source: own calculations; figures are rounded to the nearest pound
Office space costs range from as low as £900 per year for a medium scheme to almost £6,000 for a large scheme. Office costs vary greatly from scheme to scheme, depending on assumptions about different variables that affect costs, such as the office space market price and the percentage of time using the office space per FTE (full time equivalent). In some cases, costs also vary depending on whether the total costs include the costs of office equipment, supplies and materials.

Office equipment includes the minimum equipment required to run a scheme, which has been assumed to be a desk and a chair, a computer, a telephone and a printer. These costs vary depending on the number of people in the scheme working on administrative tasks. In some cases, these costs have been assumed to be part of the office space costs.

The cost of walking equipment varies significantly from scheme to scheme. The type of equipment donated or bought differs between schemes. It might include some or all of the following equipment: high-visibility jackets, first aid kit, blankets, walkie talkies and boots. The total units of equipment for each scheme depend, among other factors, on the size of the scheme, as measured by the number of walk registers.

Additional important cost components include transportation and ‘other’. Again, relevant differences exist across schemes. For example, depending on the resources available some schemes have been able to spend resources on ‘thank you lunches’ for walk leaders, or on other marketing and promotion events, whereas others had no budget for these types of activities.

3.2 Total recurring costs at the national programme level

Following estimation of the costs per scheme we sought to estimate the costs of WfH at the national level. To do so, we had to take into account the central running costs of the entire programme borne by Natural England as well as the running costs of all the local schemes in England.

To calculate the costs of all local schemes in England, we had to extrapolate the costs of the five schemes at the national level, based on the estimated costs for a small, medium and large scheme, multiplied by the total number of schemes in each category.

The central costs of the scheme for the 2010–11 financial year, shown in Table 3-6, were just over £3 million, which is 75 percent higher than the costs for the previous financial year. The total costs of the local schemes ranged from a low estimate of £11 million to a high estimate of just under £17 million. Based on the weighted average of the different sized schemes and using an average cost for all 523 schemes, we estimate the total costs at the national programme level were over £22 million. The average cost per scheme is higher than the weighted average because smaller schemes represent a substantially higher proportion (66 percent) of the total.
Table 3–6 Total economic costs of the national Walking for Health scheme

<table>
<thead>
<tr>
<th>COSTS FOR YEAR 10/11 (in £)</th>
<th>Weighted average based on size by walk registers</th>
<th>Average costs per scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour costs of schemes at national level</td>
<td>Lower range</td>
<td>Higher range</td>
</tr>
<tr>
<td></td>
<td>£8,773,135</td>
<td>£14,991,543</td>
</tr>
<tr>
<td>Non-labour costs of schemes at national level</td>
<td>£2,434,632</td>
<td>£2,434,632</td>
</tr>
<tr>
<td>TOTAL costs of schemes at national level</td>
<td>£11,207,767</td>
<td>£15,676,436</td>
</tr>
<tr>
<td>Central costs of the WfH scheme (NE)</td>
<td>£3,084,162</td>
<td>£3,084,162</td>
</tr>
<tr>
<td>TOTAL NATIONAL COSTS OF THE WfH SCHEME</td>
<td>£14,291,929</td>
<td>£18,760,598</td>
</tr>
</tbody>
</table>

| Total (annual) walk registers | 61,775 | 61,775 | 61,775 | 61,775 |
| Total annual costs per walk register (in £) | £231 | £304 | £315 | £368 |
| Total (annual) walk hours | 998,321 | 998,321 | 998,321 | 998,321 |
| Total annual costs per hour walked (in £) | £14.3 | £18.8 | £19.5 | £22.8 |
| Total (annual) attendees | 831,410 | 831,410 | 831,410 | 831,410 |
| Total annual costs per attendee (in £) | £17.2 | £22.6 | £23.4 | £27.3 |

Source: own calculations

Table 3–6 also shows that costs per walk register ranged from as low as £231 to as high as £304, based on a weighted average of schemes by size; or from £315 to £368 per walk register if we estimate the costs based on the average costs for all schemes. Unit costs are also shown per hour walked and by participant. These unit costs could be useful in estimating the economic costs per scheme, whenever the total number of walk registers is known.

