



Health Enhancing Physical Activity (HEPA) Promotion in Health Care Settings - Policy, Practice & Evidence

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**(on behalf of HEPA Europe working group on HEPA
promotion
in health care settings.)**



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HEPA Europe working group on HEPA promotion in health care settings.

Health Enhancing Physical Activity Promotion in Health Care Settings - Policy, Practice & Evidence

Summary

The promotion of physical activity has increasingly been recognized in Europe as a priority for public health action and many countries have responded through the development of policies and interventions supporting physical activity. In 2013, the World Health Organisation published the Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013-2020 (WHO, 2013) that underlined the importance of physical activity in the prevention and management of non-communicable disease. At the same time the importance of the contribution of the health sector generally and primary care in particular is increasingly recognised. Anecdotal evidence from around the world consistently reported the trust and expectations patients and the public have in receiving quality physical activity information, advice and support from their primary care providers (Üller P et al, 2012; Patrick K et al, 2009), whilst other research (Rehman et al, 2003) has found limited evidence that such support is provided in any consistent or comprehensive format. Nonetheless, there are good and innovative examples from across Europe that can help to inform this critically important aspect of physical activity promotion.

This report presents 11 health care interventions from 8 countries in the European Region as well as 2 from other countries around the world; and suggestions for national and local action on interventions and policy formulation to support physical activity promotion in health care settings.

The report was developed with the support of the European network for the promotion of health-enhancing physical activity (HEPA Europe) and its working group on HEPA promotion in health care settings.

A copy of the report can be requested by e-mail (Malcolm.ward2@wales.nhs.uk).

Introduction

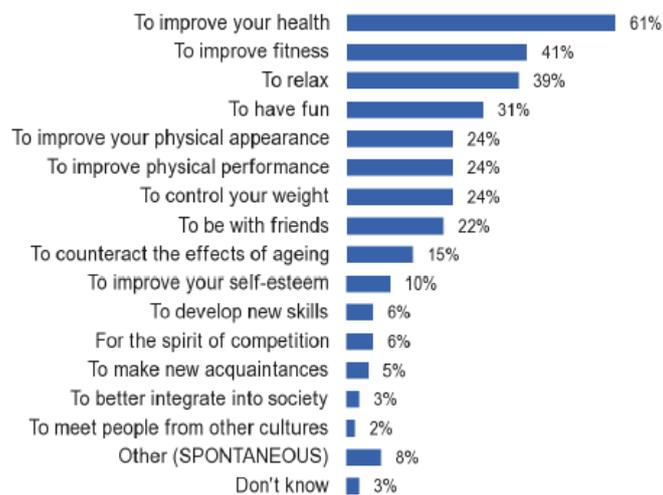
A Public Health Challenge

The health effects of regular physical activity benefit both physical and mental well-being. Evidence shows that physical inactivity causes 6% of the burden of disease from coronary heart disease, 7% of type 2 diabetes, 10% of breast cancer, and 10% of colon cancer (I-Min Lee et al., 2012). Furthermore, physical activity helps to reduce stress reactions, anxiety

and depression as well as possibly delaying the effects of Alzheimers Disease and other forms of dementia (WHO, 2015). Inactivity has been estimated to contribute to a mortality burden comparable with tobacco smoking. Overall, it has been estimated that within the WHO European Region, almost one million deaths per year are attributable to insufficient physical activity (WHO, 2015). In many countries, therefore, physical inactivity is now considered one of the major causes of ill-health and death.

A Eurobarometer survey published in March 2010 (European Commission, 2010) indicated that the single biggest reported reason for engaging in physical activity was to improve health (Fig. 1) although there is an age related difference with only 52% of 15-24 year-olds motivated by health, but this rises steadily and reaches 67% among 70 yrs+ respondents. Yet at the same time 13% of respondents say that disability or illness prevents them from taking part.

QF4. Why do you engage in sport or physical activity?



EU27

(IF PRACTICE A SPORTS ACTIVITY OR A PHYSICAL ACTIVITY - Base = 87% of the total sample)

Fig. 1

In many respects primary care practitioners are well placed to help address the problems of physical inactivity:

- Primary prevention is a recognised clinical role (Holmberg C et al., McNally S, 2015));
- They have greater access to the population as a whole than any other single professional (McNally S, 2015);
- They have frequent engagement with those most in need of physical activity advice and information (McNally S, 2015);
- They are a trusted source of lifestyle advice and information including on physical activity (Weiler et al., 2012).

The recently launched ‘Physical activity strategy for the WHO European Region 2016-2025’ recommends that “Member States should work towards making the promotion of physical activity by health professionals the norm” and that “Early identification, counselling and referral at the primary care level should be integrated into standard practice and should respond to the different needs of patients” (WHO, 2015). However, despite the powerful evidence of the relationship between physical activity and health, recent studies have shown that very few primary care physicians provide regular or effective information and support to physically inactive patients (Weiler R et al, 2012). There are a variety of reasons cited including lack of time and competing priorities but lack of knowledge is also a major barrier (King A, 2000; Anand T et al, 2011; Dunlop M & Murray A, 2013). There is an evident gap between public expectations and the capacity to deliver that is reflected in the limited provision of physical activity promotion in primary care. Recent surveys undertaken by HEPA Europe (Ward M, 2015) and others (Weiler R et al, 2012; Dunlop M & Murray AD, 2013) have highlighted the very small amount of medical curriculum time that is dedicated to physical activity and health, so it is little wonder that doctors often don’t feel sufficiently confident or equipped to provide support or information to their patients.

In most countries in the world primary care services are the initial point of contact between health professionals and patients, and whilst there are undoubted differences in the range, frequency and experience of access opportunities related to culture, social group, gender, service models, age, income etc., it remains a setting that provides a good population level opportunity for engagement on health and lifestyle issues (Elley et al., 2003)

Approaches and selected examples

Over the years, there have been a variety of approaches used to promote physical activity to patients in primary care, ranging from simple signposting in community settings such as pharmacies to more formal exercise prescription interventions by health professionals. The following case studies are taken from around the world and try to cover the most popular approaches to date. They were gathered from HEPA Europe members following requests at the HEPA Europe Annual Meetings in 2014 and 2015, supplemented by a mail out request to all listed working group members and to HEPA Europe board members. A common template was devised to gather the relevant information and to standardise the reporting format. These case studies were further supplemented with a rapid desktop search conducted by the author. The resultant case studies and recommendations are not designed to provide a universal picture of every intervention but to offer an overview of the most popular approaches presently in use, with consideration of the strengths, weaknesses and opportunities afforded by each.

In the following section, two main approaches to physical activity promotion in health care settings will be considered, namely ‘brief interventions’ and ‘exercise referral schemes’. Selected examples for both will be presented, including where available the identification of key enablers and barriers as well as lessons learned.

Brief Intervention

A brief intervention involves oral discussion, negotiation or encouragement, with or without written or other support or follow-up (NICE, 2013). It may also involve a referral for further interventions, directing people to other options, or more intensive support. Brief interventions can be delivered by anyone who is trained in the necessary skills and knowledge. These interventions are often carried out when the opportunity arises, typically taking no more than a few minutes for basic advice. The National Institute for Health and Clinical Excellence (NICE) in the United Kingdom identified three levels of brief intervention starting at a “very brief intervention” which can take from 30 seconds to a couple of minutes. This mainly involves giving people information or directing them where to go for further help. It may also include other activities such as raising awareness of risks, or providing encouragement and support for change. It follows an ‘ask, advise, assist’ structure. For example, very brief advice on smoking would involve recording the person’s smoking status and advising them that ‘stop smoking services’ offer effective help to quit. Then, depending on the person’s response, they may be directed to these services for additional support. They also propose an “extended brief intervention that is similar in content to a brief intervention but usually lasts more than 30 minutes and consists of an individually-focused discussion.” It can involve a single session or multiple brief sessions. (NICE, 2013).

