

**Older People, Sport and Physical
Activity:
A Review of Key Issues**

Research Report no. 96

A research review for **sportscotland**

by

Linda Nicholson

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SUMMARY

Background

Recent major strategies in Scotland have focused on raising levels of participation in sport specifically and physical activity more generally. *Sport 21* (**sportscotland**, 2003), Scotland's national strategy for sport, emphasises that age should be no barrier to participation. One of its 11 key targets is that 43% of those aged 45-64 will take part in sport at least once a week by 2007. Complementing this strategy is Scotland's new Strategy for Physical Activity, *Let's make Scotland more active* (Physical Activity Task Force, 2003), aimed at increasing and maintaining the proportion of physically active people in Scotland.

Both of these strategies prioritise the older population amongst target sectors for increased participation in sport and other physical activities. Older people are a priority on account of their current significant under-representation in such activities, the health and other benefits to be derived from their regular participation and the increasing proportion of the Scottish population which falls into the older age groups.

Aims

Much research and many initiatives have focused on older people's participation in sport specifically and physical activity more broadly. The aim of this review is to provide an overview of the key issues in relation to sports and physical activity participation by older people to inform future policy and programmes.

Scope

The review is primarily literature based, with consideration of interventions limited to Scottish projects which had some existing evaluation material. Although this report was commissioned by **sportscotland** to look primarily at issues relating to sport, much of the information emerging relates to physical activity more generally. The recommendations are those which emerged from the literature and are provided for the interest of all those involved in this field.

Method

Methods used were primarily desk-based but also included contacts and meetings with relevant organisations, practitioners and researchers. An analytical framework was designed to maintain a tight policy focus for the large volume of relevant literature reviewed for the study. Both published and unpublished material were identified and reviewed. The main method of sourcing relevant literature was via internet-based journal databases. Other material was located by personal approaches to relevant organisations and academics.

A sample of seven current and previous Scottish-based interventions was identified and reviewed to draw out lessons learned and good practice. Interviews were undertaken with personnel involved in policy development at **sportscotland** and the Scottish Executive to explore the policy context for older people's participation in physical activity. The latest statistical material on participation rates and population projections was reviewed in order to provide further context for the review.

Key Findings

Headline findings to emerge from the review are below.

Policy Drivers

- Health and economic benefits of physical activity amongst older people along with demographic change and relatively low participation rates provide strong drivers for policy development.
- Evidence on the physical health benefits of regular physical activity is compelling.
- Evidence on the mental health benefits of regular physical activity is more complex and associations tend to be indirect.
- One economic analysis suggests that at a population level, the economic benefits of regular physical activity for adults aged 45 and over outweigh the costs (eg, work days lost due to sports injuries).
- Age groups aged 45 and over are those expected to increase in size between 2003 and 2027.
- Levels of participation in sport by older people have shown a gradual upward trend since the early 1990s.
- Only a minority of older people meet recommended levels of physical activity according to population surveys.
- Walking, along with routine home-based activities such as heavy gardening and housework comprise the bulk of older people's physical activity.

Motivations and Barriers to Participation

- Literature suggests that older people need to be educated on how the widely-accepted health messages on the benefits of physical activity can be applied to themselves.
- Previous findings suggest that educational messages require to be appropriately tailored for older people.

- Walking emerged as a preferred physical activity of older people in Scotland and other countries worldwide.
- People of different ages reported different associations with sport and physical activity. Older people emphasised enjoyment, fitness, health, relaxation and the challenge they brought.
- Middle-aged men tended to view physical activity as something to treat a condition rather than prevent poor health.
- Older people appeared more motivated to participate by socio-psychological rationales, such as promoting relaxation and/or socialising, compared with their young counterparts.
- Real and perceived medical problems and fear of such problems were significant barriers to regular physical activity in older people.
- Psychological barriers and practical barriers also posed significant challenges to older people's participation.
- Local proximity of age-appropriate physical activity opportunities at a time and cost accessible to older people facilitated their uptake of exercise.
- Older women in particular benefited from having social support to encourage their participation in physical exercise.
- Appropriate urban and environmental planning, such as the provision of attractive walkways, can make a positive impact on older people's uptake of physical activity.

Policy Framing and Positioning

- One study revealed that older people perceived previous physical activity campaign messages to be aimed at younger people and, in particular, younger women.
- The shift in emphasis of physical activity message from vigorous bouts of exercise to moderate everyday activity has provided an opportunity to promote physical activity to older people in a more marketable and amenable manner.
- The opportunity presented for the promotion of moderate physical activity to older people has yet to be fully exploited, by perhaps building upon physical activities undertaken routinely in everyday life.
- The myriad of terms and definitions used to describe physical movement can curtail the presentation of a clear, consistent message.
- In terms of promotional message, one size does not fit all, with a need for sharper tailoring of promotional messages according to target audiences or perhaps by different activity levels.

- A recurring recommendation was to focus promotional messages on the goals of broader physical functioning or social rewards rather than specific health benefits of physical activity.
- Many commentators agreed on the appropriateness of emphasising functional fitness and self-efficacy in promotional messages to older people.
- Evidence suggested that the promotion of physical activity at earlier life stages, for example amongst middle-aged women or schoolchildren, may contribute to stimulating active behaviours which continue into older age.
- It was recommended that older people should be involved in the planning and evaluation of physical activity promotions and interventions.

Strategies for Promoting Participation

- It was argued that GPs are well placed to promote exercise to their patients.
- Findings demonstrated that GPs were a significant source of advice for older people and can counteract older people's health concerns about taking up exercise.
- Very little evaluative material exists relating to the impact of promotional campaigns by GPs.
- Initiating new physical activity in old age has been shown to be strongly associated with encouragement from health care professionals.
- Despite the apparent potential offered by GP referral schemes and the significant benefits cited in the literature, a wide variety of barriers have curtailed their growth and development.
- More research is needed on the potential of various health care professionals in promoting physical activity.
- It has been argued that media-based promotional strategies are more appropriate for currently active older people who are less likely than those currently inactive to need face-to-face encouragement and support.

Sport and Physical Activity Schemes: What Works?

- A recurring finding was that, in general, physical activity schemes which were group based and facilitated companionship and camaraderie had a greater success in retaining participants than others.
- Many commentators stressed that initiatives should be fun and enjoyable.
- There were mixed views on the relative merits of home-based initiatives compared with those located at leisure facilities. Differences tended to reflect individual preferences and circumstances.

- The importance of the continuing availability of professional support for both class-based and home-based exercise emerged as key.
- Regular walking was viewed as an important aspect of an active lifestyle with the promotion of walking seen as having the potential to produce health benefits at population levels.
- Much can be learned from previous and current physical intervention schemes in Scotland and it is recommended that further study be undertaken to focus on good practice to emerge from these.

Issues of Equality Between Different Groups

- In general, men, younger people and higher occupational groups tended to undertake more sport and physical activity than others.
- Women, more than men, tended to report more reasons for not taking part in sport and physical activity.
- A significant barrier to regular participation emerged as the need for women to fit with stereotypes of women's activities and place.
- Overall, men and women appeared to have different motivations for participating in physical activity with men wishing to monitor their fitness and be competitive and women seeking enjoyment and a feeling of well-being.
- No clear gender effect emerged on associations between sport and physical activity and mental health benefits, although more in-depth research was recommended to examine this.
- Several challenges to promoting physical activity to lower socio-economic groups were identified, including the financial cost of participating regularly.
- There is a dearth of literature relating to matters of ethnicity and sport and physical activity participation in Scotland (although a larger body of material exists in relation to the position in England).
- Where evidence exists, few differences in needs in relation to sport and physical activity participation were found between different ethnic groups.
- The greatest barrier to participation amongst minority ethnic groups was experience of, or fear of experiencing, racial discrimination.

Issues of Monitoring and Evaluation

- Many previous studies lacked the robust and sound approach required for solid grounding of future policy.
- Many commentators have outlined problems for researchers such as small samples, time-limited research designs and the very small changes in physical activity behaviours likely to emerge.

- Self-reporting as a common research device was associated with respondents' over-reporting of levels of activity and other difficulties in interpretation.
- Longer-term follow-up of interventions was called for in order to assess changes in motivation and behaviours over time.
- A need for more consistent and relevant methods and measures in research on outcomes was identified.
- Calls were made for closer examination of older people's motivations to take up active lifestyle opportunities.
- Research has been recommended on the prevalence of and explanations for apparently illogical and distorted ideas about physical activity amongst some older people (eg, their concern that getting a little out of breath may be dangerous).
- Further research has also been suggested on perceptions amongst GPs and the wider public on older people's participation in physical activity.
- A number of other specific studies were called for including research which acknowledged and accommodated the diversity in the older people sector.

Overarching Recommendations

A number of overarching recommendations also emerged from the review:

There is a need to exploit more effectively the current opportunity to promote sport and physical activity participation amongst older people by adopting more appropriate conceptual frameworks in promotion.

More work is required to devise evidence-based segmentation of the older population for the purposes of more effective targeting and tailoring of policy messages on sport and physical activity.

Older people should be involved in a process of review of commonly-used outcome indicators in order to develop a more innovative and sensitive package of measures more appropriate to the patterns of change in motivations and take up of sport and physical activity by older people.

The nature and design of sport and physical activity promotion aimed at younger age groups should take into account the longer-term goal of establishing physical activity habits of a lifetime.

CHAPTER 1: INTRODUCTION

1.1 Background to the Review

Recent major strategies in Scotland have focused on raising levels of participation in sport specifically and physical activity more generally. *Sport 21* (sportscotland, 2003), Scotland's national strategy for sport, emphasises that age should be no barrier to participation. One of its 11 key targets is that 43% of those aged 45-64 will take part in sport at least once a week by 2007. Complementing this strategy is Scotland's new Strategy for Physical Activity (Physical Activity Task Force, 2003), endorsed by the World Health Organisation and aimed at increasing and maintaining the proportion of physically active people in Scotland. In addition to 50% of all adults aged 16 and over meeting minimum recommended levels of physical activity by 2022, this strategy has a priority that adults later in life should have the opportunities and should be supported and encouraged to remain active in the community for as long as they choose.

Both of these initiatives demonstrate an inclusive approach by prioritising the older population of Scotland amongst the target sectors for increasing participation in sport and other physical activities. Older people are a priority on account of their current significant under-representation in such activities, the benefits to be derived from their regular participation and the increasing proportion of the Scottish population which falls into the older age groups. Indeed, projected figures predict a rise in the number of people aged 75 and over of 61% between 2003 and 2027¹.

Much of the policy development in the field of older people and sport and physical activity is driven by health promotion objectives, with both physical and mental health benefits expected to derive from older people's participation in regular exercise. A vast amount of previous research has attempted to identify the specific benefits to accrue from more active lifestyles and many existing schemes in Scotland are focused on facilitating greater participation of older people in sport and physical activity. The current research was commissioned to synthesise findings and lessons from this body of literature and initiatives, as grounding for future policy and programme development.

1.2 Terminology

Throughout the literature a wide variety of terms has been used to describe physical movement by older people. Terms have included sport, physical recreation, physical activity, exercise, fitness, active life and so on. The focus of the current research has been largely on physical activity with sport as one

¹ Projected population of Scotland, 2002 based (General Register Office for Scotland, 2004).
www.gro-scotland.gov.uk/grosweb/grosweb.nsf/pages/02population-projections

component within that umbrella. Definitions of these terms are set out in Chapter 2. In brief, physical activity describes any movement of the body which uses up energy. So a variety of daily activities such as gardening and housework fall under this banner in addition to actions such as dance, play and so on. Sport is also viewed as a subset of physical activity but is seen as having specific goals such as improving fitness and well-being, forming relationships or competing against others. In this report a variety of terms is used as appropriate to be consistent with the terminology adopted by different studies and different contexts. Where the term 'physical activity' is used this should be taken to include 'sport' as one of its components.

The categorisation of 'older people' has also varied amongst commentators and researchers. For the purposes of this review, older people are defined as those aged 45 years and over, reflecting the *Sport 21* target above (and especially designed to 'catch' people before they get 'old'). However, as will be seen, the labelling of age groups varies even amongst home nations, with the Sports Council for Wales highlighting those aged 50+ years and the Northern Ireland Sports Council targeting people aged 65-74 years as their priority older age group. As with the terminology relating to sport and physical activity, the review adopts the age groups of the studies it examines and highlights this as appropriate throughout the text.

1.3 Aims of the Review

The aim of the review is to provide an overview of key issues in relation to sports and physical activity participation by older people to inform policy in this area (both sports and physical activity development and research programmes).

Specifically, the study aims to:

- provide an overview of the policy context for older people's participation in sport in particular and physical activity more broadly;
- set out the Scottish context in terms of current and future demographics from the Census and trends in participation profiles;
- provide a critical review of existing relevant research, drawing out key issues, conclusions and policy related implications;
- provide a critical analysis of a sample of schemes to increase participation among older people where monitoring and evaluation have been carried out; and
- identify and describe examples of good practice.

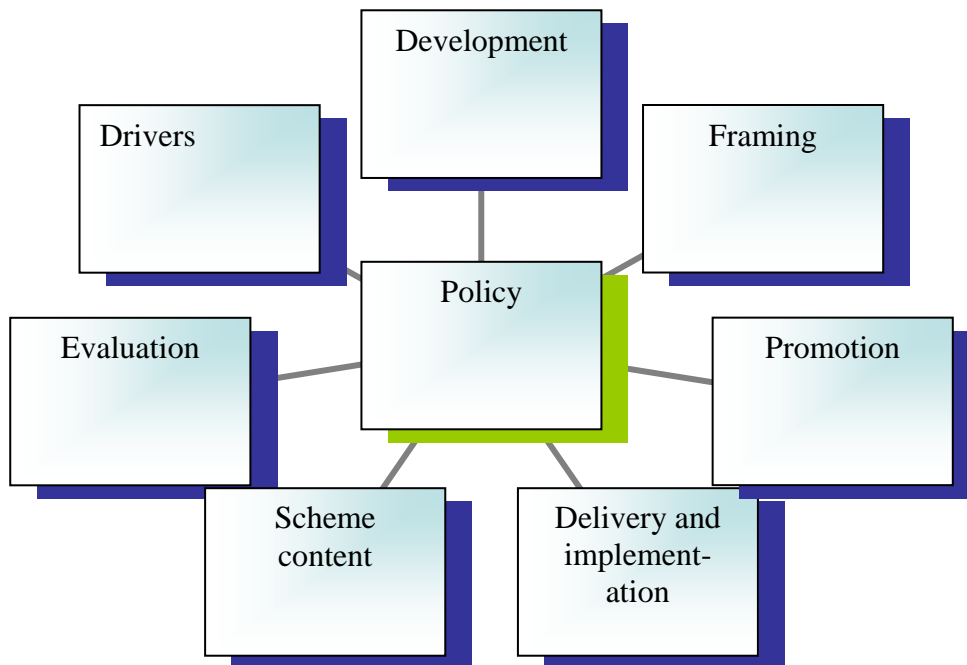
The emphasis of this remit was on reviewing research literature in order to identify and collate key issues which emerged in relation to sports and physical activity participation. In doing so, it touches upon a variety of other avenues for

investigation, which, although outwith the frame for this review, could most usefully be pursued in further, dedicated studies. In particular, useful work could be undertaken to investigate the current and potential role of sports bodies and master's sport in supporting sport and physical activity for older people; further study could address the contribution which joined-up policies (such as concessionary travel and safer communities) can make in encouraging physical activity amongst older people; and further research is required to develop the work started in this review on experiences and lessons from existing Scottish-based initiatives (see Chapter 7).

1.4 Review Method

The methods used for the review were primarily desk based but also included contacts and meetings with relevant organisations, practitioners and researchers. The policy and research field relating to older people and physical activity has generated an abundance of home and international literature. In order to keep a tight focus on the core aim of the review, namely informing policy, a framework was constructed to aid in identifying relevant literature and to steer its subsequent analysis. The framework is set out in Figure 1 below and demonstrates the areas of investigation, with policy development a central dimension throughout.

Figure 1.1: Analytical Framework for the Review



The review was undertaken in three main stages, outlined below:

- Scoping the review and initial identification of emerging issues
- Interviews with policy makers and practitioners
- In-depth critical overview of research material and other data relating to older people and physical activity

1.4.1 Scoping the Review and Initial Identification of Emerging Issues

This stage aimed to identify and locate policy, demographic and research material and data of relevance and to identify issues to explore in interviews with policy makers and practitioners.

In light of the substantial body of relevant literature a decision was made to restrict the scope of any searches to material dated from 1990 onwards, with reference to any earlier work emerging only if particularly important. This enabled the review to concentrate on the most recent information as grounding for policy development. Other parameters were introduced to narrow the scope of the review. These were to focus on studies and schemes involving free-living (rather than institutionalised) older people; to concentrate on studies of those generally in sound health (rather than, say, interventions for those recovering from strokes or coronary heart disease); to include studies of ordinary people rather than those relating to elite veteran athletes; to use material published in English; and to include findings only where these had potential relevance to the Scottish context.

In terms of the latter criteria for inclusion, it was encouraging that a variety of commentators supported our assessment that most of the literature reviewed did indeed have applicability to the Scottish scene. For example, reviewers Biddle and Faulkner (forthcoming) found no clear trends for nationality in their examination of 30 studies covering ten countries and four continents on the psychological benefits of physical activity for older people. Likewise, Uitenbroek and McQueen (1991) commented that the levels and patterns of leisure time physical activity amongst those living in Edinburgh, Glasgow, London and participants in North American studies were similar. However, where international studies focused on a distinct ethnic profile or included clear cultural characteristics, care was taken not to generalise from these in the current review.

The literature review incorporated both published material and also a limited volume of 'grey' literature (unpublished material). Material was sourced in a variety of ways. The main routes were the following:

- Internet-based searches of journal databases focusing largely on PubMed, SportDiscus and the Applied Social Science Index and Abstracts.

- Internet-based searches of specific relevant journals focusing on the British Medical Journal and the Journal of Preventative Medicine.
- Searches of relevant websites. These included those of **sportscotland**, Scottish Executive, Physical Activity Task Force for Scotland, Sports Council for Wales, Northern Ireland Sports Council, British Heart Foundation, World Health Organisation (WHO), NHS Health Scotland, Age Concern, Department of Health².
- Searches of websites relating to relevant research programmes and events. These included the Economic and Social Research Council Regard database, World Health Organisation Ageing and Health Programme, British Heart Foundation Active for Later Life Conference 2001, Health Education Authority Active for Later Life Conference, 1997, European Forum on Population Ageing Research
- Searches of Scottish-based libraries including the NHS e-library and the **sportscotland** library
- Use of key existing bibliographies of Sport England and the Health Education Authority

In addition to these routes to material, personal contact was made with a variety of sources to request specific known information or to identify unpublished material of relevance. Amongst the list of contacts were:

- Age Concern Scotland
- Commission for Racial Equality in Scotland
- Editor of Sport Ex
- Academics at Dundee University, Stirling University, Loughborough University, Melbourne University (Australia)
- Sport England

Statistical data was also sought as context for the review. Latest projected population data was extracted from the GROS 2002-based projections (General Register Office for Scotland, 2004). Sports participation data for 2000-02 was made available by **sportscotland**, with the published 1998 surveys of Scottish health (Joint Health Surveys Unit, 2000) and health education population (Health Education Board for Scotland, 2000) providing data of contextual relevance.

Finally, the review incorporated a critical review of a sample of Scottish-based schemes aimed at increasing participation amongst older people. A selection criterion was that some monitoring and evaluation material should be available for each scheme. In total, seven schemes were selected for inclusion in the review. These included schemes in both urban and rural locations with a range

² Appendix 2 contains addresses for these websites

of different organisations represented including local authorities and voluntary organisations.

The critique of schemes was not intended to constitute a mapping of those in existence, nor did it represent in any way the most effective or high profile interventions. Rather it attempted to draw out useful generalisable lessons and issues to emerge from typical initiatives across Scotland.

Schemes were identified in a number of ways:

- From a list of physical activity promotion schemes held by NHS Health Scotland
- From references provided by **sportscotland**
- From references provided by Scottish Executive
- From references contained in the literature reviewed
- From recommendations provided by practitioners in the field

Contacts at the selected schemes provided the review team with the most recently available monitoring and evaluative material on which to base our critical review.

