HEPA Europe
European network for the promotion of health-enhancing physical activity

EUR/5068070/11
29 August 2007
ORIGINAL: ENGLISH

11 - BOOK OF ABSTRACTS, SLIDES AND POSTERS

THE MEETING IS KINDLY HOSTED BY

AND KINDLY SUPPORTED BY

Contents

Keynote lectures

A) Diet and physical activity interactions in the fight against obesity, Jean-Michel Oppert……...5

B) The WHO European Charter on Counteracting Obesity – process and future: views from a Member State, Eddy L. Engelsman……..…….....9

C) DG SANCO's activities on counteracting obesity, Ase Fulke……...……....13

D) Promoting HEPA in school sport and in the European sport movement: a role of encouragement and facilitation for the European Commission, Jacob Kornbeck…….……..……..17

Posters and presentations

1 VIA NOVA – healthy mobility and intelligent intermodality in Alpine areas, Claus Kölliger 21

2 Strength in old age – a health exercise programme for older adults, Elina Karvinen 26

3 Objectives and design of the intervention trial "obeldicks light" for overweight young people, Jens Bucksch.....28

4 Fit For Life Program physical activity and environment, Jyrki Komulainen 30

5 Young professionals – a regional health-enhancing program for apprentices, Austria, Markus Tilp ..32

6 Bicycling as a means of transportation - prevalence and context specific correlates among adults in the city of Graz, Sylvia Titze.....34

7 Development of physical activity promotion strategy in Lithuania, Tomas Kukenys.....36

8 All in good shape in Moselle, Brigitte Honoré 39

9 Promoting physical activity in people living with HIV-infection: a new challenge for their health management in a lifelong perspective, Gilles J. Thöni.....41

10 Physical activity intervention in DE-Plan, Sylvia Marchl 43

11 EUNAAPA – European network of action on aging and physical activity, Michael Kolb 45

13 Cycling and health referral projects: are they effective? Should they be encouraged?, Nick Cavill ...50

14 Cycling demonstration towns: will they improve public health?, Nick Cavill ...53

15 Results of a literature review on health-related physical activity, Zhulieta Videnova ...57

17 Obesity and physical activity evaluation of Russian population, Rimma Potemkina...62

18 Developing the physical activity workforce, Scotland, Monica Smith...66

19 Recruiting sedentary individuals to physical activity trials: intentions and reality, Rebecca Shaw...68

20 Sports medical evaluation of a German youth obesity therapy approach, Christian Thiel...70

22 Making the case for physical activity at the workplace – best practices from Europe, Kirsten Wolf..72

23 A survey of health enhancing physical activity in Iceland – preliminary results, Svandis Sigurdardottir...74

24 The HEPA-practises from the city of Turku (Finland), Riitta Asanti...75

25 Fit on the way – combining transport matters with health issues, Robert Pressl...77

26 Development of the national strategy for health enhancing physical activity promotion and its community-wide implementation in Slovenia, Zlatko Fras ...79

27 A qualitative approach to the development of physical activity promotion in primary care, Raphaël Bize ...81

29 Heart rate monitoring in school curricula, Gerald Payer ...82

30 Sports organisations and health-enhancing physical activity (HEPA): "liikuttajatutkinto" - sports organisations' adults HEPA education in Finland, Aleksi Valta...83

31 Developing a framework for appraising cycling and walking schemes, Andy Cope ...85

32 Development of the socio-sanitary program "exercise looks after you": phase I for elderly, Narcis Gusi...86

Discussion paper on recommendations for health-enhancing physical activity, Pekka Oja……...88

Keynote lecture

A) Diet and physical activity interactions in the fight against obesity

Jean-Michel Oppert
Paris VI University, Hotel Dieu, France

Diet and physical activity interactions in the fight against obesity

Jean-Michel OPPERT

University Pierre-et-Marie Curie (Paris 6)
Department of Nutrition, Hôtel-Dieu Hospital
Human Nutrition Research Center IdF
Paris, FRANCE

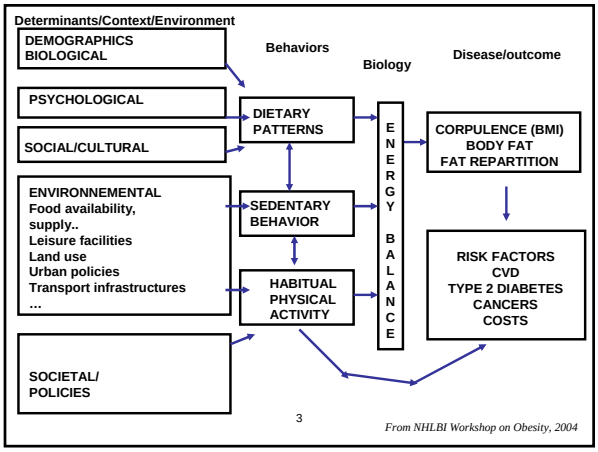
HEPA-E Annual meeting *Graz, 17 May 2007*

Diet and PA interactions

Background: general framework for body weight gain and obesity

(« causal web »)

2



3 *From NHLBI Workshop on Obesity, 2004*

- « The major influence towards positive energy balance is coming from the environment. It is operating through behavior and does not elicit strong biological opposition. »

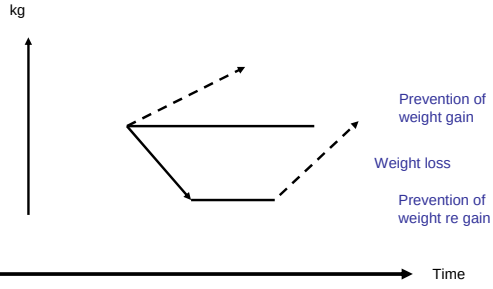
4 *Hill J. Endocr Rev 2006*

Diet and PA interactions

1. Weight targets for preventive actions

5

Body weight changes over time



6

Diet and PA interactions

2. PA influence on energy balance

Treadmill walking – Energy expenditure

	HR / min	EE act kcal / min	EE act kcal / 30min
Normal weight			
2 km/h	108.6 (14.7)	1.8 (0.6)	~ 54
3 km/h	115.9 (18.9)	2.3 (0.8)	~ 69
4 km/h	118.5 (17.4)	2.6 (0.8)	~ 78
Obese			
2 km/h	106.5 (9.0)	2.5 (0.4)	~ 75
3 km/h	113.6 (8.3)	3.4 (1.3)	~ 102
4 km/h	124.3 (12.2)	4.4 (1.6)	~ 132

mean ± SD

Adapted from Jacobi et al. Obesity 2007

Assymetry of food intake control

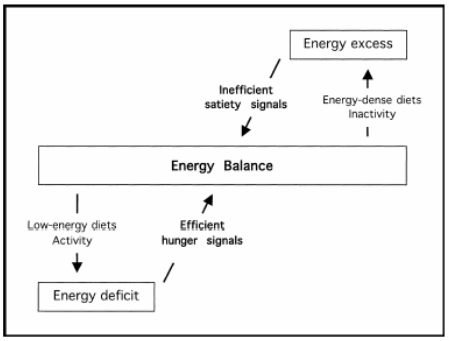


Figure from Prentice A, Jebb S. Nutr Rev 2004

Diet and PA interactions

3. Behavioral patterns associated with weight gain

PA-fat intake interaction

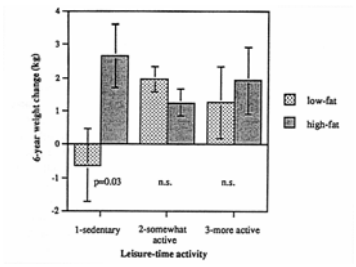
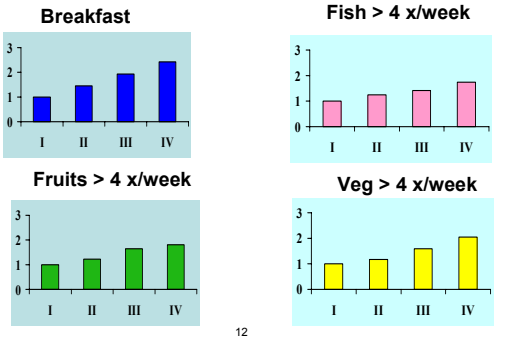


Figure from Lissner L et al. Obes Res 2007

Odds Ratios for healthy eating habits according to leisure-time physical activity



Oppert JM. Public Health Nutr2006

Diet and PA interactions

4. PA promotion in obesity management

PA benefits in obese

Effect	Magnitude
Weight loss	modest
Weight maintenance	major
Body composition	important
Co-morbidities, risk factors	important

Maintenance of weight Loss

National Weight Control Registry

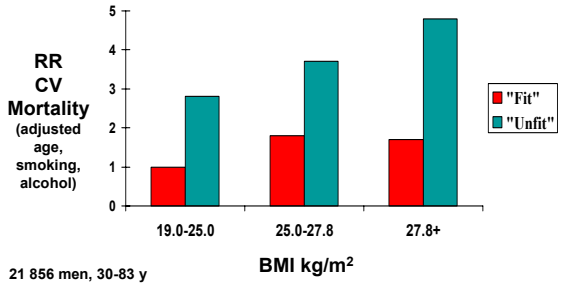
n = 784, medias, weight loss ≥ 13.6 kg (30 lb), maintained ≥ 1y

	Women (n = 629)	Men (n = 155)
BMI max (kg/m^2)	34.6	37.2
Δ Weight (kg)	28.7	35.4
Duration (y)	5.5	5.8
En. intake (kcal/d)	1297	1725
Fat (%)	24	23
PA EE (kcal/week)	2669	3490
High-intensity PA	690	1239

Means

Klem ML et al. Am J Clin Nutr 1997

Fit and fat



21 856 men, 30-83 y
8-y follow-up, max treadmill test
Unfit = 20 % least fit

Lee et al. Int J Obes 1998

Diet and PA interactions

5. Define the obesogenic environment

Odds ratios for obesity (BMI ≥ 30 kg/m^2) according to built environment and travel patterns

	OR (95 % CI)	p
Age	1.012 (1.009 – 1.015)	<0.000
Education	0.923 (0.893 – 0.954)	<0.000
Income	0.945 (0.923 – 0.966)	<0.000
Walk distance	0.952 (0.910 – 0.997)	0.034
Car time	1.001 (1.0001 – 1.002)	0.003
Land-use mix	0.878 (0.839 – 0.919)	<0.000
Black Male	1.36 (1.174 – 1.585)	<0.000
Black Female	1.45 (1.263 – 1.665)	<0.000
White Female	0.418 (0.364 – 0.481)	<0.000