NICE guidance (NICE, 2013) indicates that there is ‘moderate’ evidence that self-reported physical activity levels increase in those participants who received brief advice, or who were seen by primary care professionals trained to deliver brief advice.

Whilst a brief intervention may have some effect in isolation it may also be the first stage of a more intensive intervention such as an ‘Exercise Prescription’ or ‘Exercise Referral’.

A study that looked at physical activity counselling by health care professionals in Nova Scotia found great variability in the consistency in which counselling was provided with adults and clients who were perceived to be overweight receiving the most input with children, adolescents and those perceived to be underweight receiving the least. There was a general consensus amongst healthcare practitioners that more training and resources were needed (Rehman L et al., 2003).

Selected examples

PACE - United States

Initiated in 1990 by the Centres for Disease Control and Prevention, one of the most high profile examples of brief interventions for physical activity is the ***PACE (Physician-based Assessment and Counselling for Exercise)*** programme from ***North America*** where primary care providers and office staff are trained to use the PACE materials to promote physical activity amongst patients. An initial evaluation suggested that the training was effective in preparing the providers to counsel, and the program was generally acceptable to providers, office staff, and patients (Long et. al, 1996). Counselling was provided in less

than five minutes by most of the providers. Since then the approach has been developed to encompass other lifestyles and behaviours with a proliferation of PACE projects and associated research that can be accessed via the PACE Projects website (<http://www.paceproject.org/Home.html>).

Green Prescription - New Zealand

In *New Zealand* the '*Green Prescription*' was initiated in 1998. This national initiative uses an alternative prescription (green in colour) issued by the GP or practice nurse that encourages the patient to become more physically active through:

- monthly telephone calls for 3-4 months or;
- face to face meetings for 3-4 months or;
- group support in a community setting for 3-6 months.

If the patient feels they need additional support they can request further prescriptions. A range of exercise options are provided by a variety of sport, leisure and health providers from both the public and NGO sectors.

Research by Elley et. al. (2003) indicated that:

- a Green Prescription increases physical activity levels and improves quality of life over 12 months, without evidence of adverse effects;
- prompting practice staff to deliver the intervention will increase its effectiveness;
- for every ten Green Prescriptions written, one person achieved and sustained 150 minutes of moderate or vigorous leisure activity (using up an additional 1000 kcal) per week. This is associated with a 20%-30% risk reduction in all cause mortality, compared with sedentary individuals;
- the Green Prescription initiative is sustainable in usual general practice.

Further information can be found online: (<http://www.health.govt.nz/our-work/preventative-health-wellness/physical-activity/green-prescriptions>).

PAPRICA - Switzerland

In *Switzerland* *PAPRICA (Physical Activity Promotion in PRImary Care)* has been developed (Martin et. al, 2014). Based on international evidence *PAPRICA* provides training and resources for primary care physicians to enable them to provide more effective physical activity counselling for their patients. The training provides background knowledge, hands-on experience and counselling skills based on the motivational interviewing technique. The training is supported by a manual for physicians and a brochure for patients. Further details available at: <http://www.paprica.ch/>

Neuvokas perhe (the Smart Family) - Finland

The 'Smart family' intervention in Finland was developed to provide tools to help public health nurses and other professionals to bring up lifestyle issues with families without arousing guilt and to encourage families to spot the strengths in their health habits and help them find out if they would like to make changes.

The theoretical background in health behaviour change is based on the Health Action Process Approach (HAPA-model) (Schwarzer, 2001). Health professionals are supported to encourage their clients by using motivational interviewing techniques (e.g. Miller WR & Rollnick S, 2013).

The first development phase started in 2006, extended funding for development has been granted until the end of 2017. After that, Smart Family will remain as permanent practice in communes and will be supported and updated by the Finnish Heart Association.

Tools include a Smart Family card for the family, a picture folder for the professional (mostly public health nurses), on-line information folder for professionals and webpages for families and professionals. There are also posters available for the clinics.

Communes can order Smart Family cards and picture folders. A one day education by Finnish Heart Association on using the tools is highly recommended for professionals working with families.

The Smart Family card includes facts about nutrition and physical activity for mother, father and the children. Parents answer statements about their child's habits although the card also includes statements for school-aged children to answer for themselves. There are also statements about smoking, tooth brushing and sleep. The statements (e.g. "Our family exercises together" or "Our family eats together at least a few times a week") are followed by "traffic light answers": Green ball = yes, Yellow ball = sometimes, Red Ball = No / Not possible.

The purpose of the card is to provide a tool for families to assess their health habits. The card informs families about their health habits and encourages them to spot their strengths. The card enables families to choose the topics of discussion at nurse's appointment. Families may also fill in their own concerns and goals on the card.

For a health professional, the card serves as a tool to open a discussion about family's views of health habits. It also helps professionals to facilitate families in their own consideration of what they find important and how that could be achieved by building on family's strengths.

The 'Smart Family' picture folder includes informative pictures that can be used at the appointment with clients by health professionals. There are pictures of recommendations as well as pictures that can be used to promote families' interest and self-efficacy in physical activity.

The 'Information folder' can be found from Smart Family webpages: (<http://verkkojulkaisu.viivamedia.fi/sydanliitto/neuvokasperhe>). The information folder is targeted at professionals, but can be used by families as well. The folder includes more detailed information on national recommendations on nutrition and physical activity. There is also a section to help professionals with questions they might face with clients in lifestyle counselling and using Smart Family tools.

The Web pages www.neuvokasperhe.fi include information for families as well as for professionals about physical activity, nutrition, other lifestyle factors and family life.

Smart Family is being delivered in 102 out of 320 communes of Finland, and is in use in most large cities (e.g. Helsinki, Espoo, Vantaa, Oulu). Rough estimates suggest that approximately 40% to 50 % of the Finnish families at maternity clinics, child welfare clinics and school clinics are reached (the clinics reach 99% of each age group in Finland).

Results

Internally funded research is being conducted in 2 communities that use Smart Family and 2 control communities, (N = 600 families = max. 900 respondents) during 2014-2016.

Expected outcomes in the intervention include:

- Families are more likely to spot their skills and strengths in health habits, and encouraged to make changes.
- Families' increased physical activity and nutrition self-efficacy, better parenting practices and increased motivation for lifestyle changes.
- Families are facilitated to consider their important values and goals that relate to health habits and are facilitated to find suitable means for change

These should lead to healthier eating habits and decreased sedentary lifestyle, which in turn should lead to improved rates in weight and other health markers.

Based on the first development phase, the following key enablers and main obstacles and barriers were identified:

Key Enablers

- Communes express interest and need for an intervention.
- A need by health professionals to find suitable tools to respond to families with overweight children with positive approach.
- Families express their acceptance for the tools and use them.
- Multi-professional steering and working group for developing and conducting the intervention.
- Readiness to adapt the method according to the needs identified within the communities.

Main Obstacles/ Barriers

- Poor economic situations in communes. Although, the method and tools are widely applied, many communes express their interest but need to wait for the funding.

- Variable practice - Method can be misused (nurse concentrates on what client needs to change instead of what skills client already has, or what the client himself thinks he needs). If the method is misused by professionals, the effect can be opposite to the expected effect. E.g. if the card is used to spot the unhealthy habits, families capability to find their own solutions or aims are not supported.