3.3 Costs in previous years

Identification of costs in previous years by some schemes was noted as not having significantly changed over time and there was in addition little expectation of future changes. These were schemes that had been in place for several years, with a good range of walks covering the local area.

For other schemes, the number of walks has grown steadily in the last few years in response to demand, and hence costs have grown. However, the growth of the schemes was also noted to be dependent on the funding available, and on the public health priorities and strategies of the funding bodies.

3.4 Sensitivity analysis

To determine the impact of specific assumptions on the total costs of the WfH scheme, we carried out a sensitivity analysis.

Table 3–7 presents the outcomes for three different scenarios:

- Scenario 1: Under this scenario, we assumed the costs of volunteers to be the national minimum wage rate of £5.93 for workers aged 21 and over, instead of the median gross hourly earnings figure of £7.97. As shown in

- Table 3–7, total costs for the lower and the higher range decreased by 11–12 percent.
• **Scenario 2:** Under this scenario, we assumed a 20 percent decrease in office space costs. In fact, the estimated office space costs may be slightly higher than the actual costs. Our estimations were based on the State of the Estate report (HM Government, 2011), which calculates the average costs based on the 67 buildings of the Communities and Local Government department spread throughout England. However, these buildings tend to be located in larger towns with higher property costs than those of most local council offices hosting the WFH schemes. However, as shown in Table 3-7, the impact on total costs was relatively small: total costs and the unit cost fell only by around 1 percent for the lower and higher range scenarios.

• **Scenario 3:** This scenario assumes a change in the distribution at the national level of the weight of small, medium and large schemes. More specifically, we assumed a distribution of 40 percent, 40 percent and 20 percent for small, medium and large schemes respectively (instead of a 66 percent, 25 percent and 9 percent distribution). Changing the assumptions of the distribution of weight by size of scheme does not alter the total average costs per scheme. However, it would significantly increase the lower and higher range of the weighted average based cost. The lower range increases by 20 percent, whereas the higher range increases by 9 percent.

Table 3–7 Sensitivity analysis

<table>
<thead>
<tr>
<th></th>
<th>Weighted average based</th>
<th>Average costs per scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower range</td>
<td>Higher range</td>
</tr>
<tr>
<td>Base scenario</td>
<td>Ttl. cost (in £)</td>
<td>14,393,770</td>
</tr>
<tr>
<td></td>
<td>Unit cost (in £)</td>
<td>233</td>
</tr>
<tr>
<td>Scenario 1:</td>
<td>Ttl. cost (in £)</td>
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</tr>
<tr>
<td>Cost of volunteers</td>
<td>Unit cost (in £)</td>
<td>207</td>
</tr>
<tr>
<td>Scenario 2:</td>
<td>Ttl. cost (in £)</td>
<td>14,335,653</td>
</tr>
<tr>
<td>20% discount on office space</td>
<td>Unit cost (in £)</td>
<td>232</td>
</tr>
<tr>
<td>Scenario 3:</td>
<td>Ttl. cost (in £)</td>
<td>17,321,688</td>
</tr>
<tr>
<td>Weighted average on distribution by size</td>
<td>Unit cost (in £)</td>
<td>280</td>
</tr>
</tbody>
</table>

Source: own calculations; unit cost is based on number of walk registers (unique walk occasions) per year
The primary objective of this report was to estimate the annual costs of a small set of WfH schemes and the WfH programme at a national level. The analyses presented here had to rely on a range of assumptions, mainly because data to inform more accurate estimates were often lacking and difficult to estimate. Despite the limitations in the present exercise few if any economic evaluations of public health interventions have taken similarly great care in assessing the costs of the intervention.

In estimating the economic costs of WfH we have focused on the recurring costs since the set-up costs are small by comparison and tangible quantitative information about them was difficult to obtain.