N = 10'878, Atlanta, Georgia

Frank et al. Am J Prev Med 2004

Odds ratios for meeting physical activity recommendations

(Women, SU.VI.MAX study)

	OR (95%CI)		OR (95%CI)
Age (y)		**Residence**	
45-49	1	Urban	1
50-54	0.99 (0.83-1.18)	Periurban	1.28 (1.05-1.57)
55-59	1.20 (0.99-1.46)	Multipolarized	1.87 (1.20-2.93)
≥ 60	1.81 (1.46-2.26)	Rural	1.39 (1.15-1.68)
Education			
Primary	1	**TV watching (h/d)**	
Secondary	1.17 (0.97-1.39)	< 1	1
University	1.21 (1.00-1.47)	1 – 2	0.89 (0.70-1.14)
Smoking		2 – 3	0.88 (0.70-1.11)
No	1	≥ 3	0.88 (0.69-1.12)
Previous	0.99 (0.85-1.16)		
Current	0.73 (0.59-0.91)		

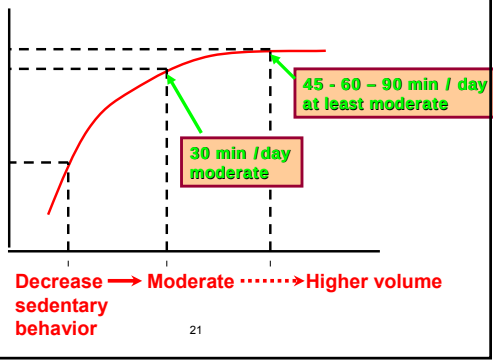
Bertrais S et al. Am J Publ Health 2004

Diet and PA interactions

6. Current recommendations for body weight control

20

PA Promotion and weight control – Graded approach



21

Diet and PA interactions

To sum up…

22

HEPA and the fight against obesity

- Body weight targets need to be differentiated
- PA effect on energy balance is likely to be small
- PA benefits for health seem to apply whatever weight status
- Environment influences favoring both healthy food and PA choices need to be better defined

23

Keynote lecture

B) The WHO European Charter on Counteracting Obesity – process and future: views from a Member State

Eddy L. Engelsman

Ministry of Health, Welfare and Sport, the Netherlands

WHO has identified obesity as one of the main areas for public health action. Physical activity is one of the major lifestyle-related health determinants.

The Ministers of the 53 Member States of the WHO of the European Region adopted the European Charter on Counteracting Obesity in 2006 in a ministerial conference in Istanbul. In this Charter, which is meant to have a wider and longer impact than just conference 'conclusions' or 'resolutions', nutrition and physical activity are reflected in a balanced way. The main sources of health-enhancing physical activities encompass normal, simple and daily activities such as walking, cycling, manual labour, gardening, swimming, dancing, recreational sport and others. The environmental approaches needed to enable and facilitate these kinds of physical activities are outside the control of health and sport ministries. Addressing physical activity in a more comprehensive way must be mainstreamed into the agenda of other relevant ministries and sectors. Only a cross-sectoral approach may succeed. Eddy Engelsman will touch upon the main topics of the Charter and will argue that the full implementation of the Charter will imply a revolutionary shift of paradigm in many countries, requiring comprehensive action. In the Netherlands such an approach can only be implemented if it is incorporated in a more general 'Health in all policies' preventive approach. Moreover, the focus should not exclusively be on obesity. The strategy is not to convince other sectors to do what is good for health but rather to try to share the agendas of other sectors with the health agenda. Don't ask others what they can do for you, but tell others what you (from the health sector) can do for them! Think in their problems and their solutions, and in their language. The answer to the challenge of the Charter will not automatically come from the health ministry. Non governmental stakeholders and local authorities are encouraged to take initiatives and to put pressure on the health ministry.

A WHO document called 'Steps to health: a European framework to promote physical activity for health' prepared for the Ministerial Conference could be of help for the implementation of the Charter. This framework for action emphasises and is based on a necessary comprehensive and multi-sectoral approach with respect to physical activity. The framework for action will raise more political awareness, create more focus on physical activity and will serve as a guide to Member States.

3rd Annual meeting of HEPA Europe
Graz, Austria

Eddy Engelsman

The WHO Charter on Counteracting Obesity – process and future: views form a Member State

Charter is milestone, and inspiring, but…

- not politically binding
- burning questions continue
- policy making process no model
- take initiatives yourself
- serve in ready-to-eat pieces
- communicate

Obesity: overemphasizing nutrition

- Underestimation importance physical activity:
  - Health professonals
  - Politicians/ministries
  - Citizens
  - Sport professionals
- Charter recognizes balance nutrition/physical activity

Physical activity not exclusively linked to overweight and obesity

- health benefits go beyond obesity alone
- health benefits may be overseen
- improves physical & mental health in general: reduction of risk of diseases
- obesity is 'negative'/stigmatization
- Charter recognizes wider health impact

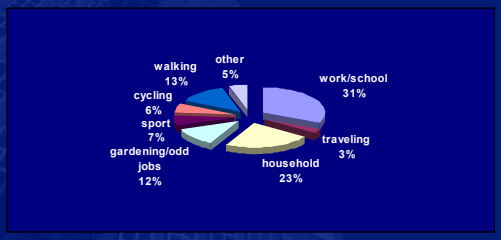
Sport sector can perform better

- tune to the inactive: children, migrants, chronically ill, elderly, low SES
- demand in stead of supply driven
- Accessible activities:
  - time
  - place
  - easy
- New types of organization
- New types of membership

Physical activity in 2006

Sport, but no active lifestyle

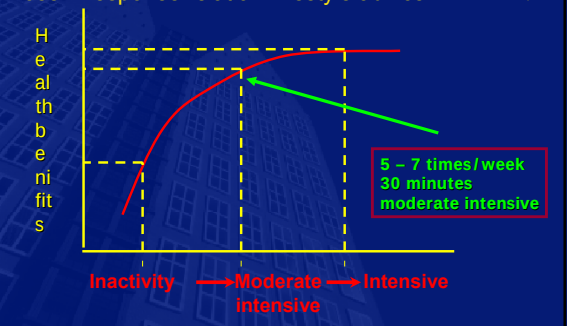
Source of physical activity



Physical activity is more than sport

- no less sport (Dutch and Brettschneider/Naul studies)
- sport contributes 7% to daily physical activity
- rest comes from walking, cycling, gardening, odd jobs at home, working, playing
- conclusion: lack of physical activity can not be compensated by sport alone

Dose – response relation: lifestyle advice



Environments are decisive:

- Individual responsibility healthy choices?
- Social and economic differences
- Environment is real driver (obesogenic)
- Change the environment!
- …. enables healthy choices

Physical activity part of daily routine: multisectoral approach

- walking and cycling most effective (active transport!)
- sufficient -road & socially- safe walking and cycling paths (networks) for children
- transport, environment, urban planning, recreation, trade, etc.
- other responsible authorities
- settings: neighborhood, school, workplace, health care, sport
- Charter: impact public health priority over other policies
- Charter: particular importance regulation

Parallel interests other sectors

- no ‘agressive ‘health in your policy!’ approach
- identify others’ problems
- think in others’ problems
- solve others’ problems
- think in others’ language and terminology
- …may help you/public health as well

National Actieplan on Sport and Physical Activity

- Neighbourhood/community
  - Low threshold acitivites, e.g. elderly
  - Community (integral) approach, e.g. Netherlands active
- (Health) care
  - PA on prescription: involvement insurers, professionals, sportsector, local governments
- School
  - All sorts of activities: walking, cycling; (Alliantie School and Sport)
- Sport
  - Accessible sport activities (“Start to run”)
- Workplace
  - Transport (cycling scores!)/lunchwalking/sport at work/lifestyle approach

Keynote lecture

C) DG SANCO's activities on counteracting obesity

Ase Fulke

DG Health & Consumer Protection (DG SANCO), European Commission

The main areas presented will be:

The European Platform for diet physical activity and health
Actors willing to give a lead in taking actions that can help to contain or reverse current obesity trends came together in March 2005 in the EU Platform for Action "Diet, Physical Activity and Health". Platform members agreed to share their action plans with each other in order to reverse the overweight and obesity trends in EU. The Platform now has 32 member organisations, which have submitted more that 200 commitments. The monitoring report for the commitments will be released in March 2007.
Information on the ongoing work in the Platform can be found on: http://ec.europa.eu/health/ph_determinants/life_style/nutrition/platform/platform_en.htm

The Green paper "Promoting healthy diets and physical activity: a European dimension for the prevention of overweight, obesity and chronic diseases"
The Green paper was released in December 2005, pointing at special areas where the Commission wanted input from the stakeholders. The commission received nearly 300 responses which are used as background for the upcoming White Paper (see below). The report and all of the responses are available on: http://ec.europa.eu/health/ph_determinants/life_style/nutrition/green_paper/consultation_en.htm

The White Paper on Nutrition and Physical Activity
A White Paper on Nutrition and Physical Activity is planned for 2007. It will set out the actions at Community and Member State level to reduce the ill-health caused by poor diets and low levels of physical activity, such as obesity. This includes the range of policies at Community level that can contribute to these objectives, such as food, research, agriculture, transport and regional policy. In particular, the White Paper sets out the Commission's value in promoting and facilitating action orientated partnerships across the EU to motivate action from public and private stakeholders in society and contribute to the roll out of successful population health interventions from one Member State to another.