1.4.2 Interviews with Policy Makers and Practitioners

This stage of the review aimed to explore the policy context for older people's participation in physical activity; to discuss issues emerging from the literature against a Scottish context; and to identify relevant experience and good practice in schemes across Scotland.

Face-to-face interviews were held with personnel involved in policy development at **sportscotland** and at the Scottish Executive. Telephone discussions and liaison by post and electronically took place with representatives of other organisations including NHS Health Scotland, Greater Glasgow Health Board, Paisley Partnership, Age Concern, Dundee City Council and Highland Council.

In total representatives of 15 different schemes were approached to provide details of their schemes for inclusion in the review.

1.4.3 In-depth Critical Overview of Research Material and Other Data Relating to Older People and Physical Activity

In this stage, material identified for the research was explored, organised, analysed and interpreted with a view to providing a critical review and policy-related conclusions. Literature was reviewed systematically using the analytical framework set out previously. As the review progressed, further themes arose as

important and were incorporated into the framework. For example, issues relating to equality themes emerged as central to some studies and these are reported in Chapter 8.

Findings from interviews with key personnel and monitoring and evaluation data from Scottish schemes were also critically reviewed with the results set against the Scottish policy development and delivery contexts.

1.5 Report Structure

The remainder of the report brings together findings from a vast range of sources. The ordering and reporting of relevant information has been steered by the analytical framework established and subsequent chapters are closely aligned to different aspects of policy development and delivery accordingly.

Chapter 2 presents the current policy context for the review and outlines the derivation of the key policy messages and their significant characteristics.

Chapter 3 investigates what is driving policy in this field. It explores in detail evidence on health benefits of physical activity amongst older populations and provides statistical and economic data to support this policy emphasis.

Chapters 4 and 5 present a juxtaposition of the conceptual frameworks of older people regarding physical activity (Chapter 4) and the frameworks deployed by promoters in encouraging greater participation (Chapter 5). They identify anomalies between the two perspectives which suggest where promotional messages may be strengthened in order to increase their effectiveness.

Chapter 6 takes a sharper focus on specific points of delivery of promotional message and/or intervention. Central to the discussion is the role of the health professional in promoting active living amongst older people. The chapter also raises a number of issues relating to the potential contribution of the GP in promoting physical activity amongst older patients.

Chapter 7 takes a look across interventions aimed at increasing physical activity amongst older people in Scotland and other countries and identifies lessons to be learned on what works.

Chapter 8 reports on issues of equality where these have emerged as particularly significant in the literature reviewed. Gender emerged as a most important dimension in many studies. Others noted the influence of socio-economic status and, to a limited extent, ethnicity as determining factors in their findings. Issues are discussed where relevant to the Scottish context.

Chapter 9 presents a discussion of methodological issues relating to studies conducted in this field. It raises common problems for researchers and presents some recommendations for future research approaches.

Chapter 10 takes an overview of the findings from previous chapters and discusses overarching issues for policy development and research.

CHAPTER 2: POLICY CONTEXT

The current government policy for the promotion of physical activity amongst older people has recently been crystallised in Scotland's new Strategy for Physical Activity: *Let's make Scotland more active* (Physical Activity Task Force, 2003). The strategy, endorsed by the World Health Organisation and published following in-depth developmental work by a Physical Activity Task Force including a public consultation (Reid-Howie, 2002), demonstrates a new Ministerial focus on the promotion of physical activity at a Scottish population level.

Alongside this statement on physical activity sits the Scottish national strategy for sport, encapsulated in the recently-published document: *Sport 21 2003-2007: the national strategy for sport – shaping Scotland's future* (**sportscotland**, 2003). Endorsed by Scottish Ministers, this document sets out policy and targets for sport in Scotland to be delivered by 2007.³

This chapter outlines the background to the development of these key strategies, highlights those features of relevance to the participation of older people and raises some of the main features of the policy development.

2.1 Policy Background

Scottish policy development in this field is characterised by an outward-looking approach, being grounded in a consideration of global research evidence and the adoption of widely-accepted guidelines on the benefits of physical activity for physical and mental health. Much of the policy development has been aimed at the broad plane of 'physical activity' rather than the more specific component of 'sport'. Accepted definitions of these terms are:

"Physical activity is a broad term to describe movement of the body that uses energy. It can be as simple as walking." (Physical Activity Task Force, 2003)

"Sport means all forms of physical activity which, through casual or organised participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competitions at all levels." (Council of Europe, 2001, as quoted in *Sport 21 2003-2007*)

Within these constructs, sport is viewed as a subset of a broader physical activity umbrella which also includes such elements as active living, play and so on.

³ Two relevant policy documents produced since this review was completed are: *The Equity Standard: A Framework for Sport*, Sport England, 2004 (a collaboration of the four home country sports councils and UK Sport); and *Ethics in Sport*, **sportscotland**, 2003.

Establishing clarity of concepts is important in terms of tracking changes in policy over time. Indeed, two key policy paradigm shifts over the last two decades have concerned, firstly, a change in focus from vigorous, intense physical activity towards the promotion of moderate 'active living' routines; and secondly, a rise in the profile and prominence of physical activity policy compared with the more specific sport policy focus.

Relevant policy development has been positioned largely within the domain of public health promotion. Traditionally-accepted guidelines on appropriate levels of activity to gain physical benefits were issued by the American College of Sports Medicine (ACSM) in 1978. These recommended a weekly minimum of at least three sessions of 20 minutes of vigorous intensity exercise (at 60% maximum heart rate). Such guidance, however, was aimed at achieving or maintaining 'fitness' and was revised later (1990) to accommodate the more moderate aims of attaining more general health-related benefits:

“the quantity and quality of exercise needed to attain health-related benefits may differ from what is recommended for fitness benefits. The ACSM now recognises the benefits of regular exercise performed more frequently and for longer duration, but at lower intensities than prescribed” (ACSM, 1990)

This shift in emphasis provided the foundation for much of the contemporary policy world-wide and indeed plays a central part in underpinning Scottish policy on physical activity. In 1995, in the context of increasing participation in physical activity amongst Americans of all ages, an expert panel reviewed relevant evidence on physical activity and health benefits. An important consensus statement resulted which stated that every US adult should accumulate 30 minutes or more of moderate-intensity physical activity on most, preferably all, days of the week (Pate et al, 1995). This message was taken up by other nations, for example the Department of Health in the UK and the World Health Organisation. For the first time the advice took account not only of the level of activity which population studies had suggested would be protective of health, but also of the level and type of activity which were likely to be sustainable and could reasonably be expected of the majority of people.

A further aspect of the revised message on recommended levels of physical activity was that it provided a tool to address the large sectors of the population most at risk of poor health – those currently adopting sedentary lifestyles. Crucially, it also provided a message of more relevance to the increasing older population for whom a moderately active lifestyle was a more palatable goal than taking up and sustaining vigorous bouts of exercise.

The respective formal definitions of physical activity and sport have been noted above and it is interesting to witness slight changes in emphasis in use of the terms during the later 1990s. For example, Government departments in both Scotland and England commissioned studies of the role of 'sport' in addressing

deprivation and social exclusion (Coalter et al, 2000; Ruiz, 2004; Department for Culture, Media and Sport, 1999) with sport envisaged as having the potential to tackle both causes and symptoms of exclusion. However, responses to the Scottish Office's green paper on public health in Scotland (Platt and Martin, 1998) included the recommendation that less prominence be given to sport with more promotion of the integration of 'exercise' into everyday lifestyles, perhaps reflecting the mood of change towards a more universally amenable message at a public health level.

2.2 Current Policy on Older People and Sport

Current sports policy in Scotland falls within the remit of the Minister of Tourism, Culture and Sport although the administration is dealt with by the Scottish Executive's Education Department. **sportscotland** is the national agency for sport in Scotland and has a leading role in partnership with the public, voluntary and commercial sectors to implement the policy outlined in the sport strategy document *Sport 21*.

In 2000, sport was heralded by the then Deputy Minister for Sport as "crucial in promoting public health" and associated with other benefits of enhancing our sense of identity, building self-confidence and self-esteem, enhancing educational achievement and promoting community integration.

The vision of sport as 'for all' with multiple benefits at both individual and societal levels was further strengthened by the support provided by social justice, education and health Ministers at the launch of the updated *Sport 21* strategy in 2003 by the Deputy Sports Minister.

The underlying principles of the sport strategy demonstrate the location of sport policy as straddling the arena of elite, world class performance with its associated recognition and nurturing of talent, and the arena of sport for all, for all ages and levels. Guided by 11 key targets, a core challenge of the Scottish sport strategy is to achieve the participation of 60% of adults in sport at least once a week by 2020. Of specific relevance to older people is the target that 43% of those aged 45-64 will take part in sport at least once a week by 2007.

2.3 Current Policy on Older People and Physical Activity

Policy development on physical activity and older people is currently driven by the Scottish Executive Health Department although delivery of the policy is largely cross-cutting in nature and involves many different departments and wider organisations. The key goals of the policy have centred on closing the gap in health inequality with the promotion of more active lifestyles amongst older people one approach to tackling this.

Improving the health of the nation is a priority for the Scottish Executive. A consistent strand in the developing strategy for tackling poor health has been to encourage greater levels of physical activity amongst people of all ages. The Government's White Paper on Health (Scottish Office, 1999) stated that "The Government are determined to encourage wider participation in physical activity" (para 42). The vision was for greater public involvement in **moderate** physical activities such as walking and cycling (para 43).

Subsequent to the White Paper, a Task Force was established in June 2001 and charged with developing a strategy for physical activity for Scotland. The Task Force brought together, in joint action, key agencies in sport and leisure, education, health, fitness, exercise and play. Following consultation, the strategy was launched in February 2003. The overall goal of the strategy is "to increase and maintain the proportion of physically active people in Scotland". Targets were set for 50% of adults and 80% of children to meet the minimum recommended levels of physical activity by 2022, with a priority that adults later in life should have the opportunities and should be supported and encouraged to remain active in the community for as long as they choose.

The Task Force acknowledged that the recommendations on levels of activity may appear complicated:

- Be active most days
- Moderate activities are good for you
- Be active for at least 30 minutes a day in total or one hour if you are a child or young person

Indeed, other commentators have also highlighted the challenge for promoters of such a message which combines details of type of activity with frequency, duration and intensity. At the time of writing, a major television promotional campaign is being finalised, developed in conjunction with NHS Health Scotland with messages focusing on the opportunities people have to choose to live actively (Choose Change, Choose Healthy living).

Several other initiatives are in the pipeline or are under way including a variety of Ageing Well projects, schemes associated with falls prevention, a promotional video 'Let's Get Moving' and Paths for All/Paths to Health projects. NHS Health Scotland has played a major part in the development of many of the initiatives and continues to work closely with the Scottish Executive in the development and promotion of physical activity policy.

As can be seen, in terms of its relevance to older people, the Strategy for Physical Activity clearly incorporates the messages on physical activity of the late 1990s, in supporting everyday activity, of moderate intensity, undertaken regularly and fitting routinely into the normal lifestyles of the general population. The key driver is health improvement, with an emphasis on closing the inequality gaps, targeting the inactive population sector who have most to gain by participation, and making thinking about active living routine both for those developing policies and for the general population of Scotland.

CHAPTER 3: POLICY DRIVERS

The previous chapter charted the development and presentation of government policy relating to older people and physical activity in Scotland. This chapter examines in detail the rationale behind such policy development by focusing on three of the key drivers which have been central in steering the direction and shape of policy in this field, namely:

- Health benefits of physical activity
- Economic benefits of increased participation in physical activity
- Demographic change and participation

3.1 Health Benefits of Sport and Physical Activity

3.1.1 Background

An extensive literature review was undertaken to identify evidence on health benefits of sport and physical activity amongst older populations. It was clear from this that the relationships between physical activity and general health benefits were widely accepted and understood. There was a substantial body of compelling evidence from a wide range of research studies about the contribution of a healthy lifestyle, which includes regular exercise, to survival. The association of sport and physical activity with health benefits is of prime interest to policy, as health and well-being at older ages is modifiable with the potential for substantial gains to be made through the promotion of regular participation in sport and physical activity. Furthermore, it could be argued that the growing body of research which has demonstrated significant health benefits associated with regular physical activity of **moderate intensity** rather than concentrated, formal exercise programmes has provided health promoters with more marketable and achievable goals to endorse.

However, a challenge for policy is that although the values of being physically active are acknowledged this is not a popular form of leisure for older people (Grant, 2002). In addition, the health benefits of physical activity are transient. For example, an older person, often very close to the threshold at which a minimal loss in physical capacity will make basic everyday activities impossible, can be rendered incapacitated following a small decline in physical activity relating to, say, a short illness. Research evidence suggesting that even in extreme old age such lost fitness can be regained with regular physical activity, provides a drive for health policy development and promotion to encourage such activity.

Further incentives which drive policy and promotion in this field include the findings that, once engaged in exercise interventions, older adults appear to take part with enthusiasm and with greater frequency of participation and duration

than do their younger counterparts (King et al, 1998). Once active, older people are seen as “good self organisers and regular attendees” (Sports Council for Wales, 2002).

Despite the overwhelming evidence which associates general health benefits with physical activity, the precise nature of the benefits to accrue and indeed their emergence at all depends on a variety of factors such as type of activity, duration of participation and level of intensity sustained. Individual factors such as gender and age also influence the outcomes as do variables such as the length of adherence to an intervention over time.

This section synthesises a wide range of research evidence which illuminates the relationship between physical activity and health benefits. It commences with a selection of widely-held beliefs on their association, moves on to present findings from several research summaries and reviews of previous relevant studies and ends with a critical review of 27 individual experimental studies aimed at exploring the health benefits of physical activity for older people.

3.1.2 Generally-cited Associations Between Physical Activity and Health

The literature reviewed revealed firm understandings and, it could be argued, relatively unchallenged acceptances of various associations between physical activity and health benefits. Terminology varied between commentators: for example, benefits were seen to accrue from, “regular vigorous physical activity” (Young and Dinan, 1994), “regular participation” (in both cardiovascular and resistance-training) (Mazzeo and Tanaka, 2001), “regular, moderate-intensity exercise” (Ainsworth, 1993) or “regular moderate or vigorous physical activity” (Booth et al, 1997).

The benefits of regular physical activity were considered to be, “well known” (Ainsworth, 1993), “well established” (Department of Health, 2004), “well recognised” (Macauley, 2000) and provided “a myriad of health benefits in older adults” (Nied and Franklin, 2002).

The benefits cited fell into various categories. Most were seen as impacting on the individual, although public bodies tended also to identify benefits at the societal level (Sports Council for Wales, 2002; Department for Culture, Media and Sport, 1999).

The **physiological benefits** of regular physical activity amongst older people were the benefits most commonly cited and were seen in broad, pragmatic terms of disease prevention, maintenance of levels of health and function and reduction of adverse health problems. The long-term benefits of physical activity were viewed as “slowing the age related decline in fitness” (Macauley, 2000).

Several commentators listed diseases which they stated could be limited by regular physical activity. Most commonly cited were ischaemic heart disease, stroke, hypertension, non-insulin dependent diabetes and osteoporosis (eg, Young and Dinan, 1994; Wilson and Allison, 2002; WHO, 2003).

Regular exercise was also associated with decreased mortality and age-related morbidity in older adults (eg Nied and Franklin, 2002; Booth et al, 1997) and a reduction in hip fractures, a particular cause of morbidity and mortality (Macauley, 2000).

A distinct feature of the literature relating to older people and exercise was a focus on the concept of '**functional fitness**'. Macauley (2000) argued that functional fitness may be particularly important in the older population, "for whom the ability to cope with the challenge of daily living is a priority". The maintenance of function required for everyday life was seen as both a motivator and an appropriate goal of regular exercise. In these terms, regular physical activity was heralded by various authors as contributing to the prevention of disability (eg, Ainsworth, 1993), assisting with weight control (eg, WHO, 2003) and generally improving 'functional ability' (eg, Wilson and Allison, 2002). For some, the benefits of regular exercise for older people were put modestly as preventing them from falling beneath functionally important thresholds.

Receiving less attention in general commentary was the potential beneficial impact of regular exercise on **mental health**. One observation was that "the connections between physical activity and mental health have been studied quite extensively in young and middle-aged people, but not in older people" (WHO, 1998a, p8). General coverage was evident on the related issue of benefits of physical activity on socialisation. Exercise was seen as providing the opportunity to build social contacts and be a means to relaxation and fun (Sports Council for Wales, 2002). Physical activity was also seen as permitting the "emotional benefits of socially acceptable touching, unconnected with dependence and the need for personal care, a rarity for many long-bereaved, older people" (Young and Dinan, 1994, p2).

Although most commentaries related to the direct benefits of regular participation, the link between physical activity and **indirect gains** was also raised in the literature. Regular physical activity was identified as helping to prevent or control risky behaviours such as "tobacco, alcohol or other substance use, unhealthy diet or violence" (WHO, 2003, p3) although the effect was stronger among children and young people.

3.1.3 Findings from Research Summaries and Reviews

The literature search also identified previous research overviews of groups of studies which examined the relationship between older people's participation in sport and physical activity and the impact of this on their health. Such reviews

are useful in providing expert critiques of a large body of work and illuminating professional interpretations of findings where conclusions appear to be contradictory across different studies. Overall, these reviews demonstrated relatively compelling evidence of the associations between regular, frequent physical activity and physiological health benefits. However, the evidence on the link between such activity and mental health benefits appeared to be less well established in terms of strength of research findings.

Physiological Benefits

Useful summaries and critiques of the literature on physiological benefits of exercise for older people were identified by a variety of researchers including Coalter et al (2000), WHO (1998a), Victor and Howse (2000), DiPietro (2001), Batty (2002), Bassey (2000) and Andrews (2001). In addition, the evidence on the general health benefits which derived from being physically active has been reviewed by expert panels, often resulting in consensus statements about the amount and intensity of activity required to achieve such benefits (eg, HEBS, 1997; WHO/FIMS, 1995). **In brief, such reviews collate compelling evidence from worldwide literature on the disease prevention or delaying effect of regular physical activity for older people and its value in their treatment and rehabilitation.**

Much of the evidence derives from experimental studies of the health benefits of participation by previously inactive older people, lending support to the view that exercise begun even late in life can significantly affect health. Andrews (2001) provided a typical summary of physiological benefits:

“Increased physical activity is associated with a reduced incidence of coronary heart disease, hypertension, non-insulin dependent diabetes mellitus, colon cancer... In addition, increased physical activity increases bone mineral content, reduces the risk of osteoporotic fractures, helps to maintain appropriate body weight, and increases longevity. Substantial evidence exists that lost fitness can be regained with regular physical activity, even in extreme old age.” (p729)

A small number of reviews narrowed their focus to particular aspects of physical activity interventions and associated health benefits. An example was the British Heart Foundation exploration of the relationship between physical activity and falls among older people (Skelton et al, 2002). This review concluded that some risk factors for falls are modifiable with tailored exercise although not all forms of exercise prevent falls. A further example was Riddoch et al's (1998) systematic review of primary care based physical activity promotion schemes within the UK.

However, robust evidence from the latter review was curtailed due to the small scale of many of the studies reviewed, and the complexity and difficulty of measuring physical activity behaviour and isolating its effects. In addition, of the grey literature reviewed, the researchers concluded that “research methodology...

is consistently flawed” and, where effects were identified, “only a limited degree of emphasis can be afforded to these data” (p3). (Chapter 9 looks in more detail at monitoring and evaluation issues.) Nevertheless, amongst the published studies reviewed, the majority reported some form of improvement in take-up of regular physical activity associated with a particular intervention.

As shown, research reviews such as those cited above are useful in providing an informed critique of methods and expert commentary on the findings and conclusions drawn. However, two particular cautionary messages from reviewers are noted here.

