



Green prescription schemes: mapping and current practice

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Ruth Jepson, University of Stirling
Roma Robertson, University of Stirling
Heather Cameron, CHANGES Community Health Project

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Contents Page

Executive Summary	i
1. Introduction	1
1.1. Aims and Objectives	2
2. Methods.....	3
2.1. Mapping study	3
2.2. Survey.....	4
2.3. Telephone Interviews.....	4
3. Results.....	5
3.1. Results of the mapping exercise	5
3.2 Results of the survey	6
3.2.1 <i>Categorising green prescription schemes</i>	6
3.2.2 <i>Characteristics of formal primary care referral schemes</i>	7
3.3 Qualitative findings related to primary care referrals onto the schemes	11
3.3.1 <i>'Endorsement' from a health professional or health body</i>	11
3.3.2 <i>Ongoing communication with health professionals</i>	14
3.3.3 <i>Easy referral processes</i>	14
3.3.4 <i>Targeting of health professionals</i>	15
3.3.5 <i>Robust evaluation mechanisms</i>	16
3.3.6 <i>A sustained, continuous and accessible service</i>	16
3.3.7 <i>Health and safety issues</i>	16
3.4 Brief comparison of formal primary care referral schemes with informal and potential primary care referral schemes.....	17
3.5 Evaluations of health professional referrals to the schemes.....	17
3.6 Successful approaches to green prescribing in primary care.....	18
3.6.1. <i>Approach A. Linking in with existing exercise referral schemes</i> <i>(ERS)</i>	19
3.6.2. <i>Approach B: Contacting and linking directly with health</i> <i>professionals</i>	20
3.7 Comparison of formal primary and secondary care referral schemes....	22
3.8 Approaches used for secondary care green prescription schemes	22
3.9 Important factors for the success of outdoor activity schemes in general which may impact on their potential for green prescription	24
3.10 Characteristics of all schemes identified including non responders to the survey	24
4. Discussion	25
4.1 Limitations of the study	25
4.2 Summary of results.....	26
4.3 Issues for outdoor schemes in relation to health professional referrals .	26
5. Conclusions	27
6. Recommendations.....	28
7. References	31
Appendix 1. Evaluations of outdoor schemes (effect on health outcomes).....	32

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Executive Summary

Background

Physical activity has an important role to play in making the Scottish population healthier. Raising levels of physical activity is of relevance to a number of national outcomes, indicators and targets outlined in the Scottish Government's *National Performance Framework*. The Scottish Government's physical activity strategy *Let's make Scotland more Active* (2003) set minimum recommended levels of physical activity for children and adults, and targets for achievement by 2022. Walking, cycling, play and other leisure pursuits in the outdoor environment are types of physical activity that can contribute to these recommended levels. In addition, the outdoor environment is now seen as a key setting for the promotion of good mental health and wellbeing.

"Green prescription" is a concept originally developed in New Zealand in the late 1990s by health practitioners and was used to describe the colour of the prescription pads used to prescribe physical activity. It draws parallels to the usual prescriptions given to patients for medications but emphasises the importance of exercise in improving their condition, rather than relying on drugs alone. Previously, the focus was mainly on walking and home based exercise rather than physical activity in the outdoor environment. In the context of this mapping exercise, the term 'green prescription' is used to describe a scheme which includes aspects of physical activity in **outdoor** settings with strong natural environment components (e.g. greenspaces, paths, parks, nature reserves and countryside) and which has some type of referral mechanism from health care practitioners.

Aims

The aim of this research was to investigate the range and type of current, or recent, green prescription schemes across Scotland. In addition, factors associated with successful outcomes were explored.

Methods

A mapping exercise was undertaken to identify the range of possible relevant outdoor schemes. 170 schemes were identified and all scheme co-ordinators were contacted and asked to participate in an online survey. They were also asked if they would be willing to be interviewed. A sample of those who responded to the request to be interviewed was chosen to reflect the diversity of the schemes.

Results

Ninety eight useable responses to the survey were received and ninety four (55% of those identified in mapping scheme) were included in the analysis (four were excluded as they were providing indoor activities only). Seventeen scheme providers were interviewed.

Of the 94 schemes, 57 appeared to have some element of health professional referral: 21 were categorised as having formal primary care health professional referrals (where the health professional gave information about the patient to the scheme organisers) and 9 having informal primary care referrals (where health

professionals signposted patients to green activities, but left the patient to contact the scheme themselves); 17 as having formal secondary care referrals and 10 having informal secondary care referrals. In addition, we categorised another 24 as having the potential for health care referrals, 8 with no potential and 5 with insufficient information to categorise. The main activities provided by the schemes were walking, horticulture, and conservation (or a combination of the three). Primary care referral schemes were more likely to be mainly walking schemes while secondary care referral schemes were more likely to be horticulture, or conservation or green gym activities. The schemes were geographically located throughout Scotland and ranged from small unfunded schemes to large schemes which had long term infrastructure funding. At the present time, many of these schemes are ad hoc, rely on short term funding and are not part of the mainstream infrastructure. This is in contrast to indoor schemes for exercise prescription which usually take place in Local Authority leisure centres.

Factors for successful primary care referral processes from health professionals (HPs) included: a GP or health professional at the heart of the scheme and involved in the strategic direction as well as the promotion of the scheme; ongoing and sustainable funding; a simple referral process with minimal paperwork; communication and feedback to the health professionals; and being either a large outdoor scheme, or part of a larger exercise referral scheme.

Scheme co-ordinators perceived that barriers to HP referrals included health professionals' concerns about health and safety issues; the sustainability of the project (e.g. would it still be around in 6 months time?); and health professionals having too many other competing priorities.

Conclusions

Scotland has a large number of outdoor schemes which have a wide geographical spread, and which have the potential to be used for outdoor exercise referral. At present, many of the schemes are small, community based, with short to medium term funding. Although many have partnerships with the NHS, many do not. The scheme providers are overwhelmingly enthusiastic about having health professionals, particularly primary care professionals, refer onto their schemes.

We identified around 21 schemes that had formal primary care referral mechanisms and 17 that had formal secondary care referral mechanisms. There were three main approaches for health professional referrals (two in primary care and one in secondary care). In primary care, outdoor schemes either linked in to a larger exercise referral scheme (ERS) or made direct contact with primary care professionals. In secondary care, the schemes linked in closely with health professionals and many schemes were designed for a specific health population group with referrals for that group only. These schemes were more likely to be larger, have health professional support and sustained funding.

Health professionals also signposted their patients to a further 19 schemes in an informal way (e.g. recommending an outdoor scheme to a patient) without contacting the scheme themselves to give details of the patient. Of the remaining 24 schemes, which appeared to have the potential to be used by health

professionals to support patients be more physically active for the benefit of their physical and mental health, many reported unsuccessful attempts to achieve this.

A key factor to successful health professional referral may be ensuring that they are linked into more mainstream activities such as larger local authority exercise referral schemes, and/or have strong links with health professionals. However, infrastructure funding to carry out some activities such as monitoring, evaluation and meeting health and safety regulations would be essential. In addition, outdoor schemes are often group based, and use volunteers so may need additional resources in order to meet the needs of people with specific conditions (including those who are sedentary). For example, they may need to run different groups (e.g. easy, moderate, advanced) to meet the needs of people with different physical activity levels. Volunteers may also need additional support and training to recognise and respond to the needs of particular patient groups.

Recommendations

At the present time, many of the schemes work directly with primary care professionals to try and establish a referral process (for example: visiting the GP surgeries, putting up leaflets etc.). However, this has not been a very successful strategy for many, and referrals have been low. One potential solution is to facilitate a link between these schemes with other more organised schemes, particularly ERS's (which generally use indoor facilities). Some of the larger, more established ERS have exercise specialists who can tailor a package of physical activities for an individual (which may include both indoor and outdoor activities). It is these exercise specialists or ERS co-ordinators who may be able to liaise with the outdoor scheme providers to pass on referrals, rather than needing a direct referral process between health professionals and the scheme providers. This may remove some of the barriers that the scheme providers perceived, such as concerns over health and safety, and the competing priorities of the health professionals.

There are many smaller outdoor activity schemes in more rural locations, or where exercise referral schemes do not exist, and other strategies may be needed. Partnership working was one of the key factors to success, and the schemes may need NHS involvement at some level. For example, having health professionals from either their own area or other areas to talk to the local health professionals and be part of the scheme's steering group.

An alternative would be to introduce an NHS accreditation scheme where an activity meets sufficient criteria to be accredited to provide certain activities in certain circumstances for defined populations (e.g. people with mild depression, people with diabetes, the general population, people requiring help with weight management etc.). Health professionals could be provided with a list of locally accredited schemes. Incentives to use them might also be of benefit.

Some of the scheme providers are working on their own and benefit from learning and sharing with others' innovative ideas and practices. Workshops, online discussion groups and other means of communication could all facilitate this process.

Many of the schemes are run with a high degree of community involvement and support, and use volunteers in their activities. Whilst most of the scheme providers are proud of the community involvement (and what that can bring in terms of benefits for the local community) many still need ongoing funding for the scheme co-ordinators and for the day to day running of the schemes – unless sustainability of the projects is achieved it may be difficult for them to become part of more mainstream activities. Having good quality evaluation of their work (particularly around the health impact of the schemes) may also help ensure ongoing funding and encourage health professionals to refer onto the schemes.

1. Introduction

Physical activity has an important role to play in making the Scottish population healthier. Raising levels of physical activity is of relevance to a number of national outcomes, indicators and targets outlined in the Scottish Government's *National Performance Framework*¹. The Scottish Government's physical activity strategy *Let's make Scotland more Active* (2003)² set minimum recommended levels of physical activity for children and adults, and targets for achievement by 2022. Walking, cycling, conservation work, horticulture and other leisure pursuits in the outdoor environment are types of physical activity that can contribute to these recommended levels.