The Public Health Program
Projects aiming at counteract obesity have been and can be founded through the Public Health program. Information on the program and earlier and running projects can be found on: http://ec.europa.eu/health/ph_determinants/life_style/nutrition/nutrition_newpgm_en.htm

DG SANCO's activities on counteracting obesity

Åse Fulke
Health and Consumer Directorate

Directorate Public Health
Unit Health Determinants

European Platform for Diet, Physical Activity and Health

- 32 members of which
- 3 physical activity organisations (ENGSO, ISCO and FIA)
- 12 "NGO's"
- Industry in a broad sense
- Observers

http://ec.europa.eu/health/ph_determinants/life_style/nutrition/platform/platform_en.htm

Commitments

- **SYNOPSIS COMMITMENTS**
  Annual Report 2007
  13 March 2007

203 Commitments

http://ec.europa.eu/health/ph_determinants/life_style/nutrition/platform/docs/synopsis_commitments2007_en.pdf

The main types of activities

- Promotion of a healthy lifestyle (20%)
- Education (17%)
- Nutritional Information (17%)
- Dissemination (8%)
- Advertising (7%)
- Product development(7%)

Monitoring report

- a wide range of activities and achievements that reflect the diverse capacities of the Platform Members.
- these claimed achievements can be link to a successful delivery of the aims of the Platform.
- after two years, the Platform has developed a range of skills in producing monitoring data.
- there are significant variations in the quality of reports and some Platform members are struggling with the monitoring of their commitments.

http://ec.europa.eu/health/ph_determinants/life_style/nutrition/platform/docs/eu_platform_2mon-framework_en.pdf

Upcoming Platform Activities

Conference
Diet, Physical Activity and Health
ACTION AT THE WORKPLACE
July 3rd 2007

Going Local

- Actions take place at local level
- National contact points are identified who can be contacted for more information on initiatives

http://ec.europa.eu/health/ph_determinants/life_style/nutrition/platform/docs/contacts2007_en.pdf

Green Paper December 2005

Promoting Healthy diets and physical activity: a European dimension for the prevention of overweight, obesity and chronic diseases

Close to 300 responses

http://ec.europa.eu/health/ph_determinants/life_style/nutrition/green_paper/consultation_en.htm

Evaluation of responses: first elements

-**Support for** multisectorial approaches and networking of stakeholders
- 'Health in all policies', **in particular CAP reforms**
- **Need for** health impact assessment **and cost-benefit analyses of policies and interventions**
- **Need to improve** availability and comparability of obesity and lifestyle data and information, **and dissemination of** good practice, **including food based dietary guidelines**
- **Improved** consumer information, **and investment in** life skills training
- Settings: **education/schools, workplace**
- Target groups: children, **health professionals, socio-economic issues**
- Obesogenic environments/physical activity
- Link to WHO process **and the** Istanbul conference
- **Specific** evidence-based proposals for intervention **strategies and policy building at local, national and EU level**

White Paper on Nutrition, Physical activity and Health

A strategy for Europe
Building on the Green Paper

Call from Council for the Commission to develop actions

European Parliament resolutions

Key questions

- How can the Community contribute at the local level given lack of competence?
- How can Commission build on the EU Platform to strengthen partnerships?
- What should be the right balance of self regulatory versus regulation actions?
- How can we monitor our progress in Europe
- When should we stop and take stock of our approach?

Some guiding principles

- Actions will
  - Seek to improve diet and physical activity levels across whole population
  - Contribute to shaping the environment into one which supports individual decision-making
- An emphasis on
  - a global, comprehensive approach
  - building effective partnerships
  - the need for monitoring (overall indicators such as obesity prevalence, and continuous monitoring of what works)

Public Health Program

- **The deadline for submitting applications is 21/05/2007.**
- **Applications should be submitted to PHEA**

http://ec.europa.eu/phea/calls/call_for_proposals_en.html

Identified priorities nutrition and physical activity

- — good practices in education programmes on nutrition and physical activity, including schools;
- — pilot support for collaborative multi-stakeholder initiatives on healthy lifestyle in communities focusing on
- specific vulnerable groups, in particular children;
- — effectiveness of actions to change consumer behaviour with respect to food choice and physical activity;
- — evaluation (health impact assessments/cost-benefit analyses) of policies and measures;
- — evidence or tools to support policy-making in the area of marketing foods for children;
- — enhancement of physical activity by creating healthy environments and involving other sectors (e.g. urban
- planning, transport, architecture).

Examples on projects

- **Move Europe - A Campaign for the Improvement of Lifestyle-related Workplace Health Promotion in Europe**
- **European Network for Action on Ageing and Physical Activity**
- **SHAPE UP: towards a European school network to impact the determinants of child obesity at the community level**
- **A European Network for Public Health Nutrition: Networking, Monitoring, Intervention and Training - Task force 2. - Physical Activity (increasing its impact on health by being combined with healthy eating)**
- **Conference 'Disease Prevention. Diet and Physical Activity – The Key to a Better Quality of Life Badenweiler, 25 – 27 February 2007**

Thank you

ase.fulke@ec.europa.eu

Keynote lecture

D) Promoting HEPA in school sport and in the European sport movement: a role of encouragement and facilitation for the European Commission

Jacob Kornbeck

Administrator in the Sport Unit, DG Education and Culture, European Commission

The presentation will focus on the role of the European Commission in the field of Education and Culture (DG EAC) – in particular the sport sector – and highlight differences and synergies with the Commission's roles related to Health & Consumer Protection (DG SANCO). A short introduction to the field of sport will be given, explaining the specific framework for cooperation in an area without an explicit Treaty competence. DG EAC became engaged in the battle against overweight/obesity on the basis of a consultancy study published in January 2005: "Young People' s Lifestyle and Sedentariness". This led to a political follow-up involving Member-States' Sport Ministers as well as the European sport movement. A Working Group "Sport & Health" was set up with currently nine Member States participating. DG EAC's activities are complementary to those of DG SANCO by having a large interface with the European sport movement based on a long-term structured dialogue, and because a similar dialogue exists with Member States in the field of sport policy making. The work is currently focussing on the exchange of good national practice, cross-sectoral collaboration, local multi-actor projects, international cooperation and the preparation of non-binding Physical Activity Guidelines. This work will make a substantial contribution to the Commission's planned White Paper on Sport. DG EAC therefore sees it role in relation to the fight against overweight/obesity as one of mediation and facilitation. It will help to strengthen school sport as well as daily movement culture in a broad sense, and it will mobilise the European sport movement to make a more specific contribution to this fight. In this connection, sport organisations should be encouraged to take on new, health-enhancing roles. They need to develop HEPA activities, alongside their traditional activities of of performance sport (elite sport) and recreational sport (mass sport). Yet many are currently still rather narrowly focussed on competitions.

Promoting HEPA in school sport and in the European sport movement: a role of encouragement and facilitation for the European Commission

Jacob Kornbeck
European Commission, Sport Unit (EAC.D.3)
Graz, Austria, 16-18 May 2007

Plan

1. Introduction
2. Sport as a topic for the Commission
3. The societal role of sport
4. DG EAC's political processes related to overweight and lack of exercise
5. The Working Group Sport & Health
6. Networking activities of the Commission
7. The Commission's White Paper on Sport
8. Other developments
9. Conclusion

1. Introduction

- DG EAC and DG SANCO are complementary.
- "The Other Part of the Equation: using physical activity and sport to combat overweight and obesity".

2. Sport as a topic for the Commission

- Treaty lacks a Sport Article.
- 30 years of case law.
- Various EU programmes.

3. The societal role of sport

- All the services that sport renders to society, and which are neither sporting, nor economic in the sense of having a commercial rationale.
- Health promotion is part of its societal role.

4. DG EAC's political processes

- Study published in January 2005: "Young People's Lifestyle and Sedentariness".
- Political follow-up.

5. The Working Group Sport & Health

- A voluntary, open group (legally inter-governmental).
- Nine Member States represented: AT-CZ-ES-FI-FR-LU-NL-PT-UK.
- November 2006: Sport Ministers invited the Group to develop *"physical activity guidelines"*.

6. Networking activities of the Commission

- Mobilisation of the sporting movement.
- Promote DG SANCO's Platform for Action on Diet, Physical Activity and Health.
- Liaising with organisations like … the WHO.

7. The Commission's White Paper on Sport

Title: *"The EU and Sport – Matching Expectations"*

Three themes:

- The societal role of sport.
- The economic impact of sport.
- The governance of sport.

7. The Commission's White Paper on Sport

Commission White and Green Papers since 2001

Year	White	Green
2007	?	?
2006	2	12
2005	2	14
2004	2	6
2003	1	6
2002	0	3
2001	4	8
2000	3	4

Sources:
White Papers: http://europa.eu/documents/comm/white_papers/index_en.htm
Green Papers: http://europa.eu/documents/comm/green_papers/index_en.htm

8. Other developments

- In 2005 DG SANCO's presented a Green Paper on Obesity (COM(2005)0637).
- In 2007, a White Paper will be presented…
- 01.02.2007, the European Parliament's Environment Committee adopted a report devoted to the Green Paper.

9. Conclusion

"The world is now moving towards a comprehensive approach to control tobacco. […] The same needs to be done with obesity. Yet, unlike tobacco, obesity is not driven by a single factor; it is caused by a complicated set of nutrition and lifestyle variables."

Pickett, B. (2006): From a rhetoric of nostalgia to a health-based policy: tobacco, obesity and the WTO. In: Cambridge Review of International Affairs, vol. 19, no. 1, pp. 139-154

Thank you for your attention.

Jacob Kornbeck
European Commission
Sport Unit (EAC.D.3)
jacob.kornbeck@ec.europa.eu
http://ec.europa.eu/sport

1 VIA NOVA – healthy mobility and intelligent intermodality in Alpine areas

Claus Köllinger

Forschungsgesellschaft Mobilität Austrian Mobility Research FGM-AMOR

VIA NOVA is an INTERREG III B Alpine Space Project[1]. The main objective is to bring physical activity back into daily life of people and thus help to reduce the high load on people and environment by car transportation. Therefore people's transport behaviour needs to be changed. This will be tackled at three levels in parallel:

1) Improvement of the objective situation regarding physical activity
2) Improvement of the perception of public spaces for cycling and walking.
3) Motivation of people for the use of sustainable transportation

VIA NOVA takes a cross-sectoral approach combining measures of mobility, health and land use. The partners develop demonstrations and multiply them by implementing own actions following the best practise of these demonstrations. The main topics are

- Walking,
- Cycling,
- Intermodality,
- Policies
- User motivation
- Mobility 50+

Best action from VIA NOVA bringing physical activity back into daily routines are:

- Spreading the German initiative of "By bike to work" in the Alpine Space.
  The AOK – Allgemeine Ortskrankenkasse - organises each year the competition "by bike to work" to increase the number of employees using their bicycle on their way to work. Each participant has to cycle at least half of all days within 2 months to take part in a lottery.
  The idea has been disseminated to all VIA NOVA partners (VIA NOVA has partners in all seven Alpine Space countries) and has lead to follower activities in Liechtenstein, Austria, Italy and Switzerland.

- Walkability in Weiz, Austria
  The municipality of Weiz - the city size is exactly fitting to walking distances - is implementing a number of activities developing an own walking culture:
  Evaluation of the pedestrian network involving all groups of inhabitants,
  Development of pedestrian paths as "Walking Miles" that make walking more appealing by busying people's mind and senses through an attractive environment,
  Every day walking programme.