- Andrews (2001) represented the voices of many in questioning the **direction of causality** of factors in many of the cross-sectional studies reviewed. Studies have been undertaken that divide a given population into participants and non-participants in sport or physical activity generally, and find that the participants are healthier. Such a correlation is usually assumed to be causal; but only a more sophisticated study could tease out whether the direction of causality is one of participation improving health or of those who are unhealthy being less inclined to participate (or a complex combination of the two). For example, relatively high levels of ‘feel good’ factor amongst exercisers may result from the absence of those too depressed to exercise.
- Coalter et al (2000) accepted the compelling evidence on the physiological health benefits of participation in regular exercise but commented on the role of sport by itself that:

“Even among those predisposed to sport, the frequency of activity required to achieve and sustain health benefits is unlikely to be possible for many using sport as the sole focus (e.g. a moderate swim five times a week or a vigorous swim at least three times a week)” (para. 3.52).

Mental Health Benefits

According to Coalter et al (2000), qualitative evidence suggested that the greatest gains from involvement in physical activity relate to psychological health and increased feelings of well-being. However, a recurring theme to emerge in the research literature was that a causal link between physical activity and positive mental health was difficult to demonstrate and, even if claimed, the direction of the link was not clear-cut (see for example, WHO, 1998a).

Whilst early research focused on the impact of physical activity on physiological health, the examination of links with mental health has been a more recent phenomenon. Research has centred largely on associations between physical activity and depression, anxiety, sleep disorders, self-esteem, self-confidence,

life satisfaction and general well-being. From an examination of reviews of previous research on the benefits of physical activity on mental health (Biddle and Faulkner, forthcoming; Victor and Howse, 2000; WHO, 1998a; Fox, 1999), it appeared that any links were complex and, at the most, moderate in strength.

On balance, the bulk of the research reviewed revealed a moderate degree of beneficial association of physical activity with mental health, independent of age, gender, nationality, research design or length of physical activity intervention. The latter is interesting and (in contrast with the findings on physiological benefits) fits with the evidence that both one-off, short bursts of physical activity **and** long-term participation have been associated with improved mood states (eg, Raglin, 1990). Differences in outcomes emerged between those displaying different degrees of depressive symptoms at baseline. For example, only long-term adherence to exercise regimes has been associated with beneficial effects for more serious mental health problems.

One indirect effect of physical activity on mental health observed by several researchers was the role of increased self-efficacy (judgement of one's own competence) induced by physical activity as a mechanism for promoting an improved sense of well-being. Thus, exercise may have a positive effect on self-perceptions of well-being even though more objective measures of psychological well-being are absent (eg, Victor and Howse, 2000).

To summarise, in recent years it has become accepted that the evidence is consistent enough to support the conclusion that participation in physical activity contributes positively to mental health with a national consensus statement on physical activity and mental health confirming this view (Somerset Physical Activity Group (SPAG), 1999).

3.1.4 Evidence from Experimental Studies

In addition to examining previous research reviews, the current study also undertook an exploration of the large body of experimental studies which had sought to identify the impact of physical activity on the health of older people. As suggested above, studies varied in their robustness, approach and measures adopted. A sample of 27 studies from of the vast volume of such projects is commented on here. These studies were selected to represent a range of methodological approaches and research locations. Summary details are provided in Table 3.1.

Features of Experimental Studies

The studies demonstrated the location of the majority of research in this field. Much work has been undertaken in the US, Canada, Australia and the UK. However, Scandinavian-based research also featured prominently along with Japanese research and various European projects. The identified studies

provided examples of five key methodological approaches associated with work in this field:

- Randomised control trials
- Prospective longitudinal cohorts within the general population
- Prospective longitudinal cohorts on specific exercise programmes
- Cross-sectional physiological and psychological testing (usually of older people undertaking some form of sport, eg golf)
- In-depth interviews

Studies included a variety of measures from physiological testing of subjects to participants' self-reporting of their perceptions of mental well-being. A glance at the differences in the age ranges, the numbers of participants and the variations in the duration of the experimental period across different studies, indicates the challenge facing reviewers attempting to draw generalisations across such a spectrum of studies. For example, the time-span of the longitudinal studies reported here ranged between 9 months and 22 years.

Likewise, randomised control trials varied from 12 weeks to 18 months in duration. Sizes of studies varied from 13 in-depth interviews to over 10,000 participants in a cross-sectional survey. A further complicating factor was the age range of participants. Whilst some longitudinal cohorts included 40 year-old people at the baseline stage, most studies focused on those aged 60 years and older, with one project aimed at those 90 years and over!

Despite this eclectic mix of parameters, a consistent message to emerge from most studies was the link between physical activity and physiological and psychological benefits to participants. Other findings from these studies supported those in the reviews of research highlighted previously. In particular:

- Even small improvements in physical fitness appeared to have a beneficial effect on health
- The direction of causality of effect was sometimes unclear
- Improvements in mental health showed the strongest effects amongst those people who were previously depressed and anxious
- On occasions, mental health improvements emerged indirectly, as a result of more direct improvements in physical functioning and perceived capability

In addition to these findings, the studies produced a variety of other relevant outcomes and conclusions as detailed in Table 3.1. In some instances, results were relatively complex with the various outcomes requiring a closer examination and follow-up to aid understanding of the differential impacts of separate elements of any interventions and their respective effects (eg, Lawlor et al, 2002; Chang et al, 2001).

Table 3.1: Summary of Empirical Studies on the Impact of Physical Activity on the Health of Older People

No.	Researchers	Date	Location	Method	No. of participants	Ages of participants	Claimed benefits of exercise	Commentary
1	Williams P and Lord SR	1997	Australia	Randomised controlled trial: exercise programme over 12 months	Trial n= 94 Control n = 93	26 - 82	Reaction time Strength Memory span Measures of well-being	The programme may have normalised previously depressed and anxious people
2	Wannamethee SG et al	1998	UK	Prospective study over 12-14 years Self report of exercise and health	7,735 men	40-59 at start	Reduction in mortality and heart attacks amongst men with and without diagnosed cardiovascular disease	
3	Verghese J et al	2003	US	Prospective cohort over 5 years	469	75+	Dancing associated with reduced risk of dementia	Unclear causal link between dementia reduction and participation in leisure activities
4	Tsuji I et al	2000	Japan	Randomised controlled trial: exercise programme over 25 weeks	65 divided between experimental and control groups	60-81	Within 6 months exercisers became younger in aerobic capacity by 5 years	
5	Topp R and Stevenson JS	1994	US	Regular exercise sessions over 9 months	66 who self-divided into high and low attendees	Older	Difference in groups on life satisfaction and measure of health perception and on maximum physical functioning	
6	Stahle A et al	1999	Sweden	Randomised controlled trial: group physical training programme over 12 months	101 people recovering from an acute coronary Trial = 50 Control = 51	65-84	Self-reported differences in quality of life, fitness and well-being	
7	Siegenthaler KL and O'Dell I	2003	US	In-depth interviews	19 golfers	67-87	Self-reported social and physical benefits of golf	Researchers suggest that leisure activities which combine physical and cognitive demands contribute to successful ageing

No.	Researchers	Date	Location of study	Method	No. of participants	Ages of participants	Claimed benefits of exercise	Commentary
8	Penninx BW et al	2002	US	Randomised controlled trial with three groups: education; resistance exercise; aerobic exercise over 18 months	439 with knee osteoarthritis	60+	Lower depressive symptoms amongst aerobic exercisers. No effect for other groups. Both experimental groups reduced in disability and increased in walking speed	Impact on depression associated with aerobic exercise and not resistance exercise
9	Krawczynski M and Olszewski H	2000	Poland	Longitudinal pre-experimental design with 6 month follow-up: physical activities and seminars	75	60+	Improvements in physical, mental and spiritual well-being	
10	Kavanagh T and Shephard RJ	1990	Canada	Testing of participants at the World Masters Games 1995	756	Masters athletes	Increase above norm for peak power output during cycle ergometry and peak oxygen intake resembling that of sedentary 25 year olds	Physical benefits examined
11	Hassmen P et al	2000	Finland	Cross-sectional self-completion questionnaires of participants in the Finnish cardiovascular risk factor survey	3,403	25-64	Enhanced psychological well-being (higher levels of sense of coherence, social integration) amongst those who exercised at least twice a week	Psychological benefits examined
12	Hakim AA et al	1998	US	12 year cohort study of walking behaviour and health	707 non-smoking men	61-81	Lower mortality rate	Focus on low-intensity activity in men
13	Van Gool CH et al	2004	Netherlands	Cross-sectional and longitudinal	1,280	Middle-aged and older people	Emerging depression associated with becoming sedentary	Focus on depression. Looks at change from active to sedentary lifestyle
15	Emery CF and Gatz M	1990	US	Randomised controlled trial: 12-week physical exercise programme	48	61-86	Little change in psychological well-being and limited support for the association of physiological improvement and cognitive functioning	Perhaps 12 weeks is too short a time to produce significant impact?

No.	Researchers	Date	Location of study	Method	No. of participants	Ages of participants	Claimed benefits of exercise	Commentary
16	Huang Y et al	1998	US	Cohort followed for average of 5.5 years (no specific intervention)	4,670	Over 40 years at baseline	Medical assessments and self-reported functional status revealed protective effect on functional limitations	
17	Erikssen G et al	1998	Norway	Cohort followed for 22 years (no specific intervention)	2,014 men	40-60	Even small improvements in physical fitness were associated with a significantly lower risk of death	
18	Chang M et al	2001	Japan	Cross-sectional fitness test and questionnaire	123	Average 74 years	Some life satisfaction factors related to some functional fitness items (but no overall correlation)	Reveals need for detailed breakdown of factors to explore associations more precisely
19	Arao T et al	1998	Japan	Cross-sectional functional fitness test	737	60+	Functional fitness associated with habitual exercise activities	
20	Lee C and Russell A	2004	Australia	Cross-sectional and longitudinal cohort over 3 years	10,063 cross-sectional; 6,472 longitudinal	Women in their 70s	Emotional well-being. Stronger association for cross-sectional analysis. Active to sedentary life associated with negative changes in emotional well-being	Focus on mental health. Includes examination of change from active to sedentary lifestyle
21	Hilleras PK et al	1999	Sweden	Examination of activities carried out in one day	105	90+	Better health and well-being	Focus on very old age group
22	Stevens M et al	2003	Netherlands	Prospective longitudinal cohort over 18 months on exercise programme	96		Rise in perceived self-efficacy and fitness	
23	Stathi et al	2003	UK	Interviews with people on exercise referral schemes	13	63-79	Better physical and mental function and feelings of accomplishment and success	

No.	Researchers	Date	Location of study	Method	No. of participants	Ages of participants	Claimed benefits of exercise	Commentary
24	Ruuskanen JM and Ruoppila I	1995	Finland	Cross-sectional epidemiological interview	1,244	65-84	Self rated meaningfulness of life and subjective health benefits - although more obvious amongst younger participants	Strongest associations amongst youngest participants. Direction of causality not pursued
25	Aranceta J et al	2001	Spain	Cross-sectional study of participants on activity programme	1,500 main sample; 596 sub-sample for whom extra data collected	60-89	Positive influence on health particularly when activity is based in group setting	
26	Deforche B and De Bourdeaudhuij I	2000	France	Comparator study of participants in exercise programme and non-participants	150	"Seniors"	Rise in self-reported social influences and higher self-efficacy	Demonstrated benefits of organised group activity
27	Lawlor DA et al	2002	UK	National cross-sectional survey covering 15 British towns	2,341 women	60-79	Brisk walking for at least 2.5 hours per week linked to reduced odds of being overweight; 2.5 hours of heavy housework per week had no such association	Health benefit of heavy housework not demonstrated

Longitudinal cohort studies provided the special opportunity to observe the results of enforced or chosen changes from **active** to **sedentary** lifestyles (Lee and Russell, 2004; Van Gool et al, 2004). Both of these studies linked negative changes in mental well-being with such lifestyle changes. A further significant finding was the link between lower depressive symptoms amongst aerobic exercisers but not amongst resistance exercisers (Penninx et al, 2002), thus demonstrating the importance of **type** of activity in determining physical and psychological impacts.

3.2 Economic Benefits of Increased Participation

Whilst at an individual level, regular physical activity amongst older people is associated with a wide variety of health benefits, at a societal level there are also potential economic gains to be derived. Indeed it has been suggested that promoting physical activity is “public health’s best buy” (Morris, 1994) with increased cost of healthcare expenditure due to loss of physical function in older people branded “a major economic issue” (Taunton et al, 1997). According to WHO (2003), the prevention of non-communicable diseases through physical activity coupled with healthy lifestyles, “is the most cost-effective and sustainable way to tackle these problems” (p1).

Various economic analyses have been undertaken to provide informed estimates of the savings which may accrue given increased activity amongst populations. Most relevant to Scotland was the Scottish Executive Health Department’s analysis (2002) of the economic benefits of meeting the activity targets of the Strategy for Physical Activity. This analysis estimated that if the target of reducing the percentage of the inactive population by 5% over the following five years was achieved, this should result in the prevention of over 150 premature deaths from the three main disease groups resulting in cost savings to the Health Service of around £3.5 million due to falling annual admissions over the five years.

Other analyses also suggest the potential for significant economic benefits of increased physical activity amongst older populations. For example, Munro et al (1997) estimated the economic costs and benefits which were likely to result from a hypothetical model of a publicly-funded UK programme of regular exercise made available to a population of 10,000 people aged over 65 years. Taking into account likely prevention of deaths, in-patient episodes and annual healthcare costs, they estimated that the provision of twice-weekly exercise classes would:

- cost around £854,700 per year; but
- prevent 76 deaths and 230 in-patient episodes, avoiding annual healthcare costs of approximately £601,000.

They concluded that a publicly-funded programme of regular moderate exercise for over 65 year-olds could achieve important health benefits at relatively low cost.

Although care must be taken in generalising from such economic analyses across different jurisdictions, such findings were consistent with others from different countries. For example, in a prospective cohort study in Minnesota, participants who increased their physical activity from 0-1 to 3+ days per week had significant declines in their mean annual healthcare charges (Martinson et al, 2003). Data cited by WHO (2003) suggested that in the United States costs associated with inactivity and obesity accounted for some 9.4% of the national health expenditure in 1995 with 6% of the total healthcare cost in Canada accounted for by physical inactivity.

One UK study which attempted to examine cost-benefit ratios across different age groups was that of Nicholl et al (1994). This research is of interest in suggesting a threshold of age above which the total population economic benefits of regular exercise begin to outweigh the costs. The results showed that in younger adults (ages 15-44 years) the average annual medical care costs per person that might be incurred as a result of full participation in sport and exercise (approximately £30) exceeded the costs that might be avoided by the disease-prevention effects of exercise (less than £5 per person). However, in older adults (aged 45 years and above) the estimated costs avoided (greater than £30 per person) greatly outweigh the costs that would be incurred (less than £10). The researchers concluded that on this basis there are strong economic arguments in favour of exercise in adults aged 45 years and older.

3.3 Demographic Change and Participation

Compelling data on the health and other benefits of regular physical activity amongst older people have been outlined above. Such information contributes to the driving force behind government policy in this field. However, when this evidence is set against up-to-date statistical information in Scotland on demographic changes in the population and what is known on physical activity participation levels, the scale of the challenge for those driving policy change becomes clear.

3.3.1 An Ageing Population

Latest General Registrar Office population projections for Scotland are 2002-based and take full account of the 2001 Census results. The projections indicate that the age structure of the population is likely to change significantly between 2003 and 2027. Table 3.2 provides a summary of the projected population by age group.

Table 3.2: Projected Population of Scotland by Age Group, 2003-27

Age Group	2003	2008	2013	2018	2023	2027
	Thousands					
Total population	5,045	5,007	4,970	4,935	4,891	4,840
	Percentage of total population					
Children (under 16)	18.7	17.3	16.2	15.8	15.8	15.8
Working ages:						
16-29	17.3	18.0	17.9	16.9	15.7	14.9
30-44	22.7	20.5	18.6	17.9	18.6	18.5
45-64/59*	22.4	24.0	26.2	28.1	27.3	26.1
Total (16-64/59*)	62.4	62.5	62.7	63.0	61.6	59.6
Pensionable ages:						
65/60*-74	11.7	12.4	12.4	11.7	11.6	12.5
75+	7.3	7.8	8.6	9.5	11.0	12.1
Total (65/60*+)	18.9	20.2	21.0	21.2	22.6	24.6

Source: GROS. Based on 2002 figures.

*Pensionable age is 65 for men, 60 for women until 2010; between 2010 and 2020 pensionable age for women increases to 65, however, to retain comparability across the years, these figures assume the continuation of the present structure.

Of most relevance to the current review is that the only age groups expected to increase in populations between 2003 and 2027 are those which fall within the 'older people' bracket: those aged 45 and over. The number of people of pensionable age is projected to rise by 25 per cent to nearly 1.2 million in 2027. The number of older people of 75 and over is projected to rise by 61 per cent over the same period. In addition to these significant population changes, the gender balance of the older age groups is likely to alter: the projected change amongst the population aged 75 and over is from 35 per cent male in 2003 to 42 per cent male in 2027.

To summarise, the number of people constituting the older Scottish population (45+) is projected to rise significantly over the next 25 years along with a rise in the proportion of men in the older age groups.

3.3.2 Participation in Sport and Physical Activity

Comprehensive data on sport and physical activity participation by age group are provided regularly by the large-scale **sportscotland** participation surveys and Scottish Health Surveys.

Trends in Sports Participation in Scotland

The latest available **sportscotland** participation data relate to 2002⁴. Trends in participation in sport are available by gender and age, and Table 3.3 shows trends since 1994.

⁴ During 2003/04 the sample was increased to nearly 25,000 adults; results due early 2005.

Table 3.3: Trends in Adult Sports Participation by Gender/Age, 1994-2002

Gender/Age	1994-96	1995-97	1996-98	1997-99	1998-2000	1999-2001	2000-02
Percentage of each age group who are sports participants							
Men							
16-44 yrs	79	79	80	83	85	83	80
45-64 yrs	56	54	56	58	62	60	61
65+ yrs	39	40	44	48	47	46	44
Total (16+)	65	64	66	68	70	69	67
Women							
16-44 yrs	68	68	70	72	72	71	69
45-64 yrs	47	50	54	56	56	55	54
65+ yrs	29	28	29	30	33	36	35
Total (16+)	55	55	57	59	59	60	58
All Adults							
16-44 yrs	73	73	75	77	78	77	74
45-64 yrs	51	52	55	57	59	57	57
65+ yrs	34	34	36	39	40	41	39
Total (16+)	60	60	61	63	65	64	62
<i>Sample no. (all adults 16+)</i>	6,324	6,405	6,474	6,390	6,218	6,166	6,095

Notes: The interviews take place every second month throughout the year but, to take account of the seasonal nature of participation in many sports, only data for the two most popular months for each sport are used in this table. These are then cumulated into moving averages over three years to improve the sample size and to smooth out year-on-year fluctuations that may only result from sample differences. The survey collects information on participation within the four weeks prior to being interviewed, so the data relate to those who have taken part once or more in the last four weeks. Appendix I indicates the activities included as 'sports'.

Source: **sportscotland**. Survey: TNS Scottish Omnibus. Analysis: PDMS, Edinburgh University.

The latest figures show that 57% of those aged 45-64 years and 39% aged 65+ years reported participating in sport within the last four weeks. The figures by gender were 61% (of those aged 45-64) and 44% (65+) for men and 54% (45-64) and 35% (65+) for women. Across all age groups, women reported less participation in sport than men, although the difference was most pronounced amongst the youngest and oldest adult age groups. Changes in participation rates appeared relatively slight over the seven years for which these data are available, but with an overall upwards trend perceptible amongst the older age groups for both genders.

The substantially increased sample for the survey during the year 2003/04 will result in more detailed analyses of the decline in sports participation with increasing age for men and women.