In addition, the outdoor environment is now seen as a key setting for the promotion of good mental health and wellbeing. Recent research on green space and general health has shown a positive association, although the exact mechanisms which generate these positive effects are not entirely clear at present (Croucher, 2007). Although some studies show that green spaces are valued as places for exercise, for many people this is not the primary value placed on them. Many people visit the green outdoors as a place to relax, reduce stress and get away from noisy and polluting environments. Also, for children and elderly individuals, close proximity to green spaces, such as parks, has been shown to have a positive effect on their levels of physical activity (Bell, 2008).

Other Government policy papers, such as the *Equally Well* report on health inequalities (2008)³, the *Healthy Eating, Active Living* action plan (2008)⁴ and Scotland's *National Transport Strategy* (2006)⁵ also recognise the role that walking, cycling, play and visiting the outdoor environment can have in increasing physical activity levels. A key recommendation highlighted in *Equally Well* states:

'Government, NHS Boards and other public sector organisations should take specific steps to encourage the use of greenspace by all, with a view to improving public health. Public sector organisations should provide materials, resources and training and evaluation of specific initiatives e.g. the prescription of greenspace use by GPs and clinical practitioners' (recommendation 29)

"Green prescription" is a concept originally developed in New Zealand in the late 1990s by health practitioners and was used to describe the colour of the prescription pads used to prescribe physical activity. It draws parallels to the usual prescriptions given to patients for medications but emphasises the importance of exercise in improving their condition, rather than relying on drugs alone (Swinburn, 1997; Swinburn, 1998, Elley, 2003). Previously, the

¹ <http://www.scotland.gov.uk/Publications/2007/11/13092240/9>

² <http://www.scotland.gov.uk/Resource/Doc/47032/0017726.pdf>

³ www.scotland.gov.uk/Publications/2008/06/25104032/0

⁴ www.scotland.gov.uk/Publications/2008/06/20155902

⁵ <http://www.scotland.gov.uk/Publications/2006/12/04104414/0>

focus was mainly on walking and home based exercise rather than physical activity in the outdoor environment.

Although outdoor exercise schemes that health practitioners can refer onto are increasing in number, in Scotland there are still very few. This may be due to a lack of strategic co-ordination or learning between the various initiatives around what works best and what schemes are most suitable for individuals referred to green prescription by health care practitioners. Working with General Practitioners (GPs) community health schemes, or other health care professionals (e.g. in Community Health Partnerships (CHPs) or secondary care) has also presented challenges, including promoting the availability of appropriate schemes to refer to, where they are located and what type of physical activity they include so that the referral process is easy for the health professionals.

In order to help develop and inform future strategic actions on green prescriptions, this research investigated the range and type of current, or recent, green prescription schemes across Scotland. In addition, factors associated with successful outcomes were explored.

1.1. Aims and Objectives

The aim of this research was to identify existing outdoor physical activity schemes in Scotland which include some aspect of green prescriptions (that is health professionals can refer patients onto them) and to identify factors leading to successful models.

DEFINITION OF A GREEN PRESCRIPTION SCHEME

In the context of this mapping exercise, the term 'green prescription' is used to describe a scheme which includes an aspect of **outdoor** physical activity and which has some type of referral mechanism from health care practitioners.

The research had a number of objectives which were to:

- a) carry out a rapid mapping exercise to identify current (and recent) schemes which have been used for green prescription, including their location and the activities prescribed
- b) capture current practice with regard to how green prescription schemes are being organised; the key organisations, people and pathways involved and any underlying theories or evidence base used in the development
- c) identify the range of methods used to refer people from primary care into the schemes (e.g. formal referral (prescription); less formal (giving out a leaflet or phone number))

- d) identify and review the factors that make green prescription schemes attractive and successful e.g. number of sessions, use of motivational interviewing, intensity of the intervention, GPs role, policy drivers etc.
- e) identify the key barriers and enablers for success (e.g. training issues, capacity issues, operational issues etc). Identify other methods of recruitment onto schemes and their success
- f) identify any evaluations carried out on schemes in Scotland and their findings, including any demographic and socioeconomic analysis of individuals attending these schemes, numbers referred through health professionals, reach, uptake/completion rates, and health outcomes and measures used
- g) provide evidence based recommendations on how green prescription could be planned, delivered and promoted further in practice
- h) provide comment on the possibility of developing a standard monitoring and evaluation framework for green prescription.

2. Methods

This research was undertaken using both quantitative (an online survey) and qualitative methods (telephone interviews) in order to obtain data to meet the objectives and the key areas of investigation described above.

In addition, data on how schemes were evaluated, the measures used and their main findings were extracted from evaluation reports obtained from the survey respondents. These methods are described in more detail in the following sections. The study was conducted with absolute adherence to the ethical principles essential in research. Prior to the start of the research we gained ethical approval from the Department of Nursing & Midwifery (University of Stirling) Ethics Committee. No NHS ethics approval was required. Informed consent was obtained for both the survey and the in-depth interviews.

2.1. Mapping study

A variety of sources and methods were used to obtain a wide-ranging list of all the relevant organisations/schemes which were currently running or had run in the previous 5 years in Scotland. Where possible, email contact details were also obtained.

Three different types of organisations were contacted directly and/or their websites searched:

- 1) governmental and statutory bodies (e.g. Scottish Government, Forestry Commission, Scottish Natural Heritage, Paths for All) NHS Health Scotland, local authorities)
- 2) research based or education based organisations (e.g. SPARColl, the Physical Activity and Health Alliance)
- 3) voluntary or third sector organisations (e.g. British Trust for Conservation Volunteers (BTCV)).

In addition, emails from NHS Health Scotland were distributed via the Physical Activity and Health Alliance (PAHA) to their members informing them about the research and asking them to contact the researchers directly. This snowballed and two organisations (Trellis and the Federation of City Farms & Community Gardens) directly contacted their members about the research. It was clear in the email that was sent out that the research was only interested in schemes that either had a health professional referral process, or the potential to do so.

Schemes promoting outdoor sports and pursuits such as rambling were not included in the mapping exercise. Whilst the authors recognise their contribution to general health and wellbeing they are not generally relevant in the context of health professional referrals.

2.2. Survey

In December 2009 and January 2010 emails were sent to 143 schemes identified in the mapping exercise, inviting them to complete an online survey (they were also asked to forward the email to any other organisations they thought were relevant). In addition, emails were sent by Trellis⁶ and the Federation of City Farms and Community Gardens⁷ to their members (total number of emails sent unknown). Reminders were sent to non responders of the initial 143 emails after two weeks.

The email contained information about the proposed project, a link to the electronic survey and who to contact should they require further information. If they wished, scheme organisers were able to complete the survey over the telephone with a researcher. The survey was administered using Survey Monkey. The survey asked for general information about individual schemes (such as location, type of activity, funding, participant characteristics, uptake and partners); pathways to referral; barriers and facilitators to successful implementation; and details of any evaluations which had been undertaken.

Survey respondents were also asked if they were willing to take part in an in-depth telephone interview to identify key barriers and enablers for success (e.g. training issues, capacity issues, operational issues etc).

2.3. Telephone Interviews

Sixty three of the people who completed the survey indicated that they were willing to be interviewed. Due to limited resources it was not possible to interview everyone. Instead, 17 interviewees were selected to reflect a range of scheme characteristics including:

- type of outdoor activity (e.g. health walks, cycling, horticulture, volunteering and conservation work)
- geographical location (e.g. rural, urban, different locations in Scotland)
- the extent of health professional referral (from those that had no referrals to those that were completely referral based, with an emphasis on those who had primary care referrals)

⁶ <http://www.trellisscotland.org.uk/>

⁷ <http://www.farmgarden.org.uk/>

- lead organisation (e.g. NHS, council, voluntary or third sector organisation).

The purpose of the interviews was to complement the electronic survey and to ensure that the key issues had been fully understood and explored. The topics covered with the scheme co-ordinators included:

- details of the desired target group and uptake
- details of the referral process in their scheme; why they chose the processes
- how they promoted the scheme, what types of promotion worked best and how they engaged with primary care health professionals
- what they would do differently if they were starting again
- how they evaluated the scheme (if applicable)
- what advice they would give to someone developing a green prescription scheme in Scotland
- partnership arrangements and format of Steering Group (if any).

Information was sent out prior to the interview and either written or verbal consent was obtained prior to the interview commencing. Interviewees were given the option of having the transcripts anonymised. The telephone interviews were audio-recorded and transcribed and the analysis was facilitated by use of NVivo. The analysis was guided by the research questions and objectives, but also allowed open coding in order for new themes to emerge. Constant comparison (checking experiences against those of others in the sample) ensured that the thematic analysis represents all perspectives and negative cases were sought (Strauss and Corbin, 1990).

We did not interview any health professionals to gain their perspectives on green prescription schemes because - although this would have provided a useful insight - to do this in a robust and meaningful way would have required more time and resources than were available. With such limited resources and time (and the constraints of the ethical clearance we had), a decision was made to focus on the schemes from the perspective of the providers rather than the referrers. This study has provided information that can now be used and built upon to undertake further research into the needs of health professionals regarding green prescription schemes.

3. Results

3.1. Results of the mapping exercise

Around 170 potentially relevant outdoor schemes were identified from the mapping exercise (we were not able to obtain complete data for all of them). At the time of mapping, we did not know how many of the schemes had any form of health professional referral (i.e. met our criteria for 'green prescription'). The survey was undertaken to find out this information.