[1] Interreg III B Alpine Space is an initiative for innovative projects based on a transnational co-operation within the Alpine Space countries France, Italy, Slovenia, Austria, Switzerland, Liechtenstein and Germany. The fields for mutual activities are building a powerful economical region, initialising and supporting sustainable spatial development, promoting sustainable modes of transport and communication and safeguarding the diversity of nature and cultural heritage.
http://www.alpinespace.org/

- VCL Verkehrsclub Liechtenstein

  The VCL is implementing several campaigns to increase health by cycling, walking or public transport use. The focus is put – among others – on senior citizens. Courses for the right use of PT, on how to cycle correctly but also round tables with planners and decision makers (e.g. from the police, planning authorities, etc.) on the specific transportation needs of senior citizens are opening new possibilities for seniors to be and stay mobile.

VIA NOVA ends in December with a training session open to all planners and decision makers from Alpine Space countries. Participation is free of charge.

viaNova

sustainable mobility – health – urban planning

INTERREG III B Alpine Space Programme

The GOAL

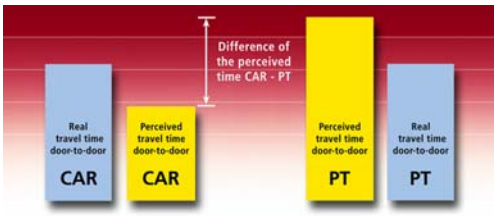
- Reducing car trips and especially solo car trips
- Improve the individual's health (physical activity in daily life)
- Design public spaces for the use by inhabitants
- Mutual thinking and acting by cities and professional scienes

The APPROACH

- Changing **objective conditions**
- Adjustment of people's **perception** and subjective attitude
- **Motivation** of new users and reward for existing ones

Adjustment of **perception** and subjective attitude

Objective travel time and subjective perception of time



The PROJECT TEAM

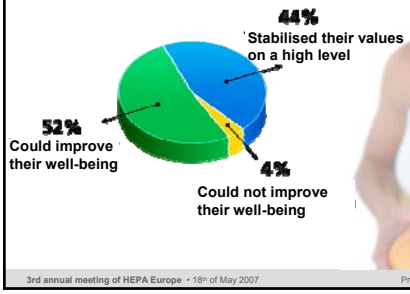
FGM: Lead Partner

Weiz (AT):	Walking
Keolis (FR):	Intermodality
Bozen (IT):	Corporate Cycling
Prov. Bozen (IT):	PM10 emissions
MHS (SLO):	national strategy on HEPA
AOK (DE):	Bike to work campaign
Thun (CH):	Mobility for senior citizens
VCL (LI):	Follower
Trento (IT):	Follower

The TOPIC: WALKING

The ROLE of perception

EVERY DAY WALKING PROGRAMME



Evaluation of the pedestrian network in Weiz

…has been performed including the population of Weiz directly!

Evaluation of the pedestrian network in Weiz

Example:
Barrier for pedestrians

The TOPIC: BIKE TO WORK

BIKE TO WORK IS SIMPLE…

- It is a competition, **every company** can take part in!
- People participate by **building teams**.
- People cycle to work for **one, two or three months**.
- Teams and individuals can win prices if…
- they cycle at least 50 % of all working days!
- prices are drawn in a lottery

- It motivates **new users**!
- It's a **reward** for cyclist!

…AND IT IS SUCCESSFULL!

BEST BITES

Bike to work has started in Bavaria and now…
- had 120 000 participants 2006 in Germany!

Follower activities have been realised in…
- Switzerland
- Liechtenstein
- Italy – Municipality of Bolzano
- Austria – Graz, Graz-Umgebung and Weiz

Extension of bike to work to „condition improvement“
- a competition for the bicycle friendliest municipality
- evaluated by the „bike to work“ participants

The TOPIC: MOBILITY FOR SENIOR CITIZENS

SAFE IN THE SADDLE

The goal:
- Senior citizens master cycling in traffic

How to achieve the goal:
- learn to understand the own limits
- understanding traffic rules
- cycling in a relaxed an controlled way

How to do it – a one day training workshop:
- Check the bicycles
- Refresh the theory and cycle for praxis through Schaan

TO BE AND STAY MOBILE

The goal:
- senior citizens understand the relation **mobility - health**

How to do it – a three-step approach:
- Explain bus network, schedules and services availabel
- Exercise how to act during a bus trip safely
- Explain the link **transport and mobility**

Who is needed for it?
- Local or regional bus company – driver and service person
- Medical doctor for presentation on mobility and health

FGM-AMOR
Claus Köllinger
mailto: koellinger@fgm.at
Mobil: 0043 699 181045-66

THANK YOU VERY MUCH!

2 Strength in old age – a health exercise programme for older adults

Elina Karvinen, Päivi Niemi, Pirjo Kalmari, Minna Säpyskä-Nordberg, Mika Simonen

Age Institute, Finland

The national health exercise programme for older adults, Strength in Old Age, promotes the autonomy and quality of life of independently living older adults with decreased mobility. This is achieved by increasing the leg muscle strength and balance exercise of the target group and by developing services in physical activity. Activities are provided especially for over 75-year-olds. It is estimated that half of them show signs of diminishing mobility which can be improved with strength and balance exercise. Problems of mobility are the second most important reason for home service use and institutionalisation.

The programme is a large cooperation project carried out by the Ministry of Social Affairs and Health, Ministry of Education, University of Jyväskylä, and several other actors in 2005-2009. The main funding resource for the programme is the Finnish Slot Machine Association. Coordinated by the Age Institute, the programme is based on academic research and the quality recommendations of guided health exercise for older adults.

The aims of the programme are to carry out 35 local three-year projects. The projects organize strength and balance exercises, including gym, calisthenics and balance groups, guided outdoors exercise, and guided home exercise. The projects aim to reach older adults with decreased physical functional capacity, provide them with exercise guidance, organize suitable exercise activities, train instructors for exercise groups, and make sure the services are accessible. Older adults should be able to give feedback of the services.

The Age Institute guides the projects according to the aims of the programme. The guidance supports the know-how of the actors, improves project control and networking, and strengthens the continuity of the new services. Cooperation between various actors is the key to the development of health exercise services for the elderly. The guidance includes regular connections to the local projects with training programmes, information and learning materials, an internal web chat and other cooperation forums. In addition, the aim is to recognize individual instruction needs and special features in the local projects. The programme includes regular evaluation in order to support the activities. The Age Institute will develop the guidance into a permanent model within the exercise services for older adults and distribute the new practices to all actors within elder care in Finland.

AGE INSTITUTE
IKÄINSTITUUTTI • ÄLDREINSTITUTET

läkkäiden terveysliikuntaohjelma
VOIMAA VANHUUTEEN

Strength in Old Age – A Health Exercise Programme for Older Adults, 2005-2009

Elina Karvinen, Päivi Niemi, Pirjo Kalmari, Minna Säpyskä-Nordberg, Ulla Salminen

Objective

To promote the autonomy and quality of life of independently living 75+ older adults with decreased functional capacity by strength and balance training based on research and quality recommendations of guided health exercise for older adults.

Aims

Increase knowledge of strength and balance training.
Increase the guidance skills of actors.
Improve the accessibility of exercise services.
Promote the availability of facilities for exercise.
Create innovative models of exercise services.
Inspire older adults in strength and balance training.

Programme activities

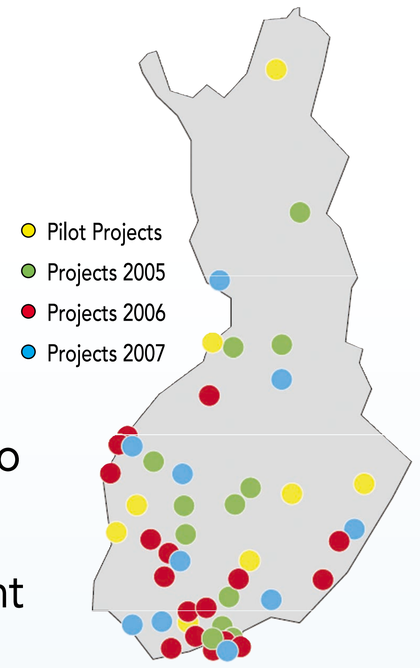
1.General activities

To influence decision-makers, interest groups, media, and older adults through communication.

2. Project activities

The programme contents are developed in 35 three-year projects. The projects are directed with the help of training and mentoring in order to produce innovative, best practices for

- reaching the target group
- evaluating older adults' mobility
- creating contents for exercise activities
- establishing local cooperation
- bringing exercise services close to older people
- developing services based on client feedback
- making exercise services permanent



3. Dissemination of best practices

- National network of instructors: they train local actors to guide strength and balance groups for older adults.
- Website: versatile website for supporting actors and decision-makers: research, good practices, current issues, training schedule, exercise programmes and instructions.
- Newsletter: three times a year covering current issues.
- Publication series: describing best practices developed in the projects.
- Fairs and events: dissemination of materials, communication.

Actors

Age Institute (coordination), Finnish Slot Machine Association (main funding), Ministry of Social Affairs and Health, Ministry of Education, expert organisations, municipalities and third sector, private service providers.

RAY:N TUELLA • MILD RAY:S STÖD •

3 Objectives and design of the intervention trial "obeldicks light" for overweight young people

Jens Bucksch[1], Thomas Reinehr[2], Anke Schaefer[2], Katrin Winkel[2], Petra Kolip[1]

[1] *Institute of Public Health and Nursing Research, University of Bremen, Germany*
[2] *Vestische Hospital for Children and Adolescents; Datteln, University of Witten/Herdecke, Germany*

Overweight is one of the main future agendas of public health. In Germany, you can find established programmes which focus on primary, or on secondary, and tertiary prevention. There is a lack of interventions for overweight young people without co-morbidities.

The intervention programme „Obeldicks light" was developed at the Vestische Hospital for Children and Adolescents in cooperation with the German Research Institute of Child Nutrition. The intervention is adressed to overweight children aged 8 to 16 years (age- and sex-specific >90th and < 97th percentile) without obesity related morbidities, and their parents. "Obeldicks light" is a clinical-based outpatient 6-months intervention programme, which was developed sensitive to ethnicity and gender. The programme consists of an intensive phase and an implementation in everyday life. In the first part several parent`s evenings and different group sessions for children based on physical activity (PA), behavior therapy, and nutrition take place. The second part includes a PA-group session and an individual psychological family therapy once a week.

The evaluation of the study comprises quality of structure, process and outcome. The assessment of the first two dimensions is related to the spatial facilities, the qualification of the staff which carries out the intervention, and the organizational procedure. To evaluate the process topic-guided interviews with the course instructors take place. „Obeldicks light" will also be evaluated by the participants with a structured self-reported questionnaire.