As regards the recurring economic costs, there are at least four main conclusions that can be drawn:

(1) The total recurring (economic) costs for a scheme ranged from just below £15,000 to up to almost £60,000. There was a difference in costs between what we characterised as a small- and medium-sized scheme, but there was much less of a difference between a medium- and large-sized scheme. This suggests that there are economies of scale in running WfH schemes, or that the schemes we had selected differed in critical factors other than size which also affected costs.

(2) Labour costs represent around two thirds of total costs, and of those, at least one half derives from the time spent by volunteers on leading walks, training or carrying out administrative tasks. For an organisation wishing to replicate such schemes it is important to know that an initiative such as the WfH has the potential to attract a considerable level of volunteer engagement (and hence lower financial costs). Furthermore, the presence of a large share of voluntary contributions has an important impact on the total economic costs, as the latter includes in the case of labour costs both financial transactions (i.e. paid wages) as well as the opportunity costs of recruiting volunteers.

(3) We have estimated the costs of the national WfH scheme (including the central costs borne by NE) to range between £14.3 and £22.7 million.

(4) We have provided different estimates for the unit costs: by walk register (costs ranged from £231 to £368), by walk hour (costs ranged from £14.4 to £22.8) and by attendee (costs ranged from £17.2 to £27.3). We believe that the unit cost by walk register is the best reflection of costs.
While these cost figures appear small, in the absence of evidence for associated health benefits it is not possible to draw conclusions about whether they represent good ‘value for money’. Having estimated the costs of the WfH schemes, the next step towards a full economic evaluation would be the assessment of benefits. While this objective was outside the scope of our study, we did use the opportunity to ask the schemes about the type of benefits that they would subjectively see in the schemes, having run them for a period of time. Two main types of benefits were raised:

(1) Improvements in physical and mental health:
   - Greater strength, mobility and flexibility – particularly important to the older age group who are at greater risk of falls.
   - Management of health conditions and rehabilitation – very useful for people with high blood pressure, heart problems or diabetes, for example.
   - Improved mental well-being through socialising and being involved in an organised activity.

(2) Friendship, company and community cohesion: the WfH scheme gives people the opportunity to interact within the community and break the isolation that some people find themselves living in.

It is interesting to note that there may be benefits over and above potential health improvements. In principle, any future ‘value for money’ calculations ought to factor in these less tangible benefits to avoid understating the true returns on investments. However, doing so presents a challenge since standard cost-effectiveness calculations cannot easily factor in non-health benefits. This is a feature that may be common to many similar public health interventions, and how to take into account non-health data is an important area for future research.

As emphasised throughout the report, our costing exercise posed a number of challenges, most notably the far from complete data received from the schemes. It would have been desirable to obtain access to information from financial accounts, in addition to estimates from our responsible contacts in the schemes. Another important limitation has been the fact that we had to extrapolate national costs based on a very small sample of schemes (a total of five out of 523).

To show the validity of the costs we carried out a modest sensitivity analysis. We showed that the parameters that most affect the total costs of the national scheme were the assumptions regarding the price of volunteers and the weight by size of scheme (i.e. the percentage of schemes classified as small, medium and large).
REFERENCES
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http://www.wfh.naturalengland.org.uk/about-us/wfh


Appendix A: Economic evaluation

Economic evaluation in health and healthcare

Here we provide – by way of background – a brief overview of what economic evaluation is and what types of economic evaluation exist. Drummond et al. (2005) defined economic evaluation as ‘the comparative analysis of alternative courses of action in terms of both the costs and consequences’ (Drummond et al., 2005: 9).

Therefore, only those assessments that compare alternatives and examine both costs and consequences simultaneously are considered to be ‘full economic evaluations’. Three types of full economic evaluations are typically distinguished, differing primarily in the way they measure the potential benefits of the intervention rather than the costs: cost-effectiveness analysis (CEA), cost-utility analysis (CUA) and cost-benefit analysis (CBA). CEA and CUA are the most commonly used methods in healthcare economic evaluations. They express the benefits of the intervention in terms of natural units (CEA), such as life years gained, reduction in blood pressure, etc., or in a synthetic overall health measure (CUA), such as quality adjusted life years (QALYs), assuming that the core benefits of the intervention occur exclusively or primarily in health terms. By contrast, CBA adopts a societal perspective and seeks to place a monetary value on all (measurable) costs and benefits.