The list of these schemes, with their main activities and locations is provided in a separate MS Access database. As the main purpose of the study was to identify 'green prescription schemes', the study did not allocate time to double check all the entries on this database or to provide an exhaustive list and so

the database should only be used as an indication of the probable extent of health related green activities in Scotland. Further information regarding the list and contacts can be obtained from the authors of this report. Section 3.10 also provides further details about the schemes.

3.2. Results of the survey

As described previously, the aim of the survey was to identify outdoor schemes which met our criteria for a 'green prescription' scheme. We surveyed all of the 170 potential schemes identified in the mapping activity and there were useable survey responses from 98 schemes and 94 (55% of the 170 potential schemes) of these were included in our analysis⁸. We presume that there were three main reasons for non response: the scheme is no longer operational; the co-ordinator did not think the scheme relevant for our survey or 'true' non-respondents.

3.2.1 Categorising green prescription schemes

A major objective of this study was to determine the characteristics of green prescription schemes which had primary care, and to a more limited extent secondary care, referral mechanisms involving formal referral processes. The survey (n=94) highlighted that there is currently no wholly outdoor activity scheme that requires a prescription from primary care for someone to take part.

Consequently, we categorised the survey respondents' schemes into those with evidence of either formal or informal referral from primary or secondary care health professionals. We defined a formal referral as one where the health professional contacts the scheme or an intermediary exercise specialist with the patients' details (using a referral form, letter, email or phone) and an informal referral as one where the health professional signposts their patient to the activity, but where the patient makes contact with the scheme themselves. In addition to these categories we identified several other schemes with the potential for this to happen, others with no obvious potential for this and a small number where it was not possible to tell. The categories, their definitions and the numbers in each are given in Table 3.1.

The categorisation was based on the survey questions asking about the top three referrers, how many new referrals were from general practitioner (GP) or practice nurse (PN) and comments about referrals. Additional information from reports, interviews and word of mouth was also used to categorise schemes as accurately as possible. However, it should be remembered that the survey was self completed online and completion errors (such as through misunderstanding or misreading the question) could exist. Also, not all schemes knew how many participants, if any, had been signposted by health professionals. Primary care referral includes referral by GP, practice nurse (PN), district nurse (DN) or health visitor (HV). Secondary care health professionals included physiotherapists, occupational therapists (OT),

⁸ 4 responses were from schemes providing indoor activities only and were excluded from the analysis

psychiatrists, psychologists, dieticians, other community mental health team members and cardiac rehabilitation team members.

The characteristics of the schemes that have been categorised as formal primary care referral schemes or, in the context of this report, 'green prescription' schemes (category 1a) are reported in the following sections. The other categories (e.g. informal primary care referral schemes and secondary care referral schemes with formal referral processes) are discussed subsequently.

Table 3.1. Categorisation of 94 outdoor schemes responding to survey (n)

	Category	Definition	N
1a	Formal primary care 'green prescription' schemes	Those with definite primary care health professional referral using a formal method such as: - use of a referral form (prescription) - direct contact (letter or phone) from the health professional to the scheme provider - an exercise specialist acting as an intermediary.	21
1b	Informal primary care green prescription' schemes	Those with definite primary care health professional referral but with no direct contact with the scheme (i.e. a health professional giving a patient a leaflet about the scheme)	9
2a	Formal secondary care green prescription' schemes	Those without primary care referral but with definite secondary care health profession referral using a formal method such as: - use of a referral form (prescription) - direct contact (letter or phone) from the health professional to the scheme provider - an exercise specialist acting as an intermediary.	17
2b	Informal secondary care 'green prescription' schemes	Those without primary care referral but with definite secondary care health profession referral (but with no direct contact with scheme provider)	10
3	Potential 'green prescription' schemes	Those with no apparent health professional referrals currently, but with potential for health professional referral	24
4	Unlikely potential for 'green prescription'	Those without any obvious potential for NHS referrals	8
5	Unknown	Those with insufficient information to categorise	5

3.2.2 Characteristics of formal primary care referral schemes

This section describes the characteristics of the schemes identified as having formal primary care referrals (as defined in the previous section.) These 21 schemes existed in 11 of the 14 health board areas in Scotland (see Table 3.2). There did not appear to be any in the remaining 3 areas. This table also shows, in blue italics, the distribution of activities by health board in categories 1b and 3, i.e. schemes that could potentially have formal primary care referrals. These are discussed briefly in Section 3.4. Three of the green prescription schemes (16%) were no longer running.

Table 3.2 Number (*and potential number*) of green prescription schemes and activities by health board area (n)

Health Board Area	Total Activities	Walking	Conservation and green gym	Horticulture only	Mixed or other activities
Ayrshire & Arran	2 (3)	2 (2)	0 (1)	0 (0)	0 (0)
Borders	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Dumfries and Galloway	2 (0)	2 (0)	0 (0)	0 (0)	0 (0)
Fife	2 (0)	1 (0)	0 (0)	0 (0)	1 (0)
Forth Valley	1 (6)	1 (2)	0 (0)	0 (1)	0 (3)
Grampian	1 (5)	1 (4)	0 (0)	0 (0)	0 (1)
Greater Glasgow & Clyde	1 (5)	0 (4)	1 (0)	0 (0)	0 (1)
Highland	2 (2)	1 (1)	0 (0)	0 (1)	1 (0)
Lanarkshire	1 (3)	0 (1)	1 (0)	0 (0)	0 (2)
Lothian	6 (5)	3 (3)	1 (1)	0 (1)	2 (0)
Orkney	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Shetland	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Tayside	3 (3)	2 (1)	0 (0)	0 (1)	1 (1)
Western Isles	1 (0)	1 (0)	0 (0)	0 (0)	0 (0)
Multiple areas	0 (1)	0 (1)	0 (0)	0 (0)	0 (0)
Total	*22 (33)	*14 (19)	3 (2)	0 (3)	5 (8)

*one walking scheme spans the border of two health board areas

Thirteen (62%) formal primary care referral schemes were walking schemes, three (14%) were mainly conservation or green gym schemes and the remaining five (24%) had mixed activities. None of the schemes were mainly horticulture based.

The main purpose of the majority of the schemes was to increase levels of physical activity (n=10; 48%), while another 6 (29%) gave improving mental health and wellbeing as their main aim, 2 (10%) aimed to provide another opportunity for people to become more active, one to provide another opportunity to experience the outdoors and two others gave another reason: improvement of overall wellbeing; mental, physical and social.

All survey respondents were asked which group of people their scheme was primarily aimed at. Of the 21 formal primary care referral schemes, seven (33%) targeted sedentary people, 6 (29%) the general population, 5 (24%) people with mental health problems and one scheme targeted people living in disadvantaged areas. (Two schemes did not answer this question.)

In addition, respondents indicated that they also catered for a wide range of people including: those with physical disabilities, older people, those who have had a stroke, people with or at risk of heart disease, people stopping

smoking tobacco, people with Alzheimer’s disease, those with weight management problems or diabetes, and people from ethnic minorities.

Survey respondents were also asked which organisations provide/have provided support for their project (see Table 3.3). Support could be financial or provision of services, equipment etc. For primary care green prescription schemes, the main supporter was Paths for All (82%) with considerable support also from health boards (78%) and local authorities (63%). One scheme (5%) did not receive any external support.

Table 3.3. Supporting organisations for primary care ‘green prescription’ schemes (n=21)

Organisation	N*	(%)
Paths for All	18	86
Health Board/NHS	15	71
Local Authority	13	62
Voluntary Sector	8	38
Scottish Natural Heritage	4	21
Scottish Government	3	14
Forestry Commission	1	5
Other	1	5
None	1	5

*some schemes received support from more than one organisation

Survey respondents were asked how much they received annually to support the running of their scheme (see Table 3.4). Four (21%) primary care ‘green prescription’ schemes indicated their funding was not guaranteed beyond the end of 2011.

Table 3.4. Level of annual funding for primary care ‘green prescription’ schemes

Level of funding	Number*	%
< £10,000	4	19
£11 - 20,000	4	19
£21 - 30,000	1	5
£31 - 50,000	6	29
£51 - 100,000	1	5
> £100,000	3	14
Total	19	

*two schemes did not provide this information

Four schemes (19%) had been running for less than a year; 3 (14%) for 2-3 years; 6 (29%) for 4-6 years; and 8 (38%) for 7 years or more. Twenty schemes (96%) provided activities free to participants. Six (29%) had weekend sessions and 10 (48%) weekday evening sessions. One (5%) had fewer than 10 people participating each week, 7 (33%) had 10-40 people and

11 (52%) had more than 50. Eight (38%) employed at least one full time equivalent person and 18 (86%) were supported by volunteers. Formal primary care referral schemes were well publicised, most using a range of methods – see Table 3.5.

Table 3.5. Methods used by primary care ‘green prescription’ schemes to promote the schemes

Type of publicity	N*	%
Word of mouth	21	100
Through health professionals	20	95
Leaflets in community settings	20	95
Leaflets in health settings	19	91
Through project workers	18	86
Articles in media	17	81
Website	17	81
Through social work/care professionals	14	67

*most schemes used more than one method of publicity

As mentioned earlier, we did not identify any green activity schemes which only required referral from a primary care health professional and, indeed, most participants in the activities had come along themselves (self-referral) having heard about the activity from someone else or through publicity – see Table 3.6. Of those who were referred by a health professional, GPs and PNs were the most likely health professionals to be referring on to the schemes, but community mental health nurses, project workers and physiotherapists were also identified as being the most common methods of referral for a few schemes.