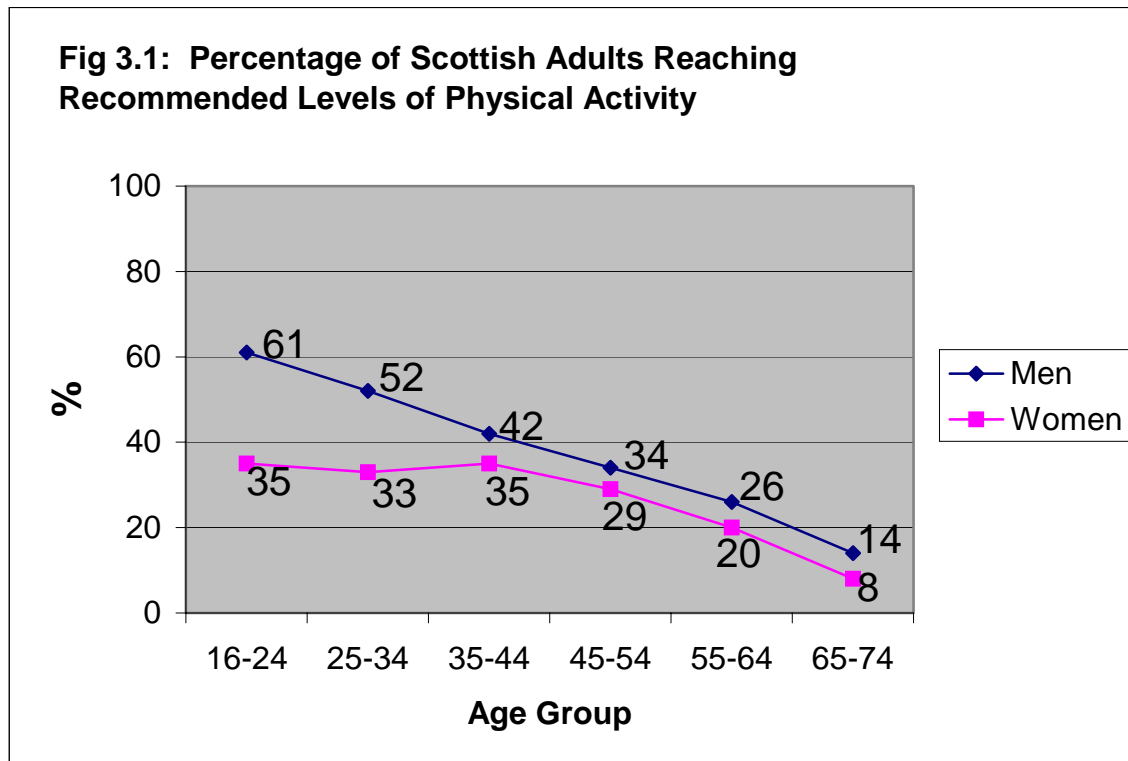
Scottish Health Survey

The latest Scottish Health Survey (Joint Health Surveys Unit, 2000) for which results are available was undertaken in 1998 (the results from the 2003/04 survey are due to be published early in 2005). The survey contained a module

on adult physical activity and the results can be compared with those from a module in the 1998 Health Survey for England.

The Scottish survey collected information on the frequency, usual duration and usual intensity of physical activity over the four-week period immediately prior to interview. The questionnaire asked about four broad types of activity: activity at home (housework, gardening, DIY); walks of 15 minutes or more; sports and exercise activities (occasions of 15 minutes or more); and activity at work. The results were set against the backdrop of both the previous recommended activity level of vigorous activity at least three times a week for at least 20 minutes at a time, and the revised guideline of at least 30 minutes of moderate activity⁵ on at least five days per week.

Figure 3.1 presents the findings by age group in relation to achievement of either of the guidelines on participation in physical activities.



Source: Strategy for Physical Activity (Physical Activity Task Force, 2003, p14), based on the Scottish Health Survey 1998.

Few adults met only the old 'vigorous' guideline, and at all ages adults were far more likely to meet the revised 'moderate' guideline; negligible proportions of those aged over 44 met the old guideline (Joint Health Surveys Unit, 2000, vol 1, p191). For both genders, there was a significant decline in activity level reported after the age of 64 with only 14% of men and 8% of women aged 65-74 meeting either guideline.

⁵ Defined as using about five to seven calories a minute – the equivalent of brisk walking.

The survey results showed that participation in some activities declined more rapidly than others. Table 3.4 presents participation data by broad category of activity.

Table 3.4: Average Number of Days on which Participation in Different Activities Took Place in the Last Four weeks, by Age and Gender

	Age Group						Total
	16-24	25-34	35-44	45-54	55-64	65-74*	
	Average no. of days in the last four weeks (minimum 15 mins per day)						
Men:							
Heavy housework	1.7	2.4	2.4	2.4	1.5	1.9	2.1
Heavy gardening/DIY	1.2	1.8	1.8	1.6	1.3	1.4	1.6
Walking [‡] (fairly brisk or fast)	7.4	5.4	4.8	4.2	3.2	2.4	4.8
Sports and exercise [‡]	11.0	7.5	4.7	2.9	1.4	1.4	5.2
Occupational activity	4.2	5.4	4.4	3.9	3.0	0.2	3.9
Women:							
Heavy housework	2.6	4.4	4.7	4.2	3.4	2.3	3.7
Heavy gardening/DIY	0.2	0.4	0.6	0.6	0.4	0.3	0.4
Walking [‡] (fairly brisk or fast)	5.7	4.6	4.9	4.1	3.0	1.8	4.1
Sports and exercise [‡]	6.2	4.9	4.1	2.6	2.0	1.2	3.6
Occupational activity	2.0	2.1	2.7	3.1	1.1	0.1	2.0

Source: Scottish Health Survey, 1998 (Joint Health Surveys Unit, 2000, vol 1, pp183-184)

*Data for those aged 75+ years were not collected

[‡]Occasions of 15 mins or more each.

Not unexpectedly, for both genders there was a sharper decline with age in participation in sports and exercise compared with the home-based activities of heavy housework and heavy gardening or DIY. For men in each age group aged over 44, most physical activity over the last four weeks had been in the form of walking. Women in these age groups gained most of their physical activity from heavy housework.

Comparisons with Health Survey data in England were possible and selected findings are shown in Table 3.5.

Table 3.5: Overall Participation in Physical Activities in Scotland, England and Northern England, by Age and Gender

No. of days of 30 minutes or more moderate-plus activity per week	Age Group						Total
	16-24	25-34	35-44	45-54	55-64	65-74	
Men:	Percentage of respondents						
Scotland							
5 or more days a week	55	48	40	33	26	14	38
None	7	12	16	26	46	49	23
England							
5 or more days a week	58	48	43	36	32	17	40
None	10	11	15	22	34	38	21
Northern England							
5 or more days a week	58	52	47	38	29	17	41
None	11	11	16	23	38	43	22
Women:							
Scotland							
5 or more days a week	33	31	34	29	19	8	27
None	18	15	14	21	35	53	24
England							
5 or more days a week	32	31	32	30	21	12	27
None	20	15	16	21	29	47	23
Northern England							
5 or more days a week	33	35	33	31	21	13	28
None	17	12	19	24	31	45	24

Source: Scottish Health Survey, 1998 (Joint Health Surveys Unit, 2000, vol 1, pp198-199)

Between the ages of 16 and 54, adults in Scotland and England were equally likely to meet the revised guideline for physical activity. However, amongst the older population, adults in England were a little more likely than adults in Scotland to meet the guideline (with the difference being greater among men than among women).

Other Statistical Sources

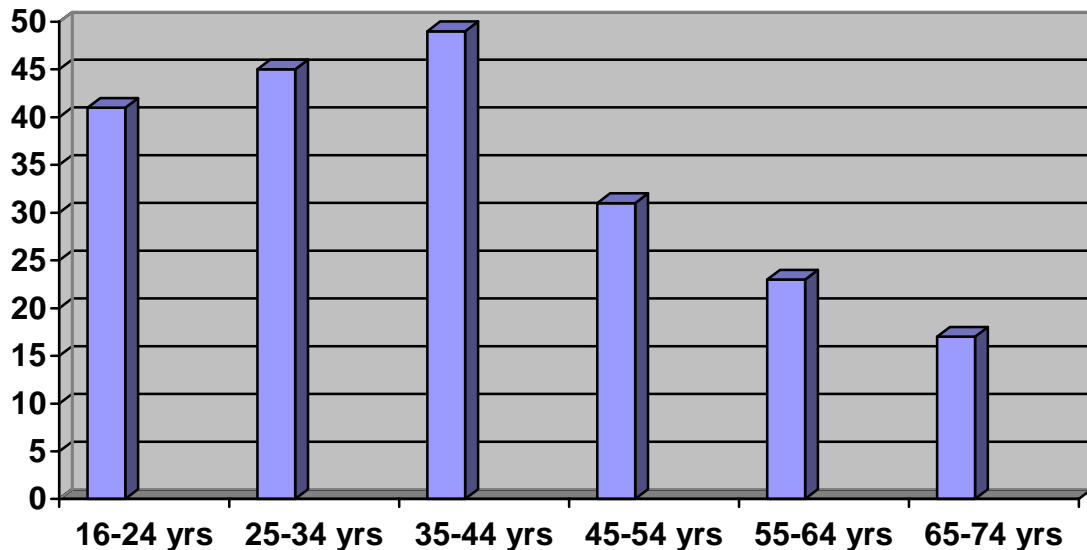
A variety of other surveys have attempted to quantify levels of physical activity in the UK over the last few decades. Across the spectrum of surveys a recurring picture to emerge has been that of a relatively sedentary older population. Of particular note in the early 1990s were the Allied Dunbar National Fitness Survey (Activity and Health Research, 1992) and the Health Education Authority National Survey of Activity and Health (unpublished). Based on the findings from these surveys and additional analysis, Skelton et al (1999) concluded that:

- 40% of over-50s were sedentary (they participated less than once a week in activity lasting for 30 minutes and of sufficient intensity to produce a health benefit);
- 50% of those who were sedentary thought that they did enough exercise to keep themselves fit;

- one-third of the over-70s climb no stairs and half of over-80s are unable to walk a quarter of a mile or more on their own; and
- only 13% of men and 10% of women walk at least once a week at an intensity sufficient to be likely to produce a health benefit.

One further survey which monitors adult physical activity levels in Scotland is NHS Health Scotland's Health Education Population Survey (HEPS). Latest published figures (1998 data) demonstrated that achievement of recommended levels of physical activity decline with age over 45 years (fig 3.2).

Figure 3.2: Achievement of Recommended Levels of Physical Activity, by Age (% of population)



Source: Health Education Population Survey 1998 (HEBS, 2000)

Such levels of activity are echoed in other jurisdictions. For example, Nied and Franklin (2002) report that up to 75% of older Americans are insufficiently active to achieve the health benefits associated with regular exercise.

3.4 Summary of Points for Policy Development

- Health and economic benefits of physical activity amongst older people along with demographic change and relatively low participation rates provide strong drivers for policy development.
- Evidence on the physical health benefits of regular physical activity is compelling.

- Evidence on the mental health benefits of regular physical activity is more complex and associations tend to be indirect.
- One economic analysis suggests that at a population level, the economic benefits of regular physical activity for adults aged 45 and over outweigh the costs (eg, work days lost due to sports injuries).
- Age groups aged 45 and over are those expected to increase in population size between 2003 and 2027.
- Levels of participation in sport by older people as recorded in participation data have shown a gradual upward trend since the early 1990s.
- Only a minority of older people meet recommended levels of physical activity according to population surveys.
- Walking, along with routine home-based activities such as heavy gardening and housework, comprise the bulk of older people's physical activity.

CHAPTER 4: EXPLAINING SEDENTARY LIFESTYLES – MOTIVATIONS AND BARRIERS

Chapter 3 provided an indication of the strength of evidence to link regular participation of older people in sport and broader physical activity with health and other benefits. There is also evidence to demonstrate that older people are aware of the messages that associate physical activity and health yet are not, in general, heeding these in terms of adopting more active lifestyles. For example, in Scotland an overwhelming majority (95%) of those questioned in a national public survey thought that sport adds to the quality of life for the population in general, with the most commonly cited reason being that it kept people fit and healthy (81%) (**sportscotland**, 2002).

Despite such signs of awareness, it has been argued that the levels of participation amongst older people are far from what could be expected given the positive cultural value that older people generally hold for their health and well being (Rowe and Kahn, 1998). Moreover, simply having an awareness of a key policy message may not result in any significant change in behaviour. For example, following the promotion of the Active for Life campaign in England, the proportion of participants whose knowledge of recommended levels of activity increased did not translate into improvements in their physical activity (Hillsdon et al, 2001). Previous research suggests that virtually everyone wants to live a long and healthy life, but few individuals, especially older people, seem to be able to mobilise themselves into regular and adequate levels of enjoyable physical activity (O'Brien Cousins, 2003b).

The paradox is that, despite mounting scientific evidence of the association of health and other benefits with physical activity and the public's increasing awareness of the importance of physical activity for successful ageing, adults tend to opt for sedentary lifestyles. Indeed, the World Health Organisation (2003) estimates that, world wide, more than 60% of adults do not engage in sufficient levels of physical activity to be beneficial for their health.

Against such a background it seems clear that, to be effective, any policy development, framing and promotion should commence with a thorough understanding of how older people view sport and broader physical activity. Policy needs to be informed by, and take into account, older people's personal constructs and perceptions of physical activity and their perceived motivations and barriers to their own participation. **This chapter aims to look in more detail at these conceptual frameworks in order to provide a backcloth against which previous framing and promotion of policy can be assessed and future policy can be informed.**

4.1 Is More Education Required?

It was suggested above that older people are aware of the general thrust of the messages on benefits of physical activity but are not heeding these to any significant extent. Various commentators have urged that more education of older people is required on the feasibility and benefits of physical activities (eg, Galgali et al, 1998). However, other research suggests that, whilst older people can readily identify the associations between physical activity and health benefits, they require educating in **how these can be applied to themselves and their own circumstances**.

Several studies have demonstrated that older people, particularly women, are unsure about the actual risks involved in participating in exercise, with sedentary living occurring when people believe that the risks of exercising exceed the benefits (eg, O'Brien Cousins, 2000). For example, in a focus group setting, older people highlighted their concerns that they might, "over exert" themselves or "get a chest pain or heart attack" (O'Brien Cousins and Janzen, 1998, p86). Again in a focus group setting, research based in the central belt of Scotland revealed two prevailing beliefs about exercise amongst older people. These were, firstly, that physical and mental deterioration are inevitable aspects of getting older; and secondly, that exercise does older people more harm than good (Stead et al, 1997). Likewise, a qualitative study of older people commissioned by the Health Education Authority (HEA) illustrated a strong perception that physical activity could be dangerous, especially "at our age" with the idea of getting out of breath alarming many people (Finch, 1997).

A further common misconception cited in research literature is that to reap health benefits, vigorous exercise is required (McMurdo, 2000). Images of something unenjoyable were conjured up in the minds of many participants in the HEA study (Finch, 1997), tending to be associated with regimented approaches of drill.

The perception of some older people that benefits of physical activity are there to accrue for others but not oneself is supported by the findings from a recent Scottish survey on public attitudes to the importance of sport in Scotland (**sportscotland**, 2002). Whilst 97% of those aged 55 years and over agreed that sport adds to the quality of life in Scotland for the population **in general**, only 60% of this age group agreed that sport adds to the quality of life **for them personally**.

This and other research indicate the necessity of using educational messages to promote older people's belief that physical activity is important and relevant to their own health (eg, Burton et al, 1999). The literature also points to the need for tailored campaign messages, customised for the older consumer, which address the misconceptions and ambiguities illuminated by previous research.

4.2 Experiences and Perceptions of Sport and Physical Activity

4.2.1 Routine Experiences of Physical Activity

A substantial body of previous research painted a picture of the nature of the routine activity of many older people. Such information is of benefit to policy in understanding baseline levels and types of exercise which people are used to and are comfortable with fitting within their lifestyles. A recurring finding, across the globe, was the prevalence of walking as a preferred activity amongst older people (eg, Hunt et al, 2001 in Scotland; Booth et al, 1997 in Australia; Finch, 1997 in the UK; Walsh et al, 2001 in USA; Livingstone et al, 2001 in Ireland; Hirvensalo et al, 1998 in Finland; Brown et al, 1999 in Australia). Other regular physical activities reported by these studies included heavy housework, gardening, swimming, dancing and activities with grandchildren. Amongst the activities which it was argued were commonly taken up and sustained into later adult life in Scotland were walking, swimming, dancing, keep fit/aerobics and golf (Hunt et al, 2001).

4.2.2 Older People's Perceptions of Sport and Physical Activity

Qualitative research provided evidence of some of the broader conceptual frameworks within which older people view sport and physical activity. American studies suggested that older people view physical fitness as being able to do anything, the mind and body working together and feeling 'light' and healthy (Melillo et al, 2001); or in terms of functional independence, holism (mind-body works together) and being age specific (Melillo et al, 1996).

Scottish-based research suggested that both primary health care professionals and lay older people perceive participation in physical activity to be of greater relevance to **mental** and **social** well-being than to **physical** well-being (Eadie et al, 1996). Such evidence is somewhat out of step with the compelling data on the benefits of physical activity on physical functioning and the relatively weaker direct associations with mental health.

Older participants in an exercise referral scheme articulated what they perceived to be the benefits of their participation (Stathi et al, 2003). These included:

- alleviation of pain and disease symptoms;
- improvement in functional capacity and mobility;
- increasing personal control and autonomy;
- improving the sense of personal competence and achievement; and

- increasing opportunities for social interaction within and beyond the class setting.

Perceptions have been shown to vary across different types of groups. For example, young people have been reported as associating physical activity with fun, fitness, health, friendships, success and improved appearance, whilst older people also emphasised the associations with enjoyment, fitness and health but in addition stressed relaxation and challenges (Biddle, 2001). Harada (1994) contrasted the perception of sport by Masters athletes as serious and competitive, with senior university students who were more likely to perceive sport as a playful leisure pursuit. Cousins (2003) compared the perceptions of inactive older adults with active older adults. The findings showed that inactive people generally had more negative thoughts than positive ones with their explanations for inactivity demonstrating contradictions and poor logic at times. Interestingly however, active people also highlighted barriers to participation but seemed to counter every negative thought with a strong positive dialogue and every barrier with a solution.

A recent Scottish-based study (Scott Porter, 2002), undertaken to inform the development of the Strategy for Physical Activity (Physical Activity Task Force, 2003), presented a detailed insight into the perceptions of physical activity of men in their mid years (40-55 years). Of particular note were their associations of such activity with “hard/physical exercise” which involved “training, commitment, regular execution and serious intent” (p36). Spontaneous reactions to sport were that participation would be separate to their daily routines and could not easily be accommodated into current lifestyles. Physical activity tended not to be regarded as relevant to quality of life, with its impact on health acknowledged at a very low level only. It was considered as a somewhat selfish behaviour and something that required a trade-off against family time.

Middle-aged men tended to accept their gradual physical deterioration with age and that this was inevitable. With no overt signs of unhealthiness these participants adopted the attitude of living in the present: “I’m healthy now, I don’t need to do anything different” (p41). The researcher concluded that for these men fitness was not perceived as having a preventative role, but rather was perceived as addressing/treating a condition.

4.3 What Motivates People to Participate?

The context outlined above provides, to some extent, a picture of ambiguities, misconceptions and lack of personal ‘buy-in’ of many older people to advice on take up of sport and physical activities more broadly. Another approach to illuminating perceptions of participation is to focus on what people say has motivated them in the past and/or would motivate them to take up and sustain regular activity. Perhaps surprisingly, robust studies on the motivations of older people to engage in regular physical activity are relatively few in number and are by far outweighed by research on barriers to participation.

The limited relevant literature which does exist suggested a wide spectrum of motivations which to a great extent were influenced by factors such as stage of readiness to participate, current levels of activity and existence of major life events such as health scares. Finch (1997) argued that whereas perceived health benefits were generally thought of as reasons for **doing** physical activity, people's perceptions of other benefits tended to be foremost in their motivation for **wanting** to do it.

Research by Stead et al (1997) confirmed the findings of other studies that routines carried forward from earlier life stages were important determinants of leisure-time participation in exercise. So those previously active tended to follow such routines, though perhaps modified in intensity, through to older age. However, the experience of major life events tends to disrupt routines and habits. In older age such events may be retirement, redundancy, bereavement and the deterioration of health or serious illness. The authors argued that these disruptions can be viewed as opportunities to introduce changes into habitual exercise patterns, especially if motivation is supported by the health and other professionals with whom older people may come into contact at these transitions.