Lessons Learned

As indicated in the literature, just giving information is an ineffective way to change people's behaviours. Yet, professionals continue to impress their concerns on clients by spotting the unhealthy habits that needs to be changed and giving them 'formal' advice and information although most clients are already aware of their needs ("I shouldn't smoke"/ "I should exercise more"). Changing health care to adopt a more client centred and self-efficacy promoting focus is a time consuming, never ending task, but also extremely rewarding.

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Exercise Referral / Prescription

Evidence of effectiveness of interventions for promoting physical activity in primary care is mixed. The latest NICE guideline for Exercise Referral (NICE, 2014) suggested that there was no evidence to recommend exercise referral schemes for the sole purpose of increasing people's physical activity levels (When compared to giving people brief advice about physical activity).

In the NICE guideline, exercise referral schemes consist of:

- an assessment involving a primary care or allied health professional to determine that someone is 'inactive', that is, they are not meeting the current UK physical activity guidelines (Department of Health 2011);
- a referral by a primary care or allied health professional to a physical activity specialist or service;
- an assessment involving a physical activity specialist or service to determine what programme of physical activity to recommend;
- an opportunity to participate in a physical activity programme.

The guideline **does not consider** exercise referral schemes designed for, or that include, management of, or rehabilitation for, specific diseases. They also acknowledge that not all the potential benefits of these schemes could be captured in the economic model used to assess cost-effectiveness.

Part of the problem in assessing effectiveness is the limited number of interventions that use a 'robust' approach to evaluation, which means that many do not get included in a lot of the evidence reviews (Pavey TG et al, 2011; Sørensen JB et al, 2009). Other difficulties are the variability of models used; the lack of flexibility to assess multi-morbidities and importantly the baseline for measuring physical activity, which in the UK is usually the proportion of patients achieving the recommended 150 minutes of moderate or vigorous

physical activity a week, rather than the actual amount of physical activity undertaken. This latter means that those who may significantly increase their physical activity levels without achieving the recommended minimum are discounted whilst the evidence would suggest they would have achieved proportionately greater health benefits than those who may have increased their physical activity less but were close to the recommended minimum benchmark to start (Warburton DER, et al, 2006; Ward et al, 2010).

A summary of physical activity on prescription in the Nordic region identified a “common denominator in the various models for physical activity on prescription in that physicians or other licensed healthcare staff consult with the patient and prepare a written prescription for physical activity. Differences between the models primarily concern who issues prescriptions, who has a motivational interview with the patient and follows up the prescribed activities and which patients are eligible. There is a wide variation in how intensive the interventions are, what is done within the healthcare services and in cooperation with other actors in society, and if the focus is on promoting physical activity individually or in group activities. Some models use existing structures in society while others have developed new ones.”(Kallings LV, 2010). Critically, all the models reviewed led to increases in physical activity.

There are variations of ‘exercise referral’ or ‘exercise prescription’ programmes from a range of countries. As a general rule an ‘exercise referral’ involves patients being formally referred by the health professional to a third party, often an exercise professional, whereas an ‘exercise prescription’ tends to be less formal with the health professional signposting to local physical activity opportunities, although the terms are used interchangeably in different localities. Various models of Exercise Referral or Exercise on Prescription are in use particularly in Northern Europe and Scandinavia with programme such as: Fysisk Aktivitet på Recept, FaR® = Physical Activity on Prescription in Sweden, Grønn recep or Green Prescription in Norway and Motion på recept, MpR (Exercise on Prescription) in Denmark. These all use a modified prescription form issued by a doctor or other licensed health professional that records baseline clinical, physiological and personal data and ‘prescribes’ exercise activities tailored to the individuals needs varying from personal home based exercises to formal supervised classes or other community based activities. A range of supporting resources, both printed and electronic, for both professionals and patients are also often a feature of the programme. Other similar interventions include:

Walk Your Way to Better Strength and Balance - Scotland

The ‘Walk your way to better strength & balance’ initiative provides a printed resource promoting walking and strength and balance exercises as an intervention for older adults (65 yrs+) in care home settings. Initiated in 2012 and funded by the Scottish Government, the initiative is delivered by the ‘Paths for All’ charity and provides an evidence-based toolkit for care staff and walk leaders and information leaflets for older adults. The pilot resource was sent to a range of community walking groups, physiotherapists, occupational therapists, health improvement advisers and ‘active ageing’ staff for comment. The

refined resource was produced and included 4 exercises for frailer adults (chair based). The exercises were trialled in one of the community walking projects, and in a local care home setting by a 'Community Walking for Health' coordinator.

Since producing the resource, a 3-hour workshop has been delivered that is carried out by trained staff who are also linked to community walking projects. This workshop has two options: one for community walking groups, and one for care staff who look after frailer adults in care homes. The workshops have an evaluation form, and delegates are asked to fill in a 6-week diary following the workshop to record the impact of the exercises.

Results

As a result of training in the Perth and Kinross region of Scotland, two care homes have started short "Health Walks" with residents who are able. The national charity 'Living Streets Scotland' has also worked with two care homes in Perth and Kinross to carry out street audits around the care homes (an intervention that looks at the quality/barriers/issues in the local pavement and street infrastructure).

Key Enablers

- Expert input at the development stage and during the development of workshops.
- Dissemination via a network of community walking projects.
- The combination of new guidance on physical activity for older adults plus a rising interest in promoting physical activity in older adults in care settings.

Main Obstacles / Barriers

Dedicated ongoing staff time to develop, deliver, monitor and evaluate the project.

Lessons Learned

Community walking groups are mostly attended by older adults, and so the inclusion of strength and balance exercises is appropriate. Our feedback from walkers and walk leaders is that even fit older walkers benefit from doing the strength and balance exercises, and can describe real benefits to their functional fitness such as being steadier when carrying cups of tea etc.

We did envisage that community walking groups might like to carry out the exercises as part of a Health Walk, however this was not found to be popular, with most walkers choosing to do the exercises at home. Some community walking groups carry out the exercises as a warm up to the Health Walks or as an alternative to Health Walks on icy days.

Frailer older adults also benefit from doing strength and balance exercises, with even residents in their 90's saying that they have become more able to get out of a chair, and that they enjoy the exercises.

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Aktiivix (A Targeted, Multi Departmental Service Chain Model for Exercise Counselling) - Finland

Introduction

The majority of Helsinki's adult population consider themselves to be in good health even though their average lifetime expectancy is shorter than that of the average Finn. Excess bodyweight is an increasing health risk. Some 38% of 25- 74 year old residents are overweight and 19% are obese. The model has been implemented together with the sports department, social and health care department and city executive office with separate funding.

Methods

A total of 150 working age citizens of Helsinki who were suffering from type 2 diabetes or persons with BMI ≥ 30 has gone through a year-long exercise counselling service chain model. They were selected by the nurses and doctors from the health centres of Helsinki municipality. Height, weight, body mass index (BMI), waist circumference and lifestyle survey were measured three times during the process; 1st visit - after 6 months - after 12 months by exercise counsellor.

Results

At the beginning of the intervention 43% of participants had a BMI between 30-35, 46 % had a BMI of 36 and over. The majority were females (76%) and the average age was 56 years (± 10.40). The average BMI decreased in females from 37.47 (± 12.55) to 33.59 (± 4.7) and in males from 33.84 (± 5.06) to 32.71 (± 4.20). There was a positive improvement in the waist circumference also where females reduced on average 10 cm (± 10.48) from the baseline (112.27 cm ± 10.87) and males on average 5 cm from the baseline (117.67cm ± 10.73). Participants rated their subjective satisfaction with exercise, sleep, nutrition and body image with a 10 cm long Visual Analogue Scale (VAS). Positive improvement occurred in every sector, especially in satisfaction for exercise (from 3.96 ± 2.49 to 6.32 ± 2.04) as well as body image (from 3.84 ± 2.38 to 5.96 ± 1.98). Positive improvements were also in perceived physical condition and state of health, stress, alertness and vitality sensations. Similarly customers experienced fewer challenges in coping with daily tasks. The amount and effectiveness of physical activity increased.