Table 3.6. How people learn about or are recruited onto primary care ‘green prescription’ schemes

Recruitment method	Number of schemes reporting frequency of each method for people to join activity		
	Most common method	2 nd most common method	3 rd most common method
Self Referral (no professional input):			
Self referral – word of mouth	7	2	2
Self referral - through publicity	4	5	0
Self referral - other or not known	0	0	1
Referral by Professionals:			
GP	1	2	5
Practice Nurse	1	1	2
District Nurse/Midwives/Health Visitors	0	0	0
Physiotherapists	1	0	1
Occupational Therapists	0	1	0
Psychiatrists	0	0	1
Community Mental Health Nurse	1	2	1
Project Workers	1	0	1
Social Care Workers	0	1	0
Cardiac Rehab Programme	1	0	1
Pharmacists	0	0	0

Other sources of referral/recruitment included:

- Dieticians (dietetics department at local hospital)
- Keep Well, Well North
- Schools
- Support workers

Table 3.7. Number of primary care ‘green prescription’ schemes reporting use of different referral methods (n (%)).

	Total* (n=21)
Signposting by telling person verbally about activity	12 (57%)
Signposting by giving person information leaflet	11 (52%)
Pre-designed referral form	11 (52%)
Through an intermediary exercise specialist	8 (38%)
Phone referral	7 (33%)
Signposting by writing information (e.g. phone number on a piece of paper)	7 (33%)
Referral letter	3 (14%)

*most schemes used more than one method of referral

Another method of referral was through Lifestyle Management or Keep Well⁹. Fourteen (67%) reported that there was a feedback mechanism to the referring professional and 18 (86%) are evaluating their scheme.

3.3 Qualitative findings related to primary care referrals onto the schemes

A number of key themes specific to the primary care health referral process were identified from the qualitative data - the telephone interviews and open ended questions in the survey. It should be noted that these are perceptions of scheme providers and not issues identified by health care professionals themselves.

Later in this document, in Section 3.9, we briefly report other key themes relating to the success of outdoor schemes in general (which may impact on their potential for health professional referral).

3.3.1 ‘Endorsement’ from a health professional or health body

One key theme was the level of health professional input and endorsement. It appeared that schemes which had more health professional referrals had support (‘endorsement’) from either a specific health professional or health organisation. This support was provided in a number of different forms: through a respected and influential person (e.g. local GP); through ongoing support or funding from a local or national health organisation such as the CHP or the health board; or through a specific initiative such as Keep Well. It is likely that this ‘endorsement’ from within the health community provided publicity for the schemes, through channels that primary care health practitioners already used, and provided ‘credibility’ that the activity was one

⁹ <http://www.healthscotland.com/Prevention-2010.aspx>

to be trusted to care for referred patients. Achieving this endorsement often came either from a 'top down' approach such as a scheme initiated by someone within the health board or a 'bottom up' approach where a scheme met the needs of its local community and a health professional was co-opted onto the steering group.

It was thought particularly important to: have a local GP 'champion' who could provide strategic guidance whilst setting up the scheme and when it was operational; disseminate appropriate publicity to primary care health professionals such as writing letters to all GPs; and provide ongoing support to solve any problems that arise.

"I think it just made it much easier to get into the surgeries and get the buy-in and the understanding from a lot of the GPs. and then he [GP champion] also went along to a few of the surgeries to promote the programme as well." (Interview ID 11)

"I think the biggest thing that's been so successful is that we've got our lead GP for [name of area] who's very much on board with it all and he actually chairs the exercise referral group that meets quarterly. He also is just very aware of what we're trying to do and very on the ball with the whole kind of physical activity element of that 'instead of trying to prescribe medication to people; let's give this physical activity a go' kind of thing. And because of that, he then sees that he's the sort of feedback mechanism to get all the GPs on board and other health professionals. So I would say that he is one of the main kind of drivers in making all this come together." (Interview ID 14)

Where there was not a GP 'champion', scheme providers reported that it could take time and sensitivity to build up relationships and gain trust from primary care professionals. One interviewee said that as time went on and the walking groups became well known he had begun to work with GPs to target specific populations, such as people with diabetes or weight management or mental health problems:

"That's taken two or three years to get to that point, where the doctor's prepared to do that." (Interview ID 12)

"..I think it depends how you pitch it with them when you meet with them. And I think perhaps ... being a bit humble and being open to working with them, rather than assuming that because you know that it works that they should stop everything they've been doing for the last three years and take onboard something that's working with volunteers" (Interview ID 12)

Schemes set up by, or with the support of, health boards and those which included NHS organisations as partners were also perceived by the scheme providers to be more official and/or credible to primary care health professionals:

“Our sort of specialised programme is where we team up with our partners - obviously buggy walking, NHS partners for that one, we have health visitors on our buggy walk and things like that.” (Interview ID 10)

“There’s like a lot of, kind of, [NHS] bodies in the background doing work to support the programme” (Interview ID 11)

Several of the schemes which had successful health referral processes were those linked with larger exercise referral schemes (ERS) - however, the focus of most of these larger schemes was the indoor physical activity component (usually based in local authority leisure centres).

Not all schemes managed successfully to get primary care professionals to refer:

“You know, I just didn't imagine before I started this post that if someone presented to a GP and there would be obvious benefits from that patient being referred on to some sort of exercise regime, whether it's the gym or the Health Walks project, I would have thought the GPs would have been very keen to make that referral. And it has been quite an eye opener to me over the last four years to find that actually that's not often the case” (Interview ID 3)

“I think it's just a pity that we don't get more referrals through health centres, it seems a no-brainer to me.” (Interview ID 7)

Scheme providers provided several explanations for the lack of enthusiasm from health professionals. Some suggested that it was difficult for health professionals to remember about their scheme or to have time to discuss it during the consultation when there were other priorities. There was also a tendency for similar schemes to come and go and it was thought difficult for health professionals to keep up-to-date with everything. GPs and other primary care professionals are presumed not to want to lose credibility with a patient by referring them to a scheme that has ended:

“I think quite a lot of the time there’s so much stuff that is going on, but it’s hard for them to keep up to date with what’s going on and what things, because obviously things are, kind of, short term funded as well. So yes, they’re still in circulation, what things are still around and what things have lost then, their funding...” (Interview ID 11)

“Having spoken to quite a number of GPs I have found that they’re so busy and they’re also, to some extent, snowed under with the various referral pads, that when I hand them mine it becomes just one more to put on their desk, or in some cases, in their desk.” (Interview ID 3)

It was felt that perhaps health professionals needed more training in the evidence base and using these less familiar treatment options; that there was “cultural reluctance” or “not thinking outside the box”.

3.3.2 *Ongoing communication with health professionals*

Another key issue identified was ongoing communication with health professionals, from initial discussions and promotion of the scheme, through to feedback on the patients’ progress. Presenting the scheme at practice meetings, summarising the existing evidence base and how the scheme works was a common approach used to promote the existence of the scheme. Regular - perhaps 6 monthly - updates as to how the scheme was progressing was also a strategy employed and helped to publicise the scheme and also reassure health professionals that it was still in existence. Leaflets were regularly distributed to health centres and these often listed the current or forthcoming activities (e.g. dates and locations of health walks). However, some scheme organisers reported that they no longer distributed leaflets to primary care as it was expensive and did not seem to work.

Many scheme providers contact patients directly (by phone or letter) once they received the referral from the GP, which they believed supported and encouraged participation:

“... a lot of people aren’t keen to maybe go along to the established walks, because you think, ‘well, a group of people, [who have] known each other for a while’, and so we’ve been more inclined to go and meet them for a coffee and fill in ... the paperwork. Sort of meet them for a coffee, let them know a little bit about it and ... you know, we’ve all gone along with various people just for the first couple of weeks so they kind of get used to it.” (Interview ID 17)

In addition, evidence that patients were being cared for in a professional manner by trained staff could increase trust:

“I was in there [health centre] for an hour talking about [name of scheme], what the groups are, what the walks are, how we’re trained, giving them the confidence that when they do meet patients, and they are encouraging or referring, that they know that the people leading the walks are above board etc.” (Interview ID 12)

Feedback on patients’ progress was also mentioned by several scheme providers as a way of encouraging health referrals and maintaining communication with health professionals.

3.3.3 *Easy referral processes*

Many scheme providers who had successful referral mechanisms described developing easy referral processes which met the needs of the health professionals. A GP referral pack with the necessary information and referral forms was developed by some schemes, although one reported that many GPs found it easier to pick up the phone rather than use the referral forms.

However, another scheme, which had considerable success with GP referral, appeared to have a long, detailed referral form. Perhaps, in this case, the formality of the form and details required helped to provide the health professional endorsement or credibility mentioned above. The form also provided a way for the health professional to measure the patients' condition, something required for income purposes and this might also support use of the referral form.

There was no evidence that computerised referrals existed, but, in theory, these could make referring to green activities more similar to pharmacological prescriptions or hospital referrals and possibly facilitate health professional referrals.

3.3.4 Targeting of health professionals

Primary care comprises a number of different health professionals including GPs, practice nurses and health visitors. Some scheme providers reported that GPs were often too busy and it was easier to encourage other primary care staff to refer patients:

“What we've actually found is that sometimes you're actually better to give the pad to the practice nurse and bypass the GP, in the nicest possible way. But sometimes the practice nurse is in a slightly better position to refer the patient on.

F1: Why do you think that is?

