



EUROPE

Steps to health

**A EUROPEAN FRAMEWORK
TO PROMOTE
PHYSICAL ACTIVITY FOR HEALTH**





Steps to health

**A EUROPEAN FRAMEWORK
TO PROMOTE
PHYSICAL ACTIVITY FOR HEALTH**



Physical activity is one of the major lifestyle-related health determinants. Widespread acknowledgement of this fact is vitally important in addressing the impact of physical inactivity on the risk of developing a number of chronic diseases. Encouraging people to be physically active has numerous benefits that go beyond health, to include the economy and development. A comprehensive, integrated and intersectoral approach is needed, with emphasis on environmental, social and population strategies in support of individual ones. The promotion of physical activity should therefore be a fundamental component of public health work. Action must now be taken on the basis of the best available evidence and practice. This document provides Member States, experts and policy-makers with guidance on designing and implementing physical activity-promoting policy and action, as part of a national public health agenda and through multisectoral cooperation.

PHYSICAL FITNESS

EXERCISE

HEALTH PROMOTION – methods

OBESITY – prevention and control

PUBLIC HEALTH

HEALTH POLICY

INTERSECTORAL COOPERATION

EUROPE

EUR/06/5062700/10

ORIGINAL: ENGLISH

Address requests about publications of the WHO Regional Office for Europe to:

Publications

WHO Regional Office for Europe

Scherfigsvej 8

DK-2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office web site (<http://www.euro.who.int/pubrequest>).

© World Health Organization 2007

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Where the designation “country or area” appears in the headings of tables, it covers countries, territories, cities, or areas. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers’ products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The World Health Organization does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use. The views expressed by authors or editors do not necessarily represent the decisions or the stated policy of the World Health Organization.

CONTENTS

FOREWORD.....	2
ACKNOWLEDGEMENTS.....	3
INTRODUCTION.....	4
THE CHALLENGE – KEEP MOVING.....	5
Physical activity: a basic need.....	5
The concept of physical activity.....	5
Our sedentary lifestyle – why?.....	6
Physical inactivity – an increasing global health and economic problem.....	7
Policy response.....	9
Population groups needing special attention.....	9
GUIDING THE ACTION.....	11
Physical activity and recreation as a human right.....	11
Recommended levels and modes of physical activity.....	11
A comprehensive approach.....	12
The healthy choice must be the easy choice.....	13
Interventions shown to increase levels of physical activity.....	14
Principles to follow.....	15
How to put all this together: The pillars for national action.....	17
FROM PRINCIPLES TO ACTION.....	18
National action.....	18
Mobilizing at local level – a key to success.....	19
The health sector.....	20
The transport sector.....	22
Urban planning and housing environment.....	23
Schools and kindergartens.....	24
Workplaces.....	26
Leisure time, sports activities and unorganized activities.....	27
Building networks and alliances.....	28
SETTING GOALS AND MEASURING SUCCESS.....	30
Determined and continued work.....	30
Surveillance of physical activity in the European Region.....	31
REFERENCES.....	33
ANNEX 1. RELEVANT WHO AND EUROPEAN NETWORKS, PROGRAMMES AND STRATEGIES.....	39

FOREWORD

In May 2004, the World Health Assembly adopted the Global Strategy on Diet, Physical Activity and Health, a worldwide framework to promote physical activity and healthier diets. The World Health Organization (WHO) has also identified obesity as one of the key areas for public health action. In November 2006, the WHO Regional Office for Europe organized a Ministerial Conference on Counteracting Obesity to address the growing challenge of strengthening political commitment to action in the Region. Based on these undertakings and growing international awareness and evidence, the Regional Office for Europe is now also paying increasing attention to promoting physical activity as an important component of public health action.

This document, *Steps to health: a European framework to promote physical activity for health*, is an important move in that direction; it is intended to give extra emphasis on physical activity as a necessary part of national public health work and provide guidance on how to act on this health determinant in such work.

With its key messages and recommendations from leading international experts, the document is based on recent research in this area. It also emphasizes a comprehensive multisectoral approach. Feedback and suggestions given at the Member States' intersectoral consultation on promoting physical activity for health, held in Ljubljana in May 2006, provided valuable input for the final draft.

The paper was one of the working documents for the Ministerial Conference on Counteracting Obesity, held in Istanbul, in November 2006 and was subsequently amended to take account of the input and suggestions received.

It is anticipated that the document will provide guidance to Member States, experts and policy-makers on designing and implementing physical activity-promoting policy and action as part of the national public health agenda and through multisectoral cooperation.

Gudjón Magnússon

Director, Division of Health Programmes

ACKNOWLEDGEMENTS

The draft of this paper was prepared by Roar Blom, Technical Officer, Physical Activity and Health, WHO Regional Office for Europe, supported by expert contributions. Haik Nikogosian, Deputy Director, Division of Health Programmes, provided overall coordination and guidance.

Sincere thanks are extended to the steering committee set up to guide the drafting of this document for their technical leadership, their contributions to various sections, and their review of the text:

- Mojca Gabrijelcic Blenkuš, Institute of Public Health, Slovenia
- Eddy Engelsman, Ministry of Health, Welfare and Sport, the Netherlands
- Sune Krarup-Pedersen, National Board of Health, Denmark
- Rimma Potemkina, National Research Centre for Preventive Medicine, Russian Federation.

We would like to acknowledge and express our appreciation to the following people, who drafted different parts of the document:

- Tim Armstrong, WHO headquarters
- Finn Berggren, Gerlev Physical Education and Sports Academy, Denmark
- Nick Cavill, University of Oxford, United Kingdom
- Don Hunter, British Columbia, Canada
- Sonja Kahlmeier, WHO European Centre for Environment and Health, Rome office
- Brian Martin, Swiss Federal Office of Sport, Switzerland
- Per Egil Mjaavatn, Norwegian University of Science and Technology, Norway
- Pekka Oja, UKK Institute, Finland and Karolinska Institutet, Sweden
- Francesca Racioppi, WHO European Centre for Environment and Health, Rome office
- Harry Rutter, Department of Health, United Kingdom
- Nathalie Röbbel, Environment and Health Coordination and Partnerships, WHO Regional Office for Europe
- Michael Sjöström, Karolinska Institutet, Sweden
- Agis Tsouros, Healthy Cities and Urban Governance Programme, WHO Regional Office for Europe.

Sincere gratitude is expressed to the participants of the WHO European Member States' intersectoral consultation on promoting physical activity for health (Ljubljana, 9 and 10 May 2006) for their review of the text, comments and suggestions.

Frederiek Mantingh, WHO Regional Office for Europe, incorporated the discussions arising from the WHO Ministerial Conference on Counteracting Obesity in Istanbul into this document and coordinated the final technical editing.

Don Hunter provided further assistance with the final technical editing and review of the draft, and Faith Kilford and Anna Müller have provided invaluable linguistic and editorial support.

INTRODUCTION

Physical activity is one of the major lifestyle-related health determinants. Widespread acknowledgement of this fact is vital in addressing the impact of physical inactivity on the risk of developing a number of chronic diseases. Epidemiological research has already produced convincing conclusions about the health gains of being sufficiently active. However, even if the impact of physical activity on public health is increasingly understood in scientific and academic circles, there remains a lack of political awareness and recognition that comprehensive action needs to be taken. The attention paid by governments to work aimed at promoting physical activity is still far less than that paid to work on other lifestyle determinants, such as tobacco and nutrition.

Now that WHO has identified counteracting obesity as one of the priority areas of public health action, the causes of weight gain need to be addressed. A more sedentary lifestyle is one obvious cause.

Given the multiple effects of physical inactivity on health, both as an individual risk factor and as one of the main determinants leading to obesity, the WHO Regional Office for Europe is calling for greater national attention to be focused on physical activity as a tool in health promotion and disease prevention.

The objectives of this document are:

- to call for national awareness of and attention to physical activity as an important health determinant, and lack of physical activity and sedentary lifestyles as determinants that can lead to obesity;
- to encourage and inspire national policies and action; and
- to provide guidance on and action tools for implementing physical activity in national public health work through multisectoral action.

Physical activity should be recognized as a fundamental component of public health work.

It is anticipated that this document will contribute significantly to the implementation of the European Strategy for the Prevention and Control of Noncommunicable Diseases (1) and the European Charter on Counteracting Obesity (2). It will also stimulate and provide a framework for strengthening national policies and action plans in these areas. Further, it will provide synergy with actions promoted by other relevant policy frameworks such as the Children's Environment and Health Action Programme for Europe (3) and the Transport, Health and Environment Pan-European Programme (4).

THE CHALLENGE – KEEP MOVING

Physical activity: a basic need

Walking is one of the first things an infant wants to do, and one of the last any of us wants to give up... (5).

The term ‘physical activity’ can mean many different things to different people. For public health professionals, it is a health-enhancing behaviour; others may see it as a phrase summing up a wide range of sports, leisure pursuits or active travel. But it is easy to forget that physical activity – or human movement – is actually one of the most basic human functions. The human body evolved to move, and our physiological systems are continuously working to balance the energy we expend through physical activity with the energy we take in as food. A century ago, obesity was rare, as people spent far more energy in manual work and walked more for transport, and energy-dense food was less easily available. However, in the twenty-first century, our lifestyles have changed beyond all recognition: so much physical activity has been removed from our lives that we have at last discovered how essential it is to human health and well-being. It remains the foundation of our health throughout life. The first steps a baby takes mark a critical milestone in that child’s development, as it sets off toddling into the world. Throughout childhood, physical activity offers opportunities to develop basic motor skills that are essential for healthy active living. And as we enter old age, physical activity becomes a critical component of a healthy, happy and independent life.

Physical activity is the crux of healthy ageing. Nowhere is the gap wider between what we know and what we do than in the area of physical activity, and nowhere is the potential payoff greater (6).

The concept of physical activity

The main sources of health-enhancing physical activities encompass normal and simple activities such as walking, cycling, manual labour, swimming, skiing, hiking, gardening, recreational sport, and dancing.

Physical activity is generally defined as any bodily movement produced by skeletal muscles that results in energy expenditure above resting level (7). In this document, the concept of physical activity consequently comprises all forms of activity that conform to that definition.

The terms exercise and physical fitness are closely related to, but distinct from, physical activity. **Exercise** is a subset of physical activity, defined as planned, structured, and repetitive bodily movement done to improve or maintain one or more components of physical fitness (7). **Physical fitness** is a set of attributes that people have or achieve that relates to the ability to perform physical activity (7).

The concept of **sport**, most often associated with activities within organized sports clubs, is in this document defined as activities practised through exercise and/or competitions facilitated by sports organizations (8). Thus sport, generally speaking, is seen as a more specialized and organized sector within the much broader concept of physical activity.

The term **health-enhancing physical activity** is frequently used (and often referred to as HEPA) in relation to the health benefits gained from physical activity. It should be understood as any form of physical activity that benefits health and functional capacity without undue harm or risk (9). When the concept of physical activity is used in this document, it is synonymous with health-enhancing physical activity.

There are a number of ways to categorize physical activity and inactivity related to intensity or expenditure of energy. In order to gain health benefits in a comfortable way, **moderate-intensity physical activity** carried out regularly is most effective for most people. Moderate-intensity physical activity is the type of activity that raises the heartbeat and leaves you feeling warm and slightly out of breath. For most people, this is activity equivalent to a brisk walk, and means that the metabolism is raised to at least three times its resting level (known as three metabolic equivalents (METS)) (10).

Vigorous intensity physical activities are activities like running or fast cycling, if they are fast enough to work up a sweat and get you out of breath. Vigorous intensity activity raises the metabolism to at least six times its resting level (six METS). Vigorous intensity activities are usually achieved through sport or exercise (10).

Our sedentary lifestyle – why?

Most of our daily living environments, including transport, housing, employment, school and some leisure settings, have become less conducive to physical activity. Consequently, the overall trend is towards considerably lower levels of total physical activity.

Findings from the 2002 Eurobarometer study suggest that two thirds of the adult population in European Union (EU) countries are insufficiently physically active to achieve optimal health benefits (11). Physical inactivity also seems to be a growing problem in childhood due to the societal changes described below.

Transport sector

In most western European countries, the steeply growing demand for mobility over several decades has been satisfied mainly through the increased use of private cars (12). Similar patterns have been observed in recent years in the eastern part of the Region. European societies have become increasingly car-friendly for a variety of reasons. As a consequence, the role of physically active forms of transport such as cycling and walking has decreased dramatically (13). In addition, barriers such as the real or perceived level of safety associated with these forms of transport have prevented many people from integrating cycling or walking into their lifestyle.