The outcome evaluation is the crucial part of the intervention study. A randomized controlled trial with one experimental group and two wait-list delayed intervention groups (control groups) will be conducted. 300 children and adolescents will be assigned to one of three groups. Primary outcome is the reduction of overweight (BMI, skinfold thickness, bioimpedance analysis). Secondary outcomes comprise PA (Step watch activity monitor, questionnaire), nutrition (3-day diary), quality of life (questionnaire). At the end of the 6-months intervention the first wait-list group will be enrolled in the intervention programme and finally the second wait-list control group will start. Primary and secondary outcomes will be assessed in all children at baseline, at post intervention of the experimental group, after six-, and 12-months of follow-up. Drop-outs will be interviewed to improve the intervention.

If there is a reduction of overweight of about 70% in the participants at post-intervention and a reduction of about 40% at 12-months of follow-up, health insurances take up the programme "Obeldicks light" as a standard service.

Objectives and design of the intervention trial “Obeldicks light” for overweight young people

Jens Bucksch[1], Thomas Reinehr[2], Anke Schaefer[2], Katrin Winkel[2] , and Petra Kolip[1]
[1]*Institute of Public Health and Nursing Research, University of Bremen*
[2]*Vestische Hospital for Children and Adolescents; Datteln, University of Witten/Herdecke*

Background

Overweight is one of the main future agendas of public health. In Germany, established programmes exist which focus on primary prevention (i.e. interventions for all children and adolescents independent of the risk for obesity) or on secondary and tertiary prevention (i.e. interventions for obese children). At present, health insurance companies are not allowed to support programmes for overweight young people without co-morbidities financially since there is a lack of evidence-based programmes for this target group. Therefore the Deutsche Angestellten-Krankenkasse (DAK), the Kaufmännische Krankenkasse Hannover (KKH) and the Techniker Krankenkasse (TK) initiated the evaluation of the following programme.

Intervention programme

The intervention programme „Obeldicks light“ was developed at the Vestische Hospital for Children and Adolescents in cooperation with the German Research Institute of Child Nutrition. The intervention is adressed to overweight children aged 8 to 16 years (age- and sex-specific >90th and < 97th percentile) without obesity related morbidities, and their parents. “Obeldicks light” is a clinical-based outpatient 6-months intervention programme based on nutrition, behavioural therapy, and physical activity (PA). The programme was developed sensitive to ethnicity and gender. An overview of the entire concept is shown in figure 1.

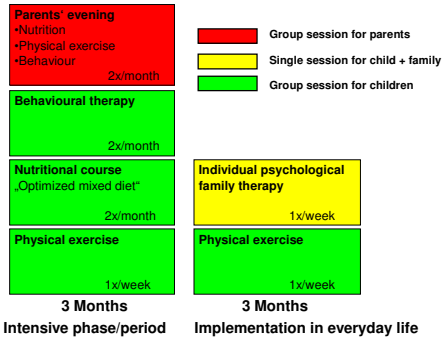


Figure 1: Concept of „Obeldicks light“

Contact details:
Jens Bucksch
University of Bremen
Institute of Public Health and Nursing Research
Grazer Straße 2, PO Box 330 440;
28334 Bremen, Germany
Tel +49 - (0)421 - 218-3735
jbucksch@uni-bremen.de

Financing and creating sustainability

The participation in the intervention is free of charge and will be paid by one‘s health insurance company.
If the following criteria are fulfillled, the programme „Obeldicks light“ will be taken up as a standard service by the health insurance companies in Germany.

1. Decrease in percentage of overweight (SDS-BMI) among the intervened groups by 70% or higher at post-intervention
2. Decrease in percentage of overweight (SDS-BMI) among the intervened groups by 40% or higher at 12-months of follow-up

Evaluation

The evaluation will be conducted by the Institute of Public Health and Nursing Research of the Universität Bremen (Prof. Dr. Kolip) and the Vestische Hospital for Children and Adolescents (PD Dr. Reinehr).

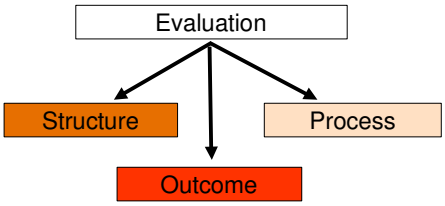


Figure 2: Aspects of evaluation in „Obeldicks light“

The quality of structure will be assessed by some standard instruments of the health insurance companies. This documentation refers to the spatial facilities, the qualification of the staff which carries out the intervention, and the organisational procedure.

For the evaluation of process on the one hand there is again a documentation of some crucial steps (e.g. medical screening, drop-outs, documentation of results). On the other hand topic-guided interviews with the course instructors take place to identify problems within the intervention progamme three months after the beginning of the intervention as well as at post-intervention. In addition, „Obeldicks light” will also be evaluated by the participants with a structured self-reported questionnaire at post-intervention.

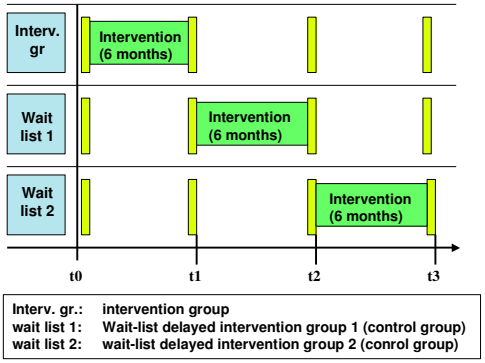


Figure 3: Design of the evaluation study

Evaluation of outcome is subdivided into the following aspects:

1. On the basis of the enrolment for the programme the accessibility of ethnic minorities will be examined.
2. Drop-outs will be analysed with respect to the reasons for leaving the intervention programme (i.e. methods: statistical comparison with respect to differences in baseline measurement between drop-outs and participants as well as topic-guided interviews with drop-outs of the intervention group).
3. The outcome evaluation is the crucial part of the intervention study. A randomized controlled trial with one experimental group and two wait-list delayed intervention groups (control groups) will be conducted (see figure 3). 300 children and adolescents will be assigned to one of three groups. The following primary (SDS-BMI) and secondary (all others except SDS-BMI) outcomes will be assessed in all children at baseline, at post-intervention, after six-, and 12-months of follow-up of the experimental group.

- Medical parameters (SDS-BMI, skin-fold thickness, cardiovascular risk factor profile, hormones, and intima media thickness)
- Nutrition (3-day-diary + questionnaire on nutritional habits and cognitive-affective attitudes)
- PA (Step-Activity Monitor + questionnaire on different contexts of PA, sedentariness, and TV-habit as well as exercise-habits)
- Quality of life and well-being (questionnaire)

4 Fit For Life Program physical activity and environment

Jyrki Komulainen and Liisamaria Kinnunen

Fit for Life Program, LIKES Research Center for Sport and Health Sciences, Finland

The Fit for Life Program (FFL) in Finland inspires adults over the age of 40 to include physical activity in their daily routines, and also creates physical activity services that are easily available and close to the population. The FFL started in 1995, and it is funded by the Ministry of Education and the Ministry of Social Affairs and Health. The FFL is also supported by the Ministry of Transport and Communications, the Ministry of Environment and National Board of Forestry. These organisations function with their own administrative branches to improve, for example, the pre conditionings for walking/biking to and from work and for outdoor activities. FFL operates in 5-year terms, i.e. the third term started in 2005 and will last till the end of 2007. The program is managed by LIKES – Foundation for Sport and Health Sciences. The Fit for Life Program received the WHO Counteracting Obesity Award 2006 for promoting physical activity in adults.

FFL spreads information about the importance of physical activity and other factors that affect our health and well-being via the media and via its own products. FFL has produced television programs about physical activity. For example in 2006 a 30 minutes document of "Kilot pois" (i.e. Loosing weight) was shown on the national television channel YLE TV2. Educational events of the program include an annual symposium, a fitness/education cruise (approx. 2.000 participants every year) as well as regional seminars.

In September 2006, FFL together with the Finnish Recreational Organisation planned "Provincial excursions" to increase interest in outdoor recreation and provincial nature trails. The regional organisations of Finnish Sports Federation organised together with several local associations totally over 70 provincial tours in 15 provinces of Finland. Nearly 5.000 people participated in these excursions lasting 1-7 days. The provincial excursions will be arranged also in September 2007. To promote conditions for HEPA FFL has produced a television series "Ympäristö liikuttaa" (i.e. Physical activity and environment) for the national television channel YLE TV2. The series shown during 2003-2005 contained 45 inserts (duration of each 5 – 7 min) inside the program called Kotimaan viikko. The purpose of "Ympäristö liikuttaa" was to inform about improvements done for environment to make valid circumstances for people to practise physical activity. In addition, the aim was also to remind people of different ways to be physically active. With the reviews the series have had over 4,5 million spectators. FFL has produced a DVD of the whole series.

FIT FOR LIFE PROGRAM
PHYSICAL ACTIVITY AND ENVIRONMENT

K K I K K I

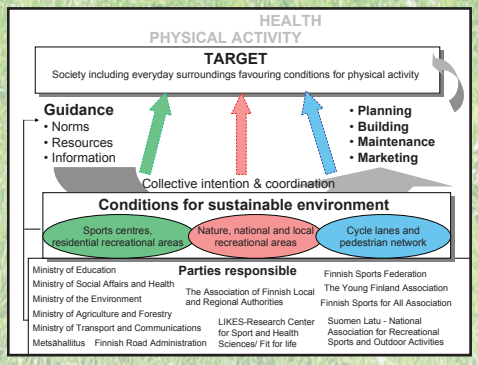
Jyrki Komulainen and Liisamaria Kinnunen
Fit for Life Program, LIKES Research Center for Sport and Health Sciences, Finland, www.kki.likes.fi

The Fit for Life Program (FFL) in Finland inspires adults over the age of 40 to include physical activity in their daily routines, and also creates physical activity services that are easily available and close to the population.
The FFL is funded by the Ministry of Education and the Ministry of Social Affairs and Health.
The FFL is also supported by the Ministry of Transport and Communications, the Ministry of Environment and Metsähallitus, The Forest and Park Service.
These organisations function with their own administrative branches to improve, for example, the pre conditionings for walking/biking to and from work and for outdoor activities.

FFL received The WHO Counteracting Obesity Award 2006 for promoting physical activity in adults.

FFL spreads information about the importance of physical activity and other factors that affect our health and well-being via the media and via its own products.

Finnish government resolution on policies to develop HEPA Community structure and every day settings promoting physical activity: Special committee coordinated by FFL.



1. The importance and needs of HEPA are taken account in setting the goals for land use planning, in drawing up the plans and in the assessment of their impact.