M1: I think again it's just that sometimes the practice nurse gets the opportunity to get to know the patient better and to chat in a more kind of informal way. Obviously people, if they're going in to see their GP, they might not be...if they're anxious about their condition then they might not be as open to these kind of suggestions as they are in a more kind of informal set up. That's my hunch on that.” (Interview ID 3)

In addition the scheme providers perceived that health professionals who referred patients were often people with a particular interest in physical activity:

“It depends whether they believe in it” (Interview ID 6)

“If they're personally involved in walking or fitness themselves then they're likely to be more aware of the benefits.” (Interview ID 3)

Practice nurses with longer and more regular contact with patients, especially those with long term conditions, and staff enthusiastic about the role of exercise and the outdoors in promoting and restoring health may be more successful at encouraging patients to consider exercising outdoors to benefit their health. Lack of patient motivation was suggested as one reason for there being few people with primary care referrals on green activities. Where health professionals do not directly contact the scheme with the contact details of the patient no further action may take place:

“... but there seems to be, I think, this, kind of, missing link between them [primary care staff] maybe mentioning it to a patient and then the patient, or the client, turning up.” (Interview ID 7)

3.3.5 *Robust evaluation mechanisms*

Robust evaluation was also seen as being key to the success of one of the larger green prescription schemes that was part of an exercise referral schemes (ERS):

“.. one of the key things as part of the programme has been robust evaluation and after the first year we actually got in, or they actually got in an assistant psychologist who came in and reviewed and evaluated the whole programme after 12 months and brought up a huge report. And with that sort of evidence you can take that places. It's been in the sort of hierarchy within the council and within health to show that it's having such an impact on people's lives, and for that reason the CHCP committed funding to continue the project for a further three years.” (Interview ID 15)

3.3.6 *A sustained, continuous and accessible service*

Another key theme for success was the continuity of the outdoor schemes. The survey found that many of the primary care formal referral schemes had been operational for a long time and this would allay GP concerns that a patient might find the scheme, to which they had been referred, closed:

“We've been here for so long now that really it is working” (Interview ID 6)

Primary care green prescription schemes were larger (more participants) than the other outdoor schemes which completed the survey. This is probably important for primary care referral because most green activities are supervised group activities which happen at a particular time on a particular day. There is also usually a limit to the group size. Thus, compared to gym and swimming, there is more limited access and capacity, especially in smaller schemes, which may deter referral. Larger schemes are more able to provide a range of outdoor activities to suit a wider variety of people and allow people to progress to more strenuous activities as they become fitter.

3.3.7 *Health and safety issues*

Health and safety issues were perceived, particularly by those involved in horticultural work, as being a barrier to prescribing and the lack of any primary care green prescription schemes to horticultural activities substantiates this idea.

“if you're referring someone to a garden and there's no trained OT there, which is quite often the case and, you know, people are outside, it's not a safe office environment, you know, there's thread worm, there's tetanus, there's sharp tools, possible slips and trips, cold weather, hot weather, you know, there is a lot more to think about. So some people who are more risk averse might just avoid that” (Interview ID ID 2)

“we did have some issues at the start around them not being too confident about is it okay to refer someone onto exercise, and, again, <lead GP> saved the day and just kind of had a chat with them and said ‘well, look, of course it’s safe’.” (Interview ID 14)

3.4 Brief comparison of formal primary care referral schemes with informal and potential primary care referral schemes

In this section formal primary care referral schemes are compared with a group comprising both informal primary care referral schemes and potential referral schemes. These are the schemes defined in Table 3.1 as 1a (n=21) and 1b and 3 combined (n= 9 + 24).

Overall, the formal primary care referral schemes were funded more often by health boards (71% vs. 58%) and local authorities (62% vs. 49%) and they received more funding. They had more paid staff time, more participants and had been in existence for longer. They were more likely to provide a mix of activities, with fewer horticultural activities, and the activities were available more frequently. Their main target group was less likely to be the general population (27% vs. 52%) and more likely to be sedentary (33% vs. 24%) or with mental health problems (24% vs. 9%).

They also appeared to be promoted slightly more; more likely to be using leaflets (particularly in a health setting (91% vs. 64%)), have a website (81% vs. 61%) and be promoted by health professionals, social care and project workers. They were also more likely to be evaluated (86% vs. 49%).

3.5 Evaluations of health professional referrals to the schemes

Having some form of evaluation data was viewed by some schemes as a way of promoting the scheme’s success to their funding body or organisation in order to ensure continued support for the scheme. Around half of the schemes in the survey reported having some form of evaluation process. Several of the schemes were part of organisations which had their own evaluation processes (e.g. Paths for All) and although they collected evaluation data they did not themselves analyse or write up the data. Schemes were asked to send copies of any evaluation reports they had and those which described aspects of health professional referrals are summarised below. The others are summarised in Appendix 1.

Galloway Strollers Evaluation report (2007)¹⁰

The aim of this project is to develop a multi-agency community partnership to support the delivery of walking groups across mid-Galloway. The project is jointly funded by NHS, Paths to Health and Scottish Natural Heritage. The evaluation detailed the key achievements for the scheme including the design and launch of a GP referral pack.

¹⁰ [http://www.nhsdg.scot.nhs.uk/dumfries/files/Galloway%20Strollers%20Evaluation%20Report%20\(2007\).pdf](http://www.nhsdg.scot.nhs.uk/dumfries/files/Galloway%20Strollers%20Evaluation%20Report%20(2007).pdf)

Upper Deeside Walking To Health Project (2008)¹¹

During the period April 2007 to March 2008, 20 walk leaders were involved, not less than 839 volunteer hours were delivered on behalf of the project, 139 walkers were involved and an estimated 6,864 miles were walked. Several participants mentioned being referred by a member of the primary health team.

Audit of Health Walks in and Around the Cairngorms National Park and Options for Future Delivery 2007

The Schemes that are developing led health walks in and around the Cairngorms National Park are Upper Deeside Walking to Health (see evaluation report above) and Step It Up Highland (who did not respond to the survey). In the period 2003-2006, Step It Up Highland had 750 people with a variety of medical conditions who were walking regularly. At the time there were 28 health walk groups. Step It up Highland also has GP and Primary Health Care referrals. However, a lack of GP referrals was noted as a problem.

Reports on evaluations from scheme interviewees.

All the people who were interviewed (n=17) were asked how their schemes had been evaluated and whether they had any recent evaluation data. What was interesting to note was that, although many of them collected evaluation data for their organisations (e.g. BTCV or Paths for All) most did not know how their own scheme was performing, or how successful it was in relation to the data. They therefore often discussed the success (or not) of their schemes using their own perceptions or anecdotal data from participants rather than more quantitative data. Other scheme providers who were perhaps organising larger exercise referral schemes were more likely to have access to statistics and to record the data on their own database for easy retrieval. For example, a scheme organiser for an exercise referral scheme for people with mental health problems in Edinburgh (Healthy Active Minds) was able to provide details of numbers of referrals per month, number of practices referring and other data. This scheme, although running for only a few months, already had referrals from over 50% of GP practices in Edinburgh.

Another scheme co-ordinator for a large ERS in West Lothian also kept a database of information and was able to report on the number of GPs referring.

3.6 Successful approaches to green prescribing in primary care

From the results of the survey and telephone interviews, it was possible to determine the two different approaches that the outdoor schemes use to promote and facilitate health professional referral. Approach A involves the activity linking in with an exercise referral scheme and Approach B is direct communication between the health professional and the scheme. These are discussed in more detail below. Whilst both of these approaches appeared to be successful for individual schemes, it was difficult to determine whether the success was due to the approach or other factors such as the personalities of the scheme leaders and health professionals, the sustainability of the scheme

¹¹ <http://www.cairngormsoutdooraccess.org.uk/2008%20WTH%20Evaluation.pdf>

and the location of the schemes. However, Approach B appeared to be more challenging for the outdoor scheme providers.

3.6.1. Approach A. Linking in with existing exercise referral schemes (ERS)

There are now around 20 large or moderately sized exercise referral schemes in Scotland (i.e. organised at the local authority or health board level) which aim to get referrals from primary care professionals (a list of these is available from NHS Health Scotland). Many schemes are run by local authorities and operate in leisure centres. Some of the larger, more established ERS have exercise specialists who can tailor a package of physical activities for an individual (which may include both indoor and outdoor activities). It is these exercise specialists or ERS co-ordinators (or health coaches) that may be able to liaise with the outdoor scheme providers to pass on referrals, rather than needing a direct referral process between health professionals and the scheme providers. This already happens successfully for a number of schemes.

We also suggest that larger ERS schemes where there are activities that suit a variety of levels of fitness may have more appeal for health professional referral. The green prescription schemes in this report were larger than the other outdoor 'non prescription' schemes and nine (43%) provided buddy walks which could enable some of the least healthy people to increase their fitness and confidence so that they could lead more active lives and work up to joining in the group schemes.

It should be noted that Approach A will only work if the ERS is itself successful in getting health professionals to recruit. Some exercise referral schemes may face similar problems to the outdoor schemes in terms of getting health professionals involved. In addition, many of the intermediary exercise specialists are likely to have more experience in indoor activities (e.g. local authority leisure centres where they are based) and may require more knowledge about the available outdoor opportunities for improving health in order to present options for patients in an unbiased manner. Table 3.8 below outlines some of the advantages and disadvantages with linking in with ERS schemes and some considerations, drawn from the research findings and interpretation of these findings with other research evidence.

Table 3.8. Factors associated with schemes linking with exercise referral schemes.