Urban planning and the housing environment

Another barrier to cycling and walking is the increase in distances travelled because of the geographical separation of living, working, shopping and leisure activities (14). Physical activity is favoured in neighbourhoods characterized by higher residential density, land use mix and street connectivity, and more green and open spaces for recreation (15). In addition, the quality of the neighbourhood environment, especially in terms of aesthetic attributes and perceived safety and security, affects the willingness of residents to make physically active use of their housing environment (16,17). Technical developments such as elevators and devices that make household chores less physically demanding have also influenced opportunities for physical activity in the local environment.

Occupational settings

Technical developments have been most influential regarding opportunities for physical activity in occupational settings: a large proportion of employees now spend most of their work time sitting with little or no physical activity (11). This is partly because the service sector has expanded continuously in most countries, at the expense of the agricultural and industrial sectors (18). The policy and sociocultural environment provided by employers is also an important determinant for the physical activity behaviour of employees. For example, it has been demonstrated that providing a parking space at work has a significant impact on the mode of transport used by employees, favouring motorized transport (19). Similarly, other company policies such as offering cars as fringe benefits do not encourage physically active mobility.

School settings

Children spend more time in institutions than ever before (20). This alone has probably resulted in less physical activity for them while growing up. Academic demands have also increased, often at the expense of physical education lessons, and despite evidence suggesting that more physical activity could be associated with better academic performance (21). In addition, many European cities are reporting less cycling and walking in commuting to and from school, especially in cities (22).

Leisure time and sports

Leisure-time physical activity is subject to changing trends. Organized sports activities have long provided substantial and varied opportunities for activity for many groups (23). This is still the case, but some indicators suggest that people, especially adults, now give more priority to unorganized forms of activity, such as attending fitness centres or exercising alone or with friends.

It seems that leisure-time activity among adults has not changed or declined to the same extent as physical activity in other settings. The real concern is among children and adolescents – not least due to the attractiveness of screen-based activities.

As part of efforts to raise levels of physical activity, attention should be focussed on how to reduce sedentary behaviour, in addition to promoting physical activity.

Physical inactivity – an increasing global health and economic problem

Physical inactivity is recognized as a major independent risk factor, causing about 3.5% of the disease burden and up to 10% of deaths in the European Region. The economic costs attributable to physical inactivity are enormous. The health impacts and their related costs could be reversed by increasing levels of physical activity. Regular moderate physical activity is a very cost-effective way of improving and maintaining people's health. The promotion of physical activity should therefore be a fundamental component of public health work.

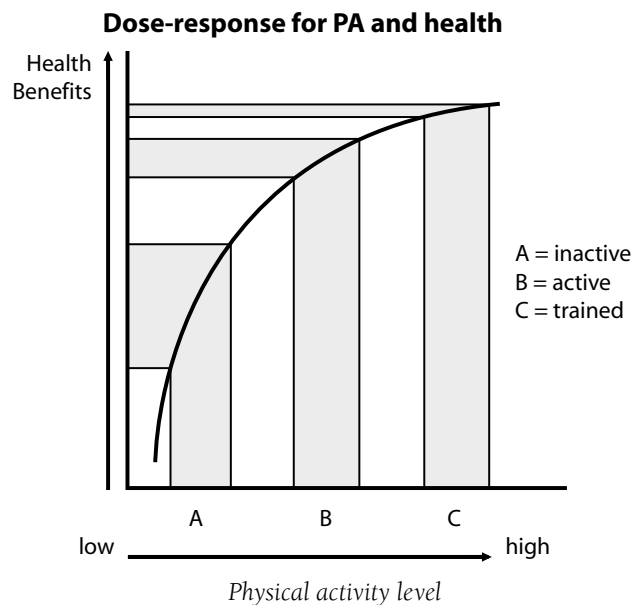
Our modern way of living has largely eliminated physical activity as one of the fundamental stimuli from our lives. The growth of noncommunicable lifestyle diseases and the epidemic increase in obesity provide clear evidence of this imbalance between our lifestyles and our physical requirements.

Physical inactivity is a state of relatively complete physical rest, which does not provide sufficient stimulus for human organs to maintain their normal structures, functions and regulations. Physical inactivity has become a major risk factor for chronic noncommunicable diseases in populations. Epidemiological research has proven that 15–20% of the overall risk for coronary heart disease, type 2 diabetes, colon cancer, breast cancer and fractured hips in the elderly is attributable to physical inactivity (24). The overall disease burden in the European Region caused by physical inactivity is estimated to be 3.5% (1). In *The world health report 2002*, the proportion of deaths attributable to physical inactivity in the European Region was estimated to be 5–10% (25). Based on actual rates of disease and death of physically inactive and active people in the Danish population, a change from inactivity to activity from the age of 30 up to the age of 80, would translate into a gain in life expectancy of between 2.8 and 7.8 years for men and between 4.6 and 7.3 years for women, depending on the degree of activity increase (26). Another Danish study shows that physically inactive people can expect between 8 and 10 fewer life years without a major disease than physically active people (27).

Based on epidemiological studies, the economic consequences of physical inactivity have been shown to be substantial on health care costs, but even greater on indirect costs, which include the value of economic output lost because of illness, disease-related work disabilities and premature death (26). The cost in monetary terms is estimated to be €910 million a year for a population of 10 million where half the population is too inactive to enjoy health benefits from regular physical activity (28). It is calculated that 3.1 million extra days of sick leave each year are attributable to physical inactivity in a population of 5.5 million people (27).

During the past decade, several assessments of the available scientific evidence have shown the powerful potential of physical activity to benefit health (29–34). A recent review (35) states that there is now strong evidence showing that physical activity has beneficial effects on the pathogenesis of all important metabolic syndrome-specific disorders (insulin resistance, type 2 diabetes, dyslipidemia, hypertension and obesity), all important heart and vascular diseases (coronary heart disease, chronic heart failure, intermittent claudication), and osteoporosis. There is also strong or moderate evidence illustrating the positive health effects on the disease-specific symptoms of all these diseases and those of chronic obstructive pulmonary disease, osteoarthritis, fibromyalgia, chronic fatigue syndrome, certain types of cancer and depression. Additionally, in virtually all disease states, there exists strong or moderate evidence to show that physical activity improves functional capacity and quality of life.

Mortality rates from noncommunicable diseases increase with high body weights and are markedly increased at levels designated as obese (body mass index above 30) (36). Regular physical activity is a protective factor against unhealthy weight gains (37). The role of physical activity in the management of overweight and obesity is threefold: 1) prevention of weight gain; 2) prevention of health consequences of obesity; and 3) weight reduction (38). From the public health perspective, areas 1 and 2 are the most important.



As shown in the dose-response curve above (32), most health benefits from a given increase in physical activity are achieved through moderate increases in physical activity for inactive persons (section A). Promotional efforts should focus on regular moderate-intensity lifestyle activities. Additional health benefits are achieved by practising more and profitably diverse activity.

As many of the health benefits from physical activity are at least partly independent of body weight, physical activity should be promoted across populations, regardless of body weight.

Policy response

Due to the alarming trend of increasing physical inactivity and the demonstrated associated health problems, scientific sources and health organizations worldwide, including WHO, are unified in a call to action.

Thanks to the range of conclusive findings over the past decade regarding physical activity as an important health determinant, there now exists a solid foundation for a clear and strong call to action. The WHO Global Strategy on Diet, Physical Activity and Health (DPAS), adopted at the World Health Assembly in May 2004, is one response to this call (39). This Global Strategy provides Member States with a political mandate to initiate or expand actions to curb chronic disease and obesity by addressing two major risk factors, namely physical activity and diet. The DPAS calls on WHO, Member States, other United Nations organizations, the private sector and the public sector to take concerted action to reduce chronic disease.

Another milestone document with attention to physical activity is the European Charter on Counteracting Obesity (2). The Charter was adopted by the Member States of the WHO European Region on 16 November 2006 at the WHO European Ministerial Conference on Counteracting Obesity, held in Istanbul, Turkey. The Charter sets the ultimate goal of curbing the obesity epidemic and reversing the current trend in the Region, and it details key action needed to encourage healthier diets and physical activity.

The adoption and implementation of the DPAS, the adoption of the European Strategy for the Prevention and Control of Noncommunicable Diseases by the WHO Regional Committee for Europe in September 2006 and WHO's action against the obesity epidemic in Europe followed up by the WHO European Ministerial Conference on Counteracting Obesity, provide a unique opportunity for concerted action and increased attention to physical activity across Europe, in order to improve public health.

In addition, there is an important opportunity for synergistic action, taking advantage of relevant processes involving other sectors that play an important role in providing the environmental conditions that facilitate physical activity. These processes include the Children's Environment and Health Programme for Europe (3) and the Transport, Health and Environment Pan-European Programme (4). (See also Annex 1 – Relevant WHO and European networks, programmes and strategies).

National multisectoral action is needed to introduce key strategies and approaches that can lead to gradual increases in physical activity among populations.

To achieve visible and sustained progress in public health with regard to physical activity, national policies should seek to reduce the prevalence of physical inactivity by at least one percentage point annually for the foreseeable future.

Population groups needing special attention

Both adults and children from lower socioeconomic groups are found to be less physically active than those of a higher socioeconomic status.

Increasing inequalities within and between countries are now regarded as one of the critical factors that influence health (40). It is likely that this situation also influences levels of physical activity, as a correlation has been documented between socioeconomic status and activity levels (41). Surveys have shown that both adults and

children from lower socioeconomic groups tend to be less regularly active and more sedentary than those of higher socioeconomic status (42–45). The mechanization of labour has brought about a general homogenization of levels of work-related physical activity among all social groups (46); it is therefore more probable that socioeconomic differentials in overall physical activity levels originate from variations in leisure-time physical activity (47). Lower-income families are also found to participate less in sports for recreation (48).

Several possible reasons have been suggested to explain why individuals from lower socioeconomic groups tend to be less physically active than those of higher socioeconomic status: they have access to fewer attractive facilities, programmes and other opportunities for physical activity to stimulate an active lifestyle (49–51); lower socioeconomic groups are in general less educated and have a lower awareness of and a less positive attitude to the benefits of being physically active (42,52); they have less income to pay for these activities (53); and they report feeling more insecure in their local environment and more worried about crime and a lack of safety in their neighbourhoods compared to higher-income groups (54).

GUIDING THE ACTION

Physical activity and recreation as a human right

The United Nations 1990 Convention on the Rights of the Child includes the right to engage in play and recreation activities (55). The barriers still faced by children and young people, especially those in low-income families, mean that those who would benefit from this the most are the ones least likely to participate.

Having the opportunity to enjoy quality recreation is vital to the health and personal development of all individuals, regardless of gender, functional ability, ethnocultural background, age or socioeconomic status. Children and young people are a particular concern, especially those living in low-income families. Although all children and young people have the right to engage in play and recreation activities, there are clear indications that their level of participation in recreation, sport and physical activity is often inversely proportional to their family's income level. Barriers affecting the participation of many individuals include user costs and user fees, awareness of opportunities, transportation, cultural and language barriers, and access to local recreation facilities and safe places to play. Keys to overcoming these barriers include:

- policies that provide low-cost or free access to public recreation facilities for low-income families and others in need;
- subsidized programmes to teach motor, sport and physical activity skills that encourage lifelong participation;
- coordinated communication approaches to heighten awareness about such opportunities;
- sensitivity to cultural differences in programmes and facilities;
- the provision of indoor and outdoor recreation facilities, especially within low-income neighbourhoods; and
- the provision of indoor and outdoor facilities that are physically accessible and support active lifestyles for people with disabilities.

Recommended levels and modes of physical activity

The health benefits of moderate-intensity physical activity must be emphasized.

Physical activity can be accumulated in relatively short bouts.

Adults should accumulate 30 minutes or more each day, while children and young people should have at least 60 minutes of moderate-intensity physical activity a day.

WHO's DPAS recommends that individuals engage in adequate levels of physical activity throughout their lives. Different types and amounts of activity are required for different health outcomes (39).

Adults

Based on physiological, epidemiological, and clinical evidence, international experts agree that, to produce substantial health benefits, the adequate level of physical activity for adults can be expressed as follows: Every

adult should accumulate 30 minutes or more of moderate-intensity physical activity on most, preferably all, days of the week (32). Moderate-intensity physical activity corresponds to quick or brisk walking. Cycling, swimming and gardening with moderate effort are other modes of moderate-intensity physical activity. The recommended duration of 30 minutes can be split up into shorter periods, ideally no less than 10 minutes (56), but even shorter bouts contribute to substantial health benefits (57). A good example of this is using stairs instead of elevators.

Adults who do not meet the recommended level of activity should increase their participation in different ways. Those who do not engage in regular physical activity should begin by incorporating a few minutes of increased activity into their day, building up gradually to 30 minutes per day. Those who are active on an irregular basis should strive to adopt a more consistent activity pattern (32).