Both age and gender were cited in research literature as influencing factors affecting motivation to exercise regularly. For example, in a study of respondents interviewed at sports centres in Leicester, older people were described as being more motivated by socio-psychological well-being (eg, to promote relaxation and/or to socialise) than those in younger age brackets. Males were found to be more driven by the goals of sports mastery, performance and assertive achievement than females (Ashford et al, 1993). Kolt et al (2002) also found differences in motivations according to age and gender. Older participants in their study rated being popular as more important in motivating them to participate in physical activity than did their younger counterparts. In the same study, men placed significantly greater importance on social recognition reasons for participating in exercise than females.

Amongst the other motivators to exercise which emerged from the studies reviewed were:

- Health (Brown et al, 1999; Grossman and Stewart, 2003; Ashford et al, 1993; Kolt et al, 2002)
- Improvements in physical fitness (Ashford et al, 1993; Kolt et al, 2002)
- Improvements in physical well-being (Aranceta et al, 2001)
- Social support/contacts (Brown et al, 1999; Aranceta et al, 2001; Kolt et al, 2002; Skelton et al, 2002)
- Doing something useful (Brown et al, 1999)
- Avoiding the negative stereotypes of ageing (Brown et al, 1999)

- Maintaining independence (Grossman and Stewart, 2003; Finch, 1997)
- Family (Grossman and Stewart, 2003)
- Appearances (Grossman and Stewart, 2003)
- Self competence/efficacy (Clark, 1996)
- Entertainment (Aranceta et al, 2001)
- Aid relaxation/releasing tension (Ashford et al, 1993; Kolt et al, 2002)
- Weight control (Skelton et al, 2002)
- Mental stimulation (Skelton et al, 2002)
- Coping with illness or grief (Skelton et al, 2002)
- Being able to keep up with the grandchildren (Skelton et al, 2002)

One of the few studies which attempted to apply an experimental design to exploring and eliciting motivations to exercise amongst older people participating in a controlled environment was Scottish-based (Mutrie et al, 1993). The research team compared the motivations at baseline and completion of a 12-week exercise programme of two groups of participants. One group had undertaken home-based physical activities, the other class-based exercise. Their findings revealed that both groups had increased their perception of the importance of 'meeting a challenge' as a motivator for exercise. Whilst both groups were still most motivated by improving physical health, the class-based group had become much more motivated by social opportunities than the home-based group.

4.4 What are the Barriers to Participation?

Just as the motivations to take up physical activity regularly showed age-related effects, it has been argued that physical, emotional and motivational barriers to participation increase with age (Biddle, 2001). However, balanced against this, Biddle stressed that the barrier of limited time to exercise in general decreases with age. Relevant research literature revealed that the barriers to participation raised by older people were wide ranging. This section outlines the key difficulties highlighted.

4.4.1 Medical Barriers

Barriers included both existing debilitating health problems and fear of medical problems which it was perceived might result from exercise. Several studies reported that ill health and/or injury had been cited as important barriers to regular physical activity (Booth et al, 1997; Grossman and Stewart, 2003; Brown et al, 1999; King et al, 1998; Satariano et al, 2000; Hirvensalo et al, 1998). In a study of 30 older women, one main finding was that joint problems and fatigue interfered with activity (Conn, 1998). King et al (2000) also reported lack of

energy as a factor associated with inactivity amongst elders. Rhodes et al (1999) cited perceived physical frailty as an obstacle.

One Australian study (Brown and Miller, 2001) tested the significance of a frequently-mentioned (anecdotally) barrier for women's participation in sport and concluded that, "the data are highly suggestive that leaking urine may be a barrier to physical activity especially among mid-age women". They recommend that health professionals be more proactive in addressing this problem by advising woman on non-invasive strategies such as pelvic floor muscle exercises.

Fear of injury and medical concerns emerged as barriers amongst those aged 50 and over in a critical review of the scientific literature undertaken by King et al (1998). Such findings are consistent with those to emerge from qualitative research. For example, several participants in Anderson et al's study (2001) considered that they were "past it" and "wouldn't have the breath" to exercise (para 3.4). Likewise, some of the barriers raised in Finch's study (1997) were "fears of overdoing it and possible dangers to health 'at our age'" (p2).

One significant concern held by some old people is fear of falling. A body of literature focused on this issue with many commentators raising this fear as a barrier to the take-up of regular exercise (eg, Bruce et al, 2002; Tinetti et al, 1995).

4.4.2 Psychological Barriers

Although, as shown above, it is difficult to disentangle the real medical barriers from the fear of perceived physical problems, some clear psychological obstacles did emerge from relevant research literature.

Some older people stated simply that they had no interest in taking part in physical activity (Calmbach et al, 2003; Hirvensalo et al, 1998; Satariano et al, 2000; Finch, 1997). Other key barriers were lack of self-discipline (Calmbach et al, 2003) and the attitude that some types of exercise were 'artificial' activities, awkward and not worth the trouble (WHO, 1998a).

Many studies reported that older people were self conscious (Finch, 1997; Anderson et al, 2001) or embarrassed (Calmbach et al, 2003) about participating in exercise. Some lacked confidence (Finch, 1997) or felt that they had no-one to exercise with (Brown et al, 1999). Others doubted their ability to take part (King et al, 1998), considering themselves 'not the type' to participate (Biddle, 2001). One study revealed a lack of role models: 'people like me' were not seen exercising in one's neighbourhood (King, et al, 2000).

4.4.3 Practical Barriers

In Lee's telephone survey of almost 300 Australian older women (1993), the main significant difference to emerge between those contemplating exercise and those already in action was their perception of practical barriers to participation.

Despite the suggestion that older people have, in general, more time to exercise (eg, Biddle, 2001), lack of time was cited by many research study participants as a barrier to physical activity (WHO, 1998a; Finch, 1997; Grossman and Stewart, 2003; Mutrie et al, 1993). Some older people did have time-consuming caregiving duties to attend to (King et al, 2000) whilst others were busy with various volunteering activities (O'Brien Cousins, 2003b)

Other practical barriers to participation included the local availability of age-appropriate sport and physical activity provision. This could be a particular problem in rural areas (Wilson and Allison, 2002) but, even in urban areas with facilities, older people appeared to prefer activities designed exclusively for their age group (Finch, 1997; Anderson et al, 2001; Melillo et al, 2001; Stead et al, 1997; Satariano et al, 2000).

The issue of costs as a barrier to participation in regular exercise had been raised in the responses to the Scottish Executive's consultation on the Strategy for Physical Activity (Reid-Howie, 2002) and this indeed emerged in research literature as a problem for some (Finch, 1997; Stead et al, 1997).

Related issues were the costs and availability of transport associated with participation in regular physical activity (King et al, 1998; Finch, 1997). Such barriers were exacerbated by a rural context, for example, Stead et al (1997) commented of participants in their Scottish study:

“Access to services was a particularly pertinent issue for this (55+) age group. Public transport was poor in rural areas, and to use it required a self-confidence which some isolated and more frail older people did not possess.” (p10)

Finally, some mention was made of practical safety concerns such as cold water or slippery edges to swimming pools, or concerns about traffic or fear of attack (Finch, 1997).

4.5 Contextual Issues

The motivations and barriers to regular participation in sport and broader physical activity do not take place in a vacuum but emerged within the context of wider environmental, health, cultural and societal domains. This section identifies the range of key contextual factors identified in the research literature reviewed.

Some of these provide a supportive framework for participation whilst others are more of a challenge for older people's participation in regular exercise.

4.5.1 Supportive Frameworks

As discussed above, the local proximity of age-appropriate physical activity opportunities at a time and cost accessible to older people can facilitate the uptake of exercise (Stead, 1993; Coalter et al, 2000). In addition, various social influences also impact on older people's participation in sport and physical activity (Conn, 1998). O'Brien Cousins (2003a) argued that:

“at the very least, elders need some encouragement from somebody who knows that it is appropriate to be active.” (p369)

Coalter et al (2000) urged that to be successful, activity provision must take into account participants' friendship groups. Women in particular appeared to respond to social support. In Satariano et al's study (2000), women aged 55 to 64 were more likely than men of the same age to report that not having an exercise companion was a leading reason for the limitation or avoidance of physical activity. Indeed, the engagement of a resident partner who took part in regular exercise was one significant predictor of physical activity amongst older people (Mutrie et al, 1993; Satariano et al, 2002).

Urban planning and other environmental features can also impact positively on older people's uptake of activity according to several commentators. From their study of older women, Belle et al (2003) concluded that the ability to make utilitarian walking trips from home (for example, to local shops) was associated with increased physical activity levels. Giles-Corti and Donovan (2002) cited supportive environments, particularly pavements in attractive neighbourhoods, as having the potential to increase walking and vigorous activity. WHO (2003) argued that the physical and social environment of cities has a major impact on the extent of physical activity. They stated that, “key issues include access to open spaces, playgrounds, gymnasium, stairwells and road networks” (p6). Finding footpaths safe for walking was associated with being active by Booth et al (2000). In the responses to the Scottish Executive's consultation on the Strategy for Physical Activity (Reid-Howie, 2002), a key recommendation made by respondents was to promote appropriate environmental design in an effort to increase participation.

4.5.2 Contextual Barriers to Activity

Contextual barriers to activity can be categorised into cultural and environmental. McMurdo (2000) argued that the cultural expectations that pensioners should “put their feet up” must be challenged. According to McMurdo, well-intentioned relatives and social support may unintentionally have a negative impact by taking away from the older person the household and other chores which could have

provided them with much needed regular activity. Lack of support from close family and friends was also reported as a barrier by other commentators (for example, Chogahara et al, 1998).

Contextual barriers to activity may be out of the hands of physical activity promoters. For example, poor weather emerged as a barrier to activity amongst home-based exercisers in Mutrie et al's study (1993). Grossman and Stewart (2003) cite "adverse environments" as a barrier, with King et al (2000) arguing that lack of hills in one's neighbourhood and the absence of enjoyable scenery were associated with inactivity. Finally, Finch (1997) found that the presence of traffic and traffic fumes was off-putting for those contemplating exercise.

4.6 Summary of Points for Policy Development

- Literature suggests that older people need to be educated on how the widely-accepted health messages on the benefits of physical activity can be applied to themselves.
- Previous findings suggest that educational messages require to be appropriately tailored for older people.
- Walking emerged as a preferred physical activity of older people in Scotland and other countries worldwide.
- People of different ages reported different associations with sport and physical activity. Older people emphasised enjoyment, fitness, health, relaxation and the challenge they brought.
- Middle-aged men tended to view physical activity as something to treat a condition rather than prevent poor health.
- Older people appeared more motivated to participate by socio-psychological rationales, such as promoting relaxation and/or socialising, compared with their young counterparts.
- Real and perceived medical problems and fear of such problems were significant barriers to regular physical activity in older people.
- Psychological barriers and practical barriers also posed significant challenges to older people's participation in physical activity.
- Local proximity of age-appropriate physical activity opportunities at a time and cost accessible to older people facilitated their uptake of exercise.
- Older women in particular benefited from having social support to encourage their participation in physical exercise.
- Appropriate urban and environmental planning, such as the provision of attractive walkways, can make a positive impact on older people's uptake of physical activity.

CHAPTER 5: POLICY FRAMING AND POSITIONING

Chapter 4 provided details of how older people view physical activity and how they understand and rationalise their participation in or avoidance of regular exercise. This chapter seeks to explore the extent to which policy and the promotion of policy on sport and physical activity participation is aligned with the conceptual frameworks of older people. It argues that more work is needed to ground promotional messages in older people's constructs and include older people in the design of promotions in order to produce more effective messages on regular participation.

5.1 Older People's Perceptions of Promotional Messages

Previous research has highlighted significant real and perceived barriers to the participation of older people in sport and regular physical exercise. The promotion of policy messages on uptake of exercise must learn from, and accommodate, the way messages are interpreted and responded to by older people and others. Illustrating this point, O'Brien Cousins (2003a) stated that:

“Health research provides many sound biological, social, and psychological reasons why everyone should bother and make a point to be physically active as often as possible (Health Canada, 1999), but the only reason that really matters in the research setting is the elder's summative opinion.” (p366)

Finch's (1997) qualitative research amongst people over 50 years provided a clear insight into older people's perceptions of promotional messages that they had been aware of. In general, existing promotion of physical activity was seen as aimed at younger people and, in particular, women. A gap was identified in the promotion of such messages to older men. People considered that promotion tended to emphasise 'fashionable' exercise to be undertaken in gyms or using videos. Messages on health prescriptions were viewed as patronising and, occasionally, confusing.

McMurdo (2000) also argued that existing promotional messages may be out of step with the reality of older people's concepts and lives:

“It is... unfortunate that public health advice has failed to shake off the high tech lycra-clad image of aerobic exercise and physical fitness and instead embrace the broader concept of health and physical activity.” (p1150)

For many older people, their experience of taking part in organised exercise is minimal with any experience they do have dating from their school days. Anderson et al (2001) stressed that this prior experience, coupled with older

people having lived through an era in which there was simply not the same preoccupation with fitness and exercise has resulted in the need for “particular coaxing or encouragement” (para 3.4) of older people to take part in such activities now.

5.2 Terminology and Framing of Promotional Messages

5.2.1 Changing Policy Messages

The perceptions amongst older people of the promotion of physical activity have been developed against a backcloth of a changing policy scene. The policy context is outlined in detail in Chapter 2, but of most significance in terms of promotional message is what was described as “the significant ‘paradigm shift’ concerning what constitutes a healthy level of activity” (Blair et al, 1995). In particular, there has been an increasing recognition that “vigorous, fitness training activity, while probably healthy in most cases, is not required in order to achieve a health benefit” (Riddoch et al, 1998, p10). Instead, evidence suggests that more moderate activities such as brisk walking can confer substantial health benefits with the key determinant being volume of activity (Blair et al, 1995).

This shift of emphasis from vigorous, intense bouts of activity to more regular participation in moderate, everyday exercise such as walking, gardening and heavy housework has provided a key opportunity for the promotion of regular exercise to older people, who not only have more time for such activities but are also likely to undertake such exercise at some level anyway in the course of everyday living. Indeed, as highlighted in Chapter 4, a recurring theme to emerge from large-scale cohort studies of older populations is the commonality of regular walking as a form of physical activity amongst older people (eg, Hirvensalo et al, 2000). In addition, older people are much more likely to sustain moderate intensity exercise over time than they are to keep up higher intensity exercise (McMurdo, 2000).

However, the perceptions of older people outlined previously do not appear to reflect the major shift in policy message which has occurred over the last decade. It appears that the opportunity presented for the promotion of moderate physical activity to older people has yet to be fully exploited. Older people in Finch’s study (1997) suggested approaches to addressing this gap. Suggestions for promotion were:

- Walking – importantly including walking the dog, with messages such as ‘Get a dog’
- Dancing
- Physical activities with grandchildren

5.2.2 Terminology

Even if a clear policy message has been agreed, the precise terminology used in portraying that message can impact significantly on its effectiveness and perceived relevance amongst target audiences. In the field of sport and physical activity promotion to older people, issues of phraseology have emerged as very important in affecting perceptions. For example, McMurdo (2000) argued that previous advice on the benefits of continuous, vigorous exercise was:

“so scientific, complex, and prescriptive and set such an unattainable goal for sedentary and older people that many must have given up on exercise as a lost cause.” (p1150)

The variety of terms used to describe the desired outcomes, for example ‘exercise’, ‘physical activity’, ‘sport’, ‘moderate activity’, ‘active living’ and so on, and their various formal definitions, add to the difficulties of those attempting to develop clear messages on participation. Such lack of clarity also affects those charged with measuring impacts of promotions in that the wording used in monitoring and evaluation impacts significantly on self-reporting of experiences (see Chapter 9). For example, O’Brien Cousins (2003a) highlighted the different understandings of regularly-used terms such as ‘activity’ between physical activity researchers and older people. To the latter, ‘active’ may apply to someone always on the go, with a packed schedule. Despite having no time for exercise, such a person may be considered by older people to be very active. Likewise, many older women were taught never to have idle hands. With much of their time kept busy with sedentary activities such as knitting, mending and crocheting, it is important for policy promoters and researchers to increase their awareness of the different connotations which older generations may attach to the ‘policy-speak’ of sport and physical activity.

Several commentators suggested that much could be done to make promotional messages sound more appealing to older people. For example, O’Brien Cousins (2003a) considered that amongst older adults, the use of terms ‘exercise’ and ‘sport’ imply high-exertion and risky enterprises. Both Finch (1997) and Scott Porter (2002) investigated older people’s associations with key words in their respective qualitative studies. People aged over 50 years in Finch’s research, responding to alternative wordings for how much physical activity was required, considered that both the phrases ‘warm and slightly out of breath’ and ‘warm and breathe more heavily than usual’ sounded over-strenuous and suggestive of the symptoms of a heart attack.

Following Scott Porter’s investigations in Scotland with “men in their mid years” the complexities of associations generated by different terms were well illustrated:

“Spontaneous associations with physical activity were made at the ‘higher’ intensity end of the physical activity spectrum, and as such

included the categories 'fitness' and 'sports'. 'Fitness' related activities, which typically included such things as the gym and weights, tended to be perceived as individual pursuits, very much linked with image, pursued with a single minded attitude and relating predominantly to a younger audience. 'Sports' activities included things like football, cycling and rugby etc, activities also regarded as high in intensity and therefore spontaneously associated with physical activity. However, 'sporting' activities were perceived as relatively less intense in comparison to 'fitness' activities. Moreover, 'sports' activities were thought of as team or individual pursuits, hobbies, and competitive, requiring a commitment of time and energy." (p37)

Interestingly, amongst Scott Porter's sample, manual labour taking place in the home environment such as DIY and gardening was not perceived to fall into the category of physical activity on account of its obligatory status, with any health benefits just a spin off from activity undertaken for another purpose.

5.3 Customising of Messages for Different Audiences

The discussion above suggests that the 'one size fits all' approach to promoting regular participation in sport and physical activity may not be as effective as one which tailors the message for particular target groups and sub-groups. And indeed, one recurring recommendation in previous literature is for greater care in customising campaigns for different audiences, "who might otherwise be missed by... promotion strategies" (Booth et al, 1997).

Differences between the perceptions of ageing and exercise of older people (55-75+ years) and younger people (18-49 years) in Stead et al's (1997) study led the researchers to conclude that unlike their younger counterparts, many older people were unlikely to participate in exercise for its own sake. Understanding such motivations was seen as a prerequisite for developing effective promotional strategies.

Riddoch et al (1998) argued that as physical activity offers the most dramatic reduction in risk of disease for those with the most sedentary lifestyles, then activity promotion schemes should take heed of this target group in the activity 'messages' they give out. Others also suggested segmenting the target audience by activity level. Coalter et al (2000) interpreted the evidence as suggesting that among many of the least active and least healthy groups the promotion of an 'active lifestyle' may be a more useful strategy than the promotion of 'sports'.

A different perspective on customising messages for different target groups was provided by some respondents to the consultation on the Strategy for Physical Activity (Reid-Howie, 2002). One argument against sector-specific promotion was that such an approach results in gaps around the 'transitional phases', for example, at the point of moving from employment into retirement. Indeed,

forthcoming research (Berger et al, 2004) found that a substantial amount of physical activity occurred at work but was lost by those who had retired and recommended that health promotion initiatives that encourage people to become more physically active should be targeted at those who are about to retire.

Another argument outlined by two local authority respondents was that identifying specific target groups did not always lead to a joined-up, holistic approach nor did it reflect the complexities in lifestyles (such as adults of working age being in full- or part-time education or being unable to work due to caring responsibilities).

5.4 Emphasis on Non-health Benefits in Promotion of Physical Activity

As outlined previously, older people have been seen to hold distinct motivational and attitudinal perceptions in relation to uptake of regular exercise and tend to conceptualise the trade-offs of participation in ways that differ from those of younger age groups. Such findings have led many researchers to recommend that the promotion of activity should follow much more closely the motivations of older people with a recurring theme being the shift from health benefit messages to ones of broader functioning or social rewards.

WHO (1998a) suggested that the Western tradition of distinguishing between the physical and the mental complicates the natural relationship between these two planes of existence. Such distinctions have implications for the promotion of physical activity in the West in terms of which route, the physical or the mental, to emphasise in key messages.

For some, both types of approach should be attempted. Laventure (reported in Wilson and Allison, 2002) provided ideas on how to convince elderly people and their carers that exercise can make a difference. These included stressing:

- the importance of enjoyment;
- mental health improvements;
- physical enhancement;
- enjoying the grandchildren;
- getting into the bath;
- cutting the toenails;
- tying shoes; and
- caring skills.