Approach A: Linking in with an existing exercise referral scheme (ERS)	
Potential advantages	<p>May not need any direct contact with health professionals as first contact would be with someone in the ERS scheme (often exercise specialist) who would refer onto the outdoor scheme</p> <p>More streamlined and efficient approach – may be able to link in with existing referral and promotional methods</p> <p>May give outdoor scheme greater visibility and credibility amongst health professionals</p> <p>Increasing the physical activity options in an ERS scheme may make it more attractive to patients and those referring onto the scheme</p> <p>Possible opportunities for evaluation as part of the scheme</p>
Potential disadvantages	<p>ERS tend to cover large areas such as local authorities or health boards. If the outdoor scheme is small or in one defined location it may be difficult to provide services for the larger ERS</p> <p>The outdoor scheme may not have the funding or capacity to meet the numbers of people referred by the ERS</p> <p>May need different levels of the activities (e.g. easy, moderate) to meet the needs of the patients referred</p> <p>May need to train volunteers to recognise and respond to the needs of different population groups</p>
Considerations	<p>Can only be used in an area with an existing ERS scheme (there is not complete coverage)</p> <p>Aim and vision of the larger ERS may be different from the outdoor schemes</p> <p>ERS schemes are promoted to people for a pre-defined length of time (e.g. twelve weeks) whereas outdoor schemes tend not to have such limits</p> <p>ERS tend to focus on plans for individuals whilst outdoor schemes are more grouped based and sometimes targeted at the general population – it may be difficult for someone with a low level of activity to fit in with a group based scheme where participants have been involved for some time and have higher levels of fitness. Also the scheme may not be able to offer the level of activity required to meet physical activity guidelines (for example if it only runs once a week for 30 minutes)</p>

3.6.2. Approach B: Contacting and linking directly with health professionals

The second approach that outdoor schemes used was direct contact with primary care professionals. This was the approach used by many of the smaller schemes, with varying degrees of success as highlighted in previous sections. However, for many schemes this may be the only option and there are both advantages and disadvantages. Many schemes without primary care

referrals had tried this method but without success. The table below (Table 3.9) outlines some of the factors that outdoor schemes should consider if they have to use this approach. In particular, several schemes noted that having a GP ‘champion’ was key to the success of the referral process (this is the same for large ERS).

Table 3.9. Factors associated with a direct approach between health professionals and green prescription schemes

Approach B: Contacting and linking directly with health professionals	
Potential advantages	<p>Can establish personal relationships with health professionals and have ongoing contact</p> <p>Can ‘tailor’ referral methods and contact to the needs of individual GPs and/or GP practices</p> <p>Can discuss the patient’s needs directly</p>
Potential disadvantages	<p>Can be very time consuming</p> <p>Health professionals may forget to refer, or not see the benefits of the scheme</p> <p>Health professionals may worry about whether the scheme will exist in 6 months time</p> <p>Health professional may worry about health and safety issues</p>
Considerations and factors for success	<p>Possibly the only approach to use in areas without an ERS scheme, or if the outdoor scheme is small and geographically specific</p> <p>Primary care involvement in the scheme is viewed by many to be the key to success. It is particularly important to have a GP ‘champion’ – someone who may be involved in one or more of the following activities:</p> <ul style="list-style-type: none"> • setting up the scheme • steering group • publicising the group • working with scheme coordinator to troubleshoot/solve referral issues <p>May need to provide training sessions for HP to tell them how the scheme works, what the activity involves and the anticipated benefits</p> <p>Need to make the referral process easy and flexible – consider the range of health professionals in primary care that can refer – Practice Nurses and Health Visitors, for example, may be more likely to refer than GPs</p> <p>May need to provide direct feedback to HP on the benefits to patients – both at an individual and population level</p> <p>May need to evaluate the scheme to ensure ongoing support from health professionals</p> <p>Frequent publicity and promotional reminders may be required</p>

3.7 Comparison of formal primary and secondary care referral schemes

In this section we briefly compare formal primary and secondary care schemes. There were slightly fewer secondary care formal referral schemes (17 vs 21) that responded to our survey and they existed in fewer health board areas (7 vs 11). Unlike primary care green prescription schemes, only one was a mainly walking scheme and the rest were an even distribution of horticulture, conservation and green gym, and mixed activities. These differences in the activities provided for people in primary or secondary care can be partly explained by the population groups being targeted.

Far more secondary care schemes targeted people with mental health problems than in primary care referral schemes, and this is probably associated with the finding that horticulture and conservation activities were more common as they are used as treatments for people with mental health problems. In some situations the activities took place in NHS settings (e.g. hospital gardens and grounds).

Health boards or the NHS were the main supporting organisations (rather than Paths for All in the primary care schemes) with local authorities and voluntary agencies also providing considerable support.

Schemes were much less likely to be advertised using leaflets, and as well as many self referrals there were many referrals from OTs, social care workers project workers, community mental health nurses and physiotherapists. The health professionals were more likely to refer by phone than primary care staff were and less likely to be using an intermediary exercise specialist.

3.8 Approaches used for secondary care green prescription schemes

Secondary care referrals to green activities differ from primary care. The activities are more likely to be horticultural or conservation/green gym and the population group is disease specific, very often patients with mental health problems although there are also opportunities for other population groups such as cardiac rehabilitation patients who are now being increasingly referred to exercise programmes. Referrals are usually made directly to the activity and can come from a range of health professionals.

The box below (Table 3.10) summarises factors relating to this approach and some of the considerations to be made with this population group. The structure of the outdoor schemes for secondary care patients (sometimes exclusively designed for them with no referrals being taken from elsewhere) is often different to those aimed at primary care populations (where they often join in with an existing group or scheme). Any outdoor scheme wanting secondary care referrals needs to take into account these differences when approaching secondary care health professionals.

Table 3.10. Factors associated with referral to secondary care green prescription schemes

Approach C: Linking in with secondary care health professionals	
Potential advantages	<p>Can engage with targeted population groups who may receive most benefit from outdoor activities</p> <p>Can tailor sessions to suit the needs of the target group</p> <p>Can establish personal relationships with secondary care health professionals and have ongoing contact (they may need to go on the activities)</p> <p>Can 'tailor' referral methods to meet the needs of secondary care</p> <p>Can discuss the patient's needs directly</p>
Potential disadvantages	<p>Can be time consuming and resource intensive</p> <p>Is to some extent dependent on the enthusiasm and time restraints of health professionals in secondary care (some may need to accompany the patients on the activities) and whether they have the 'approval' from their NHS managers</p> <p>Health professionals may forget to refer, or not see the benefits of the scheme</p> <p>Health professionals may worry about whether the scheme will exist in 6 months time</p> <p>Health professional may worry about health and safety issues</p> <p>The scheme may not be set up to meet the needs of the patient group</p>
Considerations and factors for success	<p>Consider the range of secondary health professionals who can refer – both in the community and in other NHS settings – for example psychiatrists, psychologists, Community Mental Health Teams, physiotherapists, occupational therapists often working in a variety of settings</p> <p>Consider contacting charities and other third sector organisations who may act as intermediary (e.g. primary or secondary health professionals may refer patients to a charity – cardiac rehabilitation is one example)</p> <p>Need to make the referral process easy and flexible</p> <p>May need to provide direct feedback to HP on the benefits to patients – both at an individual and population level</p> <p>May need to evaluate the scheme to ensure ongoing support from health professionals</p> <p>May need to ensure that the activities are suitable for the patient group and that health and safety issues have been addressed (particularly important for groups, such as people with dementia)</p> <p>Frequent publicity and promotional reminders may be required</p>

3.9 Important factors for the success of outdoor activity schemes in general which may impact on their potential for green prescription

The issues discussed in the previous sections relate to schemes which have formal primary care or secondary care referrals. While many schemes strived unsuccessfully to get many primary care referrals they could still benefit the health of a large number of people and have the potential to be green prescription schemes. In this section, factors which appear to enable or hinder the existence of all green activity schemes are considered briefly.

Partnership working and secure funding

Partnership working was very important for most of the schemes, enabling them to provide more activities for more people. Partners included the NHS, organisations such as Scottish Natural Heritage, Paths for All, The Forestry Commission, and local charities. Steering groups with a range of members were appreciated, and using a community development approach to develop activities was thought to be a factor in setting up and running successful schemes.

Partners were also thought important in securing funding, which was a major problem for schemes which were not mainstream local authority or health board activities. Securing continued funding could take up precious time and lack of success could lead to the closure of the activity:

“We’re getting quite good at sort of, you know, trying to access funding, you know, wherever it is, but it is a lot of work to put in all those applications all the time and it detracts from what you’re really doing.” (Interview ID 6)

The use of volunteers

Volunteers were essential for the running of most of the activities. Time and resources were needed to support them. They needed to be selected carefully to ensure they had the personality to encourage participants, making the activities fun as well as safe:

“Without volunteers we wouldn’t have any walks, so just...they’re the most wonderful things in the world, I think.” (Interview ID 9)

More remote areas could find it difficult to get willing volunteers trained if there were not regular, locally available training courses.

Setting up schemes worked best when there was sufficient time to plan the activities and train volunteers, and when there was administrative support available.

3.10 Characteristics of all schemes identified including non responders to the survey

It was not possible to determine whether the non-responders had any health professional referral onto their schemes but it was possible, in most cases, to determine the type of physical activity and the geographic location of all of the schemes. These, as far as it is possible to tell, are detailed in the Table 3.12 which shows the overall number of schemes in the database and (in brackets)

how many of these completed the online survey. These schemes are not all green prescription schemes, but an indication of green activities in each area, most of which have the potential to benefit health. How well the population in each health board area is served by green activities should not be judged from this table as the relative size of each scheme is not shown – some areas might have several small schemes while another might have one large scheme covering the whole area. However, it does appear that, relative to its size, the Borders health board area has fewer green activities than others.