Discussion and Conclusion

The results show that the service chain helps provide a positive boost to the physical capabilities of an inactive client and it's a path towards more active and healthier lifestyle. Aktiivix-model is part of the health care chain at the municipality of Helsinki.

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Beweegkur - Netherlands

The BeweegKuur programme in the Netherlands focuses on delivering a lifestyle package to overweight patients (BMI 25-35). Patients are recruited through primary care and dependent on their assessment are directed by a Lifestyle Adviser (LSA), often a practice nurse, into one of 3 exercise programmes of differing intensity delivered by a physiotherapist. Within each program, the LSA designs an additional personalised exercise program, in close consultation with the patient and the physiotherapist. Throughout the year the LSA provides coaching and supervision in 6 (program 2 and 3) or 8 (program 1) sessions, based on principles of Motivational Interviewing. In addition, all participants are referred to a dietician for 4 individual and 7 group sessions.

To contribute to sustainable changes in PA, participants are guided towards local exercise facilities during the intervention.

Results

Evaluation of the pilot programmes were conducted across 160 locations with 30-40 patients at each location, results indicate:

Median improvements in health parameters range from 2.3% (systolic blood pressure) to 4.5% (blood glucose). Weight loss 2.6%, decrease waist circumference 3.2%.

Participants are more physically active (light to moderate PA: + 2.1 (hours/week), vigorous physical activity + 1.7 (hours/week), after the intervention, and part of the increase is still present one year later.

After one year BeweegKuur, people experience improved mobility, less pain, and better mood.

Participants (programme 2) are becoming more intrinsically motivated to be physically active, and this is still visible one year after the end of the intervention.

Preliminary results show considerable decrease in health costs of people included in programme 3.

Multidisciplinary collaboration within local networks is well perceived.

Access to exercise facilities with supply for people with chronic diseases is perceived better when these exercise facilities are included in the local networks.

Results partly available at website:

<http://www.beweegkuur.nl/onderzoek/wetenschap.-publicaties.html>;

<http://www.beweegkuur.nl/documenten-2012/onderzoek/rapport-an-effective-lifestyle-intervention-in-practice-volledig.pdf>

Key Enablers

- Possibility to adjust protocol to local situation
- Central role of Life style advisor
- Use of Motivational Interviewing to guide participants
- Multidisciplinary collaboration, preferably also including local exercise facilities and municipalities.
- Finance of investments (in pilot)

Main Obstacles / Barriers

- Culture differences between health care and exercise sectors.
- Unwillingness of (primarily) physical therapist to lead participants towards local exercise facilities.
- Absence or ignorance of exercise facilities with adjusted supply in local settings
- No finance of prevention, no formal responsibility

Lessons Learned

In order to be effective the average participant needs to have a minimum number of about 12 contacts with professionals. Participants want to have some support after the end of the intervention in order to maintain improved lifestyle.

The importance of parameters other than physical health may have quite often been underestimated.

The role of the Life style advisor is crucial. This or another person is needed to bridge the gap between primary health care and exercise.

There are large differences in results between locations. Although not proven, it may be hypothesised that the best results are reached when professionals are highly motivated themselves and thus if that is not the case the intervention should not be executed there.

It is important that professionals can adjust a protocol to a certain extent to address local circumstances.

Widespread implementation was highly facilitated by accompanying formative evaluation, and may have helped in reaching rather promising results for an intervention in the primary care setting.

Building sustainable local networks takes about 2 years.

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Care Sport Connectors (CSCs) - Netherlands

An alternative approach also from the Netherlands is the use of 'Care Sport Connectors' as intermediaries between the health and sport sectors. The CSCs are employed to connect primary care and sport and to guide primary care patients on lifestyle programmes towards local physical activity facilities. Established as a trial in 2012 by the Dutch Ministry of Health, Welfare, and Sport the CSCs are 40% funded by the state with the remaining 60% funded by the municipality or other local organisations. The defined outcome of the CSC is an increased number of residents participating in local sports facilities and being physically active in their own neighbourhood. A case study evaluation using a mixed methodology is being carried out in nine municipalities spread over the Netherlands. Data will be collected through interviews, focus groups, document analysis, and questionnaires in multiple rounds over three years. In addition, participants of the lifestyle interventions will be tested by a physiotherapist on BMI and their general fitness three times (at the beginning of the intervention, at the end of the intervention and half year after the intervention). The study started in September 2013 and will end in August 2017.

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Physical Activity Coach (PAC) - Belgium

A similar approach with an intermediary exercise expert was considered in Belgium where a study was conducted in Leuven, Belgium to ascertain the effectiveness of Physical Activity Coaches (PAC) based in GP surgeries. 11 doctor's offices, including 38 GP's, participated in the study and could refer patients to a PAC. The PAC was a Master in Kinesiology and trained in applying PA coaching strategies. This study wanted to investigate the main barriers experienced by GP's for referral to a PAC and to explore whether the PAC is perceived by GP's as an added value to the health system in Belgium.

Results

111 patients (n=90 phase 1, n=21 phase 2) were referred from the GP to a PAC. 28 GP's (10 men, 18 women) completed the interview. According to the GP's, referral to the PAC was most suitable for patients with obesity ($\bar{x}=4.79$), diabetes ($\bar{x}=4.75$), cardiovascular diseases ($\bar{x}=4.57$), chronic fatigue syndrome ($\bar{x}=4.43$) and physically inactive persons without any health problems ($\bar{x}=4.67$). The most important barriers to referral as perceived by GP's were: "patients were not interested in coaching" ($\bar{x}=3.59$), "cost price was too high" (phase 2) ($\bar{x}=3.37$), and "GP forgot to think about referring" ($\bar{x}=3.26$). The increase in cost price was a threshold for participation ($\bar{x}=4.22$). 90 % of all GP's found it relevant to receive information regarding the progression of the patient, during and at the end of the coaching period. In general, GP's were convinced about the added value of a PAC in their doctor's office ($\bar{x}=4.44$).

Key Enablers

- Clear communication with GP's about goal and methodology of project
- Simple referral methodology (best: online)

- Feedback from the PAC to the GP about the evolution in health parameters of the patient.

Main Obstacles/ Barriers

- Cost price for exercise coaching is important barrier for a lot of people to participate → no willingness to pay for exercise coaching.
- Interfering with other local health projects.
- Referral is not a habit for the moment in most of the doctor's offices.

Lessons learned

There seems to be an urgent need in Belgium for experts who can develop tailored physical activity programs for patients and who can motivate them to change physical activity behavior in the long term. This study indicated several barriers why referring to a PAC is difficult from the perspective of the GP's. More research is needed to develop efficient strategies that can be applied by the GP to reach and motivate patients and to refer them to a PAC.