Laventure went on to highlight how emphasising independent living and dignity could also put a different 'spin' on fitness and health. Benefits to be promoted included having:

- the strength to lift household objects;
- the flexibility to wash your own hair;
- the balance and agility to climb stairs;
- the coordination and dexterity to open a door with a key;
- the endurance to walk to the shops;
- the confidence to use public places;
- the ability to use accessible transport safely; and
- access to facilities and services.

Other commentators agreed on the appropriateness of emphasising functional fitness and self-efficacy in promotional messages to older people (Resnick et al, 2000; Guralnik et al, 1989; respondents to the Scottish Executive consultation on the Strategy for Physical Activity, Reid-Howie, 2002).

Various researchers suggested that because the health benefits of physical activity were relatively weaker motivators amongst older people, more emphasis should be placed on stressing:

- the social rewards and enjoyment potential of physical activity (Stead et al, 1997);
- the potential enjoyment to be gained from physical activity, the sense of well-being and/or opportunities to socialise that it creates (Finch, 1997); and
- emotional benefits which operate through the pull of the family, ie a longer/better quality of life to enable the enjoyment of being with the family now and in the future (Scott Porter, 2002).

5.5 Timing of Promotion

Although the focus here has been on promotional messages to older people, evidence exists which suggests that promotion of physical activity at earlier life stages may also pay dividends in terms of sustaining active behaviours into older age. For example, Hirvensalo et al (2000) examined the predictors of the maintenance of a high level of physical activity over eight years among subjects aged 65-84 years at baseline in Jyvaskyla, Finland. They found that self-reported competitive sport participation from as early as 10-19 years of age was a significant predictor for both men and women for maintaining activity in later life. Also, women's participation in recreational sports at the age of 40-64 years in particular predicted later activity.

Likewise, findings from the Allied Dunbar National Fitness Survey and the Health Education Authority National Survey of Activity and Health (Skelton et al, 1999) demonstrated that among those who had been regular walkers at some time in

their lives, 42% of men and 37% of women over the age of 50 years still walked regularly.

The findings that sporting and other physical activities undertaken during earlier life stages may form the foundation for activity habits later in life (eg, Malina, 1996) has contributed to the call for promotional interventions to be targeted at earlier age groups. For example, Finch (1997) urged that:

“In order to avoid the next generation becoming inactive in old age, young people should be taught about the benefits of physical activity for health, perhaps in school.” (p6)

5.6 Other Recommendations for Promotional Messages on Physical Activity

Many other suggestions were made for the framing and emphasis of the promotion of physical activity to older people. Amongst these were recommendations to come from older people during qualitative research (Finch, 1997) to::

- redress the perceived imbalance in favour of young people by showing more images of physically active older people – role models for the older age group;
- use ‘ordinary’ people, not super-fit or super-slim people in promotional images;
- address the perceived gap in promotion to older men;
- avoid coming across as patronising or condescending; and
- angle physical activity as an ‘insurance policy’ – a way to help earn a healthy retirement and be fit for grandchildren.

Finally, it was recommended that older people should be actively involved in the planning and evaluating of physical activity promotions and initiatives (Young and Dinan, 1994).

5.7 Summary of Points for Policy Development

- One study revealed that older people perceived previous physical activity campaign messages to be aimed at younger people and, in particular, younger women.
- The shift in emphasis of physical activity message from vigorous bouts of exercise to moderate everyday activity has provided an opportunity to promote physical activity to older people in a more marketable and amenable manner.
- The opportunity presented for the promotion of moderate physical activity to older people has yet to be fully exploited, by perhaps building upon physical activities undertaken routinely in everyday life.
- The myriad of terms and definitions used to describe physical movement can curtail the presentation of a clear, consistent message.
- In terms of promotional message, one size does not fit all, with a need for sharper tailoring of promotional message according to target audience or perhaps by different activity levels.
- A recurring recommendation was to focus promotional messages on the goals of broader physical functioning or social rewards rather than specific health benefits of physical activity.
- Many commentators agreed on the appropriateness of emphasising functional fitness and self-efficacy in promotional messages to older people.
- Evidence suggested that the promotion of physical activity at earlier life stages, for example amongst middle-aged women or schoolchildren, may contribute to stimulating active behaviour which continue into older age.
- It was recommended that older people should be involved in the planning and evaluation of physical activity promotions and interventions.

CHAPTER 6: STRATEGIES FOR PROMOTING PARTICIPATION

Chapter 4 demonstrated that older people's awareness of the benefits to be reaped from regular participation may well not provide a sufficient incentive for them to initiate a more active lifestyle. Indeed, it is generally accepted that educating about benefits, or even giving activity advice, "is ineffective in stimulating behaviour change" (Riddoch et al, 1998, p59). Chapter 5 focused on how the framing and positioning of policy messages on take-up of exercise can impact on the likelihood of subsequent action. The current chapter looks at a further determinant in the complex arena of taking up and sustaining physical activity by examining various strategies designed to instigate and promote older people's participation in exercise.

Currently very little is known about factors associated with initiating new physical activities in old age (Hirvensalo et al, 2003). In Finch's (1997) interviews with older people in England, respondents suggested that promotional vehicles may include personal contacts, medical professionals, the media, workplaces, printed literature being available at places where older people go and classes being held in sheltered and care homes for older people. Evaluative material on the outcomes of adopting strategies such as these for encouraging activity is relatively sparse and of variable quality. Review has tended to focus around health professionals as promoters of participation, with the main body of studies aimed at evaluating aspects of GP referral or activity prescription schemes. However, even these present challenges for evaluators in terms of the influence of contextual variables and other contaminating factors, not to mention the ethical considerations associated with controlled trials.

This chapter takes an overview of the key issues relating to promotional strategies, focusing on the **point of delivery** of promotion. An overview of issues of physical activity scheme **content** is reported in Chapter 7.

6.1 Role of General Practitioners in Promoting Exercise to Older People

It has been argued that in the UK general practitioners (GPs) may be well placed to promote healthy exercise to their patients:

"especially middle-aged and older people whose exercise levels have decreased significantly since young adulthood, and who exhibit patterns of morbidity that may be ameliorated or prevented by consistent exercise." (See Tai et al, 1997, p119)

Of particular advantage is the frequency with which GPs see older patients with levels averaging between six and seven contacts per year recorded for those aged 65+ years (Fry and Orton, 1992), and the high social influence afforded to

GPs by older people (Stathi et al, 2003). The significance of the health professional in influencing take-up of physical activity was illuminated by Booth et al's (1997) Survey of the Fitness of Australians. Findings demonstrated that preferred sources of assistance changed with age with more than 50% of those aged 60+ years wanting advice from a health professional compared with 22% of the youngest age group in the survey. Previous research has also shown how GPs' advice can counteract older people's initial concerns regarding the safety of exercising 'at our age' by giving them the 'permission' required to instigate a more active lifestyle. For example, participants' faith in a GP's knowledge was significant in leading to a shift to participation in Stathi et al's (2003) study of exercise referral schemes.

Very little evaluative material exists relating to the impact of general promotional campaigns by GPs. However, an example of an early experimental study is reported by Campbell et al (1985) and demonstrated that, as a result of the GP's campaign, there was a short-term increase in regular exercise in both the community served by the GP and, interestingly, a halo effect in a neighbouring village acting as a control.

A further study which investigated whether advice by health care professionals is associated with increased exercise amongst older people was conducted in Finland (Hirvensalo et al, 2003). In a large-scale, longitudinal study of older people, men and women who had received advice from health care professionals started to participate in supervised exercise classes 5-6 times more often than those who had not received such advice. The researchers concluded that initiating new physical activities in old age is strongly connected to encouragement to exercise by health care professionals.

6.2 GP Referral Schemes

Within the context of the promotion of exercise by GPs much of the available research has focused on GP referral or 'prescription' schemes. These typically involve alliances between primary care and leisure services. GPs refer patients to a local leisure centre for a time-limited exercise programme at a reduced fee. Referred patients are usually, "white, middle aged and apparently healthy women, with the main reason for referral being [that they were] overweight" (Hillsdon, 1998).

Several studies have attempted to evaluate or review previous evaluations of such schemes but it has been argued that although:

"the number of practices that 'prescribe' exercise is increasing and funding bodies are looking sympathetically at local schemes that divert patients from health centres to leisure centres... there is little evidence that general practice is the appropriate place for physical activity promotion." (See Tai et al, 1997, p119)

For example, one argument is that it may be that 'compliant' patients are those who constitute the fittest patient sector anyway with the potential to derive the least health benefit from the prescription, and GPs really need to decide whether their time and energy is best spent in this way (See Tai et al, 1997).

Findings from a questionnaire survey of all GPs in Bradford (Lawlor et al, 1999) suggested that the potential for impact of such schemes is curtailed by very few GPs promoting physical activity "in a way that would influence behaviour at the population level" (p4). Time, lack of relevance to the consultation and concerns that patients were unlikely to follow advice were identified as the most important barriers to promoting activity. Such findings are consistent with those which emerged in studies in New Zealand (Swinburn et al, 1997) and Australia (Bull et al, 1995).

Many researchers have highlighted what they perceive to be challenges to the successful and increased use of GP referral schemes. For example, Taylor (1998) (in Riddoch et al, 1998) proffered reasons for the "very mixed interest" in "exercise on prescription schemes" as:

- practitioners unable to identify sedentary populations;
- practitioners not knowing enough about the type of physical activity and the recommended dose necessary for health benefits;
- practitioners having only limited training and skills in behaviour change strategies or counselling;
- physical activity not being on patients' agendas when they present to primary care services and being keener to receive conventional interventions; and
- consultation times being too short to provide the opportunity for GPs to assess a patient's physical activity level let alone advise or counsel on physical activity.

In the study of GPs in Bradford (Lawlor et al, 1999) GPs confirmed that consultation time did indeed present a barrier to their promotion of physical activity with this being the most cited problem (92% of GPs). Other common barriers cited by GPs were physical activity not being relevant to the consultation (68%) and a belief that patients would not follow the GP's advice to be more active (55%). This study, however, suggested that GPs did have a good level of knowledge of the health benefits of regular physical activity and the levels required to achieve these.

Further commentary has suggested that GPs may be uncomfortable with exercise prescription in that they feel they could not be as directive about such schemes as they could be about medication (Lord, 1993). Another concern was that prescribing exercise may "medicalize a lifestyle change" (Gould et al, 1994),

thus imposing a change, rather than aiding a patient in making their own lifestyle choice.

Another restriction on referral to emerge from the literature was the apparent 'over-caution' in the official guidelines for GPs (produced by the Family Health Services Authority) (Smith et al, 1996). This resulted in many of the referring practitioners in Smith et al's study being "clearly frustrated at not being able to refer the patients they considered to be most in need of the scheme" (p444).

Finally, the difficulties faced by GPs in tailoring referrals for individual circumstances were raised by various researchers (Riddoch et al, 1998; Butler et al, 1998). It was argued that older patients may be in various stages of wellness, ranging from healthy to frail, demanding individualised exercise prescription based on many of the same principles as drug prescription. Flexibility of activity prescription was also deemed necessary in order to take account of:

"psychological readiness to change, participants' personal goals, current activity status, and health status." (Riddoch et al, 1998, p54)

Despite such challenges facing GPs in exploiting the opportunities of referral schemes, significant benefits of such initiatives have been cited. An in-depth examination of three case studies by Riddoch et al (1998) provided a reflection of such advantages. Findings included the following:

- Certain patients were seen to benefit particularly, for example patients with psychological disorders or those patients in whom illness cannot be detected.
- The effects of schemes are seen to have an impact not only on the patients, but on many other people who are directly and indirectly associated with the schemes, for example in enhancing physical activity professionals' understanding of motivations and barriers to participation.
- The existence of the schemes has done much to promote the status of physical activity as a health-related issue and to dispel its 'sporty' image.

6.3 Role of Other Health Care Professionals in Promoting Exercise to Older People

Although previous focus has been on the advice of GPs, other health care professionals have also exerted influence on older people's decisions to participate in exercise. Examples are the strong influence of physiotherapists' advice (Hirvensalo et al, 2003) and the advice of the 'exercise specialist' (fitness instructor) (Stathi et al, 2003). With respect to the latter, Stathi et al described how the exercise specialist was of particular importance in the early phases of new exercise programmes when older people:

“must overcome their fears and embarrassment and adjust to the new environment. This may include sharing a setting with younger, fitter adults, and people of the opposite sex.” (p23)

In addition, Macauley (2000) noted the role of hospital-based training programmes in helping to maintain patient fitness.

These examples and others are not followed up further here but could usefully be explored in more detailed reviews of the role of various health care professionals in promoting physical activity.

6.4 Other Strategies for Promotion

A small body of research literature reported on particular modes of delivery of promotional messages. Amongst these, the use of telephone support for older people participating in physical activity emerged as beneficial in sustaining exercise (Gillis et al, 2002; King et al, 1998; Castro et al, 2001). ‘Motivational interviewing’ by practice nurses appeared to be a feasible strategy but required further testing in a larger trial (Sims et al, 1998). The distribution of a physical activity directory amongst older people in Brisbane, Australia produced disappointing results (Miller and Miller, 2003). The directory served to increase **awareness** of local physical activity options, but had little impact on **take-up** of exercise.

Finally, the use of media-based promotional strategies was suggested for currently active older people (Stead et al, 1997). It was argued that such people are less likely to be in need of face-to-face support but that this group could be appropriately reached through channels with which they came into contact such as materials displayed in leisure facilities or articles in magazines. Another communication channel recommended for reaching the less mobile older population was the local press, to which it was suggested that older people pay more attention than younger age groups.

6.5 Summary of Points for Policy Development

It was argued that GPs are well placed to promote exercise to their patients.

- Findings demonstrated that GPs were a significant source of advice for older people and can counteract older people's health concerns about taking up exercise.
- Very little evaluative material exists relating to the impact of promotional campaigns by GPs.
- Initiating new physical activity in old age has been shown to be strongly associated with encouragement from health care professionals.
- Despite the apparent potential offered by GP referral schemes and the significant benefits cited in the literature, a wide variety of barriers have curtailed their growth and development.
- More research is needed on the potential of various health care professionals in promoting physical activity.
- It has been argued that media-based promotional strategies are more appropriate for currently active older people who are less likely than those currently inactive to need face-to-face encouragement and support.

CHAPTER 7: SPORT AND PHYSICAL ACTIVITY SCHEMES – WHAT WORKS?

Research literature reviewed for the current study has made a number of observations on the aspects of physical activity schemes that attract and sustain older people's adherence to the activity. These are outlined below to illustrate the range of physical, social, mental and contextual factors associated with initiatives which have been found to play a part in encouraging participation in regular exercise. Oman and King (1998) summed up a general consensus that:

“exercise program format as well as an individual's initial cognitive and behavioural experiences in an exercise program play significant roles in determining exercise adherence.”

Indeed, the findings below demonstrate that no one blueprint for success exists, on account of the huge range of types of participants, stages of readiness and motivation for exercise and different circumstances in which the exercise takes place. However, elements from previous lessons learned about what works are useful in enabling future scheme developers to shape initiatives for their particular context and focus.

7.1 Group Activities and Support of Friends

Andrews (2001) suggested that:

“The social benefits of group exercise activities in later life should not be underestimated in a population where social isolations and loneliness may be common.” (p729)

Indeed, a recurring finding was that schemes which were group based and facilitated companionship and camaraderie had greater success in retaining participants. Also significant was Satariano et al's (2000) finding that a key reason given by older people for non-participation in recommended minimal levels of physical activity in the previous week were, “remediable social factors” (such as lack of an exercise companion). The researchers concluded:

“Exercise interventions that include social contact and social support, perhaps through the establishment of exercise teams (buddy system), may be especially worthwhile for women who live alone, given the high frequency of reported activity limitation in this group.” (p510)

Various studies concluded that group-based physical exercise schemes were rewarding for older people (eg, Aranceta et al, 2001; Conn et al, 2002) with a recommendation that stimulating older adults to join a structured activity programme in the company of family or friends could be an important intervention

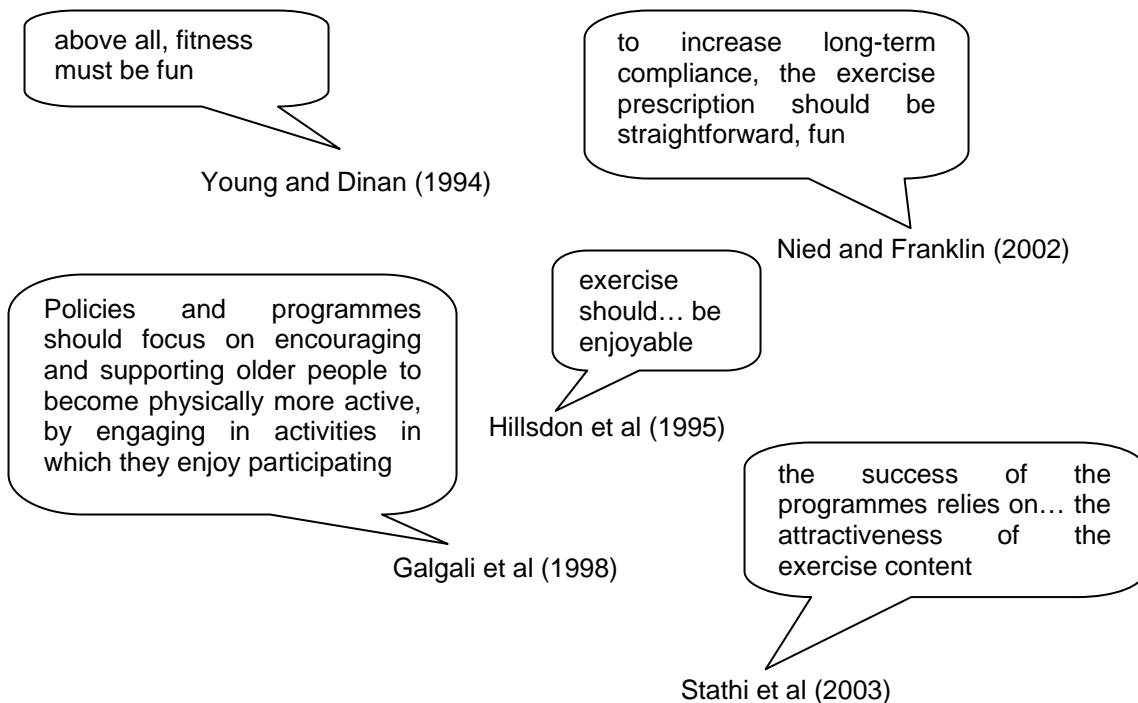
strategy which enhanced supporting social influences (Deforche and De Bourdeaudhuij, 2000).

The importance of incorporating a social aspect into activity provision was emphasised by several ‘guides’ for those setting up new schemes. Of note amongst their “implications of running fitness sessions for older people” (Young and Dinan, 1994) was the instruction to “include socialisation time”. Likewise, documented on the Sports Council for Wales (2002) Information Fact Sheet on ‘Older People and Sport’ was the advice to local authorities that:

“the social aspect of provision is very important to participants and provides much of the motivation to attend. It is therefore important that sessions are run regularly.” (p2)

7.2 Make Initiatives Fun

For many commentators it was essential that dimensions of fun and enjoyment should run through any physical activity initiative in order for it to appeal to older people. Typical comments were:



7.3 Home Based or Facility Located?

There were mixed views on the relative merits of home-based initiatives compared with those taking place at locations such as sports centres. Such differences reflected, largely, the individual differences in older people's circumstances and preferences.

Based upon a meta-analysis of interventions to increase physical activity among ageing adults, Conn et al (2002) concluded that impacts of the interventions were larger where they were centre based and delivered in groups. However, others were concerned that the leisure centre setting may be inappropriate for some people. For example, Riddoch et al (1998) suggested that the reasons for referring older people to leisure centres may be rooted in a fitness training/sport perception of health-related activity which is inappropriate in this context. Some researchers recommended home-based, unsupervised and informal initiatives (eg, Hillsdon et al, 1995), with the data from King et al's (1998) critical review of the scientific literature on interventions suggesting that many older adults prefer to take part in physical activity outside of a formal class, and programmes that used either a supervised home-based format or a combination of group and home-based formats tended to report comparable or better physical activity adherence rates.