All movement contributes to energy expenditure and is important for weight management. However, it is likely that for many people, 45–60 minutes of moderate-intensity physical activity per day is necessary to prevent weight gain or reduce overweight (58–60). This figure is influenced by individual metabolic rate, food intake and type of diet.

To improve or to specialize in different forms of fitness (e.g. respiratory fitness, muscular strength, different sports), a selection of various types of fitness-adapted activities is needed. If such more or less specialized and repeated activities are added to the basic recommended amount of moderate-intensity physical activity, improvements in both fitness and health will be achieved (61).

The recommendations for adults are also appropriate for older adults. Older people should take particular care to keep moving and retain their mobility and their lean body mass through daily activity. Additionally, specific activities that promote improved strength, coordination and balance are particularly beneficial for older people (62).

Children

Current physical activity recommendations for children and young people are: All young people should participate in physical activity of at least moderate intensity for 60 minutes per day. At least twice a week some of these activities should help to enhance and maintain muscular strength, flexibility, and bone health (63,64). The activity may be divided into shorter periods throughout the day, and should be as versatile and inspiring as possible.

A recent study suggested that physical activity levels in children should be about 30 minutes higher than the current international guidelines of at least 60 minutes per day of physical activity of at least moderate intensity, to prevent clustering of cardiovascular disease risk factors (65).

Another important issue concerning childhood health is weight control. Regular physical activity can help prevent and reduce obesity or maintain a healthy weight (66).

A comprehensive approach

To reduce the prevalence of physical inactivity, a comprehensive, integrated and intersectoral approach is needed. A complementary range of interventions should be introduced at individual, institutional, community, environmental and policy levels.

Greater emphasis must be given to environmental, social and population strategies in order to support individual strategies.

Political support is crucial to ensure the continuation of intersectoral, targeted and sufficiently resourced work.

A large number of causes underlie the current low levels of physical activity. All evidence to date demonstrates the need for a broad range of instruments and actors to curb or reverse the trend (67). This corresponds to what has been found in other areas of public health work, where determined population-based efforts following continuous and comprehensive approaches have to be used (68). The work must be supported by authorities and stakeholders at all levels. Cooperating networks, alliances and partnerships have to be established to achieve synergy and complementarity.

The leading countries in this area are more and more often referring to such a comprehensive or “ecological” approach as the foundation for plans and action. According to this approach, the elements for success are (69):

- adopting an integrated, multidisciplinary and comprehensive approach
- including a complementary range of actions
- working at the individual, community, environmental and policy levels.

An ecological approach aims both at facilitating healthy lifestyles for individuals and influencing policies to ensure that they create the framework for action and encourage the necessary social and cultural changes. Strategies can be categorized, based on their focus, according to the following interconnected ecological levels (70):

- intrapersonal factors (e.g. motivation, skills, attitudes and knowledge);
- interpersonal processes (e.g. social support, social networks, social norms);
- institutional or organizational factors (e.g. company management characteristics, workplace policies);
- community factors (e.g. social capital, neighbourhood effects); and
- public policy (e.g. regulatory laws, taxes).

Until now much, perhaps too much, of the effort in health promotion work has been concentrated on the responsibility of individuals. Reviews of the determinants of obesity reveal that any attempt to achieve behavioural change needs to consider social and cultural, as well as physical environments (69). It is obvious that overweight and obesity are not only an individual concern. This health problem and its determinants must be given a much broader focus and must be addressed by facilitating access to healthy food and physical activity in combined and complementary ways. Other health issues such as tobacco, seatbelts, breastfeeding and recycling have succeeded in generating social change at levels similar to those necessary to address the decreasing levels of physical activity and the associated obesity epidemic. These successful models have predominantly targeted environmental and population policy (71); such a social-change approach should also be applicable to physical activity promotion.

It is crucially important to have political support for population-based change strategies. Ensuring regulations where possible, adequate funding, intersectoral commitments and integrated strategies within existing and new

programmes and structures requires political involvement (72). The health sector has a leading role to play in creating this foundation.

The healthy choice must be the easy choice

Physical activity choices must be integrated in our daily lives in ways that make them the easy, natural and desirable choices.

For most of the development of mankind, physical activity has been an essential part of life for virtually everyone. Physical activity was not a choice but a necessity. In the past few decades, rapid changes in transport, communication, urban planning, architecture and leisure possibilities have made physical activity one choice among many. At the same time, sport for all has developed in many European countries and has become a new choice available to many people.

The greater range of choices could theoretically have led to an overall more physically active society. Unfortunately, this has not proved to be the case. While participation in leisure activities and sports has increased in some subgroups, declines have been observed in physical activity in everyday life in many countries such as Finland and Switzerland (73,74). The fact that differences in physical activity behaviour are found not only between individuals but also between population groups (75), shows that this choice is not only an individual one. It also explains the limitations of physical activity promotion that targets only individual behaviour, as well as isolated communication approaches. The often-cited “lack of time” as a barrier to physical activity can be an indicator of both the low priority this issue has for many people but also of a real problem of fitting activities into a busy day.

It is necessary to disseminate information about the benefits and possibilities of physical activity and to encourage people to be physically active. Yet this alone will not create change at the general population level unless there is adequate provision in terms of infrastructure and safety, and a context in which physical activity is the norm and social support is provided where needed. There is an abundance of examples of good practice from different countries, including sporting events such as runs throughout Europe, pedestrian zones in many of our cities, cycling networks in Denmark and the Netherlands, and traffic interventions like the London congestion charge.

“Make the healthy choice the easier choice” has become an important paradigm for health promotion since the Ottawa Charter was adopted in 1986 (76). If we want to make an impact on the general population, it will be necessary to apply this principle, and to create physical and social environments that enhance physical activity for people throughout Europe.

Interventions shown to increase levels of physical activity

Many cost-effective opportunities for promoting physical activity in daily life exist at local level across a range of settings.

Determined efforts to increase levels of physical activity should combine interventions based on informational, behavioural and environmental approaches with engagement from different sectors.

Cost-effective interventions targeting the general population must be given greater priority than those focusing on the individual.

The importance of physical activity as a health determinant is a relatively new part of health science. Consequently, trials conducted to increase people's activity levels have a relatively short history. Knowledge gaps in this area still exist, but an important and promising fact is that we already have sufficient knowledge and experience to provide a framework for successful action. Action must now be taken on the basis of the best available evidence and practice – as opposed to waiting for the best possible evidence and practice.

Many systematic literature reviews that describe and evaluate physical activity interventions have been published in recent years (77–80). The *Community guide* produced by the Centers for Disease Control and Prevention in the United States uses the following categories for recommended interventions in its systematic review (81):

Informational approaches

Community-wide campaigns	Recommended – strong evidence
“Point-of-decision” prompts (e.g. to encourage the use of stairs)	Recommended – sufficient evidence

Behavioural and social approaches

School-based physical education	Recommended – strong evidence
Non-family social support	Recommended – strong evidence
Individually adapted health behaviour change	Recommended – strong evidence

Environment and policy approaches

Creation and/or enhanced access to places for physical activity combined with informational outreach activities	Recommended – strong evidence
---	-------------------------------

In addition, other systematic reviews reveal that there is strong evidence for the effectiveness of *comprehensive worksite approaches* (79) and for *facilitating physically active transport* (82,83). However, in the latter area, a clear need for more well-conducted evaluations has been identified. There is also strong evidence pointing to the effectiveness of providing a safe environment for active transport (84). Further, there is moderate evidence that activity is stimulated by urban design features such as density, street connectivity and mixed land use, and by perceived and objectively determined environmental attributes such as aesthetics, convenience (pavements), access (green spaces), safety and security (85).

For those interventions listed where cost-benefit analysis has been conducted, all are shown to be highly cost-effective (active transport (83), comprehensive worksite approaches (86), individually adapted health behaviour change, and creation of and/or enhanced access to places for physical activity combined with informational outreach activities (81)).

It is important to note that many of the studies included in these reviews lasted no longer than a year, thus making it difficult to assess the long-term effects of the interventions. Further long-term studies are needed to assess these effects (79). Other interventions not found to be sufficiently effective individually may have greater effect in combined, comprehensive approaches. Such relations must be studied further as well.

The choice of interventions and measures should also take into account local resources, characteristics and target groups. Further efforts to develop the next generation of preventive interventions must focus on building relationships with communities and deriving interventions from the communities' assessments of their needs and priorities. Models should be developed that encourage members of the community and researchers to work together to design, train for and conduct such programmes (70).

Future success in this area is mostly dependent on political acknowledgement and willingness to act on the huge and growing challenge that physical inactivity represents. We need to determine how best to mobilize politicians and policy-makers. Which interventions will motivate these crucial groups and ensure their long-term commitment?

Principles to follow

There are a number of key principles that should guide Member States in the development of national physical activity strategies. These seven principles have proved to be vital elements in successful strategies and are applicable at the national, regional and local levels.

Population health: The population health approach (PHA) focuses on improving the overall health status of the population and subpopulations, rather than on the individual. While the ultimate goal is to improve the health of individuals, the PHA emphasizes improving the broad conditions and environments that affect health and healthy choices. This includes addressing some of the root causes that lead to poor health outcomes, reducing inequities in health status between subpopulations, increasing awareness of healthy choices, and creating services and environments that promote and maintain health.

Comprehensive: Successful physical activity strategies have been multifaceted and comprehensive. Strategies should include components such as public awareness, multiple physical activity interventions and patterns, leadership development, active infrastructure development and renewal, policies development, and partnership building. Strategies should consider initiatives in settings including the home/family, community, school, workplace and health care system. Strategies should focus on target groups, with an emphasis on the inactive, while not forgetting the general population and those already active.

Integrated: Many strategies are undertaken in isolation and do not benefit from the value and efficiencies of integrated approaches. Integration should be both vertical and horizontal. Vertical integration includes a seamless flow of information and involvement at the national, regional and local levels. Horizontal integration between areas such as health, education, transport, urban planning, recreation, social services and sport is just as vital. National and regional strategies need to support efforts at the local level where the greatest capacity for impact exists.

Complementary and collaborative: Physical activity is a leading lifestyle health determinant, and is a vital component in addressing obesity. Physical activity strategies should be linked to those focused on healthy eating and other health and chronic disease risk factors; communication campaign messages should be complementary where appropriate. Strategies at all levels require collaborative approaches by governmental, voluntary and corporate sectors. Those responsible for planning and implementing strategies should represent various sectors and areas, and seek out opportunities to act collaboratively.

Sustainable: Political and organizational commitment to long-term physical activity strategies is required at all levels. Local strategies should be supported by national strategies, but should not be financially dependent on them. The most effective national supports include leadership development, resources and tools, research and evaluation, proportional contributions toward active infrastructure development, public policies that enable local action and collaboration, and communication campaigns that can be complemented by local efforts. Sustainability is rooted in local commitments to ongoing actions and investment in planning, programmes, facilities, open spaces and active transportation systems.

Evidence-based and effective: National strategies need to identify clear outcomes that are based on measurable change. Their outcomes may include increasing the physical activity levels of the population and reducing obesity levels. Realistic targets should be set for these outcomes over specific time frames. Mechanisms need to be in place to monitor ongoing progress and to provide timely and meaningful data on the results. The national strategy should integrate research and evaluation into its program and policy development, and help communities to carry out meaningful measurement and evaluation on their own. The results of evidence-based interventions and other related research should be synthesized and disseminated on an ongoing basis.

Communicated: National physical activity strategies should consider the development of high-profile communication campaigns that increase overall awareness of the benefits of physical activity and encourage behaviour change. The messages should be consistent and clear, with many targeted at key population segments. National communication strategies should support local campaigns and be flexible enough to be used on multiple channels. They should also create networks to allow communities to share plans and success stories. The Member States also need to develop mechanisms for ongoing communication and information sharing regarding their strategies.

How to put all this together: The pillars for national action

- The seven principles should be adopted as guidelines for the development of national physical activity strategies: (1) a population health approach; (2) comprehensive; (3) integrated; (4) complementary and collaborative; (5) sustainable; (6) evidence-based and effective; and (7) communicated.
- Programmes and policies within the national physical activity strategy should reduce barriers and ensure access for all to physical activity and recreation. Target groups (age, gender, culture, norms, functionality, social class, etc.) should be involved in designing interventions that take account of their special needs.
- The health benefits of moderate-intensity physical activity must be emphasized. Adults should accumulate 30 minutes or more a day, while children and young people should have at least 60 minutes a day. Interventions should be designed and conducted targeting inactive or almost inactive groups. Getting these people to engage in some activity will give the greatest health gains.
- Physical activity choices must be integrated in people's daily lives in ways that make them easy, natural and desirable choices. Social and physical environments have to be created in which physical activity is the norm for all age groups.
- Action must now be taken on the basis of the best available evidence and practice.