More modest forms of economic analysis, frequently not referred to as ‘economic evaluation’ as such, focus on the appraisal of costs only. Such an analysis is typically chosen when outcomes of the intervention to be assessed are either already established or are not (yet) measurable because of methodological (e.g. conceptual) or practical (e.g. availability of funding) concerns (Kelly, 2005; Vondeling 2004). Cost-of-illness studies would also fall into this category, since these describe the cost of a given disease to society or certain sectors but they do not meet the criteria of a full economic evaluation as alternatives are not compared. One other cost-only method is the cost-offset study, which compares costs incurred with (other) costs saved. It does not consider other approaches or alternative use of resources, which is typically the subject of cost minimisation analyses. The main concern here is that cost-minimisation analyses assume broadly comparable outcomes of different alternatives that are being evaluated, which may however not be comparable (see Table 4-1).
Table 4–1 Types of economic analysis

<table>
<thead>
<tr>
<th>Type of analysis</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost-offset study, cost analysis</td>
<td>Compares costs incurred with (other) costs saved; does not consider alternative use of resources elsewhere</td>
</tr>
<tr>
<td>Cost minimisation analysis</td>
<td>As cost analysis but compares two or more interventions or programmes, assumes outcomes of different programmes to be broadly equivalent</td>
</tr>
<tr>
<td>Cost-consequence analysis (CCA)</td>
<td>Compares the costs and consequences of two or more alternatives, but does not aggregate or synthesise costs and consequences, and all health outcomes are left in natural units</td>
</tr>
<tr>
<td>Cost-effectiveness analysis (CEA)</td>
<td>Relates costs to a (typically single) common outcome between alternative interventions/programmes (which can also involve no intervention)</td>
</tr>
<tr>
<td>Cost-utility analysis (CUA)</td>
<td>Relates costs to utilities as a measure of programme effect; results of CUA are typically expressed in terms of cost per health year of cost per QALY gained</td>
</tr>
<tr>
<td>Cost-benefit analysis (CBA)</td>
<td>Economic evaluation that values all costs and benefits in the same (monetary) value; results of CBA are typically expressed as a ratio of costs to benefits or a sum representing the net benefit (or loss) of one programme over another</td>
</tr>
</tbody>
</table>

Source: Adapted from Drummond et al. (2005) and Kelly et al. (2005)

In the present study we focus on the seemingly simple exercise of costing the intervention, leaving the evaluation of the effects or benefits to other research. Yet even a costing analysis by itself can be a challenging exercise. According to the consensus statement on standardisation by the United States Public Health Service’s Panel on Cost-Effectiveness in Health and Medicine, issued in the mid-1990s, it is suggested that the numerator (i.e. the costs of the intervention) should capture all changes in resource use associated with the intervention (Weinstein et al., 1996). This means that all intervention costs and also potential savings (e.g. through the re-deployment of resources) should be thought of as part of the numerator (while improvement and decline in health should enter the denominator). The Panel’s standard costing methodology also makes recommendations about how to discount future costs and effects, alongside recommending sensitivity analyses using different data or methods to test the robustness of the results (Tan-Torres Edejer et al., 2003).

Despite the existence of such basic guidelines, a number of controversies about the ‘right’ costing approach do persist, for instance around the scope and perspective of costs to include; the monetary value of resource use when market prices are not available; the measurement and valuation of productivity costs; the allocation of overhead costs to operational units; and appropriate approaches to address uncertainty. Below, we discuss one specific issue, the specification of the perspective – i.e. the ‘costs to whom’ – question.