Table 3.12 Number of activities in each NHS Scotland health board area for all schemes on database (*and survey respondents*)

Health Board Area	Total activities	Walking	Conservation and green gym	Horticulture only	Mixed activities	**Other	Unknown
Ayrshire & Arran	11 (6)	5 (4)	2 (1)	1 (1)	3	0	0
Borders	1 (0)	1	0	0	0	0	0
Dumfries and Galloway	7 (6)	4 (3)	1 (1)	1 (1)	1 (1)	0	0
Fife	5 (2)	1 (1)	3	0	1 (1)	0	0
Forth Valley	15 (10)	9 (4)	1 (1)	1 (1)	3 (3)	1 (1)	0
Grampian	12 (7)	9 (5)	2 (1)	0	1 (1)	0	0
Greater Glasgow & Clyde	40 (16)	21 (7)	4 (4)	5 (3)	7 (2)	1	2
Highland	14 (7)	6 (1)	2 (1)	3 (3)	2 (1)	0	1
Lanarkshire	8 (5)	3 (2)	3 (1)	1 (1)	1 (1)	0	0
Lothian	37 (21)	19 (8)	2 (2)	5 (4)	10 (7)	1	0
Orkney	2 (1)	1	0	0	1 (1)	0	0
Shetland	2 (1)	1	0	0	0	1 (1)	0
Tayside	13 (11)	5 (4)	0	3 (3)	4 (3)	1 (1)	0
Western Isles	2 (1)	1 (1)	0	0	1	0	0
Multiple areas	2 (1)	0	1	0	1 (1)	0	0
Total	*171 (95)	*86 (40)	21 (12)	20 (17)	36 (22)	5 (3)	3 (0)

*one walking scheme covers two health boards

** Other includes cycling, horse riding and outdoor craft activities

4 Discussion

4.1 Limitations of the study

Whilst we used as many methods as possible to map schemes in Scotland it is not possible to know the extent to which we captured the number of outdoor schemes which had some aspect of health professional referral. However we did identify 170 potential schemes, which is likely to have included a high percentage of them. Other outdoor schemes (of which there are many) may not have the capacity, or be appropriate, to have health professional referrals (e.g. they may include high risk or specialist activities or be aimed at groups such as school children). We were also not able to interview any health

professionals so do not know whether they would agree with the barriers the scheme providers suggested. However the feedback from scheme providers about their perceptions of why health professionals do not refer is similar to that found in other research (Graham, Dugdill and Cable, 2005; Douglas, Torrance, van Teijlingen *et al.*, 2004; Lawlor, Keen and Neal, 1999) where barriers have included; lack of consultation time; physical activity not relevant to consultation; a belief that patients wouldn't follow the health professionals advice; lack of feedback; medico-legal responsibility issues; physical activity promotion not being a priority during routine consultation; lack of peer support, a lack of space and money, and a low priority for promoting physical activity at local and national level.

4.2 Summary of results

There was a very positive response to the research which enabled us to obtain a good response from a lot of inspiring schemes very keen to highlight what they do. We only categorised 21 (22%) of the survey respondents' schemes as green prescription schemes despite nearly all scheme organisers thinking that primary care patients could benefit from their activities and promoting their schemes in general practice. In general, these 21 schemes were larger, predominantly walking based and had been operating for longer than those without a referral scheme.

Primary care professionals appear to need support to refer – their enthusiasm for projects doesn't always lead to referrals; they possibly need to know patients are going to be well cared for and that they aren't signposting patient to an activity that no longer exists; an activity organiser (e.g. an intermediate person) contacting potential participant referred from HP seems to work well.

4.3 Issues for outdoor schemes in relation to health professional referrals

Our original brief was to identify the number of 'green prescription' schemes in Scotland. This turned out to be a more difficult task than expected, partly because we contacted scheme providers, who are generally non-health professionals and work on community based, non NHS schemes. Thus the concept of 'green prescription' schemes was not well understood or seen to be relevant by many to the main focus and aim of their scheme.

What was evident was that there is currently no outdoor scheme that only requires a prescription from primary care for someone to take part in an existing outdoor activity. There are a few examples in secondary care (Branching Out and Pedal 4th) but there are a different set of issues for some of the secondary care schemes (e.g. some of the participants cannot attend without a health professional or carer). However, this lack of 'prescription only' schemes in primary care is probably similar for 'indoor' activities whereby most activities are open to all, with few being 'prescription' only. The main similarities and differences between indoor based and outdoor based activities which are used in exercise referral (which has implications for green prescriptions) are summarised as follows:

- both indoor and outdoor activities and locations which are used for exercise prescription are designed primarily for use by the general population

- indoor activities usually take place in mainstream, regulated (in terms of health and safety), long term funded venues (e.g. leisure centres) and the additional cost to refer patients is likely to be small
- outdoor schemes tend to be piecemeal, community based, heterogeneous and short term funded from charity or government
- outdoor schemes tend to be group centred and unlike activities that take place in leisure centres, do not always have the primary focus of physical activity.
- many of the outdoor schemes rely on volunteers who may need additional training to understand the needs of people referred onto the schemes for health reasons

The last two points need particular consideration if outdoor schemes are to become part of green prescribing referral initiatives. People who are referred by health professionals onto an outdoor group based scheme need to feel welcomed and supported to meet their own goals for physical activity. Any group based activity, therefore, may need to be designed so that people who are referred with existing low levels of physical activity can still take part. Taking into account their needs may affect group dynamics (for example, people might not be able to walk at the same pace) and may also impact on the staffing and other resources needed. If there are people with different levels of physical ability, a greater number of volunteers, or different level of activities (e.g. easy, moderate, advanced) may be required. Volunteers may also need to be trained to recognise and respond to the health and wellbeing needs of the people referred.

In addition, current recommendations from NHS Health Scotland ¹² state that:
 “it is reasonable to suggest that new exercise referral schemes should not be established other than as part of such an evaluation programme or other relevant evaluative study (e.g. as part of an evaluated wider pilot initiative), and that primary care practitioners and others should be aware of the above evidence points when presenting and discussing local physical activity options to help patients meet agreed physical activity goals.”

At the present time, many outdoor schemes do not fall within these recommendations, and so clearer guidance for outdoor schemes with respect to these would be necessary.

5 Conclusions

Scotland has a large number of outdoor schemes which have a wide geographical spread, and which have the potential to be used for outdoor exercise referral. At present many of the schemes are small, community based, with short to medium funding. Although many have partnerships with the NHS, many do not. The scheme providers are overwhelmingly enthusiastic about having health professionals, particularly primary care professionals refer onto their schemes. We identified around 21 schemes that

¹²<http://www.healthscotland.com/uploads/documents/8449-NICEPHIG2HScommentarySummary10Aug06.pdf>

had formal primary care referral mechanisms and 17 which had formal secondary care referral mechanisms. There were three main approaches for health professional referrals (two in primary care and one in secondary care). In primary care, outdoor schemes either linked in to a larger ERS scheme or made direct contact with primary care professionals. In secondary care, the schemes linked in closely with health professionals and many schemes were designed for a specific health population group with referrals for that group only.

Those outdoor schemes that had successful referral processes described a number of factors for success including: partnership working, a GP or health professional at the heart of the scheme and involved in the strategic direction as well as the promotion of the scheme; ongoing and sustainable funding; a simple referral process with minimal paperwork; feedback to the health professionals; and being part of a large scheme. Barriers to getting health professionals to refer included perceptions of the GPs being: too busy; concerned about health and safety issues; concerned about the sustainability of the project (e.g. would it still be around in 6 months time); and health professionals having too many other competing issues.

A key factor to successful health professional referral may be ensuring that they are linked into more mainstream activities such as exercise referral schemes. However, infrastructure funding to carry out some activities such as monitoring, evaluation and meeting health and safety regulations would be essential.

6 Recommendations

At the present time many of the schemes directly work with primary care professionals to try and establish a referral process (for example visiting the GP surgeries, putting up leaflets etc.). However, this has not been a very successful strategy for many and referrals have been low. We have several suggestions and recommendations, based on the evidence in this report, for the planning, delivery and promotion of the schemes. There appears to be a need for some more formal procedures and frameworks for schemes who wish to have referrals. However, such frameworks should not be over prescriptive and bureaucratic and planners need to recognise that these are, and are likely for some time to remain, primarily community based and run schemes. The following are our recommendations based on the evidence from this research, and the three approaches described in previous sections:

1) Facilitate links between outdoor schemes and established Exercise Referral Schemes

One potential solution is to facilitate a link between these schemes with other more organised schemes, particularly Exercise Referral Schemes (which generally use indoor facilities). Some of the larger, more established ERS have exercise specialists who can tailor a package of physical activities for an individual (which may include both indoor and outdoor activities). It is these exercise specialists or ERS co-ordinators (or health coaches) who may be able to liaise with the outdoor scheme providers to pass on referrals, rather than needing a direct referral process between health professionals and the

scheme providers. This may remove some of the barriers that the scheme providers perceived such as concerns over health and safety, and the business of the health professionals. However, some exercise referral schemes may also face similar barriers.

2) Provide infrastructure support to ensure sustainability

Many of the schemes are run with a high degree of community involvement and support, and use volunteers in their activities. Whilst most of the scheme providers are proud of the community involvement (and what that can bring in terms of benefits for the local community) many still need ongoing funding for the scheme co-ordinators and for the day to day running of the schemes – unless sustainability of the schemes is achieved it may be difficult for them to become part of more mainstream activities. Having good quality evaluation of their work (particularly around the health impact of the schemes) may also help ensure ongoing funding and encourage health professionals to refer onto the schemes.

3) Increase NHS Partnership working and local ‘champions’

There are many smaller schemes in more rural locations, or where exercise referral schemes do not exist, and other strategies may be needed. Partnership working was one of the key factors to success, and the schemes may need NHS involvement at some level. For example, having health professionals from either their own area or other areas to talk to the local health professionals and be part of the scheme’s Steering Group.