FROM PRINCIPLES TO ACTION

National action

The promotion of physical activity must be integrated into national health policy as an important part of the intersectoral public health work of national governments.

Ministries of health should play a leading role in creating public and political awareness and in facilitating interministerial action.

Strategies defining how to collaborate and build capacity at regional and local levels should be an important part of national policy and action.

A healthier and more productive population is the higher goal for health policy in every nation. With the increase in lifestyle-related health problems, a paradigm shift must take place in national understanding of the health policies needed to reach this goal. Health care and health promotion must be seen and practised as complementary parts of health policy as a whole. The importance of integrating the health promotion element into future national health work should be indicated through organization, policy-making and the use of resources.

As one of the main lifestyle-related health determinants, physical activity must be included as an important part of the intersectoral public health work of national governments. Developing understanding and commitments from other sectors as to their roles and ways of cooperating is one of the crucial prerequisites for achieving success.

Health ministries need to take the lead in developing national policies with clear vision, strategies, action plans and programmes. Specific goals, a division of responsibilities, baseline reports and effective independent monitoring and evaluation of output and outcomes are vital. The ministry responsible for health has to show leadership, driving as well as facilitating effective collaboration with other ministries, based on their areas of responsibility and focusing on the multiple benefits of encouraging more physical activity.

To create the necessary awareness and attention at regional and local levels to facilitate healthy lifestyle choices as easy local choices, a determined and supportive national leadership is crucial. Strategies defining how to collaborate and build capacity at regional and local levels should be an important part of national policy and action. A key factor in the establishment of regional and local policies is the provision of financial resources, including from the national government.

The most appropriate actor in creating both public and intersectoral political awareness and action for this comprehensive approach is the ministry of health. By establishing interministerial collaboration, a complementary, committed and integrated framework for action can be achieved.

In building national policy, plans and programmes, there are European projects, programmes and networks that Member States should be aware of. Examples of these valuable sources of competence, experience and advice are given in Annex 1.

Recommendations

- A focused national commitment should ensure that capacity is built up in terms of:
 - human resources with adequate skills and competencies;

- an organizational structure reflecting the importance of this health determinant;
 - appropriate regulations, including legislation;
 - national guidelines;
 - a national action plan for physical activity;
 - national programmes and campaigns;
 - an intersectoral approach achieved through cooperation between different ministries;
 - economic resources.
- By measuring the prevalence of physical inactivity and using health statistics, updated epidemiological knowledge and relevant models (26), a national assessment can be made of the impact that physical inactivity has on specific diseases and on the health situation of the population.
 - Based on the same data sets, the national economic costs (both direct and indirect), of physical inactivity can also be calculated (28).
 - Knowledge about the impact on national health and the economic costs of physical inactivity should be used as an important basis for building national awareness, policies and capacity to address this preventable cause of disease and disability.
 - International efforts and initiatives to promote physically active living should be actively supported.

Mobilizing at local level – a key to success

Local level initiatives have the greatest potential to encourage physical activity. Consequently, mobilizing and supporting local governments and local communities to develop this potential will be a key to success.

Mobilization at local level must be politically, technically and economically supported by regional and national authorities. If necessary, new technical and economic support mechanisms should be established and adapted to local needs.

If physical activity is to be practised regularly, it has to be integrated into people's daily lives, their daily settings such as workplaces and schools, their way to and from work and school, their homes and their leisure time.

As emphasized earlier, healthy choices must be the natural, easy and regular choices, most of which will be made at local level. It is mainly local communities who can provide regular and easily available daily opportunities for physical activity. Establishing local leadership, understanding and capacity is a crucial factor for achieving success (87,88). Local awareness, local willingness and local action are therefore essential in creating the social and physical environments necessary to motivate individuals sufficiently to be physical active.

If local governments and communities are given political, technical and economic support from national and regional authorities, they will be in a position to achieve wider reaching goals. It is therefore absolutely essential to recognize the key role of local governments and to make use of and activate local resources (89).

Further, local work on physical activity must be rooted in a sustainable and future-oriented framework of political involvement and commitments, plans, and interdepartmental and intersectoral collaboration that is supported with sufficient financial and human resources. The overall goal of creating the opportunity for all groups to engage in physical activity must be reflected in all parts of this framework. Local plans of action and choices of new interventions should be based in part on interventions with a proven ability to increase levels of activity. Local goals, characteristics and resources should also be taken into account (81).

There is a growing body of evidence with many good practical examples of how to mobilize at the local level, which interventions should be given priority, and how they should be implemented. There is also a range of examples of how to facilitate physical activity for different groups in different settings. This experience and these good examples should be systematized and adapted to specific national and local conditions (88).

National and regional authorities usually have the most ambitious statements for public health work. They also have a vested economic interest in encouraging healthy living. Offering local authorities technical and economic support is one way of enhancing the credibility of national and regional authorities' public health work in this area.

Recommendations

- National guidelines and case studies of how to mobilize local communities should be developed, based on the national situation and traditions.
- Such “packages” should provide information on:
 - the health benefits for both the individual and the population as a whole of being physically active;
 - arguments for and “win-win” messages to encourage the participation of different sectors;
 - how to organize and root the work as a future-oriented instrument to health;
 - how to implement proven strategies and measures and adapt them to local conditions;
 - case studies of comprehensive and innovative practices that are compatible with local organizational systems and traditions.
- Political involvement, political commitment and interdepartmental and intersectoral collaboration must be central to stepping up action, to ensure that programmes are well resourced and integrated into existing programmes and structures (69).
- Close cooperation should be established between regional/provincial and local governments in implementing and following up on work.

The health sector

The health sector has a major role to play in promoting and coordinating action to support physical activity. It can do so in three complementary ways:

- promoting and engaging in intersectoral work at all levels;
- ensuring that health professionals, whose advice is trusted by the population, promote physical activity for individuals;
- leading by example as an employer.

The situation and current evidence

The Bangkok Charter for Health Promotion in a Globalized World emphasizes that the health sector has a key leadership role to play in building policies and partnerships for health promotion (40). The promotion of physical activity provides an ideal opportunity to do this.

Ensuring that there is a comprehensive and intersectoral approach to achieving higher levels of health- enhancing physical activity requires convincing and committed leadership. The health sector has the mandate to take this lead. At national, regional and local levels, it should invite and motivate different sectors and stakeholders to collaborate in promoting physical activity. Health authorities are aware of and able to convey most of the key messages about the need for common efforts to give greater priority to this health area.

Health professionals have more or less regular individual contact with a considerable part of the population. This contact must be used to inform and educate their clients about the causes of disease and reduced health, especially with regard to preventable lifestyle-related diseases. It can also assist in answering the important question of what individuals can do personally to reduce the causes of ill health. Health professionals represent figures of authority to most people, especially the elderly, and this authority should be better utilized in promoting healthier lifestyles, including physical activity. Primary care is an extremely important setting for the promotion of physical activity (90). Advice and prescribed medicines from physicians are seen by many as the ultimate source of and resource for healthier lives. Physical activity must be a part of this, in the form of opportunistic advice or encouragement, as well as more profound and committing written “prescriptions”. Such written recommendations, often named “active prescriptions” or “exercise on prescription”, are shown to achieve a better response from patients than solely verbal advice (91–93); they have been introduced in several countries on a larger or smaller scale (94–97). In addition to written recommendations, it has been found that good results are achieved where the patients set their own goals, where recommended activities are individually adapted, and where individuals are followed up with qualified support after consultation with a health professional (98).

It has also been suggested that introducing “exercise on prescription” programmes will increase general awareness, raise the status of physical activity in society and facilitate recognition among all health professionals of the fact that it can be used as both prevention and treatment for diseases. One challenge in using the health sector to proactively promote physical activity in such a way is the need to provide physicians and practitioner nurses with better education, practical experience and more knowledge about why and how to use physical activity. Manuals already exist describing how different conditions can be treated and physical activity used in disease prevention (99); these may be of use in prescribing individually adapted activities. The risk of side-effects is small if the activities are adapted to the condition of the individual.

As an employer and generator of journeys (caused by patient travel, etc.), the health sector has a major potential influence on physical activity, and a responsibility to set an example of best practice to other sectors by offering certain groups of patients and staff the opportunity to be physically active within and around the health care system.

Recommendations

- The health sector at all levels should invite and motivate different sectors and stakeholders to collaborate in promoting physical activity.
- The education of health professionals must give more priority to the prevention and cure of lifestyle-related diseases and health problems, including through the use of health-enhancing physical activity as “medicine” or treatment for different diseases and a prescription to improve health.
- A physical activity manual for health professionals should be developed in order to show how to use physical activity in disease prevention and in treating different conditions.
- Physicians should be motivated, including financially, to provide advice on and write prescriptions relating to physical activity.
- Local communities should cooperate with health services to facilitate, and provide information on, opportunities for individuals who have been recommended by health professionals to practise physical activity as preventive treatment.
- In order to lead by example, the health sector should create environments that encourage physical activity in all health institutions.

The transport sector

European transport settings can provide excellent, though still underexploited, opportunities to achieve the recommended daily amount of moderate physical activity for general health benefits.

Facilitating the choice of physically active transport means addressing the safety needs of cyclists and pedestrians.

There is a need to develop stronger partnerships between the health and transport sectors, ensuring coherence and maximizing synergy between their policies.

The “win-win” impacts are:

More cycling and walking will reduce air pollution, noise and traffic congestion, and they will reduce the need for expensive road construction and maintenance. Investing in physically active transport is highly cost-effective when health benefits are taken into account.

The situation and current evidence

Transport settings could provide an excellent opportunity to build physical activity into daily activities. However, their potential remains largely untapped: in most countries, cycling and walking have generally been marginalized in transport decision-making, as is reflected by their low share (less than 10%) in investment (100).

In western European countries, citizens cycle on average about 0.5 km and walk about 1 km each day, but travel 27.5 km by car. In only a few countries such as the Netherlands and Denmark does cycling account for a sizable share of daily mobility (101). The levels of cycling and walking achieved by these countries indicate that there is large potential in other countries for more trips to be made on foot or by bicycle. This is reinforced by the average travel patterns observed in Europe, where more than 50% of trips currently made by car are shorter than 6 km, a distance that could easily be covered by about 15 minutes of cycling. More than 30% of car trips are distances less than 3 km, and could be covered comfortably by about 20 minutes of brisk walking (100). It is estimated that at least half of these short car trips could be replaced by cycling and walking (102). In other words, undertaking short trips by walking or cycling could provide the recommended daily amount of moderate physical activity for general health benefits. In addition, a modal shift in favour of physically active mobility could benefit the environment through reduced emissions of air pollutants, noise and congestion, providing additional arguments for the transport sector to take a greater interest in promoting cycling and walking as part of transport policies (103).

However, providing safe conditions for cyclists and pedestrians remains a prerequisite of paramount importance to any strategy promoting physically active mobility (104).

Removing barriers to physically active transport can be achieved, for example, by providing adequate infrastructure for cycling and walking, reducing speed limits in environments where vulnerable road users mix with motorized transport, reallocating space to cyclists and pedestrians and working with urban planners to ensure that services, jobs and amenities are situated within distances that can be conveniently covered on foot or by bicycle.

Recommendations

- A coherent and synergistic policy framework should be provided to ensure that physically active transport becomes an easy choice in daily life.

This is supported by the observation that levels of obesity are significantly higher in countries with lower levels of cycling, walking and use of public transport, and that countries with a favourable policy

environment have higher levels of cycling and walking. The development of this policy framework entails: a) undertaking policy analyses and developing recommendations by the health, transport and environment sectors to ensure shared goals and mutually reinforcing actions; and b) taking full advantage of existing international policy frameworks, such as the Transport, Health and Environment Pan-European Programme (THE PEP) (4), as well as of existing guidance for developing policies for physically active transport (105).

- Stronger advocacy arguments and tools should be developed to demonstrate the benefits of physically active transport in terms that can be supported by the transport sector.

Winning the support of the transport sector in order to increase investment in physically active transport requires a greater understanding of its motivations and priorities. For example, developing cost-benefit analyses of transport interventions that include the health benefits of increased physical activity offers a practical way in which the transport sector could assess the economic soundness of its investments.

- Greater exchange of information and experience should be promoted on possible approaches to making transport an obvious setting for physical activity and to enlarging the evidence base that supports action in this area.

The contribution of the scientific community to making emerging knowledge available to policy-makers should be encouraged, for example through support for international collaborative initiatives such as the European network for the promotion of health-enhancing physical activity (106) and the EU's European Network on Nutrition and Physical Activity (107).