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National Exercise Referral Scheme - Wales

The Welsh National Exercise Referral Scheme (NERS) was established by the Welsh Assembly Government in 2007. Targeting sedentary adults at risk of serious chronic disease and demonstrating specific clinical criteria, patients are 'referred' by health professionals to a specially qualified NERS instructor normally based at the local leisure or sports centre. NERS instructors are exercise professionals who have achieved a minimum standard of accredited qualifications to work with patient referrals. There are now 164 exercise instructors in Wales NERS programme trained to the exercise referral standard with most also having completed one or more additional Level Specialist Instructor qualifications that are at a higher standard to work with patients with specific conditions. These additional qualifications include CHD, Chronic Obstructive Pulmonary Disease, Mental Health, Falls Prevention, Diabetes, Weight Management, Back Care, Cancer and Stroke. Patients can be referred from primary or secondary care and following an initial assessment are supported through a tailored 16-48 week exercise programme with the length of programme based on patient's referral criteria and need. Normally delivered through gym or studio based sessions NERS now includes a wide range of outdoor and other activities available after the initial 4 weeks. Appropriate exit routes to local activities are negotiated before the end of their programme and patients followed up for 12 months. The programme is delivered in all local authority areas in Wales.

Results

The Welsh Assembly Government commissioned an independent evaluation of the scheme in Wales. The national evaluation utilised a randomised controlled trial design with nested

process and economic evaluations. Details of the full trial protocol are published elsewhere (Murphy et al, 2012). 1997) <http://wales.gov.uk/statistics-and-research/evaluation-national-exercise-referral-scheme/?lang=en>. The trial was conducted with patients referred in with either CHD risk factors or mild depression and anxiety. The process evaluation combined quantitative and qualitative methods and focused on programme diffusion; fidelity & dose delivery; patient experience; and reach and adherence.

This study provided robust evidence for the long term effectiveness of NERS for particular groups. For participants referred with CHD risk factors only, there was a significantly increased likelihood of increases in physical activity and a statistically significant decrease in level of anxiety and depression for those in the scheme. Estimates for those referred with mental health and CHD were statistically significant for a decrease in both depression and anxiety, although there was no statistically significant impact on physical activity for this group.

A conservative base case analysis was robust to a range of sensitivity analyses, leading to the conclusion that NERS is 89% likely to be cost effective and for those who adhere to the full programme is likely to be marginally cost saving.

The scheme now recruits almost 30,000 patients a year; 96% confirming they would not have taken up activity without the specialist support of the NERS team and currently over 63% still physical active at the end of their programme.

Key Enablers

- The provision of a standardised programme monitoring system was invaluable for assessing scheme implementation.
- The early appointment of dedicated local coordinators to implement national policy.
- Regular meetings between local coordinators, evaluators and national policy makers.
- Group-based structures seem to have gone some way towards offsetting tendencies for lower adherence amongst female participants observed in some schemes.

Contrary to professional perspectives, patients from lower deprivation areas were most likely to enter the programme and no more likely to drop out. Instead car ownership was associated with non entry and drop out.

Main Obstacles/ Barriers

- There was large variation in levels of referrals from health professionals and these were influenced by their own perceptions of scheme effectiveness and professional roles.
- Rates of follow ups for non attendees and participants at 8 and 12 months varied greatly. Motivational interviewing in particular is recognised as needing significant levels of ongoing training and reflection for successful implementation.

- Whilst some patients nearing the end of the programme had made plans for how they would remain active, others expressed concerns regarding loss of social support.
- Limited class times were cited by working patients as a barrier to uptake, whilst access issues were seen as a barrier for patients without transport.

Lessons Learned

A number of key roles for professional and patients were identified to facilitate adherence. For the professional this involved fostering increases in knowledge and confidence, whilst supporting motivation. Professionals and patients also placed substantial emphasis upon roles of other patients in helping patients feel at ease in the exercise environment. However, as with professional support, creation of this environment was seen by some as engendering dependence likely explaining the tendency in some areas to allow indefinite access to patients after the programme. There is some evidence that when patients who have stopped attending are invited to return, some do return to complete the scheme.

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Healthwise- Physical Activity Referral Programme - N. Ireland

Operating in Belfast since 2004 'Healthwise' also targets physically inactive adults at risk of/or demonstrating chronic disease who are referred from both primary and secondary care settings if they meet the programme inclusion criteria. They then take part in a 12 week programme with a range of physical activity opportunities including gym based, group based, walking etc. If they complete the 12 weeks they are signposted to other local physical activity opportunities. Programmes are delivered by qualified exercise referral professionals in both local communities and leisure settings. Eight specially qualified instructors work on the programme in Belfast not including two cardiac rehab specialists, a cancer specialist and diabetes specialist who are all trained as higher level instructors.

Results

A Social Return on Investment evaluation in 2013 found the following;

- £9 return on every £1 invested
- Improvement in physical health (reduction in BMI, blood pressure etc.)
- Improved mental health (leading to reduction in anxiety/ depression)
- Increased confidence as a result of physical activity and social interaction
- Increased levels of engagement with others leading to improved mental health.

University of Ulster (2008) evaluations findings included;

- Clients who completed 6 or 12 weeks of the scheme attended the Leisure Centre on average 2.4 or 3.1 times per week respectively.
- Those who continued to week 12 showed decreases in body mass and BMI.

- Small but significant improvements in cardiovascular fitness occurred among participants after 6 and 12 weeks.
- Diastolic and systolic blood pressure both decreased as a result of participation in the programme.
- Increases in self perception were noted at weeks 6 and 12.
- Participants reported high levels of satisfaction with the scheme.
- Majority of respondents had moved from sedentary to meeting current physical activity guidelines by week 12 of the scheme with almost half of respondents maintaining this increased activity level 6 months after the scheme.

Key Enablers

- Establishment of the Belfast Strategic Partnership/ Active Belfast Partnership.
- Additional support (financial) from partners such as HSCB/ Sport NI.
- The appointment of dedicated delivery staff.
- Scoping exercise of regional programmes completed identifying no standardised approach.
- Willingness of partners to improve the quality of the programmes.
- Establishment of local and regional steering groups.

Main Obstacles/ Barriers

- Diversity and standard of programmes.
- Programme not client centred/ needs driven.
- Number of non starters/ lapsed.
- Quality of programmes for clients.
- Adherence and retention levels of patients.
- Waiting times for clients to start programme.
- Inappropriate referrals from health care professionals.
- No agreed regional model of delivery/ guidance.
- Lack of communication/ links with referrers/ partners.
- No exit strategy for clients completing the 12 weeks.
- Poor systems/ protocols for monitoring and evaluation.

Lessons Learned

- The need for dedicated professionals to deliver a quality client centred programme.
- More support and contact to improve adherence and retention.
- Need for brief interventions to address non starters/ lapsed.
- The need to establish a range of condition management pathways and integrate physical activity.
- Offer a range of physical activity opportunities in a range of settings move away from traditional gym based approach.

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Other settings and approaches

Whilst most initiatives identified in this report are facilitated through care settings there are a number of initiatives that use a combination of community and health providers to offer physical activity programmes for 'at risk' patients including:

The Sport-Santé Project - Luxembourg

Introduction

The Sport-Santé Project <http://www.sport-sante.lu/index.php/en/> provides an overview of physical activity programs for patients or individuals at risk of Non-Communicable Diseases (NCD) in Luxembourg and aims to find solutions to promote physical activity participation in these groups.

Methods

Organizations offering therapeutic physical activity for NCD patients in Luxembourg were investigated during the period September 2013 to April 2014. Interviews were conducted with instructors, participants and potential participants to characterize the groups.

Results

Interviews were conducted with 41 professionals (medical doctors, physical therapists, etc.), 192 participants and 34 potential participants. Eleven physical activity groups were identified and divided into five main categories: cardiology, neurology, obesity, oncology, and orthopaedics. More than 40 hours of therapeutic physical activity are proposed every week in Luxembourg. Between 200 and 400 individuals participate currently in the sessions of therapeutic physical activity. The average number of participants/hour is 8.9 (\pm 5.1), which represents only 50 % of the maximal capacity estimated by the instructors (18.0 \pm 8.2 participants/hour). The national coverage is poor, with the southern regions of the country having greater access. The potential participants were mainly not aware of the existence of the groups.