4) Increase shared learning and innovation

Some of the scheme providers are working on their own and could benefit from learning and sharing with others innovative ideas and practices. Workshops, discussion groups and other means of communication could all facilitate this process.

5) Provide education and support for health professionals on the benefits of outdoor walking

Whilst we did not interview health professionals as part of this research, it was evident that there were barriers to health professionals referring. Exercise referral, both indoor and outdoor, needs to be made a realistic and an easy option for health professionals to provide their patients.

6) Provide a clearer understanding of what a ‘green prescription scheme’ is and how success should be measured

As many schemes are community based, with a variable focus on health, more thought needs to be given to what a ‘green prescription’ schemes is, and ‘successful’ schemes look like – for example, is it one which has large numbers of GP referrals, one which has demonstrable health impacts (or both) or one which attracts a particular target group. Some schemes may appear to be successful as they have a large number of people taking part in the activity. However, if this number is the same people who have been on the schemes for years and represent only a small section of the population then the success in terms of health impact may be limited.

7) *Establish mechanisms for better evaluation of how many people benefit and whether they are in target groups*

Currently there is little published robust evaluation which provides information on the reach and health outcomes for people using the schemes. Evaluation data that is collected for larger organisations does not appear to be routinely fed back to the individual schemes. Evaluation is important for schemes as it can help demonstrate success and therefore help promote the scheme to both health professionals and partner organisations and secure longer term funding. A standard monitoring and evaluation framework for green prescription schemes would be of value provided that:

- there is proper centralised co-ordination of the monitoring and evaluation process and a feedback mechanism
- it does not entail more paperwork for schemes that already undertake such work and can fit in with any existing evaluation that needs to be done for each scheme. For example, Paths for All currently try to encourage schemes to complete the Paths to Health Monitoring and Evaluation forms.
- there is support (and possibly funding) for schemes to ensure that they are able to collect data in a robust and timely manner
- schemes understand how it could benefit their work and how it may fit in with their wider aims and objectives

It is important to ensure that evaluations define the criteria for success at the outset.

8) *Consider NHS accreditation of schemes who wish to be part of 'green prescription' activities*

One of the concerns raised by some scheme providers (and raised as a perceived concern for health professionals) was issues around health and safety. As many of the existing schemes are aimed at the general population, some health and safety training may be needed. Scheme providers may need to be equipped to deal with the range of patients who may get referred onto a project. They may also not have the relevant insurance and indemnity. Accreditation may be one useful way of helping the scheme providers to promote their scheme to health professionals. Accreditation could take various levels such as:

- accredited to take people who are inactive but not any underlying health problems
- accredited to take people with mild to moderate mental health problems
- accredited to take people with mild or stable ? chronic conditions such as diabetes, CHD.

A directory of accredited outdoor exercise schemes, validated for particular types of patients, could be made available through the NHS. Ways of encouraging the inclusion of information about local (accredited) activities in GP registrar training and practice, district and health visitor nurses induction could be devised at a national level.

9) *Promote the benefits of exercise referral in general at the secondary care level*

Secondary care discharge letters could, for example, mention arranging increased physical activity for patients where appropriate.

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Appendix 1. Evaluations of outdoor schemes (effect on health outcomes)

1) Evaluation of Branching Out. Greenspace and conservation on referral (2009)¹³

125 participants were referred over the course of the Branching Out programme and 110 clients (88%) attended the programme on at least one occasion. For many of the services, demand outweighed supply and some potential clients were unable to attend the project (9 out of the 12 groups involved were full to capacity). Of the 110 clients who attended, 33 (30%) did not complete the programme. The average age of those who completed was 41 years. There were slightly more males participating than females, but females were more likely to complete the programme. The primary outcome measures used by the evaluation were i) General Health ii) Physical Activity and iii) Well-being. These were assessed using both questionnaires (scales) and qualitative methods. Pre- and post- measures of each outcome parameter were used. The pre- to post- intervention results from the SF-12v2™ eight scale health profile showed increases in physical functioning, body pain, general health, vitality and mental health. The differences were most substantial in the mental health measure.

2) Choose An Active Life, Midlothian (Miller, S 2009)

This initiative has been designed as a community based multi-agency initiative as evidence suggests that improved benefits emerge when such services are delivered in a de-medicalised context. The evaluation reported on training volunteers who will provide support into exercise (including some outdoor physical activity) for people with mental health problems. The scheme has employed 21 volunteers to assist with the activities. The number of official referrals has been 72. The report noted that it has been difficult to assess the extent at which many of the outcomes have been achieved purely through the project alone. This is mostly due to the large number of confounding factors that impact upon and influence individuals suffering from Mental Health problems. Although the number of people receiving the service was small, the impact that the programme was able to make on participants life was reported to be considerable.

3) Evaluation of BCTV projects - Inspiring people, improving places (BCTV) and BTCV Green Gym National Evaluation Report¹⁴

The main evaluation report which is relevant is the evaluation of Green Gyms. 52 projects were evaluated and were located in England, Northern Ireland, Scotland and Wales. Green Gym is inclusive in its 'recruitment' in relation to most socio-demographic data, the exception being minority ethnic groups; 97% of respondents were 'white'. On average, the physical health status of Green Gym participants, as measured by the SF12, improved significantly, with, for some participants, a positive change after 3 months. Those with the lowest physical health scores on the introductory questionnaire were 9 times more likely to be the ones improving their physical health the most. Similarly,

¹³ [http://www.forestry.gov.uk/pdf/Branching_Out_Report.pdf/\\$FILE/Branching_Out_Report.pdf](http://www.forestry.gov.uk/pdf/Branching_Out_Report.pdf/$FILE/Branching_Out_Report.pdf)

¹⁴ http://www2.btcv.org.uk/display/greengym_research

those with the lowest mental health scores on the introductory questionnaire were 3 times more likely to be the ones improving the most. This also applies to participants' physical activity levels measured in METs. Participants who were the least active upon joining were 3 times more likely to increase their level of physical activity.

4) Walk Forward¹⁵

The report evaluated a 12 month Walk Forward project, a partnership between Ramblers Scotland and Paths to Health which had the aim of encouraging fitter participants in Paths to Health schemes to move beyond very easy walks (Inkster and Turnbull 2009). Questionnaire and focus groups results in both groups in Stirling and Inverness indicated that although walkers felt overwhelmingly positive about the new groups (scheme helped people to move beyond very easy walks) and almost unanimously stated that they felt the groups helped them to walk more, no notable changes emerged in the levels of walking achieved or levels of health among participants. Walkers also displayed a strong reluctance to move away from the group walking structure.

5) CHANGES health walks (Musselburgh, East Lothian)

Evaluation of the walking scheme is carried out at the end of each block of walks by asking participants to complete a basic evaluation form. Feedback from these evaluations is used to monitor the success of the particular walks and ascertain if any improvements should be made to future walks. Overall response has been very positive. Most comments centre on people feeling fitter, losing weight, making new friends/meeting people, feeling more alert, feeling healthier, and regaining confidence after an illness. CHANGES tries to limit the numbers attending each walk, if possible to 14, to provide support to participants. Walks participants are offered two, ten week blocks and are then given support to form their own independent group or to join another local group. This method has been used to enable a through flow of participants.

6) CHANGES Research walks project (June – December 2009)

The results from this exploratory study are currently being analysed. 19 people, recruited through GP and PN consultations, a practice mailing to patients with diabetes and local publicity agreed to participate in a 12 week programme of thrice weekly health walks (30-45 minutes) starting from a town centre health centre. Baseline, post intervention and 6 month follow-up data from a battery of questionnaires (IPAQ, PA stages of change, HADS, Lubben social network questionnaire, WEMWBS and EQ-5D), BMI and BP, and in-depth interviews are being used as outcome measures. Preliminary pre-post intervention analysis shows a significant decrease in time spent sitting and an increase in overall exercise.; no difference on the HADS score; and a significant improvement in mental well being on the WEMWBS. Interview data revealed that the vast majority of participants enjoyed the walks because of the camaraderie, getting to know the area better and feeling mentally and physically fitter.

¹⁵ Walk Forward Final Report (2009) Ramblers Scotland and Paths For All

7) Evaluation of the 'Walking the way to Health (WHI) (2006)¹⁶

Some of the schemes that are part of organisations such as the BCTV and Paths for All have national evaluations. For example, several of the walking schemes in the study were part of an evaluation of the 'Walking the way to Health (WHI) which included both English and Scottish schemes (2006). 750 people involved in the schemes completed surveys. The report found that in terms of reach, the schemes were going some way towards achieving a stated aim of attracting new, relatively disadvantaged people - in socio-economic terms - but they also clearly catered for many people who were disadvantaged in the sense of having an increased risk of social isolation - because they were in an older age-group and living alone. Led walk attendance and retention was extremely impressive, so that by 12 months into the evaluation, nearly three-quarters (72%) of respondents had been on a led walk at least once a fortnight during the previous 9 months. Analyses of physical activities data found that 65% of the sample were meeting current recommended levels of physical activity (that is 2½ hours per week of physical activity equivalent to walking at a brisk pace ie. a moderate level of intensity) just from walking; and that the amount of leisure walking that people did contributed substantially to overall physical activity levels.

8) Paths for All evaluation Report (executive summary) 2005¹⁷

This report was a summary of 15 schemes in Scotland. Schemes reported on a range of benefits their walkers and leaders had noticed e.g. increased walking capabilities and the increased social interaction that walking provides.

¹⁶ <http://www.wfh.naturalengland.org.uk/uploads/documents/2335/National%20evaluation%20-%20THE%20FULL%20THING.pdf>

¹⁷ <http://www.pathsforall.org.uk/pathstohealth/documents/10%20Evaluation.pdf>