The choice of perspective places the study in a decision-making context (Vondeling, 2004; Russell et al., 1996). Economic evaluations are often employed to appraise the relative efficiency of alternative interventions in the healthcare sector. Hence the perspective commonly taken would be that of the health service. At the same time, however, a welfare economics perspective would imply that what matters is the welfare of society as a whole, which would therefore lead to an economic evaluation that included the impact of an
intervention on the welfare of society at large. Economic evaluation should thus take a societal perspective, and not just that of certain sub-sectors, such as the healthcare system (Byford & Raftery, 1998). Indeed, the societal perspective is generally recommended for economic evaluations of interventions in the health sector (Vondeling, 2004; Garber, 2000).

However, adopting different perspectives may be justifiable. For example, it would be consistent with a health system perspective if out-of-pocket expenses incurred by participants were not included in an economic analysis as they do not represent costs to the health care system (see, for example, the cost-effectiveness evaluation of lifestyle and structured exercise intervention by Sevick et al. (2000)). Likewise, a governmental or public sector perspective would include the cost borne by the public sector only but would still exclude out-of-pocket payments or opportunity costs incurred by individuals that may be associated with behaviour change (Byford & Raftery, 1998). Conversely, including solely out-of-pocket expenses will reflect a participant’s or patient’s perspective but if these represent only a minor share of total programme cost, expensive interventions might appear desirable even if the benefits were exceedingly small (Russell et al., 1996).

Adopting a societal perspective implies consideration of all important impacts on resources (Weinstein et al., 1996). As public health interventions can generate very broad costs and benefits and are often directed at populations or communities rather than specific individuals, costs might be dispersed and can fall across many parts of the public sector and may occur at several levels (Drummond et al., 2005). Thus, while the societal view is the most comprehensive, its application in practice raises several difficulties.

This latter point can be illustrated by a recent review of 154 economic evaluations of public health interventions published between 2000 and 2005 in eleven public health domains (Drummond et al., 2005). It found that the perspective of many studies was typically rather narrow, possibly reflecting the interests of those commissioning them. Thus, 32 percent of studies reviewed took a health service provider or payer perspective, while 31 percent were reportedly undertaken from the societal perspective. The review identified as a particular challenge the incorporation of intersectoral costs into the analysis. These are incurred in sectors other than healthcare, such as education and criminal justice. Only 15 percent of all reviewed studies considered two or more sectors.

Intersectoral costs, for example, were considered in an economic appraisal of local walking and cycling routes by Sustrans on behalf of the UK Department for Transport (Sustrans, 2006). Intersectoral items included the cost of tax revenue losses attributable to reduced vehicle kilometres (in other words considering reduced purchase of petrol). It should be noted, however, that a highly aggregated societal perspective might not necessarily show each single party exactly what they need to know in order to make choices best suited to their particular interests (Johnston et al., 1999).

NICE guidance currently recommends that public health guidance should take a full public sector perspective, while all other guidance includes a health and personal social services perspective only, albeit allowing for costs to patients and families to be reported also. This poses an immediate challenge given that boundaries are not clear cut. For example, Chalkidou et al. (2008) highlighted
that as a consequence some guidance might exclude public sector consequences, such as healthcare guidance on tuberculosis, while it would be included in others, such as public health guidance on sexually transmitted disease (Garber, 2000). The perspective of economic evaluations as set out in NICE’s guide to the methods of technology appraisals is currently under review, with the new methods being relaxed to include all public sector implications in public health decisions (National Institute for Health and Clinical Excellence, 2011).
Appendix B: Cost questionnaire

1 General questions

Please, answer the following questions as completely as possible

What year was your scheme set up?
Please provide your answer here:

When was the first organised walk provided? (YEAR/MONTH)
Please provide your answer here:

In your view, what are the top five benefits your scheme offers to walkers and also to the wider public? Please provide examples.
Please provide your answer here:
## Collection template for labour resources and costs

### 2.1 Last financial year

Table 1. Paid and Non-paid Staff

<table>
<thead>
<tr>
<th>(Staff background information)</th>
<th>Gender</th>
<th>Level of education</th>
<th>Age</th>
<th>Paid or volunteer staff?</th>
<th>Total hours per week spent on all activities</th>
<th>Gross yearly remuneration for this member of the paid staff?</th>
</tr>
</thead>
</table>

List of all paid and non-paid staff members
(Categories below are only prompts; please, overwrite if necessary!)