Discussion and Conclusion

The current range of therapeutic physical activity interventions are in need of active promotion. The current physical activity groups are weak, because the participation rate is low, due to a lack of information and to organizational constraints. To counteract these limitations, different strategies are implemented. A promotion campaign for therapeutic physical activity interventions is organized via a website (www.sport-sante.lu) and existing initiatives in Luxembourg are advertised via posters and flyers. Information events and dedicated training for therapeutic physical activity may be offered to patients and animators. The impact of these strategies will be monitored throughout the project using several indicators. Huge efforts are still needed to increase the systematic participation in the groups of therapeutic physical activity.

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Project/ Programme	Country	Target Population	Type of Intervention	Care Setting	Delivery Sector(s)	Effectiveness		
						Clinical	Physical Activity	Economic
PACE	USA	Secondary Prevention: <i>Diabetes, Overweight, Depression</i>	General Lifestyle Brief Intervention	Primary & Secondary Care	Health	Some evidence	✓	unknown
Green Prescription	New Zealand	Secondary Prevention: <i>CVD, Diabetes, Overweight</i>	Physical Activity Brief Intervention with Exercise Referral	Primary Care	Sport & Community	✓	✓	✓
Paprica	Switzerland	Secondary Prevention: <i>NCDs</i>	General Lifestyle Brief Intervention with written advice.	Primary Care	Health	unknown	unknown	unknown
Smart Family	Finland	Primary & Secondary Prevention: <i>NCDs</i>	Physical Activity & Nutrition Brief Intervention with support resources.	Primary Care	Health	unknown	unknown	unknown
Walk Your Way to Better Strength & Balance	Scotland	Primary & Secondary Prevention: <i>Older & frail adults</i>	Health Walks & Falls Prevention Training	Care Homes	Health, Environment & Community	unknown	unknown	unknown
Aktiivix	Finland	Secondary Prevention: <i>Diabetes, Overweight</i>	Physical Activity Brief Intervention with follow up.	Primary Care	Health, Environment & Community	✓	unknown	unknown
Beweegkur	Netherlands	Secondary Prevention: <i>Overweight</i>	Exercise Referral	Primary Care	Health & Community Sport	✓	✓	✓
Care Sport Connectors	Netherlands	Primary & Secondary Prevention: <i>Overweight, NCD's</i>	Exercise Referral	Primary Care	Community Sport	unknown	unknown	unknown
Physical Activity Coach	Belgium	Primary & Secondary Prevention: <i>NCDs</i>	Physical Activity Brief Intervention	Primary Care	Health & Sport	unknown	unknown	unknown
National Exercise Referral Scheme	Wales	Secondary Prevention: <i>NCDs</i>	Exercise Referral	Primary & Secondary Care	Health, Community, Environment & Sport.	✓	Limited to certain groups	✓
Healthwise	N. Ireland	Secondary Prevention: <i>NCDs</i>	Exercise Referral	Primary & Secondary Care	Health, Community, Environment & Sport.	✓	✓	✓
The Sport- Santé Project	Luxembourg	Secondary Prevention: <i>NCDs</i>	Exercise Referral	Primary & Secondary Care	Health, Community & Sport	unknown	unknown	unknown

Table 1. - Comparison of Interventions

Conclusions

Whilst every intervention, project or programme will have elements that are particular to the respective culture, context and situation there are a number of key enablers that feature in most of the case studies that include ensuring engagement of both the community and professionals and, where available, planning the intervention based on existing evidence. There needs to be sufficient capacity to deliver and active ‘buy in’ from key strategic partners. Clear and frequent communication both between partners and with clients improves the likelihood of success. An effective monitoring and evaluation system that includes process evaluation will help identify potential problems early and allow opportunity to take remedial action, and the inclusion of an economic evaluation will help both inform future development and reassure funding partners.

Enablers	Barriers
Prompting practice staff to deliver the intervention will increase its effectiveness.	Although, the method and tools may be acceptable and even welcomed, many communities express their interest but need to wait for funding.
A multi-professional steering and working group for developing and conducting the intervention.	Needs dedicated ongoing staff time to develop, deliver, monitor and evaluate the intervention.
Use of Motivational Interviewing to guide participants.	No or limited finance for prevention.
Adjusting protocol to local situation.	No-one with formal responsibility.
Regular communication between primary health care and exercise providers.	Car ownership was associated with participation and adherence.
Social support (including group work) important for some groups e.g. Women.	Lack of ‘exit routes’ or social support systems following intervention contributes to failure of long term adherence.
Dedicated professionals to deliver a quality client centred programme.	
A range of physical activity opportunities in a range of settings.	

Table 2 - Key Enablers & Barriers

As well as key enablers all agencies will find potential problems and difficulties in striving to achieve effective interventions particularly when it involves changing cultures and influencing behaviour. Overcoming such problems may be challenging but also helps to inform development of more effective systems. Amongst problems commonly found in the case studies provided are: A lack of leadership and lines of accountability can lead to programme drift. Problems of adherence and retention in programmes will occur naturally but can be minimised through clear recruitment protocols including ‘follow-up’ systems and good communication with patients & clients. Delivery must be informed by patient/client needs rather than service constraints.

Lessons Learned

Adherence & retention within programmes is influenced by a number of things including the frequency and level of support provided to the patient. It is suggested that there need to be at least 12 contacts with the professional to generate effective behaviour change. There is some evidence that when patients who have stopped attending a programme are invited to return many do return to complete the scheme. However, effectiveness appears to be dependent on professionals themselves being highly motivated which underlines the importance of providing good support & education to them.

In order to ensure patients maintain their improved lifestyles they should continue to receive some support beyond the end of the intervention and to optimise the likelihood of affecting a change, a range of physical activity opportunities in a variety of settings can be helpful.

Although there are key components in an effective intervention it is important that professionals can adjust a protocol to a certain extent to address local circumstances, whilst the importance of a formative evaluation that incorporates both process and outcomes is vital in ensuring effective widespread implementation. Whilst improvements in physical health may be the primary outcome of an intervention, there are a range of additional outcomes that can be equally important in identifying the impact of a programme including mental health & well-being; the range, intensity, nature and frequency of physical activity; impacts on social inclusion, mobility, confidence, self-image and self-esteem; and costs and consequences for both the individual and for services.

Whilst you need dedicated professionals to deliver a quality client centred programme peer support is valuable in helping patients feel at ease in the exercise environment, although this also carries the risk of increasing dependence. The influence of both health and exercise professionals cannot be understated but a trusted intermediary to bridge the gap between the sectors can be highly beneficial.

Discussion

Professional Knowledge & Skills

Irrespective of the type of intervention, the evidence both from these case studies and from the literature consistently shows that effective physical activity promotion in health care settings is reliant on health professionals having the appropriate level of knowledge and skills to assess, counsel and support their patients. At the same time there is equally strong evidence that in most cases such knowledge and skills are lacking (Dunlop & Murray 2013, Weiler et al 2012, Potemkina & Boytsov, 2014). It is not surprising therefore that many of the interventions have focussed to a greater or lesser extent on trying to redress the balance by either enhancing the knowledge and skills of the health professional or providing access to alternative professionals who already have the necessary competencies.