With respect to the Scottish context, Mutrie et al (1993) argued that the encouragement of home-based activity seemed particularly appropriate where many people live too far away from facilities to consider regular participation through classes. Mutrie's research team compared class-based and home-based exercise programmes in the West of Scotland and reported that the different methods had similar overall outcomes in terms of adherence, enjoyment and heart rate intensity. However, on an individual basis, they considered that home-based activities appealed more to people who can be self-reliant and who do not need the social reinforcement that classes offer.

7.4 Importance of Professional Support and Instruction

The importance of the continuing availability of professional support and instruction emerged as key for both class-based and home-based exercisers. Despite recommending home-based initiatives, Hillsdon et al (1995) emphasised the support still required from professional contact. Riddoch et al (1998) also stressed the benefits of home-based activities but acknowledged that supervision and the security of having an 'expert' on hand had been identified in their research as important motivating factors for some people.

Conn et al (2002) highlighted the benefits of "intense contact between interventionists and participants" in maximising older people's increase in physical activity, with "health provider assistance" (Melillo et al, 2001) and

“personal contact” between interventionist and potential participant (Finch, 1997) also advantageous in securing uptake and maintenance of activity regimes.

Guides to good practice advocate assigning an older person to the professional support role to avoid the possibility of any ‘intimidation’ resulting from advice given by young, fit and thin instructors (Sports Council for Wales, 2002; Young and Dinan, 1994).

7.5 The Central Place of Walking

Regular walking has already been highlighted as an activity mainstreamed into the existing lifestyles of many older people. The research literature tended to depict such activity as an important element of a physically active life and, indeed, many viewed walking as the key opportunity for older people to achieve their recommended levels of activity. In terms of ‘scheme content’, walking has been heralded as particularly easy to incorporate into an existing lifestyle whilst offering enjoyment to the participant (Hillsdon et al, 1995).

The centrality of walking to the fitness of older people and its success in terms of popularity (Booth et al, 1997) challenges often-cited barriers of availability, accessibility and cost of exercise regimes. Moreover, it has been suggested that promoting walking could easily be done in UK primary care and could have an effect at a widespread population level (Smith and Illife, 1997).

Good practice ideas from the Sports Council for Wales (2002) suggested the setting up of walking groups which start from a leisure centre, thus providing an opportunity for older people to see what is on offer at the centre in addition to pursuing their walking activity.

7.6 Other Successful Aspects of Interventions

Amongst the other elements of interventions with which claims of success were associated, were a number of relatively practical components which appeared to have contributed to the effectiveness of various schemes:

- Instructors who gave more teaching points, repeated more often, and gave more warning of directional and step changes and who use appropriate music (Young and Dinan, 1994).
- Activities related to lifestyle and to maintaining independence which included, for example, techniques of lifting, walking and transferring weight (Young and Dinan, 1994).
- Individually-tailored programmes built around each person (Stewart et al, 2001).

- Interventions which provided strengthened support at the time of possible levelling off (4 weeks to 3 months) and diminishing (3 months to 6 months) physical activity levels (Loughlan and Mutrie, 1997).

7.7 Learning from Scottish Schemes and Interventions

Much of the literature reviewed for the current study has emerged from research undertaken in other countries. It is interesting to note that a closer examination of a sample of Scottish-based schemes reveals similar lessons for future policy development. The current review identified a sample of seven current or previous Scottish based interventions for which some evaluative material existed. Examples were selected which provided a broad range of location, lead organisation and type of intervention. Table 7.1 overleaf profiles the schemes included in this examination. Monitoring and evaluation data associated with these examples ranged from formal experimental research information to more informal, sometimes anecdotal, qualitative details. The findings to emerge from each scheme were examined to draw out good practice lessons. These are summarised following table 7.1⁶.

⁶ Previously unpublished material is presented here with kind permission of the respective organisations.

Table 7.1 Summary Profiles of a Sample of Schemes

Name of Scheme/Intervention	Lead Organisation	Location	Target Group	Date Commenced	Date Completed
Healthy Hearts	Highland Council	Wester Ross	45+ years who are insufficiently active physically and/or who are eating unhealthily and/or smoking	2002/3	ongoing
Healthy Living	Highland Council	Black Isle	45+ years who are experiencing social isolation and/or insufficiently active physically, eating unhealthily and experiencing poor mental health	2002/3	ongoing
Active for Life referral scheme	Dundee City Council with Tayside Specialist Health Promotion Service	Various leisure and neighbourhood centres	People referred into the programme by their GP, Practice Nurse or Occupational Therapist or other relevant professional	Jan 2003	ongoing
Active Older Persons Activity Programme	Dundee City Council Leisure and Arts Department	Various swim and sports centres with further extension into Sheltered Housing complexes	People aged 50+ years	August 2002	ongoing
Movin' Aboot	Movin' Aboot Voluntary Organisation	Aberdeenshire	Frail older people in care settings such as day care and care homes	1998	ongoing
Three interventions: fitness assessment; exercise consultation; and information only	Experimental study by Loughlan and Mutrie (1997)	Kilmarnock	Employees of N Ayrshire and Arran NHS Trust	May 1994	Oct 1994
Two interventions: class-based and home-based activities	Experimental study by Mutrie et al (1993)	West of Scotland	55+ year old respondents to newspaper advertisement	1993	1993

Example: Movin About

Description. Course organised by Age Concern Scotland and delivered by Movin About voluntary organisation which aimed to enable those working with older people either in a paid or voluntary capacity to undertake sessions of safe seated movement to music. The course is held over four days.

Monitoring and Review. Course evaluated by initial participants with a follow-up six months later. Some qualitative material on outcomes from older people.

Selection of Key Generalisable Lessons

- Demand from older people to attend sessions quickly outstripped supply – seated movement to music proved to be very popular.
- Those trained to run sessions were keen to set up a network of people interested in such work with older people. This could help with sharing equipment, covering for each other's groups, promoting the sessions, offering each other support.
- Availability of equipment tailored to the target sector was an issue. The idea of establishing resource 'banks' was raised (such as taped music, parachutes and so on).
- Continued professional support for session leaders was very important.
- Another crucial source of support was between session leaders.

Example: Active Older People Programme – Dundee Leisure and Arts Department

Description. Programme to make older people of Dundee more active more often. Concentrated on, but not exclusively for, Social Inclusion Partnership areas' sheltered housing complexes. Phase 1 is the establishment of 50+ activity classes in sheltered housing complexes and some local community facilities. Phase 2 will utilise the Leisure and Art Department's leisure facilities to house additional classes. It will also include the development of a Paths to Health programme with materials produced for the introduction of independent walking from home or from set locations within the community.

Monitoring and Review. Variety of techniques including focus groups, pilots, questionnaires, activity day, open days, monitoring of numbers of classes and attendance rates, regular reviewing.

Selection of Key Generalisable Lessons on Setting Up

- Importance attached to evidence-based planning and design of activity sessions. Included the establishment of a programme focus group with invited representatives from existing groups involved in the provision of 50+ activities and open days in locations appropriate for older people.
- Importance attached to attaining future user views at the planning stages to learn about the type of activity programmes they would wish to participate in.
- Accessible professional support for those running the classes is important. For example, a part-time dietician was employed for the initial stages of the scheme as a professional adviser.
- Important to have well-trained instructors. For this scheme, instructors had to be qualified to minimum of SPRITO Level II Fitness Instructor. They were also GP Referral trained instructors with Exercise Councillor qualifications. A small number also had specialist Exercise for the Older Person qualifications.

Other Relevant Lessons

- Majority of participants were not aware of the levels of physical activity required to accrue health benefits.
- Tai Chi classes were particularly successful although older people were initially dubious about these.
- Most participants felt that social contact was as important as physical activity.
- Most participants had responded to advice from health care professionals to participate in activity.

Example: Active for Life Referral Scheme – Dundee City Council with Tayside Specialist Health Promotion Service

Description. Activity programme based at various neighbourhood and leisure centres to which older people are referred by their GP, Practice Nurse, Occupational Therapist or any other member of staff who has attended the Active for Life training sessions organised by Tayside Specialist Health Promotion Service in partnership with Dundee City Council Leisure and Arts Department.

Monitoring and Review. Focus groups.

Selection of Key Generalisable Lessons

- A variety of different models of providing activity was offered including group work, one-to-one instruction and support for undertaking activities on an individual basis.
- The scheme incorporated time-limited subsidised charges for activities which dovetailed with provision of longer-term membership 'deals' for activity facilities with the intention of supporting longer-term activity routines. Evidence suggested this had been effective for some people.
- Music used in sessions was important to older people (eg, "not too loud").
- Enjoyment of social aspects of the scheme was important for older people (gives a reason for getting up in the mornings and a chance for some social interaction).
- Outcomes of gaining in energy and losing weight were also raised.
- Some people did not have the confidence to undertake activity where no assistant was on hand. A suggestion was made for the installation of a panic button in gyms where an assistant may not always be in attendance.

Example: Class-based and Home-based Activities for Older People

Description. Experiment aimed at establishing responses to attendance at a class-based or a home-based exercise programme for those aged over 55 years in the West of Scotland.

Monitoring and Review. Activity diaries, registers of attendance and participant evaluation forms.

Selection of Key Generalisable Lessons

- While physiological and functional data are important in assessing the health benefits of activity, the assessment of quality of life and perceptions of what helps and hinders activity levels are no less important.
- Encouragement of activity can go beyond those who can attend organised classes as adherence to home-based programmes emerged as equally successful as class-based attendance.
- Important to use qualified staff. All were qualified physical educators who were experienced in teaching large groups.

- Important to have support between staff. Teachers held regular meetings to update each other on good practice for exercise and older adults. One of the staff monitored standards to ensure all teachers were teaching to agreed principles.
- Class-based programmes seemed to appeal more to women than men and included more people who felt that their health was less than good, with more of the widowed people in the experiment preferring the group-based activities.
- Home-based activities will not appeal to all, but some people do prefer these – particularly those who find time to exercise a problem and who consider social aspects of exercise not important reasons for being active.

Example: Comparison of the effectiveness of three interventions aimed at promoting physical activity in a sedentary population of employees (of all ages) at a large hospital in Kilmarnock

Description. 179 sedentary subjects were randomly assigned, over a six-month period, to one of three intervention groups: receipt of standard fitness assessment; participation in in-depth exercise consultation on a one-to-one basis; and receipt of an information booklet and a directory of local sports/leisure facilities.

Monitoring and Review. Pre and post fitness testing, individual interviews, questionnaires.

Selection of Key Generalisable Lessons

- In terms of adoption of exercise, simply giving information in a supportive environment such as hospitals, chemists and health centres was a relatively low-cost intervention.
- Some evidence suggested that ‘exercise consultation’ was also effective in helping people maintain physical activity levels. However, this requires ongoing support. There is a large potential application for this practice and a considerable resource of health professionals with knowledge and skills in counselling which could be explored in this context.
- Fitness assessment did not produce any unique physical activity changes and was a relatively costly intervention.

Example: Highland Council - Healthy Hearts (Gairloch and Lochbroom)

Description. A variety of actions aimed at 45+ years who are insufficiently active physically and/or who are eating unhealthily and/or smoking. Includes discounted use of facilities, website, special events, publication of healthy eating and exercise guides.

Monitoring and Review. Monitoring and evaluation plan prepared with a variety of physiological and well-being performance indicators specified along with indicators of promotion of the initiative.

Selection of Key Generalisable Lessons

- Important to address barriers to participation head on with booklets prepared with titles such as 'The hardest thing about healthy living is taking time for regular exercise'.
- Need to broaden the appeal of leisure centres by multi-skilling staff in areas such as how to eat for fitness, relaxation, proper breathing.
- Difficulties in identifying trainers/demonstrators at competitive prices could be addressed by attracting and training local people to work in their own communities.

Example: Highland Council - Healthy Living for the Over 45s (Black Isle)

Description. Variety of accessible, involving and interesting activities for 45+ years who are experiencing social isolation and/or insufficiently active physically, eating unhealthily and experiencing poor mental health. Includes public launch of leaflets, open meeting for over-45s, fitness sessions, local history and geographical walks, personal safety training, training courses in gentle exercise for older people, discount scheme for accessing leisure facilities.

Monitoring and Review. Monitoring and evaluation plan prepared with measures including levels of access to activities, website hits and increased levels of healthy eating.

Selection of Key Generalisable Lessons

- Carefully-planned and concentrated set of events to launch the initiative paid off.

- Difficulties in identifying specialist instructors in rural areas. Need to think of ways to address this such as distance-learning courses for potential tutors.
- Most older people are wary of rooms full of machines and prefer non-equipment based activity.
- Need to consider the high level of self-consciousness in the Highlands when planning activities in public. Most people will only consider trying new things when they are in small groups and indoors.
- Linking walking activities with local history interests is being attempted.

7.8 Summary of Points for Policy Development

- A recurring finding was that, in general, physical activity schemes which were group based and facilitated companionship and camaraderie had a greater success in retaining participants than others.
- Many commentators stressed that physical activity initiatives should be fun and enjoyable.
- There were mixed views on the relative merits of home-based initiatives compared with those located at leisure facilities. Differences tended to reflect individual preferences and circumstances.
- The importance of the continuing availability of professional support for both class-based and home-based exercises emerged as key.
- Regular walking was viewed as an important aspect of an active lifestyle with the promotion of walking seen as having potential to produce beneficial health benefits at population levels.
- Much can be learned from previous and current physical intervention schemes in Scotland and it is recommended that further study be undertaken to focus on good practice to emerge from these.

CHAPTER 8: ISSUES OF EQUALITY BETWEEN GROUPS

An in-depth examination of equality issues associated with older people and sport requires a separate and dedicated study. For example, a substantial body of literature exists on the gendered aspects of physical activity and a study such as this current review can only skim its surface. However, as aspects of the review have been explored, issues of equality have emerged indirectly and, as such, were noted for reporting here. Some of the issues have been recorded in previous chapters where they have related to specific topics under discussion and these are not repeated here. The remaining issues are documented briefly below. Most of these relate to matters of gender, although it is interesting that although women comprise the majority of older people, gaps in research involving women have been identified. For example, it is argued that little exists on the impact of physical activity on strength and function in older women (Taunton et al, 1997).

In addition to gendered aspects of physical activity and older people, equality issues concerning socio-economic status age and, to a limited extent, ethnicity also emerged from the research literature. These are covered briefly here, with the findings representative of those which emerged across the raft of material reviewed.

8.1 Differences in Baseline Levels of Physical Activity

A consistent finding from studies worldwide was that differences in levels of baseline participation could be explained to an extent by gender, age and socio-economic status. In general, men, younger people and higher occupational groups tended to exercise more (in Scotland: Uitenbroek and McQueen, 1991; in Japan: Ruuskanen and Ruoppila, 1995 and Iwai et al, 2000; in Australia: Bauman et al, 1990; in New Zealand: Galgali et al, 1998). Amongst the activities undertaken, women showed higher levels of activity participation indoors and men higher levels outdoors (Bennett, 1998).

Overall, women tended to report more limitations/avoidance of physical activity than men, with reduced income presenting a disproportionately larger barrier to women than was the case for men (Satariano et al, 2000). A survey of public attitudes undertaken for **sportscotland** (**sportscotland**, 2002) revealed that men were over-represented amongst those who considered that sport related to their own quality of life (77% of male respondents compared with 66% of females).

Such findings demonstrated different baseline pictures differentiated largely by gender.

8.2 Influence of Stereotypes

For many women, a significant barrier to regular participation in physical activity which emerged in several guises in research literature was the need for them to fit in with longstanding stereotypes of women's activities and place. Expectations of adherence to these 'codes' were reinforced by partners or in wider societal contexts. For example, Schneider (1996) described how physically active women experienced mixed feelings when husbands made ridiculing comments about their participation. Biddle (2001) described how women rather than men tended to categorise themselves in the box of "not the sporty type", with reports of discouraging age stereotypes being applied disproportionately to women (O'Brien Cousins, 2003b).

Unlike men, it is claimed that women's leisure is constrained by their taking a back seat in order to better facilitate men to pursue their interests (Boyle and McKay, 1995) with added restrictions on women's lives defined by gender-divided domestic and financial relations (Thompson, 1992).

8.3 Differences in Motivations

Various commentators highlighted differences in reasons for exercising between the genders and between groups of different ages.

For example, Ward (1994) contrasted men's interest in exercise programmes which enabled them to monitor their fitness, with women's satisfaction with simply enjoying themselves and feeling better. Males participating in four different adult sport and exercise programmes were reported as being higher than females on competitiveness and win orientation (Gill et al, 1996). Older men have also been shown to place greater importance on social recognition reasons for participating in exercise than females, with older participants rating being popular more importantly than their younger counterparts (Kolt et al, 2002). In Ashford et al's (1993) study of people exercising in community leisure centres in Leicester, men were found to be motivated more by sports mastery and assertive achievement than females.

One particular demotivator for women taking part in exercise classes was a self-consciousness relating mainly to body image, while for men a key demotivator was that exercise classes were associated with aerobics and, by association, seen as targeted at women (Anderson et al, 2001).

A discussion of earlier life participation in exercise as a contributor to later uptake has already been covered. However, various studies suggested that some experiences are particularly influential for women's later lifestyles. For example, Finnish research reported the particular association of women's participation in recreational sports at the age of 40-64 years with their continuance of physical activity into later life (Hirvensalo et al, 2000). In Switzerland, Addor et al (2003)

stressed the need for preventative actions against the early adoption of persistent unhealthy behaviours “to which low-educated girls and women are particularly exposed” in order to encourage more active lifestyles in later life.

8.4 Promotion of Physical Activity

Older interviewees in Finch’s (1997) study identified a gap in physical activity promotional messages to men. Chapter 6 demonstrated the significant role that GPs can play in promoting activity. However, again, it appears that women may be greater beneficiaries of promotional approaches as “men’s contact with medical professionals, in a preventative capacity, was thought to be less than women’s” (Finch, 1997, p5).

8.5 Psychological Benefits of Physical Activity

Evidence of differences in impact on men and women and on people of different ages were examined in Biddle and Faulkner’s (forthcoming) major review of research on the effects of physical activity on mental health.

Examining a comprehensive review conducted by McAuley and Rudolph on 38 studies written before 1994, Biddle and Faulkner concluded that there was little support for differential psychological effects of exercise by gender or age. Likewise, following their examination of studies from 1995 to early 2000, Biddle and Faulkner considered that there were no clear effects for age and where such effects were reported they were inconsistent. In addition, there appeared to be no obvious gender effect, but a need for more studies assessing this effect was identified.

8.6 Socio-economic Influences

Within the public health policy context, the targeting of ‘hard to reach’ groups such as deprived communities is of paramount importance. However, the indicators emerging from research suggested that increasing regular participation amongst lower socio-economic groups may present a significant challenge as the examples here show.

One argument was that lifestyles are not the basic source of health inequality and even if disadvantaged groups make:

“the healthiest of all possible leisure choices, their well-being remained handicapped by their low incomes, relatively poor housing and working conditions and vulnerability to unemployment” (Roberts and Brodie, 1992, p141).

In a similar vein, the cost of many physical activity interventions was mentioned by several commentators as restricting choices on participation by those of limited means.

One further factor to influence the design of interventions aimed at lower socio-economic groups emerged from findings of Arber et al (2003). In their study of older men, involvement in organisational activity was strongly linked to social class, with working class older men less involved in sports and other clubs but more likely to participate in social clubs than middle class men. In addition, the finding that clubs geared specifically for older people are largely rejected by older men has implications for those charged with promoting physical activity and designing effective interventions for this age group.

8.7 Issues of Ethnicity

A focus on the issues of sport and older people from minority ethnic communities was rare amongst the literature reviewed. Where issues did arise, these tended to relate to specific US or Australian contexts with little read-across to the Scottish situation in terms of minority ethnic population profiles and circumstances. The dearth of research on the concerns of minority ethnic communities in Scotland relating to sport has been remarked upon (Scott Porter, 2001; Oswald, 1999) with a call for more in-depth understanding of the issues (Coalter et al, 2000).