- More research should be done to evaluate the effectiveness of interventions that promote physically active transport, and to determine the best combination of measures that can support a cultural paradigm shift towards physically active transport.

Urban planning and housing environment

The physical environment and urban design can facilitate or constrain physical activity and active living.

The quality of the neighbourhood environment affects the opportunities for and willingness of residents to make physically active use of common spaces.

The “win-win” impacts are:

More cycling and walking will reduce air pollution, noise and traffic congestion, and they will create safer neighbourhoods. Investing in physically active transport reduces the need for expensive road construction and maintenance, and is highly cost-effective when health benefits are taken into account.

The situation and current evidence

Because of increasingly sedentary lifestyles and rising levels of obesity, there is stronger professional and political focus on ways in which the design of the built environment can facilitate increased participation in physical activity. Obesity and lack of exercise are associated with several features in the physical environment, including urban sprawl and long intracity distances (108). When key service structures such as shopping centres, administrative offices or hospitals move out of the city, one effect is greater car dependency.

The relationship between the built environment and physical activity is complex and operates through many mediating factors, such as sociodemographic characteristics, personal and cultural variables, safety and security, and time allocation. Studies show convincing evidence of links between the built environment and physical activity (109). There is less convincing evidence of which specific characteristics of the built environment are most strongly associated with physical activity (110). A supportive built environment is not enough on its own to

guarantee that people will be physically active. Measures such as ensuring accessibility to services, shops, green and recreational facilities, and walking and cycle paths have strong positive associations with overall physical activity (111,112).

There are many barriers that can block activity in daily life, including fear of accidents on roads and broken pavements, fear of assault and traffic pollution (111,113,114). The built environment has the potential to influence physical activity in many different settings – the home, work, school, travel, the neighbourhood and leisure. In addition, the quality of the neighbourhood environment affects the opportunity for and willingness of residents to make physically active use of common spaces. Urban planning strategies should aim to promote physical activity for all, including people of different ages and social circumstances, living in different locations within a city and different types of housing.

Recommendations

- In national health policies and strategies, the importance of the built environment and of urban planning in facilitating physical activity should be emphasized. The important role of local governments must be recognized, and partnerships and networking with regional governments and national associations and agencies must be promoted.
- Urban sprawl and similar urban planning designs should be discouraged.
- Mixed land use should be encouraged, along with the development of affordable housing in combination with shops, parks, public transport outlets and places of employment.
- Evidence-based urban planning guidance tools and standards should be provided to support implementation, in close cooperation with ministries, agencies and professional bodies dealing with planning, architecture and urban development.
- Citizen participation and integrated approaches in neighbourhood and urban planning processes should be advocated and supported, and national incentive schemes established for urban designs that support physical activity and active living.
- In national housing policies, the importance should be emphasized of improving conditions in residential areas by ensuring that housing is maintained and the environment around buildings is safe and suitable for pedestrians.

Schools and kindergartens

Childhood today is characterized by greater institutionalization, resulting in more sedentary behaviour. Schools and kindergartens should therefore provide children and adolescents with more and better opportunities for physical activity, adapted to their basic needs and human rights.

Schools reach all young people and can therefore contribute in a meaningful way to reducing the importance of socioeconomic factors as determinants of levels of physical activity.

In order to ensure that kindergartens and schools contribute a considerable part of the recommended daily minimum of 60 minutes of varied physical activity for children and young people, a range of different curricular and extracurricular pursuits should be available.

The “win-win” impacts are:

More and better physical education and physical activity in schools does not reduce achievements in core academic subjects (even if the time available for academic subjects is slightly reduced). There are also strong indications of a significant positive relationship between physical activity and cognitive functioning.

The situation and current evidence

The time given to physical education at both the primary and secondary school levels has fallen on average over the last decade (115,116). Greater priority is attached to important theoretical disciplines such as mathematics and language. Increasing pressure for academic time may also lead to a decrease in time for unstructured physical activity during playtimes and lunch breaks. At the same time, many countries are reporting less cycling and walking to and from school (117), mostly explained by the real or perceived danger of traffic (118). Computers and cafeterias and greater freedom to use indoors facilities have also contributed to schooldays with lower levels of physical activity.

A number of projects have shown that test results in core academic subjects do not decline where physical education lessons are increased at the expense of lessons in these core subjects (119). These projects do, however, lead to an improvement in the children's health (120). Many studies also give strong indications of a significant positive relationship between physical activity and cognitive functioning in children and adolescents (121). Some evidence has also been found linking levels of physical activity and children's ability to concentrate in class (122).

If schools and kindergartens are going to compensate for the increased sedentary life of children, the best way of doing this is probably to offer a variety of physical activities. In addition to improving the physical education led by qualified teachers, such an approach must also consider encouraging more unorganized activity during breaks and other periods of unorganized time at school, the use of outdoor environments in teaching different subjects (outdoor education), short classroom-based physical activities either at the beginning of or during lessons, and the practice of walking and cycling to and from home.

More physical activity at school could be an important tool in combating the increasing obesity epidemic and improving the overall health of children.

Recommendations

- Consideration should be given to focusing more closely on the health mandate for schools and kindergartens and to including physical activity in school legislation.
- In order to motivate children to develop physical activity habits that will stay with them throughout their lives, physical education and physical activity in school and kindergarten should first of all be fun (123). Physically inactive students, especially girls, would benefit from activities with less focus on competition. In a combined way, pupils should also be stimulated to invest some extra effort in practising and learning new physical activities and sports, and thus learn how efforts can be linked to achieving new skills, mastering new abilities and increasing self-confidence.
- Many schools, especially those located in cities, have playgrounds that are in poor repair and badly equipped for physical activity and active play. In order to encourage more, and more varied, activity in school-related time, such school playgrounds should be rebuilt and better equipped with physical activity in mind.
- The danger of traffic along school routes can be reduced either by introducing car-free zones or by reducing the speed limit to 30 km/h and introducing "sleeping policemen" (speed humps). Walking buses (children walking to school in groups attended by adults) are also a good alternative where the road to school is regarded as too dangerous (124).
- Schools and kindergartens must collaborate with the local community and existing networks that include parents.

Workplaces

For many people, the workplace is the most practical context in which to become more active. Thus, it should be an ideal setting for promoting physical activity to adults.

The best results are achieved when specific exercises, preferably designed to complement the amount of physical activity entailed by the job and in an individual capacity, at a moderate or vigorous intensity level, are undertaken on a regular basis, preferably three times a week.

The “win-win” impacts are:

Regular physical activity improves health and has a positive effect on sick leave. Improved employee health is reported to be associated with increased productivity, better employee relations and improved team spirit.

The situation and current evidence

As companies try to do more with fewer staff, time constraints and fatigue are becoming part of the job for the remaining employees. Long hours and lack of rest are a reality. Fortunately, many workplaces do not let the problems degenerate into unmanageable situations. Effective solutions do exist. Regular physical activity, preferably three times a week at moderate or high intensity levels and ideally designed relative to the job and individual capacity, has a positive effect on sick leave (125).

Workplaces that encourage regular physical activity report not only improved employee health and fitness but also increased productivity and morale, reduced injury rates, better employee relations, improved job satisfaction and team spirit. Furthermore, physical activity enhances mood and performance and improves concentration. The evidence base is strong, even if there is a need for more randomized controlled trials of high methodological quality (126,127).

Because most adults spend half their waking hours at work, finding ways to include physical activity during the work day, as well as in transportation to and from the workplace and home, is the most practical way for many adults to become more active.

Recommendations

- The needs of employees have to be identified, a physical activity policy developed and adopted, and action taken.
- Within the framework of this policy, workplaces can do a variety of things to foster a working environment that incorporates regular physical activity or intentional exercise throughout the year, for all employees.
- A little creativity can go a long way. It is never too late to incorporate regular physical activity, or even intentional exercise, into the work day.
- Innovative ways to promote physical activity at the workplace include: walking to a person’s office rather than using e-mail or the phone; a ‘take-the-stairs’ campaign; coffee and lunch time walks; fitness breaks; running clubs; and exercise workshops.
- Work can also be organized so that spontaneous activity is stimulated, or changes made to workplaces to make access to physical activity opportunities possible throughout the year, e.g. shower facilities installed, indoor gym activities introduced or gym memberships supported.
- Employers should facilitate and promote physically active transportation to and from the workplace.
- Business leaders have a unique opportunity to create a culture at work that supports “active living”, which can benefit both their business and the people working within it.

- Awareness of the importance of physical activity can be raised through communication channels such as e-mail or posters.

Leisure time, sports activities and unorganized activities

The fact that most people have more leisure time than in the past, combined with the reduction in physical work, both in jobs and in the home, provides a good argument for increasing leisure time-related physical activity.

Nongovernmental organizations that facilitate and organize sports, physical activity and outdoor recreation work with large sections of the population. These voluntary organizations should be given additional support and stimulation to develop a broader set of activities to reach new groups.

In facilitating infrastructure for physical activity, less active groups must now be given more priority in terms of increased resources earmarked for popular unorganized activities and recreational sports with wide potential.

The situation and current evidence

Leisure time

Compared to other areas of life (see previous sections in this chapter), leisure has better maintained its capacity to encourage physical activity even if the forms of activity have changed and are still changing (128).

Shorter working hours and more technically developed lifestyles have given most people more leisure time than in the past. Together with the general increase in mobility, this provides a good basis for practising more physical activity during leisure time.

The competition from an increasing range of alternative and mostly sedentary leisure pursuits has resulted in a paradoxical claimed “lack of time” for participation in physical activity and sport (129). The hours that people spend watching television each day are one of the main reason for this “lack of time”, and this illustrates the scale of the challenge of informing people and making them aware that physical activity is an instrument that can enrich their lives with fun, self-confidence, energy and health.

Sports

Sports organizations form the context for physically active leisure for many people. Trends in participation in sports vary between countries in Europe, but the general tendency is towards a stabilization in the number of members of traditional sports clubs (128). People who take an active part in sports are much more likely to meet the recommendations for physical activity related to health benefits than those who are not active (130). Among children, in particular, sports still hold a great appeal in terms of exercise, competitions and the increasing number of activities offered. However, the loss of large numbers of active members during their teenage years is a challenge for sports organizations.

Among adults, there is in many countries a “leakage” from organized sports activities to more individual activities, where people exercise either alone or in fitness centres or health studios that are often situated in residential areas, have flexible opening hours and attractive facilities, and meet the requirements of the individual. Another reason may be that more people consider physical exercise as a way of staying fit and healthy. The increasing individualization of society is also reflected here, and traditional sports organizations need to take this into account if they want to become more attractive and adapt what they offer to more “modern” requirements.

The impressive and valuable voluntary work of sports and outdoor recreation organizations needs more support and encouragement. These organizations should also be motivated and stimulated to broaden their activities in order to retain members with shifting interests and to gain new groups of members. An excellent example of new areas more adapted to individual qualifications is the growing number of clubs promoting and facilitating Nordic walking – walking with the use of poles (131).

Unorganized activities

Regardless of the preferred form of activity, if it is to be engaged in regularly, it is crucial that access should be good, in terms both of distance and of other attributes like capacity, user groups, attractiveness and cost. Sports activities need sports facilities. Even if most sports facilities, built for more or less specialized activities and used by the fitter and more active part of the population, are theoretically available to everyone, it is clear that they are not attractive to people who are less active (129). It is still the case in most countries that specialized and expensive sports facilities are given priority in the allocation of economic resources intended to increase and promote physical activity in general. Given a growing awareness of the need to raise levels of physical activity, especially among less active groups, it now seems necessary to achieve a better balance in planning and investing in (local) infrastructure for promoting low-threshold, unorganized physical activity and recreational sports, rather than more specialized organized sport. More resources have to be used to provide the less active groups with adapted and appropriate infrastructure. Good examples of this are parks and open areas that encourage active play and various unorganized activities and recreational sports (e.g. many different ball games), pathways and trails, cycle lanes and community recreation centres. Ensuring that such facilities are of good quality and easily accessible is an effective way of raising levels of physical activity (81).

Nature areas, especially near to residential areas, should be preserved and made accessible for recreational use. Contact with nature is shown to have a supplementary positive effect on mental health in combination with other activity forms (132,133).

Recommendations

- Sports organizations should be challenged to clarify their future role and their willingness and potential to expand their activities to attract new groups. Broader collaboration is needed to develop new, less competitive activities, new forms of membership and new types of organization.
- Adequate support should be given to local governments in their work to create motivating local environments and infrastructure to reach all groups.
- Standards should be developed to ensure easy access to attractive outdoor recreational areas with supportive infrastructure and affordable facilities.
- More attention should be paid to access to nature and parks because of the additional effects on mental health of nature-based outdoor recreation.