Improving the knowledge of health professionals is variously addressed through the provision of both written and web-based materials. There have been recent developments in the UK to bolster the post-graduate education of health professionals including the establishment of online resources such as Motivate2Move

<http://gpcpd.walesdeanery.org/index.php/welcome-to-motivate-2-move> in Wales and the BMJ Physical Activity learning modules at: <http://learning.bmj.com/learning/module-intro/.html?moduleId=10051859> . However, whilst this may certainly help to address the knowledge deficit, improving skills tends to be more effective when linked to appropriate training and many of the examples have demonstrated this. In *Latin America* there is a strong emphasis on improving the prevalence of primary care counselling for physical activity with the '*Exercise is Medicine*' course established in 2011. This has resulted in over 600 physicians receiving training across 15 cities in 7 countries in the region. A total of 1206 health care professionals had been trained by October 2013 (Duperly J et al, 2014). Training for health professionals is also at the core of the *PAPRICA* initiative in *Switzerland*, *PACE* in *North America*, *Walk your way to better strength and balance* in *Scotland*, and the *National Programme for Primary Prevention of Cardiovascular Disease* in *Slovenia* amongst others.

Even where the alternative approach of using an intermediary professional is favoured such as the *National Exercise Referral Scheme* in *Wales*, the *Beweegkur* or *Care Sport Connectors* in the *Netherlands*, or many other 'referral' systems, it is evident that GPs and other health care professionals are more likely to advise their patients on physical activity if they can take confidence from having a sound understanding of the role and impacts of physical activity in the management and prevention of chronic disease. And yet consistent findings from around the world indicate that even the most basic knowledge is frequently lacking (Dunlop M & Murray AD, 2013).

Whilst the development of resources to inform and support health professionals provides a welcome and important adjunct to improving physical activity support to patients, a better and more sustainable strategy must be to intercede much earlier by ensuring that all trainee health professionals receive education on the recommendations and implications of physical activity on health as part of the core medical curriculum.

In the early days of exercise referral schemes in the UK there were concerns expressed by GP's about the limited skills and knowledge of exercise professionals. It was rightly recognised that if a health professional was to formally refer a patient to another professional they would still continue to retain a 'duty of care' to the patient which could result in legal redress against the health professional if the patient came to harm as a result of inappropriate treatment by the person who had taken over their care. This concern has continued to have negative repercussions on many exercise referral programmes as many health professional avoid committing to the schemes for fear of litigation. This is despite the assurances of medical defence unions and the establishment of national guidelines. (British Heart Foundation, 2016)

In reality of course the health risks associated with increasing physical activity for the vast majority of patients are considerably less than the risks associated with reducing levels of physical activity. Nonetheless there are important adjuncts that should be included in any

programme to mitigate the potential risks. The first of these is in the assessment process where it is important to identify those few patients for whom an increase in physical activity or inappropriate types of activity could result in their coming to harm. This could for example include patients with unstable angina, for whom any increased activity could precipitate a severe attack or a myocardial infarction; or patients with advanced osteoarthritis for whom particular types of ‘high impact’ activity would be detrimental. To avoid such problems a good assessment of the patient should include a risk assessment with a recognised tool. Historically these have included using the PAR-Q (Physical Activity Readiness Questionnaire), a seven item risk stratification tool that is quick and easy to apply using broad health questions to determine whether or not the patient is suited to a physical activity programme (e.g. Do you get chest pain on physical exertion?) (Change4Life, 2016). The problem with this instrument is that it is very generalised and was not developed based on ‘evidence’ but on expert opinion. If a respondent answers “yes” to any of the questions then they are normally advised to consult a doctor before undertaking any further activity. This has led to a significantly higher proportion of patients being denied access to exercise programmes than necessary (Shephard RJ, 2015; Jamnik VK et al, 2011). It has also led to an unnecessarily increased workload for General Practitioners who are left to pick up the pieces. This issue was identified several years ago in the United States and Canada and has led to work conducted at the University of British Columbia to develop a more sensitive, evidence-based risk stratification tool that will result in many more patients being identified as appropriate for exercise interventions with no increase in health risk (Warburton et. al., 2014). This new instrument PAR-Q+ (<http://eparmedx.com/>) is based on comprehensive systematic reviews of the literature, evidence-based clinical practice guidelines, and current research practice.

However, this does not diminish the need to ensure that the exercise professionals actually have the competence to work with ‘patients’ whose needs may be different to the routine clients they normally work with. To that end a minimum level of education and training for working with patients is recommended with higher level training for working with higher risk groups. This of course has financial implications as training can be costly and it has to be appropriate to the intensity of the intervention. It is unlikely that a walk leader in a community walk programme would need the same level of training or education as a gym instructor overseeing a gym based exercise programme. In recent years such specialist training modules have been developed within Sport & Exercise Science degree courses so that graduates have the specialist knowledge and skills on graduation. This doesn’t necessarily apply however to the many leisure instructors who are employed with many municipal or local leisure services for whom additional training may be important. Such training should be seen as an investment rather than an expense and arguably provides added value not only in the continuing professional development of the workforce but in their enhanced ability to apply their learning with all their clients not just those ‘referred’ through formal programmes.

Interventions

This report has considered a range of interventions from Europe and beyond that aim to increase levels of health enhancing physical activity for patients ranging from simple ‘brief interventions’ by health professionals to ‘formal referrals’ to expert third parties such as

exercise professionals or other intermediaries. There is obviously a correlation between the costs associated with different levels of intervention which may not be mutually exclusive. Where resources allow, a simple 'low cost' brief intervention by a health professional may lead onto a more formal 'higher cost' referral to a supported activity programme. Whilst there is some evidence (NICE, 2013) of increases in physical activity resulting from simple brief advice by health professionals this is much more likely to be effective if monitored and reinforced regularly. The application of motivational interviewing techniques can further increase the likelihood of initiating and sustaining a positive behaviour change. Whilst a badly constructed or poorly resourced 'higher cost' referral intervention can prove to be neither cost effective nor effective in promoting sustained behaviour change, a well designed, targeted and properly resourced referral intervention can lead to significant cost savings for health services. In this context targeting is particularly important. Where the primary outcome is health improvement then by definition the target group should have demonstrable health deficits and the activities tailored to the health and social needs of the individual. In such cases the long term health and financial benefits can be significant. Delivering an effective intervention that addresses individual health needs however does require a workforce with specialist skills and knowledge. A patient with neurological deficits for example can improve both their neurological health and their general health through increasing physical activity, but is likely to need the informed support of a professional with the appropriate level of education and training. This does not however necessarily mean it has to be a health professional but can be a community based exercise professional such as those supporting the schemes in the UK, Luxembourg and the Netherlands, who have had the additional training to support patients. The evident benefits of this are that it can reduce the burden on pressurised health services, can take place in the patient's locality often at a time suited to them and 'normalises' physical activity as a behaviour rather than a therapy. Whilst there will be a cost associated with training for the exercise professionals, the often overlooked added value is that the knowledge and skills accrued by them can be applied to their everyday work with the whole of the population and is not just exclusive to the patients they work with.

The evidence however indicates that whilst this model may be effective for a discretely defined population, it is not effective as a whole population approach to increasing physical activity amongst sedentary people (NICE, 2014), which is where the intermediate level of intervention loosely described as Exercise Prescription such as the Beweegkur programme in the Netherlands, may be more effective. This model of 'social prescribing' is effectively a supported brief intervention where the health professional can encourage and signpost to a variety of community-based opportunities. e.g Walks, cycling, home exercises, sport and leisure clubs, group activities, outdoor recreation etc. This is an increasingly popular option as it doesn't require costly specialist instructors, is delivered in the patient's locality at a time convenient to them, promotes the local services and opportunities and provides a range of different options that allow the individual to choose activities that fit with their preferences and lifestyles.