The most comprehensive and relevant study in Scotland was undertaken by Scott Porter (2001) on behalf of **sportscotland**. Based largely on in-depth interviews with younger adults from minority ethnic communities, the researchers concluded that in only a few circumstances were the needs of minority ethnic communities in Scotland different from those of the majority population. Where differences could be identified these related mainly to the cultural issues of dress requirements and appropriateness of facilities (eg, segregated on gender lines). However, the greatest barrier to participation in sport cited by interviewees was their experience of, or fear of, racial discrimination whether physical, verbal or institutional. Amongst other common barriers were:

- cultural/religious beliefs (especially important for Muslim women);
- the expectations of significant others within the family;
- perceptions of sport as lacking in value and frivolous (compared with, say, earning a living);
- lack of role models – ‘people like me’;
- lack of awareness of appropriate facilities;
- perceived lack of ability;
- lack of confidence;

- difficulty in accessing information where English is not the first language; and
- cost.

Anecdotal evidence cited by Oswald (1999) confirmed the relatively lower levels of participation in sport and physical activity amongst minority ethnic communities of all ages. For example, Edinburgh Leisure indicated that whilst such communities may attend 'one-off' events organised on a taster session basis, this does not appear to translate into regular attendance. Edinburgh Leisure suggested that a possible limiting factor in attracting minority ethnic communities on a more frequent basis may be sport centres' operational difficulties in providing culturally-specific facilities, for example, single-sex amenities.

8.8 Summary of Points for Policy Development

- In general, men, younger people and higher occupational groups tended to undertake more sport and physical activity than others.
- Women, more than men, tended to report more reasons for not taking part in sport and physical activity.
- A significant barrier to regular participation emerged as the need for women to fit with stereotypes of women's activities and place.
- Overall, men and women appeared to have different motivations for participating in physical activity with men wishing to monitor their fitness and be competitive and women seeking enjoyment and a feeling of well-being.
- No clear gender effect emerged on associations between sport and physical activity and mental health benefits although more in-depth research was recommended to examine this.
- Several challenges to promoting physical activity to lower socio-economic groups were identified, including the financial cost of participating regularly.
- There is a dearth of literature relating to matters of ethnicity and sport and physical activity participation in Scotland (although a larger body of material exists in relation to the position in England).
- Where evidence exists, few differences in needs in relation to sport and physical activity participation were found between different ethnic groups.
- The greatest barrier to participation amongst minority ethnic groups was experience of, or fear of experiencing, racial discrimination.

CHAPTER 9: ISSUES OF MONITORING AND EVALUATION

This review of issues of older people and sport and physical activity was characterised by a huge volume of background literature, from a wide spectrum of different countries. However, despite such a promising source of information, many of the studies reviewed appeared to lack the robustness and sound approach required for solid grounding for future policy. For example, contradictions between different study findings may have been a manifestation of the methods adopted or may have signified something more vital; findings emerging from highly individualised circumstances were difficult to use in generalisation to more routine contexts; short-term changes associated with some interventions would perhaps not have been sustained on a longer-term basis.

9.1 Critiques of Previous Research

Other reviewers have also summed up the nature of such research literature. For example, Coalter et al (2000) commented on the body of literature relating to benefits of sport in deprived areas:

“There is a widespread absence of robust monitoring information on the health benefits of provision. Much of the rationale for this has rested on assumed beneficial outcomes of any increased activity. Further, there is little long-term monitoring of adherence to activity programmes. This reflects the short-term nature of most initiatives, the lack of funding for such monitoring and the lack of expertise to undertake such work”. (para 3.52)

For Coalter (2002) one problematic issue was the tendency to merit sport with an assumed and unchallenged host of beneficial outcomes, leading to policies:

“based upon implicit ‘theories of change’ – that participation in sport can improve health, change attitudes to crime, increase self-esteem, contribute to quality of life and so on.” (p10)

It was argued that such blanket acceptance of benefits appeared to get in the way of more discriminating exploration of the nature of outcomes and the ways in which they accrue.

Many other criticisms have been levelled at research evaluations of interventions aimed at increasing older people’s physical activity. A selection of representative comments follows:

Hillsdon (1998). GP referral schemes in England were characterised by their lack of formal evaluation, making conclusions about effectiveness impossible.

King et al (1998). Studies were characterised by the low number aimed at replication, generalisability of interventions to important sub-groups, implementation and cost-effectiveness evaluation.

Burks et al (2003). Links between individual intervention components and effectiveness were not clear. Common methodological weaknesses included small samples, untested outcome measures and time-limited longitudinal designs. Despite significant numbers of ageing adults increasing their physical activity in response to experimental interventions, the amount of increased activity rarely equalled accepted behaviour standards to achieve positive health outcomes.

Sykes (1989). In the context of health-related fitness 'testing', evaluation was hampered by unsubstantiated reports, containing mostly anecdotal accounts of poorly-designed studies.

Riddoch et al (1998). Very few studies of adequate quality were available to form the basis for a systematic review of physical activity promotion schemes in primary care. The wide range of outcome measures used resulted in contradictory findings in some cases. The economic costs of primary care interventions have rarely been considered even though the promotion of physical activity had been positively argued for. Much of the research in the UK on GP exercise referral programmes had been conducted in-house, by leisure providers with limited resources for robust research.

9.2 Explanations for Weaknesses in Studies

Despite highlighting such flaws in previous research, there was some acknowledgement of the difficulties facing evaluators in this field. For example, Stevens et al (2003) argued that the partial success of the Groningen Active Living Model in the Netherlands in affecting only a few of the mediating variables was in line with other related studies and was as much as could be expected by an intervention in the health promotion field.

Riddoch et al (1998) described how physical activity, being a complex behaviour, is notoriously difficult to measure. For example, many questionnaires were biased towards estimating sport and exercise as opposed to moderate activities such as housework and gardening which, they argued, may contribute **subtly** but significantly to increased participation. In addition, physical activity level was an important outcome measure for any effectiveness study, yet many referred patients may not change their activity levels in the short term. Greater consideration of appropriate outcome measures such as 'Stage of Change' was called for in which attitudinal and motivational changes are identified.

One common component of intervention evaluations which attracted considerable comment was that of self-reporting of outcomes. Studies relied to variable degrees on self-reporting as a means of demonstrating outcomes with some totally reliant on self-perceptions and others offering some triangulation of self-reports with other outcome measures such as physical fitness testing.

The literature abounded with cautionary accounts of the care needed in handling self-reported outcomes. Indeed, one study which focused on evaluating the association between self-reported physical fitness and performance-based measures of physical fitness in older adults concluded that the associations between the two were low to moderate, and self-reports should not be used as substitutes for performance-based measures (Schuler and Marzilli, 2003).

The tendency for older people to over-report their levels of activity and perceive themselves, sometimes inaccurately, as active was noted by some (eg, Skelton et al, 1999). Klesges et al (1990) reported differential effects, with males more likely to overestimate their activity relative to females and also obese subjects underestimating their activity levels compared to normal-weight subjects. Uitenbroek and McQueen (1992) demonstrated the sensitivities of question design for self-reporting with their explanation of an apparent decrease in the level of the sedentary population in Edinburgh and Glasgow over time as probably due to a change in wording of the question.

Another factor in interpreting the self-reporting of older people is their frame of reference for what constitutes fit and active. Wimbush (1994) noted that it is likely that people's assessment of their fitness is in relation to a sedentary lifestyle – "I am fit enough to cope with being sedentary". WHO (1998a) also suggested that some age adjustment needs to be undertaken when examining the self-reports of older populations in that people assess their health status by comparing it with that of their peers.

A further difficulty facing evaluators was that health effects of activity were transient yet the overarching goal of schemes was likely to be long-term participation in an active lifestyle. A shift from the typical pre-post analysis covering an implementation period of just two months to a longer-term follow-up design was required to enable more meaningful and useful findings to materialise.

Not surprisingly, in light of the criticisms and difficulties outlined above, Riddoch et al (1998) concluded that:

"evaluation requires specialist input, and without collaboration with a recognised research organisation, it is normally beyond the scope of most scheme managers. Rigorous evaluation therefore relies heavily on a partnership with a research organisation and on external research funding." (p8)

9.3 Recommendations for Future Research

As part of their critique of previous relevant research, many commentators offered constructive frameworks and suggestions for a future research agenda focusing on aspects of older people and sport and physical activity more generally. Again, a selection of representative proposals is documented below.

9.3.1 More Consistent and Relevant Methods and Measures

Many of the effects associated with interventions may be relatively small. Riddoch et al (1998) recommended a systematic gathering of quality data across many of the existing interventions, using valid measures, which would offer a potential high volume of data and ensure that sufficient statistical power is obtained to detect even small effects. Several commentators suggested a greater emphasis on 'functional' fitness as an appropriate outcome measure (eg, Macauley, 2000). Others called for greater standardisation of outcome measures between studies (Victor and Howse, 2000).

A call was made for more thought to be given to the wording of interview questions. O'Brien Cousins (2003a) warned that the consequences of lack of care could be "questions that are too personal, too repetitive, culturally irrelevant, self-evident, or simply inappropriate" (p375). Faced with such questions, older people were likely to respond in the irreverent manner which they deserved.

9.3.2 Older People's Preferences and Motivations

McMurdo (2000) argued that health issues in old age were neglected by most health education campaigners and proposed that future research should focus on how health information relevant to older people actually influences their behaviour. As well as looking at the motivational 'stick', McMurdo also recommended further study of the 'carrot' of wider incentives and opportunities that have the potential to motivate older people to adopt and maintain healthy lifestyles.

Others too identified a gap in robust studies of older people's motivations, or lack of them, to take up the chances offered to them of more active lives. For example, King et al (1998) stressed that little is known about the physical activity preferences and needs of the most sedentary segment of the older adult population.

Further research was called for to establish why some people do not follow through on their good intentions (O'Brien Cousins, 2003b). This was envisaged as entailing firstly, an exploration of how some ill-conceived beliefs about physical activity amongst older people get formed initially; secondly, a study of the social and cultural contexts in which the cognitions of older people are reinforced; and thirdly, an understanding of the depth of thinking that goes into

decisions about being active or not. According to these researchers, a particularly untapped direction for future research was the prevalence and explanations for illogical and distorted ideas about physical activity amongst older people.

9.3.3 GPs' Attitudes to Promoting Physical Activity

Other commentators supported the recommendation of further research into the perceptions and understandings of older people and exercise, but amongst the wider population. One specific gap identified in this respect was in relation to UK GPs' attitudes towards physical activity (Lawlor et al, 1999), with the suggestion that GPs have insufficient knowledge about the health benefits of regular activity to be able to give effective advice (Gould et al, 1995).

9.3.4 Miscellaneous Recommendations

A variety of other proposals were made for further research. These included:

- the identification of successful strategies to increase activity by larger numbers of elders (Burks et al, 2003);
- more detailed explorations of gender and ethnicity effects (Burks et al, 2003);
- studies focusing on those aged 75 years and older (Grossman and Stewart, 2003);
- research which acknowledges and addresses the diversity of older people (Victor and Howse, 2000);
- a focus on application/delivery of interventions (Victor and Howse, 2000); and
- qualitative research pertaining to older people's experiences in competitive sport (Dionigi, 2002).

9.4 Summary of Points for Policy Development

- Many previous studies lacked the robust and sound approach required for solid grounding of future policy.
- Many commentators have outlined problems for researchers such as small samples, time-limited research designs and the very small changes in physical activity behaviours likely to emerge.
- Self-reporting as a common research device was associated with respondents' over-reporting of levels of activity and other difficulties in interpretation.
- Longer-term follow-up of interventions was called for in order to assess changes in motivation and behaviours over time.
- A need for more consistent and relevant methods and measures in research on outcomes was identified.
- Calls were made for closer examination of older people's motivations to take up active lifestyle opportunities.
- Research has been recommended on the prevalence of and explanations for apparently illogical and distorted ideas about physical activity amongst some older people (eg, their concern that getting a little out of breath may be dangerous).
- Further research has also been suggested on perceptions amongst the wider public and amongst GPs on older people's participation in physical activity.
- A number of other specific research studies were called for including research which acknowledged and accommodated the diversity in the older people sector.

CHAPTER 10: EMERGENCE OF OVERARCHING ISSUES

The review has unearthed a huge volume of relevant home and international literature which meet the key aims of informing future policy development and research. Specific findings and recommendations are summarised at the end of each chapter. This final chapter adds one further perspective and provides brief commentary on a selection of the overarching issues which have emerged.

10.1 An Opportunity to be Grasped

The research evidence on existing activity in older people's daily lives, when set against the current policy aims of increasing levels of sport and physical activity, demonstrated the potential for exploiting older people's current activity frameworks to achieve the policy goals. Across many countries, the review evidence demonstrated the commonality of regular walking by older people, their appreciation of attractive walking environments, their daily experiences of gardening, heavy housework, DIY, physical activities with grandchildren and so on. At the same time, the key policy message has shifted from one of advocating vigorous fitness activities to the promotion of more moderate and routine activity to be accumulated on most days.

An overlay of this policy message onto the evidence on older people's daily routines highlights the key opportunity for the promotion of physical activity, by supporting and encouraging older people's **existing** activity to a regularity and intensity required for health benefits to accrue.

Despite much evidence of the short-term success of a variety of interventions designed to increase older people's participation, the research evidence suggests that combining the successful elements of such individual interventions with more substantive support and encouragement of changing **daily active living routines** may prove to be much more sustainable over a longer term.

Although simple in concept, the notion of promoting physical activity on the back of older people's everyday lives faces significant hurdles. For example, the review demonstrated differing constructs of what constitutes physical activity. Some middle-aged men reported strong associations of physical activity with vigorous fitness activities; while many older people considered physical activity not for them, were fearful of overdoing it, and needed 'permission' from a health professional before upping their activity levels. Older people were seen to be relatively inaccurate in their estimates of their physical activity with many overestimating their current levels.

It could be argued, however, that these and other barriers are outweighed by the opportunity presented by the revised and more achievable policy aims of regular moderate activity amongst older people. Moderate activity is more likely to be sustained over time, need not present financial or accessibility difficulties and can

be undertaken on an individual's own terms and home ground if desired. The key to exploiting this promotional opportunity appears to lie largely in adopting the most appropriate terms, constructs and contexts. Other particular challenges may perhaps stem from:

- the positioning of messages within the health promotion camp when many older people associate exercise more with social rewards; and
- the lack of awareness amongst the population of the revised recommendation, with common understandings still tending to be centred on the previous promotion of vigorous exercise.

It is recognised that the revised policy message may be difficult to portray clearly, with respect to its combination of duration, frequency, age and intensity dimensions. This suggests that more effort should be devoted to developing ways of presenting the message to older people in a consistent, memorable and relevant fashion. Despite its evolution within the health policy domain, perhaps a portrayal of the message from a social inclusion angle, encompassing participation, access, social interaction and rewards, volunteering and enjoyment may better reflect the conceptual frameworks of older people that emerged in the review. A focus on preventing poor functioning and exclusion may chime more closely with older people's daily lives, with physical activity participation being viewed proactively as an 'insurance' for social inclusion rather than reactively as a remedy for ill-health.

Recommendation: There is a need to exploit more effectively the current opportunity to promote physical activity participation amongst older people by adopting more appropriate conceptual frameworks and messages in promotion.

10.2 Heterogeneous Populations

The focus of the review has been on drawing out generalisable lessons relating to older populations. Such a task was made relatively straightforward by previous literature's general lack of segmentation of the older population by age, activity level and so on. Demographic changes and improvements in population health demonstrate the steadily extending 'older' age category, which clearly encompasses a diversity of experience, attitude and functionality. The review unearthed mixed views on ways of segmenting older populations but a general opinion was that a one-size promotional message would not fit all.

Recommendation: More work should be done to devise evidence-based segmentation of the older population for the purposes of more effective targeting and tailoring of the policy messages on sport and physical activity.

10.3 Research Base

In undertaking this review, some drawbacks of previous methodologies were noted and a variety of gaps in research were identified. A particular area of concern was the adoption of outcome measures that are relatively ineffective on account of their bluntness or inappropriateness.

A scan of the literature revealed an overemphasis on measures of self-reported accounts of levels of activity and of physiological fitness testing, perhaps at the expense of more innovative and sharper indicators which could reflect even minor changes in motivation and readiness to exercise. It is argued that without an overhaul of common outcome measures and a more discerning approach to devising appropriate indicators, subtle but effective elements of approaches may be overlooked. Perhaps the involvement of older people in contributing to new indicator frameworks may reap rewards.

Recommendation: Older people should be involved in a process of reviewing commonly-used outcome indicators in order to develop a more innovative and sensitive package of measures, more appropriate to the patterns of change in motivations and take up of physical activity by older people.

10.4 Compatible Promotions

It was interesting to note the recurring theme of earlier life activity habits influencing later age participation and routines. Whilst one aspect of the message aimed at the current older population must be that “it’s never too late to start”, the evidence is strong for supporting this by compatible promotional messages on physical activity amongst younger age groups. One significant finding was the association between activity in middle-aged women and their activity habits in later life, suggesting that middle-aged women could constitute a key target group along with other population sectors such as school-aged children.

Recommendation: The nature and design of physical activity promotion aimed at younger age groups should take into account the longer-term goal of establishing physical activity habits of a lifetime.

10.5 Summary of Overarching Recommendations

There is a need to exploit more effectively the current opportunity to promote physical activity participation amongst older people by adopting more appropriate conceptual frameworks in promotion.

More work is required to devise evidence-based segmentation of the older population for the purposes of more effective targeting and tailoring of policy messages on physical activity.

Older people should be involved in a process of review of commonly-used outcome indicators in order to develop a more innovative and sensitive package of measures that are more appropriate to the patterns of change in motivations and take up of sport and physical activity by older people.

The nature and design of sport and physical activity promotion aimed at younger age groups should take into account the longer-term goal of establishing physical activity habits of a lifetime.

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APPENDIX 1: SPORTS ASKED ABOUT IN SPORTSCOTLAND'S PARTICIPATION SURVEY 2003/04

Athletics
Badminton
Basketball
Bowls - outdoor
Bowls – indoor
Canoeing/Kayaking
Climbing – outdoor
Climbing – indoor
Cricket
Curling
Cycling – on the road
Cycling – on a cycle path
Cycling – mountain biking/off-road on a purpose-built track of facility
Cycling – mountain biking/off-road elsewhere
Cycling - BMX at a purpose-built facility
Cycling – BMX elsewhere
Cycling – velodrome
Dancing
Fishing/angling
Football (11-a-side)
Football (5-a-side) – outdoor
Football (5-a-side) – indoor
Football – in street/garden/wasteland
Golf
Gymnastics
Hillwalking
Hockey
Horse riding
Ice skating
Judo
Keep fit/aerobics
Martial arts
Netball
Powerboating/jet skiing
Rowing
Rugby
Running/jogging
Sailing/windsurfing
Shinty
Skateboarding/inline skating
Skiing/snowboarding
Snooker/billiards/pool
Squash

Subaqua
Surfing/body boarding
Swimming (outdoor)
Swimming (leisure pool)
Swimming (traditional pool)
Table tennis
Tenpin bowling
Tennis – outdoor
Tennis – indoor
Use of multigym/weight training
Volleyball
Walking (2+miles)
Waterskiing
Yoga
Other (specify)

Note: The 'Other' category includes any other activity that would be reasonably perceived as a 'sport'. It does not include darts; board, card and pub games; activities involving animals where the activity is mainly undertaken by the animal itself (such as greyhound or pigeon racing); cycling and walking in a non-leisure/exercise context (such as solely as a means of travel); and commercial fishing.

APPENDIX 2: USEFUL WEBSITE ADDRESSES

Organisation	Website Address
Age Concern Scotland	www.ageconcernscotland.org.uk
British Heart Foundation	www.bhf.org.uk
Department of Health	www.dh.gov.uk
NHS Health Scotland	www.hebs.scot.nhs.uk
Northern Ireland Sports Council	www.sportni.net
Physical Activity Task Force	www.show.scot.nhs.uk/sehd/PATF
Scottish Executive	www.scotland.gov.uk
Sports Council for Wales	www.sports-council-wales.co.uk
sportscotland	www.sportscotland.org.uk
World Health Organisation	www.who.int/en