- Scheme coordinator
- (Cascade) Trainer 1
- (Cascade) Trainer 2
(please add trainers as appropriate)

- Walk leader 1
- Walk leader 2
(please add walk leaders as appropriate)

- Support volunteer 1
- Support volunteer 2
(please add volunteers as appropriate)

(Please list any other staff members who apply; expand if necessary)
(Staff activities: administration, marketing and promotion, insurance, website, evaluation and monitoring, accreditation and training)

<table>
<thead>
<tr>
<th>Breakdown of time by activity</th>
<th>Administration</th>
<th>Marketing and promotion</th>
<th>Insurance</th>
<th>Website</th>
<th>Evaluation and monitoring</th>
<th>Accreditation</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours spent per week</td>
<td>Hours spent per week</td>
<td>Hours spent per year</td>
<td>Hours spent per month</td>
<td>Hours spent per week</td>
<td>Hours spent per year</td>
<td>Hours spent per month</td>
</tr>
</tbody>
</table>

List of all paid and non-paid staff members

PLEASE USE SAME CATEGORIES AS IN THE PREVIOUS SECTION OF THE TABLE

Scheme coordinator
(Cascade) Trainer 1
(Cascade) Trainer 2
(please add trainers as appropriate)

Walk leader 1
Walk leader 2
(please add walk leaders as appropriate)

Support volunteer 1
Support volunteer 2
(please add volunteers as appropriate)

(Please list any other staff members who apply; expand if necessary)

Amount received (if any) for providing training to external entities (in the Last Financial Year)
## Appendix B: Cost questionnaire

### (Staff activities: volunteer support, fundraising, led walks, external services and products, other)

| List of all paid and non-paid staff members | Volunteer support | Fundraising | Led walks | External services and products | Other <please specify> |
|---------------------------------------------|-------------------|-------------|-----------|--------------------------------|--|---|
| PLEASE USE SAME CATEGORIES AS IN THE PREVIOUS SECTION OF THE TABLE | Hours spent per week | Hours spent per month | Hours spent per week | Hours spent per month | Amount paid (if any) to external entities for training (in the Last Financial Year) | Hours spent per <please specify> | Hours spent per <please specify> |
| Scheme coordinator | | | | | | |
| (Cascade) Trainer 1 | | | | | | |
| (Cascade) Trainer 2 | | | | | | |
| (please add trainers as appropriate) | | | | | | |
| Walk leader 1 | | | | | | |
| Walk leader 2 | | | | | | |
| (please add walk leaders as appropriate) | | | | | | |
| Support volunteer 1 | | | | | | |
| Support volunteer 2 | | | | | | |
| (please add volunteers as appropriate) | | | | | | |
| (Please list any other staff members who apply; expand if necessary) | | | | | | |
2.2 Set-up costs and costs in previous years

Set-up resource use and costs
If possible, it would be really helpful if you could provide us with a brief description (quantitative/qualitative) of the time and costs involved in the set-up stage of your scheme. For the purposes of this, please regard the set-up stage to be the time from which you (i.e. the scheme coordinator) began conducting activities related to the establishment of the scheme to the time the scheme provided its first organised walk. It would be particularly useful if you can provide information on the time spent (per month) that it took you and other individuals involved in this enterprise and whether you were reimbursed partially (e.g. what percentage of time was reimbursed) or fully for spending this time.

Please provide your answer here:

Resource use and costs in previous years
If possible, it would be really helpful if you could provide us with a brief description (quantitative/qualitative) of the way resource use and costs changed over years from the time of the first organised walk to the present day. In particular, were there periods in which time and costs were higher/lower than average for the time your scheme has operated? As an example, it is possible that you, the scheme coordinator, may have spent a lot of time organising and expanding the operation in the early years whereas now this is no longer the case.