Building networks and alliances

The promotion of physical activity is not the sole job of the health, sport, leisure or education sectors. It should be seen as a shared task for these and other sectors such as transport, urban planning and environment.

By working together across sectors, in both the public and the commercial arenas, progress towards healthier and more sustainable lifestyles will become more efficient and more effective. The synergies involved create a win-win situation for all actors.

Through their health sectors, governments should take a leading role in building networks and alliances.

Traditionally, the promotion of physical activity has been seen as a job for the leisure and education sectors, through the promotion of sport among the general population and within schools, colleges and universities. But in recent years there has been growing recognition that organized sport, while a vital part of the picture, makes a relatively small contribution to levels of physical activity among the general population – less than 10% of the total in many countries. Wider lifestyle activities such as walking and cycling have a major part to play in raising activity levels, and the health sector is increasingly recognizing the importance of supporting physical activity for health. The moves towards health-promoting schools and workplaces are important examples of this, with real potential to improve people's lives and tackle problems such as obesity.

Education, working life, transport and the built environment are at the heart of this approach. If it is to be truly successful, urban planners, transport planners, traffic engineers and architects need to work together with representatives from schools, the leisure and sports sectors, and the health sector. Many of the initiatives that encourage lifestyle-based physical activity, such as safe routes to school, active travel, neighbourhood walkability, attractive green spaces and enhanced building design, can also have a positive impact on the environment and sustainability.

Mandating public bodies to work towards common goals is achievable, for example, by creating targets for tackling problems (such as childhood obesity) that are shared with the transport sector, as well as with education, sport and leisure. Influencing the nongovernmental and commercial sectors requires a different set of approaches. Local networks and alliances, with shared priorities and true commitments to achieving success together, are important for engaging these sectors. The public sector can shape the way in which commercial sector decisions are made, both by influencing the regulatory framework and by promoting an environment in which consumers are able and willing to make healthier choices.

The great challenge for public health lies in reconciling and integrating the different and sometimes competing approaches and interests involved. Improving the opportunities for physical activity requires 'horizontal', cross-cutting approaches, integrating the activities of different sectors at all levels and encouraging them to work together in the face of different (and sometimes competing) organizational structures, priorities and goals. Recognition should also be given to the importance of 'vertical' structures within sectors that place local decision-making in the context of national and regional policies for that sector.

The governmental health sector at all levels should accept and take on a convincing leadership role in building networks and alliances and in coordinating action that supports physical activity.

Recommendations

- The health and other sectors should promote strong networks and alliances at all levels, as well as between levels, to improve physical activity and quality of life.
- Those building networks and alliances should develop synergistic ways of working to maximize the mutual benefit of such work – a ‘win-win’ approach.

SETTING GOALS AND MEASURING SUCCESS

Determined and continued work

Public health programmes for physical activity need to be planned with a long-term perspective and to have clear and measurable goals and indicators.

All major stakeholders should be involved in setting these goals and indicators.

Evaluation of goals and indicators should always be a part of programmes.

Setting objectives

One of the crucial aspects of developing and coordinating a comprehensive plan of public health action is the setting of clear aims, objectives and indicators, against which the success of the work can be monitored. Setting objectives and indicators for a project ensures that it is clear what people are setting out to do, and the mechanisms by which they hope to do it. The process of agreeing on objectives and indicators means that all major stakeholders in a project can be involved at the critical planning phase.

The objectives of a project set out what the project hopes to achieve. Ideally, these should be specific, measurable, achievable, realistic and time-bound ('SMART') (134). For example, an objective to 'ensure that all local authorities have published a stated commitment to increasing cycling within their local transportation plans by year ... (a defined year)' would be preferable to an objective 'to encourage local authorities to promote cycling'. More specific objectives allow a more precise assessment to be made of the extent to which the objectives have been met.

Evaluation and the use of indicators

To see if goals are reached, how they are reached and whether resources are effectively used, process as well as outcome evaluation should follow every programme.

Indicators are measured variables, which help to evaluate changes that can be directly (and indirectly) related to goals, objectives and targets. They are indirect or partial measures of a complex situation but, if measured sequentially over time, they can indicate the direction and speed of change and serve to compare different areas or groups of people at the same moment in time (135).

Agreeing on a core set of indicators for a project allows stakeholders to focus on the precise element that they are trying to change. For example, a core indicator of 'the proportion of school children walking or cycling to school daily' would direct programme activity specifically towards action on school travel (including action on planning, education, infrastructure training and promotion). The different sets of indicators can be grouped as described below.

- *Output indicators* are used to measure the outputs or products that come about as a result of the processes. These can be, for example, the publication of a strategy document or the launching of a national programme. In addition to action plans and programmes, they might also include improving the social and physical environments of various settings to support the adoption of healthier behaviours, such as safe cycling routes.
- *Process indicators* are used to measure progress in the processes of change and describe how this progress is achieved. Examples of these might be the setting up of expert advisory committees on physical activity within a Member State.

- *Outcome indicators* are used to measure the ultimate outcomes of an action. These might be short-term outcomes (such as increased knowledge), intermediate outcomes (such as change in behaviour) or long-term outcomes (such as reduction in incidence of cardiovascular disease) (136).

The principal outcome indicator of interest in this context is the proportion of the population engaging in recommended levels of physical activity. Monitoring of this indicator will therefore require national population-level surveys using well validated physical activity surveillance tools.

Recommendations

- All programmes for physical activity should ideally be given specific, measurable, achievable, realistic and time-bound goals based on a baseline analysis.
- Evaluation must always be a planned and integrated part of programmes and be given adequate resources.
- To follow the process of complex programmes, a set of different output, process and outcome indicators should be defined and measured along the course.
- To overcome strong secular trends and environmental influences, programmes need to be planned for long-term sustainable action.

Surveillance of physical activity in the European Region

Surveillance of levels of physical activity among the population using standardized protocols is a crucial and necessary part of the public health response to current concerns regarding physical activity levels.

Standard methods of surveillance are required in order to assess the prevalence of current physical activity, to determine trends over time, to better plan physical activity public health interventions, and to monitor their effect in efforts to prevent and control chronic disease.

Standardized surveillance methods allow for intercountry and cross-regional comparisons – a key factor for strengthening international action.

Methodology for physical activity surveillance

Surveillance of physical activity in adult populations is most often carried out by self-report questionnaire, as this method is relatively inexpensive and easy to administer, compared to objective measures of activity such as pedometers or accelerometers. However, until recently, valid and reliable tools to assess levels of physical activity among populations have not been available. A recent global review of national physical activity prevalence data among populations revealed that only a handful of countries globally had robust data to monitor trends over time (137).

In addition, most physical activity questionnaires used in the past have collected information on leisure-time activity, with less emphasis on information on occupational and/or transport-related physical activity (e.g. cycling and walking).

Acknowledging this, recent years have seen the development of ‘new generation’ questionnaires for population surveillance of physical activity. These questionnaires take into account the fact that activity undertaken at work and for transport also has a potential health benefit and may be especially important for energy expenditure to assist in weight control.

The International Physical Activity Questionnaire (IPAQ) (138) and the Global Physical Activity Questionnaire (GPAQ) (139) are new generation 'multidomain' instruments and collect information on physical activity of moderate and vigorous intensities undertaken in all settings of daily life, in an attempt to capture overall patterns of physical activity relevant for health.

IPAQ collects reliable and valid information on the intensity, frequency and duration of physical activity in all domains of life (leisure time, occupation and transport). Data on physical activity levels in Member States of the European Union were collected using IPAQ in 2002. This set of data provided an insight into physical activity levels across European countries for the first time (11).

GPAQ, derived from IPAQ, provides, in addition to information on the total amount of physical activity, separate estimates of adult physical activity in each domain (occupation, leisure time, transport). The ability to assess physical activity prevalence in specific domains is useful for policy-making and for developing targeted interventions.

Many countries in the WHO European Region have other valuable experiences in physical activity surveillance, particularly in using other appropriate tools such as the FINBALT survey (140).

Despite some progress in designing and using population prevalence tools for adults in the European Region, there are still gaps in the surveillance of physical activity. Of crucial importance is the fact that surveillance methods for children and young people are yet to be fully developed and validated.

Recommendations

- Clearly, adequate resources must be identified and earmarked in order to undertake data collection, analysis, and interpretation and communication of physical activity information.
- Existing national and regional surveillance mechanisms, such as Eurobarometer, can be used in efforts to promote ongoing data collection across the Region.
- For countries already using a standard and valid methodology, surveys should be repeated every three to five years to provide trend data. For countries that have yet to undertake data collection, due consideration must be given to the issues raised above, i.e. validity, reliability, comparability and use of data for policy decisions.
- The recent development and implementation of IPAQ and GPAQ in many countries has important implications for the surveillance of physical activity. GPAQ provides estimates of levels of adult physical activity in each domain separately (i.e. occupation, leisure time, transport). The ability to assess physical activity prevalence in specific domains is potentially extremely useful for policy-making and for developing targeted interventions.
- The collection of physical activity prevalence data for young people should be undertaken where feasible, and efforts to develop valid and reliable instruments for physical activity surveillance should be a priority.
- The potential use of objective measurement tools (e.g. accelerometers, pedometers, fitness testing) in parallel with self-report questionnaires for ongoing validation and provision of alternative data should also be considered. The monitoring of emerging important issues such as the impact of the built environment on physical activity should also be considered for future research and potential inclusion in more elaborate surveillance systems.

REFERENCES¹

1. *European Strategy for the Prevention and Control of Noncommunicable Diseases*, Copenhagen, WHO Regional Office for Europe, 2006 (www.euro.who.int/Document/RC56/edoc08.pdf).
2. *European Charter on Counteracting Obesity*. Copenhagen, WHO Regional Office for Europe, 2006 (<http://www.euro.who.int/Document/E89567.pdf>, accessed 20 March 2007).
3. *Children's Environment and Health Action Plan for Europe*. Copenhagen, WHO Regional Office for Europe, 2004 (www.euro.who.int/document/e83338.pdf).
4. Transport, Health and Environment Pan-European Programme (THE PEP). Geneva, United Nations Economic Commission for Europe, WHO Regional Office for Europe, 2002 (ECE/AC.21/2002/9-EUR/02/5040828/9) (<http://www.unece.org/doc/ece/ac/ece.ac.21.2002.9.e.pdf>).
5. Sussman A, Goode R. *The Magic of Walking*, Simon and Schuster, 1967.
6. *Healthy Aging: Preventing Disease and Improving Quality of Life Among Older Americans*, Atlanta, National Centre for Chronic Disease Prevention and Health Promotion. 2001.
7. Caspersen CJ, Powell KE, Christensen GM. Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public Health Reports*, 1985, 100:126–131.
8. Idrettslivet i endring. Om statens forhold til idrett og fysisk aktivitet. [Sports life in change. About the State's relationship with sport and physical activity]. *Stortingsmelding [Norwegian Parliamentary Report]*, 1999–2000:14.
9. *HEPA Europe. European Network for the Promotion of Health-Enhancing Physical Activity*. Copenhagen, WHO Regional Office for Europe, 2005 (http://www.euro.who.int/hepa/20050708_5).
10. Cavill N, Kahlmeier S, Racioppi F, eds. *Physical activity and health: from evidence to action*. Copenhagen, WHO Regional Office for Europe, in press.
11. European Opinion Research Group. *Special Eurobarometer: Physical activity*. Brussels, European Commission Directorates-General for Health and Consumer Protection and for Press and Communication, 2003.
12. *Energy and transport in figures 2004*. Brussels, European Commission Directorate-General for Energy and Transport, 2004 (http://ec.europa.eu/dgs/energy_transport/figures/pocketbook/doc/2004/pb2004.pdf).
13. *Road transport and health*. London, British Medical Association, 1997.
14. Racioppi F, Dora C, Rutter H. Urban settings and opportunities for healthy lifestyles: rediscovering walking and cycling and understanding their health benefits. *Built Environment*, 2005, 31(4):302–314.
15. Atkinson J L et al. The association of neighbourhood design and recreational environments with physical activity. *American Journal of Health Promotion*, 2005, 19(4):304–309.
16. Humpel N, Owen N, Leslie E. Environmental factors associated with adults' participation in physical activity: a review. *American Journal of Preventive Medicine*, 2002, 22(3):188–199.
17. Loukaitou-Sideris A. Is it safe to walk? Neighbourhood safety and security considerations and their effects on walking. *Journal of Planning Literature*, 2006, 20(3):219–232.
18. *Trends in Europe and North America. The statistical yearbook of the Economic Commission for Europe 2003*. Geneva, United Nations Economic Commission for Europe, 2003.
19. *Mobilität in der Schweiz: Ergebnisse des Mikrozensus 2000 zum Verkehrsverhalten*. Bern and Neuenburg, Bundesamt für Raumentwicklung, Bundesamt für Statistik, 2001.