2. The sport facilities most used by the population are developed in line with the objectives of HEPA.

3. The use of routes for bicycle and pedestrian traffic, public yards and parks as places of HEPA is intensified.

In September 2006 FFL together with the Finnish Recreational Organisation planned “Provincial excursions” to increase interest in outdoor recreation and provincial nature trails. The regional organisations of Finnish Sports Federation organised together with several local associations totally over 70 provincial tours in 15 provinces of Finland. Nearly 5.000 people participated in these excursions lasting 1-7 days. The excursions will be arranged also in September 2007.

To promote conditions for HEPA FFL has produced a television series “Ympäristö liikuttaa” (i.e. Physical activity and environment) for the national television channel YLE TV2. The series shown during 2003-2005 contained 45 inserts (duration of each 5 – 7 min). The purpose of “Ympäristö liikuttaa” was to inform about improvements done for environment to make valid circumstances for people to practise physical activity. In addition, the aim was also to remind people of different ways to be physically active. With the reviews the series have had over 4,5 million spectators. FFL has produced a DVD of the whole series.

LIIKENNE- JA VIESTINTÄMINISTERIÖ
SOSIAALI- JA TERVEYSMINISTERIÖ
YMPÄRISTÖMINISTERIÖ
METSÄHALLITUS
LIKES

5 Young professionals – a regional health-enhancing program for apprentices, Austria

Markus Tilp[1], Michaela Strapatsas[2]

[1] *Institute for Sport Science, University of Graz, Austria*
[2] *Diversity Consult Network, Graz, Austria*

The aim of "Young Professionals", a regional health program, is to provide health-enhancing activities and information for apprentices. In Austria apprentices are disadvantaged concerning the information about or access to health-enhancing activities compared to teenagers attending high schools. Therefore, the pilot program for 42 (36 male, 6 female) young employees cares about the whole spectrum of health. Beside different modules about the topics nutrition, smoking, money management and social skills the module "physical activity" is the heart of the program.

After the examination of their working sites and working habits, the fitness status of the young people was determined by testing their physical condition. Muscle force and flexibility were determined according to tests proposed by Janda (1994). A 20 m sprint (flying start) tested the sprint abilities and an obstacle track was used to test the coordinative skills. The results allowed us to specify the physical activity program for the group. As expected the skills varied enormously and therefore trainers had to differentiate during the lessons of physical activity.

Apprentices trained with experts 1.5 hours a week during their working time. The focus was kept on the strengthening of specific muscle groups (abdominal and dorsal), the improvement of flexibility (e.g. harmstrings), and cardiovascular capacity. Furthermore, theoretical knowledge about fitness training (e.g. the importance of heart rate) was provided. Additionally, project surveys regarding the attitude of the participants towards sports and feedback questionnaires have been collected before, during and after the period of physical activity lessons.

After 6 months of weekly physical activity (which was partially interrupted by holidays etc.) a second test of physical condition was made. 24 pupils could attend both tests and the results are shown in Table 1. Note the significant improvement of sprint abilities (paired t-test, $p<0.05$) of male.

Table 1: Results of Pre and Post Tests: The values for sprint and coordination are better when lower. Values for muscle force and flexibility are better with higher values (3 = bad, 4 = mean, 5 = good).

	Sprint [s]		Coordination [s]		Muscle Force		Flexibility	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Mean male (n=19)	2.89	2.81*	15.15	14.70	4.09	4.47	4.24	4.34
Mean female (n=5)	3.62	3.53	22.20	22.53	3.70	4.05	4.30	4.65

* Significant change

Due to positive feedback of all participants the funding of the pilot project was extended another year and should be expanded to apprenticeship workshops in whole Styria.

Literature:
Janda, V. (1994) Manuelle Muskelfunktionsdiagnostik, Ullstein Mosby, Berlin

YOUNG PROFESSIONALS

a regional health-enhancing program for apprentices

Markus Tilp, Karl-Franzens-University Graz, Austria
Michaela Strapatsas, Diversity Consult Network, Graz, Austria

The aim of “Young Professionals”, a regional health program, is to provide health enhancing activities and information for apprentices. In Austria apprentices are disadvantaged concerning the information about or access to health enhancing activities compared to teenagers attending high schools. Therefore, the pilot program for 42 (36 male, 6 female) young employees of Siemens transportation Systems in Graz cares about the whole spectrum of health. Beside different modules about the topics nutrition, smoking, money management and social skills the module “physical activity” is the heart of the program.

After the examination of their working sites and working habits the fitness status of the young people was determined by testing their physical condition. Muscle force and flexibility were determined according to tests proposed by Janda (1994). A 20 m sprint (flying start) tested the sprint abilities and an obstacle track was used to test the coordinative skills. The results allowed us to specify the physical activity program for the group. As expected the skills varied enormously and therefore trainers had to differentiate during the lessons of physical activity.

Fig. 1: Apprentices during cardiovascular training

Apprentices trained with experts 1.5 hours a week during their working time. The focus was kept on the strengthening of specific muscle groups (abdominal and dorsal), the improvement of flexibility (e.g. harmstrings), and cardiovascular capacity. Furthermore, theoretical knowledge about fitness training (e.g. the importance of heart rate) was provided. Additionally, project surveys regarding the attitude of the participants towards sports and feedback questionnaires have been collected before, during and after the period of physical activity lessons.

After 6 months of weekly physical activity (which was partially interrupted by holidays etc.) a second test of physical condition was made. 24 pupils could attend both tests and the results are shown in Table 1. Note the significant improvement of sprint abilities (paired t-test, $p<0.05$) of male

Table 1: Results of Pre and Post Tests: The values for sprint and coordination are better when lower. Values for muscle force and flexibility are better with higher values (3 = bad, 4 = mean, 5 = good). * Significant change

	Sprint [s]		Coordination [s]		Muscle Force		Flexibility	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Mean male (n=19)	2.89	2.81*	15.15	14.70	4.09	4.47	4.24	4.34
Mean female (n=5)	3.62	3.53	22.20	22.53	3.70	4.05	4.30	4.65

Due to positive feedback of all participants the funding of the pilot project was extended another year and should be expanded to apprenticeship workshops in whole Styria.

Literature:

Janda, V. (1994) Manuelle Muskelfunktionsdiagnostik, Ullstein Mosby, Berlin

6 Bicycling as a means of transportation - prevalence and context specific correlates among adults in the city of Graz

Sylvia Titze[1] and Willibald J. Stronegger[2], Susanne Janschitz[3], Pekka Oja[4]

[1] *Institute of Sport Science, University of Graz, Austria*

[2] *Institute of Social Medicine and Epidemiology, Medical University of Graz, Austria*

[3] *Institute of Geography and Regional Science, University of Graz, Austria*

[4] *UKK Institute, Tampere, Finland and Karolinska Institute, Stockholm, Sweden*

Objective. Regular physical activity of moderate intensity has been shown to provide substantial health benefits. The inclusion of non-motorized transport into the daily life could for many people be a feasible strategy to start and maintain regular physical activity. The aim of the study was to analyse the modal split among adults in the city of Graz and to examine the contribution of the built environment, the social environment, and personal attributes in explaining bicycling for transportation.

Method. In a cross-sectional survey a representative sample of 1000 15-60 years old inhabitants of the city of Graz replied to a computer-assisted-telephone interview addressing utilitarian transport behavior and cycling-related personal, social and environmental factors. Logistic regression analysis was used to predict bicycling from home to a defined daily destination.

Results. The most frequently accessed destinations during the past seven days were place of work (46.5%), place of education (11.7%), grocery shop (17.4%), other shops/services (4.3%), railway station (1.8%), kindergarten/kids'school (4.1%), café/restaurant (2.1%), and other destinations (11.8%). Close to a quarter of the subjects (22.5%) reported to have used mainly the bicycle to go to the destination. Of those 85% cycled at least three times per week to the destination. The other major means of transportation were public transport (19,5%), walking (23%), car (32,4%) and motorcycle (2,5%). People needed on average 16 min (SD=11min) to reach the destination. The average one-way time for bicycling was 13 min (SD=7min) and the average distance for bicycling was 3.1km (SD=2.1km).

The socio-demographic variables explained 12.4% of the variance in bicycling. The final model included lane-connectivity, the presence of steep elevation, social support, the two perceived barriers (physical discomfort and bicycling as an impractical means of transport), and an interaction between physical activity level and the perceived benefit of the rapidity of bicycling, and explained 33.3% of the variance in utilitarian bicycling.

Conclusion. In this study we addressed the contribution of context-specific factors in explaining bicycling for transportation. In addition to cycling-related social support and perceived benefits and barriers the lane-connectivity may be an important determinant of utilitarian cycling among adult city dwellers.

Acknowledgement
Funding for this study was provided by the Austrian Health Promotion Foundation and by the city council of Graz (Traffic Planning and Culture).

Bicycling as a means of transportation – prevalence and context specific correlations among adults in the city of Graz

Sylvia Titze[1], Willibald J. Stronegger[2], Susanne Janschitz[3], Pekka Oja[4]
1 Institute of Sport Science, University of Graz, Austria
2 Institute of Social Medicine and Epidemiology, Medical University of Graz, Austria
3 Institute of Geography and Regional Science, University of Graz, Austria
4 UKK Institute, Tampere, Finland and Karolinska Institute, Stockholm, Sweden

Introduction

- Regular physical activity of moderate intensity ➔substantial health benefits
- Inclusion of non-motorized transport into daily life ➔ feasible strategy to start and maintain regular physical activity

Method

- Cross-sectional survey in the city of Graz
- Representative sample of 1000 15 to 60-year old inhabitants
- Computer-assisted-telephone interview
- Variables based on the Ecological Model of health behaviour (Fig.1)
- Assessment of cycling behaviour:
  - Which destination did you most frequently visit from home during the past seven days?
  - Which mode of transportation did you mainly use to reach that destination?

Objectives

- What is the prevalence of bicycling as a means of transportation for a frequently visited destination ?
- What is the contribution of the **built environment**, **social environment** and **personal attitudes** in explaining bicycling for transportation?