Please provide your answer here:
### Collection template for use and cost of resources other than labour

#### 3.1 Last financial year

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description of resource (applies specifically to services and durable resources)</th>
<th>Resource use (amount of resource used) per year</th>
<th>Durable resources</th>
<th>Non-durable resources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For office and rental space, please provide postal code, area size (in ft.), whether owned or rented</td>
<td></td>
<td>One-time purchases</td>
<td>Cost per year in £</td>
</tr>
<tr>
<td></td>
<td>For equipment, please provide specifications (e.g. computer brand, CPU type and speed, RAM size)</td>
<td></td>
<td>Cost of resource use (per year) in £</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For rest, please provide prominent characteristics (e.g. internet – dial-up, broadband (speed); insurance – type, coverage)</td>
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<tr>
<td></td>
<td>&lt;please specify&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource</th>
<th>Facilities, incl. rent and utilities</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;please specify&gt;</td>
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<td></td>
<td>&lt;please add lines if necessary&gt;</td>
<td></td>
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<tr>
<td>Office equipment (e.g. telephones, computers, fax machines, desks, chairs)</td>
<td></td>
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<tr>
<td></td>
<td>&lt;please specify resource&gt;</td>
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<td>&lt;please add lines if necessary&gt;</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource</th>
<th>Walking equipment (e.g. walkie talkies, poles, uniforms, badges)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;please specify resource&gt;</td>
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</tr>
<tr>
<td>Category</td>
<td>Resource 1</td>
<td>Resource 2</td>
<td>Resource 3</td>
<td>Resource 4</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Maintenance for facilities and equipment</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
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<td>&lt;please specify&gt;</td>
</tr>
<tr>
<td>Supplies and materials (e.g. office supplies such as paper, ink, pens)</td>
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<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
</tr>
<tr>
<td>Transportation</td>
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<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
</tr>
<tr>
<td>Educational materials</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
</tr>
<tr>
<td>Marketing and promotion resources, incl. production, air</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
</tr>
<tr>
<td>time, and space</td>
<td>&lt;please specify&gt;</td>
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<tr>
<td>----------------</td>
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<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>External services and products, incl. training, research and evaluation, consulting</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
</tr>
<tr>
<td>Insurance, including services</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
</tr>
<tr>
<td>Other resources (please specify)</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
<td>&lt;please specify&gt;</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
Description of resource use by activity

We would appreciate if you could provide us, on a separate sheet if space below does not allow, with a written description of how the resource use and costs were spread among the activities listed in the table on page 2 of the guide. For example, what proportion of the resources you used related to administration? We understand, however, that this task may be challenging. Nevertheless, we would be grateful to know if not the actual percentage, at least an approximate figure based on your experience.

Please provide your answer here:


3.2 Set-up costs and costs in previous years

Set-up resource use and costs

If possible, it would be really helpful if you could provide us with a brief description (quantitative/qualitative) of the time and costs involved in the set-up stage of your scheme. For the purposes of this, please regard the set-up stage to be the time from which you (ie the scheme coordinator) began conducting activities related to the establishment of the scheme to the time the scheme provided its first organised walk. It would be particularly useful if you can provide information on substantial material resource use (for example related to transportation, communication, and marketing and promotion) in the set-up stage of this enterprise.

Please provide your answer here:

Resource use and costs in previous years

If possible, it would be really helpful if you could provide us with a brief description (quantitative/qualitative) of the way resource use and costs changed over years from the time of the first organised walk to the present day. In particular, were there periods in which resource use/cost (e.g. transportation, communication, etc) were higher/lower than average for the time your scheme has operated? For example, it is possible that you, the scheme coordinator, may have spent a lot on transportation and marketing while organising and expanding operation in the early years after set-up whereas latterly this is no longer the case.

Please provide your answer here:
Appendix C: Maps

Location of registered participants in each scheme and location of walks

Breckland & Brandon
Havering

- Walks
- Walkers

London

Chelmsford

Southend-on-Sea

Distance scale: 0, 5, 10 Km
Mayfair

5 Walkers live outside the area shown on this map.
Suffolk

5 Walkers live outside the area shown on this map.