1. All websites accessed 28 September 2006.

20. Rønning E. *Barns levekår før og nå [Living conditions of children before and now]*. Oslo, Statistisk Sentralbyrå, 2001 (<http://www.ssb.no/vis/samfunnsspeilet/utg/200104/01/art-2001-09-20-01.html>).
21. Brettschneider WD, Naul R. *Study on young people's lifestyles and sedentariness and the role of sport in the context of education and as a means of restoring the balance. Final report*. Paderborn, Directorate-General for Education and Culture, Unit Sport, 2004.
22. *European common indicators: towards a local sustainability profile (Indicator 6 – Children's journeys to and from school)*. Milan, Ambiente Italia Research Institut, 2003.
23. Vuori I, Lankenau B, Pratt M. Physical activity policy and program development: The experience in Finland. *Public Health Reports*, 2004, 119(3):331–345.
24. Bauman A, Miller Y. The public health potential of health enhancing physical activity. In: Oja P, Borms J, eds. *Health-enhancing physical activity*. International Council of Sport Science and Physical Education, 2004.
25. *The world health report 2002 – Reducing risks, promoting healthy life*. Geneva, World Health Organization, 2002 (<http://www.who.int/whr/2002/en/>).
26. Sørensen J, Horsted C, Andersen LB. *Modellering af potentielle sundhedsøkonomiske konsekvenser ved øget fysisk aktivitet i den voksne befolkning [Models of potential health economic consequences by increased physical activity in the adult population]*. Odense, Syddansk Universitet, 2005.
27. *Risikofaktorer og folkesundhed i Danmark. [Risk factors and public health in Denmark]*. Copenhagen, Statens Institut for Folkesundhed, 2006 (http://www.si-folkesundhed.dk/upload/risikofaktorer_def.pdf).
28. Adapted from: Colman R, Walker S. *The Costs of Physical Inactivity in British Columbia*. British Columbia, Ministry of Health Services, 2004.
29. Roberts CK, Barnard RJ. Effects of exercise and diet on chronic disease. *Journal of Applied Physiology*, 98:3–30.
30. Vuori I. Inactivity as a disease risk and health benefits of increased physical activity. In: Oja P, Borms J, eds. *Health-enhancing physical activity*. International Council of Sport Science and Physical Education, 2004.
31. Bouchard C, Shephard RJ, Stephens T. *Physical Activity, Fitness and Health. International Proceedings and Consensus Statement*. Champaign, IL, Human Kinetics, 1994.
32. Pate RR et al. Physical Activity and Public Health. A recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *Journal of the American Medical Association*, 1995, 273:402–407.
33. *Physical activity and health: A report of the Surgeon General*. Atlanta, GA, United States Department of Health and Human Services, 1996.
34. Kesäniemi AY et al. Dose-response issues concerning physical activity and health: an evidence-based symposium. *Supplement to Medicine & Science in Sports & Exercise*, 2001, 33:351–358.
35. Pedersen BK, Saltin B. Evidence for prescribing exercise as therapy in chronic disease. *Scandinavian Journal of Medicine and Science in Sports*, 2006, 16(Suppl. 1):3–63.
36. Jung RT. Obesity as a Disease. *British Medical Bulletin* 1997, 53(2):307–321.
37. *Diet, Nutrition and the Prevention of Chronic Diseases*. Geneva, World Health Organization, 2003.
38. Hill JO, Wyatt HR. Role of physical activity in preventing and treating obesity. *Journal of Applied Physiology*, 2005, 99:765–770.
39. *Global Strategy on Diet, Physical Activity and Health*. Geneva, World Health Organization, 2004.
40. The Bangkok Charter for Health Promotion in a Globalized World. Bangkok, World Health Organization, 2005 (www.who.int/healthpromotion/conferences/6gchp/hpr_050829_%20BCHP.pdf).
41. *2001 Physical Activity Monitor*. Ottawa, Canadian Fitness and Lifestyle Research Institute, 2002.
42. Dowler E. Inequalities in diet and physical activity in Europe. *Public Health Nutrition*, 2001, 4(2B):701–709.

43. Currie C et al. *Young people's health in context. Health Behaviour in School-aged Children (HBSC) study: international report from the 2001/2002 survey*. Copenhagen, WHO Regional Office for Europe, 2004 (Health Policy for Children and Adolescents, No 4).
44. Wardle J, Steptoe A. Socioeconomic differences in attitudes and beliefs about healthy lifestyles. *Journal of Epidemiology and Community Health*, 2003, 57(6):440–443.
45. Coggins A, Swanton D, Crombie H. *Physical activity and inequalities. A briefing paper*. London, Health Education Authority, 1999.
46. Monteiro C A et al. Socioeconomic status and obesity in adult populations of developing countries: a review. *Bulletin of the World Health Organization*. 2004, 82(12):940–946.
47. Pomerleau J, Knai C, Suhrcke M. Socioeconomic inequalities in obesity in Europe: issues and policy implications. In: *Technical review paper: The obesity issue in Europe: status, challenges, prospects*. Copenhagen, WHO Regional Office for Europe, 2006 (in progress)..
48. Kremarik F. A Family Affair: Children's Participation in Sports. *Canadian Social Trends*, 2000:20–24.
49. Popkin B M, Duffey K, Gordon-Larsen P. Environmental influences on food choice, physical activity and energy balance. *Physiology & Behaviour*, 2005, 86(5):603–613.
50. Estabrooks PA, Lee RE, Gyurcsik NC. Resources for physical activity participation: does availability and accessibility differ by neighbourhood socioeconomic status? *Annals of Behavioural Medicine*, 2003, 25(2):100–104.
51. *Health update 5: physical activity*. London, Health Education Authority; 1995.
52. Kafatos A et al. Regional, demographic and national influences on attitudes and beliefs with regard to physical activity, body weight and health in a nationally representative sample in the European Union. *Public Health Nutrition*, 1999, 2(1a):87–95.
53. Sobal J, Stunkard A J. Socioeconomic status and obesity: a review of the literature. *Psychological Bulletin*, 1989, 105(2):260–275.
54. Peters A. Is Your Community Child-friendly? *Canadian Social Trends*, 2002:2–5.
55. *United Nations Convention on the Rights of the Child*. New York, United Nations, 1989 (<http://www.ohchr.org/english/law/crc.htm>).
56. Leon AS et al. Leisure-time physical activity levels and risk of coronary heart disease and death: the Multiple Risk Factor Intervention trial. *Journal of the American Medical Association*, 1987, 258:2388–2395.
57. DeBusk RF et al. Training effects of long versus short bouts of exercise in healthy subjects. *American Journal of Cardiology*, 1990, 65:1010–1013.
58. Fogelholm M, Kukkonen-Harjula K. Does physical activity prevent weight gain – a systematic review. *Obesity Review*, 2000, 1:95–111.
59. Kraus WE et al. Effects of the amount and intensity of exercise on plasma lipoproteins. *New England Journal of Medicine*, 2002, 347:1483–1492.
60. Saris WH et al. How much physical activity is enough to prevent unhealthy weight gain? Outcome of the IASO 1st Stock Conference and consensus statement. *Obesity Review*, 2003, 4:101–114.
61. Fogelholm M et al. Physical Activity Pie: A Graphical Presentation Integrating Recommendations for Fitness and Health. *Journal of Physical Activity and Health* 2005, 2:391–396.
62. *At least five a week: evidence on the impact of physical activity and its relationship to health*. London, Department of Health, 2004.
63. Biddle S, Sallis JF, Cavill N, eds. *Young and active? Young people and health-enhancing physical activity – evidence and implications*. London, Health Education Authority, 1999:1–149.
64. Strong WB et al. Evidence-based physical activity for school-age youth. *Journal of Pediatrics*, 2005, 146:732–737.

65. Andersen LB et al. Physical activity and clustered cardiovascular risk in children: a cross-sectional study (The European Youth Heart Study). *Lancet*, 2006, 368:299–304.
66. Epstein LH, Coleman KJ, Myers MD. Exercise in treating obesity in children and adolescents. *Medicine & Science in Sports & Exercise*, 1996, 28(4):428–432.
67. Sallis JF, Bauman A, Pratt M. Environmental and Policy Interventions to Promote Physical Activity. *American Journal of Preventive Medicine*, 1998, 15(4):379–397.
68. Egger G, Swinburn B. An “Ecological” Approach to the Obesity Pandemic. *British Medical Journal*, 1996, 315(7106):477–480.
69. Raine K. *Overweight and Obesity in Canada: A Population Health Perspective*. Canadian Institute for Health Information, 2004.
70. Smedley BD, Syme SL, eds. *Promoting Health Intervention Strategies from Social and Behavioural Research*. Washington, DC, National Academy Press, 2000.
71. Economos CD et al. What Lessons Have Been Learned From Other Attempts to Guide Social Change? *Nutrition Reviews* 2001, 59(Suppl. 3):40–56.
72. Kumanyika S et al. Obesity Prevention: The Case for Action. *International Journal of Obesity*, 2002, 26(3):425–436.
73. Lamprecht M, Stamm HP. Bewegung, Sport, Gesundheit, Fakten und Trends aus den Schweizerischen Gesundheitsbefragungen 1992, 1997, 2002. *StatSanté, Resultate zu den Gesundheitsstatistiken in der Schweiz*, 2006, 1.
74. Helakorpi S et al. *Suomalaisen aikuisväestön terveystilanne ja terveys, kevät 2003 [Health Behaviour and Health among the Finnish Adult Population, Spring 2003]*. Helsinki, National Public Health Institute, 2003.
75. Rutten A, Abut-Omar K. Prevalence of physical activity in the European Union. *Soz Praeventivmed*, 2004, 49(4):281–289.
76. *The Ottawa Charter on Health Promotion*. World Health Organization, Ottawa, 1986 (<http://www.who.int/healthpromotion/conferences/previous/ottawa/en/print.html>).
77. Kahn EB et al. The effectiveness of interventions to increase physical activity. A systematic review. *American Journal of Preventive Medicine*, 2000, 22(4 suppl.):73–107.
78. Foster C, Hillsdon M. Changing the environment to promote health-enhancing physical activity. *Journal of Sports Sciences*, 2004, 22(8):755–769.
79. Matson-Koffman D et al. A site-specific literature review of policy and environmental interventions that promote physical activity and nutrition for cardiovascular health: what works? *American Journal of Health Promotion*, 2005, 19(3):167–193.
80. Cavill N, Foster C. How to promote health-enhancing physical activity: community interventions. In: Oja P, Borms J, eds. *Health Enhancing Physical Activity Perspectives – The Multidisciplinary Series of Physical Education and Sport Science Volume 6*. Aachen, Meyer & Meyer Sport, 2004.
81. *The Community Guide – Physical Activity*. Atlanta, GA, Centers for Disease Control and Prevention, 2006 (<http://www.thecommunityguide.org/>).
82. Ogilvie D et al. Promoting walking and cycling as an alternative to using cars: systematic review: *British Medical Journal*, 2004, 329(7469):763.
83. Andersen T. Odense Cykelby [Cycle City Odense]. In: *Omgivelsernes Betydning for at Fremme Fysisk Aktivitet – Rapportering fra et Netværksseminar [Environmental Importance in Physical Activity Promotion – report from a workshop]*. Copenhagen, Sundhedsstyrelsen, 2005.
84. Jacobsen PL. Safety in numbers: more walkers and bicyclists, safer walking and bicycling. *Injury Prevention*, 2003, 9:205–209.