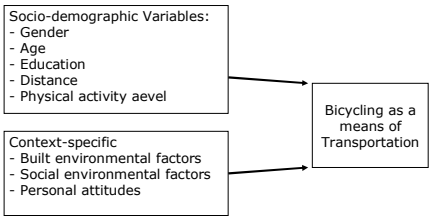


Fig. 1 Context-specific Ecological Model of Health Behaviour

Results

Prevalence of bicycling

Most frequently used mode of transportation = car (32,4%)
Second frequently used mode of transportation = walking (23,0%)
Third frequently used mode of transportation = bicycle (22,5%)

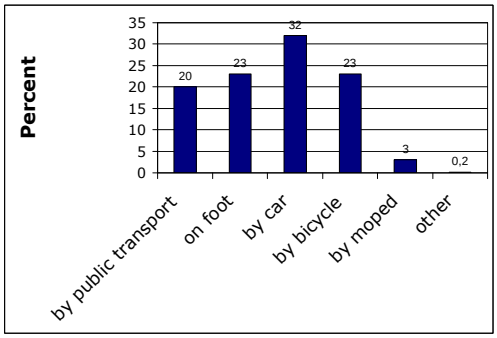


Fig. 2. Prevalence of bicycling (N=997)

Fig. 4. Distances, covered by bicycle (N=276)

Explanation of the variance in bicycling

Socio-demographic variables explained 12.4% of the variance in bicycling. The final model explained 33.3% of the variance in utilitarian cycling.

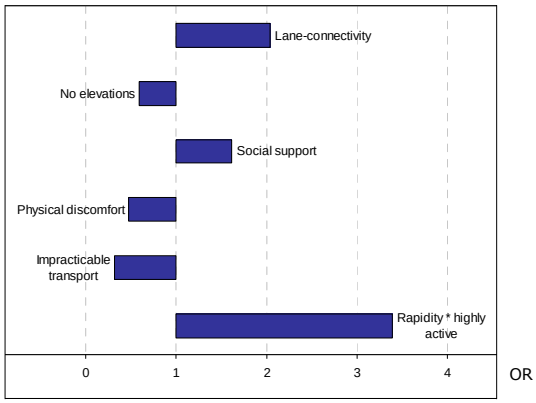


Fig. 3. Factors influencing the chances to use the bicycle (Odds ratio)

Conclusions

Improvements of lane-connectivity may be important in addition to personal attitudes and social support.

Next steps

- Further development of the assessment of the built environment influencing bicycling using objective assessment-methods
- Development of programmes to enhance cycling as a means of transportation in different settings and its evaluation

Acknowledgement

Funding for this study was provided by the Austrian Health Promotion Foundation and by the city council of Graz (Traffic Planning and Culture).

7 Development of physical activity promotion strategy in Lithuania

Rasa Jankauskiene, Alvydas Kalvenas, Tomas Kukenys

Lithuanian Academy of Physical Education

Sport in Lithuania during the Soviet period was oriented to elite sport. Recreational sport and physical activity only started to be developed after Lithuania regained its independence, with more and more private sports clubs and recreational zones being established every year (Figure 1). However, this change is slow and goes only in private sector.

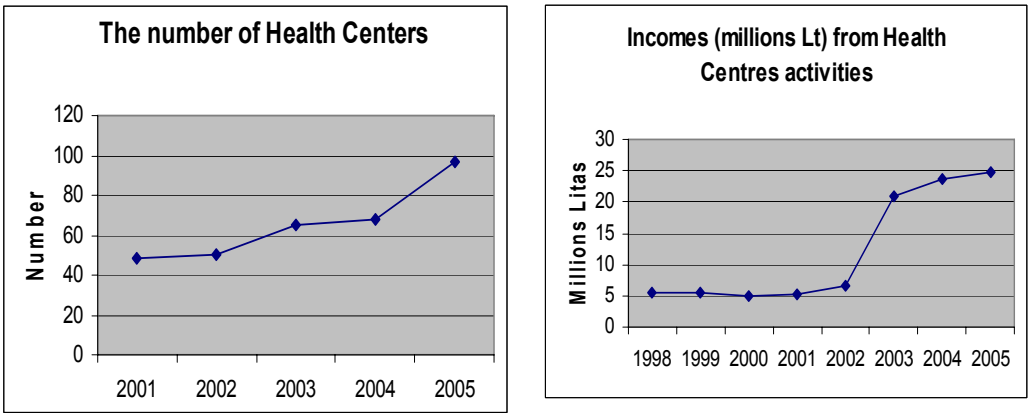


Figure 1. Expansion of private recreational physical activity market in Lithuania 1998-2005.

Public sector with funding from the government is underdeveloped and, as a result, services of sports clubs are relatively expensive and available to a limited number of people living in urban areas.

Despite of the above mentioned situation and according to the data from the surveys *Finbalt Health Monitor*, carried out in Lithuania every second year since 1994, the leisure physical activity of Lithuanian population is growing every year. (Figure 2). 26.5% of men and 21.8% of women reported leisure time physical activity at least 40 minutes on four or more days a week in 2002, while in 1994 there was 15.9% of men and 13.5% of women. Despite of that this tendency the part of men and women who spent at least 15 min. per day to walk to and from work decreases: accordingly 29% in 1994 vs. 17% in 2002 among men and 26% 1994 vs. 22% 2002 among women.

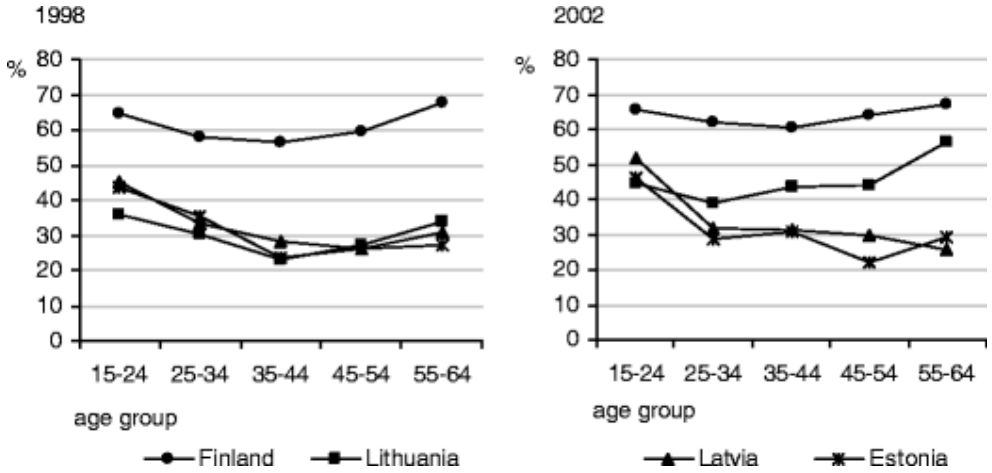


Figure 2. The percentage of men and women from different age groups who participated in leisure time physical activity at least two times per week in 1998 and 2002 (M. Harro, L. Oja, M. Tekkel, J. Aru, I. Villa, K. Liiv, T. Jürimäe, R. Prättälä, I. Pudule and J. Klumbiene (2006) Monitoring physical activity in Baltic countries: the FINBALT study, HBSC and other surveys in young people. *Journal of Public Health*, 14, 103-109).

The Lithuanian Academy of Physical Education is a leader in promoting health - related physical activity (PA) in Lithuania. The Academy was the first to iniciate the constructive dialogues between society and politicians to promote community - based physical activity and as a result the first conference "National Politics of Sport" was held on 26 March, 2007 in Lithuanian parliament (Seimas). One of the aims of the conference was to raise awareness in society in general as well as among politicians on the problem of physical activity promotion.

Lithuania doesn't have National Programme of Sport and Leisure Physical Activity, neither national programmes of Sport Science or Sport Infrastructure. Thus the possibility to create such programmes is under discussion in Lithuanian Seimas at the moment. The guidelines of elite and recreational sport development as well as development of health related physical activity science will be revealed in the document. It is discussed about the possibility to finance continual population based studies on the prevalence of health related physical activity and fitness of various age groups. The results of these studies might be the background of annual National Sport and Leisure Physical Activity Reports.

The National Programme of Sport and Leisure Physical Activity must be coordinated by the newly established National Council of Sport and Leisure Physical Activity under the Lithuanian Seimas.

The experience of other countries in the field is very valuable for our Sport for All promoters.

DEVELOPMENT OF PHYSICAL ACTIVITY PROMOTION STRATEGY IN LITHUANIA

3rd Annual Meeting of HEPA Europe, Graz, Austria, 16–18 May 2007

Rasa Jankauskiene, Alvydas Kalvenas, Tomas Kukenys

Lithuanian Academy of Physical Education

Sport in Lithuania during the Soviet period was oriented to elite sport. Recreational sport and physical activity only started to be developed after Lithuania regained its independence, with more and more recreational and health clubs and recreational zones being established every year (Figure 1). However, this change is rather slow and occurs mainly in private sector.

Public sector wi th funding from the government is underdeveloped and, as a result, services of sports clubs are relatively expensive and available only to a limited number of people living in urban areas.

Despite of the situation described above, according to the surveys Finbalt Health Monitor, carried out in Lithuania biannually since 1994, the leisure physical activity of Lithuanian population is growing every year (Figure 2). 26.5% of men and 21.8% of women reported to be physically active in their leisure time at least 40 minutes in four or more days a week in 2002, while in 1994 these figures were 15.9% and 13.5% respectively. Despite this trend, the number of men and women who spend at least 15 min per day to walk to and from work is decreasing: 29% in 1994 vs. 17% in 2002 among men and 26% in 1994 vs. 22% in 2002 among women.

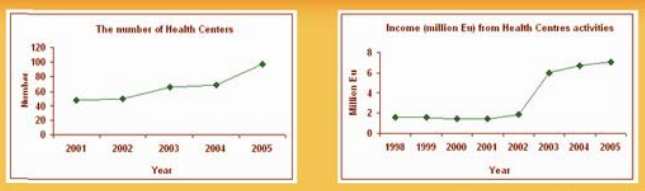


Figure 1. **Expansion of private recreational sport market in Lithuania (1998–2005)**

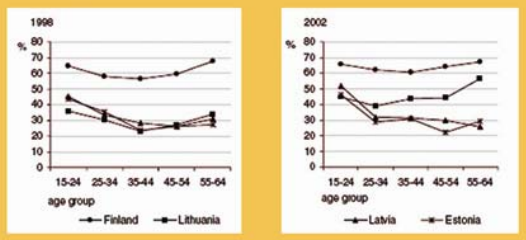
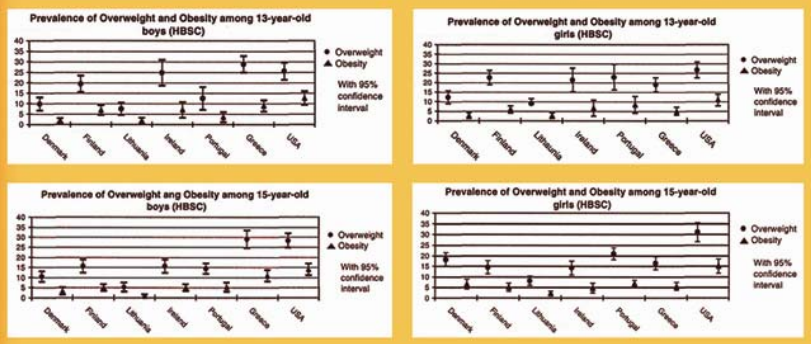
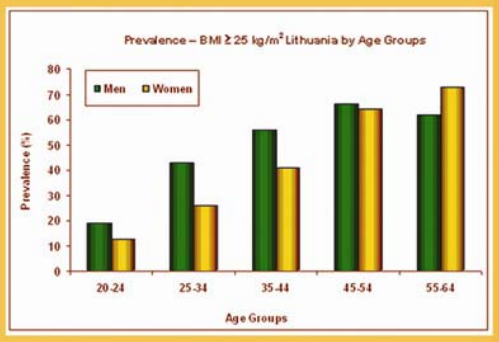