Ideally of course the strategic preference must be to offer all levels of intervention tailored to the needs of the individual as we know that addressing some patients' needs will require greater support than others.

There is an increasing recognition of the importance of the health sector in promoting physical activity, but also an understanding that provision will most likely sit outside the health sector with sport, leisure, local authorities, voluntary organisations and environmental agencies all having potential skills, knowledge and resources to help 'at risk' populations to become more active. At a time when the importance of collaborative, multi-disciplinary approaches are not only preferable but necessitated by the need to optimise available resources there are a number of innovative and increasingly evidence-based approaches, such as those described in this report, to encourage all policy makers, researchers and service providers to provide effective health enhancing physical activity adjuncts to their mainstream clinical health services.

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Appendix A

Enablers & Barriers

Key Enablers

Whilst every intervention, project or programme will have elements that are particular to the respective culture, context and situation there are a number of key enablers that feature in most of the case studies:

Planning

- Engaged community - In order to be successful the target population must recognise the value of any intervention to them.
- Engagement of health professionals - The support of the health professionals is a critical component of an effective intervention that is perceived as demanding on their time, energy or resources.
- Supporting evidence - Whilst innovative approaches are always worth consideration it is important to ensure these are properly evaluated to identify their effectiveness. Meanwhile there is good existing evidence about the most and least effective components of many interventions.

Delivery

- Multi-professional steering and working groups. - The most frequently cited enabler is the establishment of a well motivated multi-professional advisory group to inform the development and delivery of the intervention. Appropriate identification of the members of such a group will also enhance the engagement of other professionals and stakeholders.
- Standardised delivery matched to local need and resource. - Another frequently identified issue is the importance of matching the intervention to the expressed needs of the target community and ensuring appropriate and adequate dedicated resources are committed.
- Central co-ordinator - An identifiable, trusted, committed and knowledgeable leader with good communication skills is probably the most important individual for any intervention.
- Clear, timely and effective communications between all parties - Good communication is an important pre-requisite for any effective intervention.
- Importance of Motivational Interviewing techniques - Motivational interviewing skills for health professionals and others providing support to the patients will significantly improve the likelihood of success.

Monitoring & Evaluation

- Effective monitoring system - An effective monitoring system allows you to identify problems early and take any necessary remedial actions

- Formal evaluation - A properly resourced and methodologically sound evaluation is the only way assessments of effectiveness can be ascertained.

Sustainability

- Supporting policies - Without supportive national and local policies and accompanying guidelines that promote physical activity and health improvement it is difficult to engage and motivate patients, stakeholders and professionals.
- Financial support - All interventions need some financial support which needs to be seen as an 'investment' rather than an 'expense'. However, proper health economic evaluation should also be part of the overall assessment of an intervention with decisions for future delivery informed by the results.

Main Obstacles / Barriers

All agencies will find potential problems and difficulties in striving to achieve effective interventions particularly when it involves changing cultures and influencing behaviour. Overcoming such problems may be challenging but also helps to inform development of more effective systems. The following encapsulate many of the obstacles encountered by initiatives in the case studies.

Delivery system

- Lack of fidelity to programme protocols - Establishing an agreed set of standards and protocols for delivery of an intervention is often easier than translating them into action. There will almost always be a need for some flexibility to allow for differences in local culture, resource and commitment although some key elements must be adhered to in all circumstances.
- Lack of leadership - It is important that all parties recognise their roles in the delivery system but there must also be an easily identifiable 'leader' who is seen to take overall responsibility
- Adherence & retention of patients throughout intervention - One of the commonest weaknesses of most interventions that promote behaviour change is maintaining the engagement of the patients throughout the process. Systems need to be able to both identify where and when people drop out and have identifiable opportunities and systems for re-engaging.
- Varying quality and standards - In many large scale interventions there will inevitably be a variation in the quality of delivery dictated by local commitment, resources, competing priorities and needs. However, attempts should be made to optimise equity and equality to ensure the initiative doesn't favour those with the least need or penalise those with the least resource.
- Programme not client centred/ needs driven - Behaviour change interventions are more effective when tailored to the needs of the individual.
- Waiting lists - Ironically, waiting lists can be the result of being too good and increasing the demand above the capacity to deliver.

- Poor monitoring and evaluation - It will be difficult to identify emerging or existing problems and take timely remedial action if there is inadequate monitoring, whilst identifying the most and least effective elements of the system will be difficult without an adequate evaluation process in place.

Communications

Many problems in the development and delivery of interventions occur as a result of poor communication either between individuals or between sectors or disciplines.

- Culture differences between health care and exercise sectors - In many countries there can be problems because of the different professional responsibilities and perspectives of exercise professionals and health professionals which can usually be overcome through an understanding of the roles and responsibilities of the respective sectors and the mutual respect from focusing on the areas of common agreement. i.e. The welfare of the patient and the acknowledged relationship between exercise and health.
- Inappropriate referrals from health care professionals - This will inevitably happen on occasion but strong, evidence-based clinical protocols; a good communication system and the involvement of the patient in their care should minimise the potential for harm.
- Silo working - This is often cited as a feature of many multi-professional interventions particularly if one group or another doesn't feel adequately engaged or consulted and retreats into the 'comfort' of their professional domain.

Optimising and maintaining behavior change

Many interventions suffer from a lack of consideration of the maintenance phase of behavior change often focusing just on the intervention to promote the desired change.

Lack of exit routes - It may be counter-productive, if not unethical, to provide a service that promotes an increase in physical activity for an individual if there is no discernible or acceptable way of maintaining the impetus once the 'intervention' is completed. In this context it is unhelpful to establish interventions that are reliant on providing 'peer supported' group based activities, if such activities or groups are not available once they complete their intervention.

Appendix B

Reporting Template

Type of Action:

Scope: Local/ Sub-regional/ Regional/ National

Target Group(s):

Project/ Intervention Lead: Title/ Organisation

Key partners:

Time frame: Commencement / End date (if applicable)

No's reached:

Financing: Self-financing/ Subsidised (by who?)/ Core funding/ External funding/ Other (Explain)

Background:

Aims & objectives:

Rationale: Evidence base (Identify)/ Needs Assessment/ Policy driver/ Other

Description of the intervention:

Methodology: Including who delivers and length of intervention.

Evaluation:

Method: How, who and when.

Results: Health outcomes, physical activity outcomes, other. (Any web-links to project documents?)

Key Findings:

Important Enablers: (Max 5 bullet points)

Main obstacles/ barriers: (Max 5 bullet points)

Lessons learned:

Contacts: Name, address, e.mail.

PAPH in Primary Care Intervention	
Title	Intervention title
Country of Origin	
Type of Intervention:	
Scope	Local / Sub-Regional/ Regional / National (delete as necessary)
Target Group(s)	Population group/ age group/ social group/ gender etc.
Intervention lead	Title/ Organisation
Key Partners	
Time frame	Start and end dates (if applicable)
No's reached	Total and/or annual approximation.
Financing	Self-financing/ Subsidised (by who?)/ Core funding/ External funding/ Other (Describe)
Background:	
Aims & Objectives	
Rationale	May include one or more from Evidence base / Needs Assessment/ Policy driver/ Other
Description of the Intervention:	
Methodology	Including who delivers and length of intervention.
Evaluation:	
Method	Who, how, when?
Results	Health outcomes, physical activity outcomes, other. (Any web-links to project documents?)
Key Findings:	
Key enablers	Max 5 bullet points.
Main obstacles / barriers	Max 5 bullet points.
Lessons learned	
Contact Details:	
Name	
Address	
e-mail	
Telephone	