85. Knai C et al. Effectiveness of physical activity promotion strategies. In: *Technical review paper: The obesity issue in Europe: status, challenges, prospects*. Copenhagen, WHO Regional Office for Europe, 2006 (in progress).
86. Spence JC. *Compilation of Evidence of Effective Active Living Interventions: A Case Study Approach*. Edmonton, Canadian Consortium of Health Promotion Research, 2001.
87. Hunter D. *Proceedings of the Provincial – Territorial Physical Activity Strategies Summit*. Burnaby, BC, British Columbia Recreation and Parks Association, 2005.
88. *Promoting Physical Activity and Active Living in Urban Environments; The Role of Local Governments: The Solid Facts*. Copenhagen, WHO Regional Office for Europe, 2006.
89. *The Role of Local Governments in Promoting Physical Activity and Active Living*, Report of the Technical Consultation with the WHO Healthy Cities Network for the European Ministerial Conference on Counteracting Obesity, Bursa, Turkey, October 2005.
90. Cavill N et al. *Promotion of physical activity among adults. Evidence into practice briefing*. London, National Institute for Health and Clinical Excellence, 2006.
91. Dexter P. Joint exercises in elderly persons with symptomatic osteoarthritis of the hip or knee. Performance patterns, medical support patterns, and the relationship between exercising and medical care. *Arthritis Care and Research*, 1992, 5(1):36–41.
92. Swinburn BA et al. The Green Prescription Study: A Randomized Controlled Trial of Written Exercise Advice Provided by General Practitioners. *American Journal of Public Health*, 1998, 88:288–291.
93. Aittasalo M et al. A randomized intervention of physical activity promotion and patient self-monitoring in primary health care. *Preventive Medicine*, 2006, 42:40–46.
94. Thunderhead's Active Prescription program [website], Prescott, AZ, Thunderhead Alliance, 2006 (www.thunderheadalliance.org/activeprescription.htm).
95. [Anonymous]. Exercise on prescription, BBC, 5 April 2001 (<http://news.bbc.co.uk/1/hi/health/1261950.stm>).
96. Leijon M, Jacobsen M. *Fysisk aktivitet på recept – fungerar det? En utvärdering av Östgötamodellen. [Active prescription – does it work?] Report 2006:2*. Linköping, Swedish Association of Local Authorities and Regions, 2006.
97. Willemann, M. *Motion på recept – en litteraturgennemgang med focus på effekter og organisering [Exercise on prescription – a literature review focusing on effects and organisation]*. Copenhagen, Sundhedsstyrelsen, 2004 (http://www.sst.dk/publ/div/Metodekataloget/Motion_recept.pdf).
98. Eden KB et al.. Clinician Counselling to Promote Physical Activity. *Systematic Evidence Review*, 2002, 9.
99. Ståhle A, ed. *Fysisk aktivitet i sjukdomsprevention och sjukdomsbehandling [Physical activity in preventive work and to treat diseases]*. Stockholm, Statens Folkhälsoinstitut, 2003.
100. *EU Transport in figures. Statistical pocketbook*. Brussels, European Commission Directorate-General for Energy and Transport, 2000.
101. *Energy and transport in figures 2002*. Brussels, European Commission Directorate-General for Energy and Transport, 2002.
102. *WalCing: How to enhance WALking and CYcliNG instead of short car trips and to make these modes safer*. Brussels, European Commission, 2000.
103. Racioppi F et al. *A physically active life through everyday transport with a special focus on children and older people and examples and approaches from Europe*. Copenhagen, WHO Regional Office for Europe, 2002.
104. Racioppi F et al. *Preventing road traffic safety: a public health perspective for Europe*. Copenhagen, WHO Regional Office for Europe, 2004.
105. European Conference of Ministers of Transport. *National policies to promote cycling. Implementing sustainable urban travel policies: moving ahead*. Paris, Organisation for Economic Co-operation and Development, 2004.

106. The European network for the promotion of health-enhancing physical activity [website]. Rome, European Centre for Environment and Health, 2006 (www.euro.who.int/hepa).
107. *Mandate of the Nutrition and Physical Activity (NPA) Network*. Luxembourg, European Commission, 2003 (http://ec.europa.eu/health/ph_determinants/life_style/nutrition/documents/ev_20030630_rd02_en.pdf).
108. *Panorama of transport. Statistical overview of transport in the European Union. Part 2. Data 1970–2001*. Brussels, European Commission, 2003.
109. Powell KE. Land use, the built environment, and physical activity: a public health mixture; a public health solution. *American Journal of Preventive Medicine*, 2005, 28(2 suppl 2):216–217.
110. Northridge ME, Sclar ED, Biswas P. Sorting out the connections between the built environment and health: a conceptual framework for navigating pathways and planning healthy cities. *Journal of Urban Health*, 2003, 80(4):556–568.
111. Giles-Corti B, Donovan RJ. Relative influences of individual, social environmental, and physical correlates of walking. *American Journal of Public Health*, 2003, 93(9):1583–1589.
112. Saelens BE, Sallis JF, Frank LD. Environmental correlates of walking and cycling: findings from the transportation, urban design, and planning literatures. *Annals of Behavioural Medicine*, 2003, 25(2):80–91.
113. Handy SL et al. How the built environment affects physical activity: views from urban planning. *American Journal of Preventive Medicine*, 2002, 23(2 suppl):64–73.
114. Humpel N et al. Changes in neighbourhood walking are related to changes in perceptions of environmental attributes. *Annals of Behavioural Medicine*, 2004, 27(1):60–67.
115. Hardman K, Marshall J. World-wide Survey on the State and Status of Physical Education in Schools. In: *World Summit on Physical Education*. Berlin, International Council of Sport Science and Physical Education, 1999.
116. Hardman K, Marshall J. Update on the state and status of physical education world-wide. *Second World Summit on Physical Education, Magglingen, Switzerland, 2–3 December 2005*.
117. *National Travel Survey (2002 update), revised 2004*. London, Department for Transport, 2004.
118. DiGiuseppi C et al. Determinants of car travel on daily journeys to school: cross sectional survey of primary school children. *British Medical Journal*, 1998, 316:1426–1428.
119. McKay H. *ActionSchools! BC. Phase I (Pilot) Evaluation Report and Recommendations*. Vancouver, University of British Columbia, 2004.
120. Dwyer T et al. An investigation on the effects of daily physical activity on the health of primary school students in South Australia. *International Journal of Epidemiology*, 1983, 12(3):308–313.
121. California Department of Education Study. *Newsletter of the US National Association for Sport and Physical Education*, 10 December 2002.
122. Caterino MC, Polak ED. Effects of two types of activity on the performance of second-, third-, and fourth-grade students on a test of concentration. *Perceptual and Motor Skills*, 1999, 89:245–248.
123. Trudeau F et al. Tracking of Physical Activity from Childhood to Adulthood. *Medicine & Science in Sports & Exercise*, 2004, 36(11):1937–1943.
124. *How to organize a walking/cycling school bus. 1st ed.* Ottawa, Go For Green, 1999.
125. Proper KI et al. Dose-response relation between physical activity and sick leave. *British Journal of Sports Medicine*, 2006, 40:173–178.
126. Proper KI et al. The effectiveness of work-site physical activity programs on physical activity, physical fitness, and health. *Clinical Journal of Sports Medicine*, 2003, 13:106–117.
127. Engbers LH et al. Worksite health promotion programs with environmental changes. *American Journal of Preventive Medicine*, 2005, 29:61–70.

128. Lamprecht M, Murer K, Stamm HP. Jugendsport zwischen Mythos und Wirklichkeit. *Neue Zürcher Zeitung*, 4 January 2002:47.
129. *Markedsundersøkelse: "Fysisk aktivitet og bruk av anlegg hos den voksne del av befolkningen i Nordland"* [Survey: *Physical activity and use of facilities in the adult population in Nordland county*]. Nordland fylkeskommune/ Polar fakta. 1999.
130. Lamprecht M, Stamm HP. *Bewegung, Sport und Gesundheit in der Schweiz. Auswertung der Schweizerischen Gesundheitsbefragung 2002*. Zürich, L&S Sozialforschung und Beratung AG, 2005.
131. Information available from: International Nordic Walking Association [websites], www.inwa.fi and www.nordicwalking.com.
132. Herzog TR, Chen HC, Primeau JS. Perception of the Restorative Potential of Natural and other Settings. *Journal of Environmental Psychology*, 2002, 22:295–306.
133. Hansen KB, Nielsen TS. *Natur og grønne områder forebygger stress [Nature and green environments prevent stress]*. Frederiksberg, KVL, Skov og Landskab, 2005.
134. *Ten Steps to Smart Objectives*. Leeds, National Primary and Care Trust Development Programme, 2004 (www.natpact.nhs.uk/uploads/Ten%20Steps%20to%20SMART%20objectives.pdf).
135. *Development of indicators for monitoring progress towards Health for All by the year 2000*. Geneva, World Health Organization, 1981.
136. *Framework to monitor and evaluate the implementation of the Global Strategy on Diet, Physical Activity and Health*. Geneva, World Health Organization, 2006 (<http://www.who.int/dietphysicalactivity/DPASindicators/en/>).
137. Bull F et al. Physical Inactivity. In: Ezzati M et al., eds. *Comparative Quantification of Health Risks*. World Health Organization, Geneva, 2004.
138. Craig C et al. International physical activity questionnaire: 12-country reliability and validity. *Medicine & Science in Sports & Exercise*, 2003, 35:1381–1395.
139. Armstrong T, Bull F. Development of the World Health Organization Global Physical Activity Questionnaire (GPAQ). *Journal of Public Health*, 2006, 14(2):66–70.
140. Prättälä R et al. *CINDI health monitor, Proposal for practical guidelines*. National Public Health Institute/ WHO Regional Office for Europe, Helsinki, 2001.

ANNEX 1

RELEVANT WHO AND EUROPEAN NETWORKS, PROGRAMMES AND STRATEGIES

Global Strategy on Diet, Physical Activity and Health. Geneva, World Health Organization, 2004
(www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf).

European Strategy for the Prevention and Control of Noncommunicable Diseases, Copenhagen, WHO Regional Office for Europe, 2006 (www.euro.who.int/Document/RC56/edoc08.pdf).

European Strategy for Child and Adolescent Health and Development. Copenhagen, WHO Regional Office for Europe, 2005 (www.euro.who.int/document/E87710.pdf).

Countrywide Integrated Noncommunicable Diseases Intervention (CINDI) programme [website]. Copenhagen, WHO Regional Office for Europe, 2006 (www.euro.who.int/CINDI).

Healthy Cities and Urban Governance Programme [website]. Copenhagen, WHO Regional Office for Europe, 2006 (www.euro.who.int/healthy-cities).

WHO Move for Health Day [website]. Geneva, World Health Organization, 2006
(www.who.int/moveforhealth/about/en).

Transport, Health and Environment Pan-European Programme [website]. Geneva, United Nations Economic Commission for Europe, 2006 (www.thepep.org/en/welcome.htm).

HEPA Europe – the European network for the promotion of health-enhancing physical activity [website]. Copenhagen, WHO Regional Office for Europe, 2006 (www.euro.who.int/hepa).

Nutrition and Physical Activity (NPA) network: Mandate. Luxembourg, European Commission, 2003
(http://ec.europa.eu/health/ph_determinants/life_style/nutrition/documents/ev_20030630_rd02_en.pdf).

European Union Platform on Diet, Physical Activity and Health [website]. Brussels, European Commission, 2006
(http://ec.europa.eu/health/ph_determinants/life_style/nutrition/platform/platform_en.htm).

Children's Environment and Health Action Plan for Europe (CEHAPE) [website]. Copenhagen, WHO Regional Office for Europe, 2006 (http://www.euro.who.int/childhealthenv/policy/20020724_2).

European Network of Health Promoting Schools [website]. Copenhagen, WHO Regional Office for Europe, 2006
(www.euro.who.int/enhps).

Health Behaviour in School-aged Children: a World Health Organization cross-national study [website]. Edinburgh, Child and Adolescent Health Research Unit, University of Edinburgh, 2002 (www.hbsc.org).

WORLD HEALTH ORGANIZATION REGIONAL OFFICE FOR EUROPE

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

MEMBER STATES

Albania
Andorra
Armenia
Austria
Azerbaijan
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
The former Yugoslav
Republic of Macedonia
Turkey
Turkmenistan
Ukraine
United Kingdom
Uzbekistan

Physical activity is one of the major lifestyle-related health determinants. Widespread acknowledgement of this fact is vitally important in addressing the impact of physical inactivity on the risk of developing a number of chronic diseases. Unfortunately, in western Europe, for example, at least two thirds of adults are not sufficiently physically active and levels are continuing to fall. Children around the world are becoming increasingly sedentary – especially in poor urban areas. On average, only 34% of European young people aged 11, 13 and 15 years report enough physical activity to meet current guidelines.

Encouraging people to be physically active has numerous benefits that go beyond health, to include the economy and development. A comprehensive, integrated and intersectoral approach is needed, with emphasis on environmental, social and population strategies in support of individual ones. The promotion of physical activity should therefore be a fundamental component of public health work.

Action must now be taken on the basis of the best available evidence and practice. This document provides Member States, experts and policy-makers with guidance on designing and implementing physical activity-promoting policy and action, as part of a national public health agenda and through multisectoral cooperation.

WORLD HEALTH ORGANIZATION REGIONAL OFFICE FOR EUROPE

Scherfigsvej 8, DK-2100 Copenhagen Ø, Denmark
Tel.: + 45 39 17 17 17
Fax.: +45 39 17 18 18
E-mail: postmaster@euro.who.int
Web site: www.euro.who.int