Figure 2. **The percentage of men and women from different age groups who participated in leisure time physical activity at least two times per week in 1998 and 2002**
(M. Harro, L. Oja, M. Tekkel, J. Aru, I. Villa, K. Liiv, T. Jürimäe, R. Prättälä, I. Pudule and J. Klumbiene (2006) Monitoring physical activity in Baltic countries: the FINBALT study, HBSC and other surveys in young people. Journal of Public Health, 14, 103-109)

THE PREVALENCE OF OVERWEIGHT AND OBESITY IN LITHUANIA



Figures from: Lissau I, Overpeck MD, Ruan WJ, Due P, Holstein BE, Hediger ML. Arch Pediatr Adolesc Med 2004; 158(1):27–33



Graph Details: WHO Global InfoBase (infobase.whio.int), universal time: 11/15/2006 1:58:40 PM

The Lithuanian Academy of Physical Education is a leading institution in promoting health-related physical activity (PA) in Lithuania. The Academy was the first to initiate a constructive dialogue between society and politicians to promote community-based physical activity and as a result in March 2007 the national conference National Policy on Sport and the round table discussion on national recreational sport policy were held at the Lithuanian parliament (Seimas). One of the main objectives of these events is to raise awareness in society and among politicians about the critical situation in promotion of physical activity.

Currently Lithuania does not have a National Strategy for the promotion of health enhancing physical activity. During the mentioned round table discussion at Lithuanian Seimas organised by the Commission for Youth and Sport Affairs, the participants came up to the decision to carry out a pilot study "National Recreational Sport Strategy". The pilot study will serve as the basis for the National Recreational Sport Strategy to be presented for approval to the Lithuanian Seimas by December 2007. The guidelines for recreational sport development and research development in health-related physical activity will be set up in this document. The National Strategy will ensure the infrastructure, monitoring and research support for population-based studies on the prevalence of health-related physical activity and fitness of various age groups. The results of these studies will be presented in the annual National Sport and Leisure Physical Activity Reports.

STEPS TO CREATING RECREATIONAL SPORT STRATEGY

1. To examine good practice of other countries (problems and possibilities).
2. To analyse the documentation related to health enhancing physical activity promotion.
3. To make a review of the main Lithuanian population-based studies related to the investigations of physical activity prevalence in various age groups over the last 10-15 years.
4. To analyse legal documents related to health enhancing physical activity in Lithuania.
5. To analyse study programmes in the area of public health and to highlight the key competencies of the graduates.
6. To analyse information related to the number and condition of recreational sport facilities and recreational zones.
7. To investigate the attitude of the Lithuanian population toward recreational physical activity and to determine the main motivational factors and barriers.
8. To consult external and national experts.
9. To develop a National Strategy.
10. To coordinate the Strategy with different social partners.
11. To develop the guidelines for the implementation of the Strategy.

8 All in good shape in Moselle

A French departmental platform and initiative targeting improved diet, physical activity and health in Moselle

Brigitte Honoré[1] and Anne Vuillemin[2]

[1] *Conseil Général Moselle, France*
[2] *Nancy Université, France*

In the framework of the French national health program and the European platform for action on diet and physical activities, a nutrition program (2006/2009) has been set up across the Moselle department (1,023,427 inhabitants). The objective is to promote a healthier way of living based on nutrition recommendations (this is addressed across all of the Conseil General's policies and activities).

This is an innovative, global and transversal approach to address the issue of wrong diet habits and lack of physical exercise. This program involves several partners working together, on the basis of the French health minister's recommendations and teaching aids.

The departmental policies include a nutrition program covering 50 actions aiming at reducing obesity (20%) and promoting quality of life. It does include:

- Giving recommendations for specific populations: mothers and children, adolescents schoolboys and girls, senior population, people living on the poverty line and General Council's staff;
- Observing obesity and daily physical activity ; improving information and knowledge on the subject;
- Enhancing education and formation;
- Promoting favourable nutrition environments.

Four initiatives are described below:

A department policy for infancy

A sociologic diagnosis is conducted for childminders and managers of children reception centres to improve the training on nutrition basis.
Health services for protection of children organize preventive nutrition actions in schools.

A department policy for adolescents (11-17 years)

Our unit is conducting a diagnosis about diet habits and physical exercises in schools. Pupils are then asked to work on their menus' composition. Physical activity is also promoted by the "collégiades" organisation (physical competition between schools in the territory).
The urban animation policy is a departmental policy for the adolescents during the holidays. It includes the nutrition recommendations through the physical teaching aids (*Macadam sport, Moselle Aventures*).

A departmental policy for senior people organizes training of professionals in all old people's homes about physical activity and diet.
The mass media is covered **for the whole departmental population** by local newspapers and by TV FR3. Additionally, all the sporting events, all the sports clubs and recreational policies are mobilized into doing the promotion of physical activities and better diet (clubs, biking ways, hiking paths, lending library) with conferences and expositions.

An evaluation follows up the program "*All in good shape in Moselle*" on a yearly basis in order to monitor the level of awareness on these issues among the population.

Fitness for everybody in Moselle

France • (Tous en Forme en Moselle)

2006 • 2009

3rd annual meeting of HEPA Europe - University of Graz, Austria, 16-18 May 2007
European network for the promotion of health-enhancing physical activity

Doctor Brigitte HONORÉ, Advisor to the Chairman, Project Manager, Moselle General Council
Ms Anne VUILLEMIN, Health and Sport Sciences Lecturer and Researcher, Nancy University

Public health objectives

- reduce the prevalence of adult obesity and overweightness by 20 %
- stabilise the prevalence of child obesity and slow down its incidence
- enhance the quality of life:
  - taking part in daily physical activity
  - eating fruits and vegetables and knowledge of nutritional guidelines

Population groups: 1,023,427 inhabitants

- mothers and children
- schoolboys and girls (11 – 17 years)
- elderly and disabled
- staff of the General Council
- people living on the poverty line
- department's inhabitants

Actions plan

- to observe the obesity and the daily physical activity
- to improve information and communication about the National Nutrition and Health Programme's nutritional guidelines (based on physical activity, culture, youth, tourism policies)
- to act for specific population groups
- to promote favourable environments
- to organise the training of professionals
- to mobilise cross-border co-operation

A public health approach

- a multidisciplinary technical steering committee
- an assessment system of the effects and the quality procedures
- a departmental charter with the French Ministry of Solidarity, Health & Family

fruits & vegetables	bread, cereals, potatoes and dry vegetables	milk and dairy products (yoghurts, cheese)	meat and poultry, fish and egg products	added fat	sugary products	drinks	salt	physical activity
								
at least 5 a day	with each meal, depending on your appetite	3 a day	once or twice a day	limit consumption	limit consumption	as much water as you want	limit consumption	at least the equivalent of 30 minutes of quick walking every day

In reference to the National Nutrition and Health's Programme (2007-2010), an initiative conducted in connection with the Ministry of Solidarity, Health & Family, the State Health Insurance and the National Institute of Health Education and Prevention (France)

9 Promoting physical activity in people living with HIV-infection: a new challenge for their health management in a lifelong perspective

Gilles J. Thöni [1,2,3,4] , Guillaume Walther [2], Stéphane Nottin [2], Agnès Vinet [2], Alain Varray [3], Jacques Mercier [4], Philippe Obert [2].

[1] Project manager for the 'Heart & Muscle Study Group' (GECEM, National Agency for Aids Research and Sidaction). [2] Lab. of Cardiovascular Adaptations to Exercise, Faculty of Sciences, Avignon; [3] Lab. "Motor efficiency and deficiency", University of Sports Sciences, Montpellier; [4] INSERM 'Muscle and Chronic Diseases', Dpt. of Clinical Physiology, Lapeyronie University Hospital, Montpellier. France

A number of patients living with HIV/AIDS develop either metabolic disorders (dyslipidemia, insulin resistance, diabetes), obesity (especially truncal fat accumulation) and/or elevated blood pressure, when they are treated by efficient *Highly Active Antiretroviral (multi)Therapies* (HAART). Many reports about cardiac events and vascular dysfunction in this population strongly urge physicians on developing efficient prevention and management strategies. In this context, and also because HIV-positive subjects are living longer, modifications of their lifestyle and prevention against metabolic/cardiovascular disorders are becoming a major matter of concern.

Historically, and because HIV/HAART-related risks for cardiovascular diseases (CVD) were associated early with some antiretroviral agents, switching for 'non-containing regimen' was first considered in the reduction of CVD risks. The secondly more widespread strategy consists in using pharmacological therapies, such as lipid- or blood pressure- lowering agents, insulin sensitizing drugs, or hormonal therapies which should be used, in fact, only in a second intention because of their potential specific or additive toxic effects. The obtained results are inconstant and the corrections of the deleterious parameters remain often unsatisfying.

HIV-positive subjects may be then asked to modify their lifestyle by lowering their cigarette and alcohol consumtion, correcting their dietary habits and increasing their usual physical activity. Besides, few large scale programs had been aimed to reduce sedentariness in this population. As a consequence, the literature about the effects of lifestyle modifications on patients' cardiovascular risks remains poor. Nevertheless first clinical studies showed interesting effects of physical training programs on central obesity, dyslipidemia and insulin resistance in multitreated HIV-positive subjects. All patients should benefit from these prevention and therapeutic measures and they should be included in the management of their chronic disease. In addition, because of their higher CVD risk, aging patients, women and children may be considered as opportune targets. All these data and the recent publication of specific guidelines for intervention against HIV- and HAART- related side effects emphasize many perspectives and will certainly favour the development of a new, wide and necessary field of intervention. Strong arguments supporting the major role of enhancing physical activity in HIV-positive individuals and its expected effects on cardiovascular risks will be discussed.

Promoting physical activity in people living with HIV-infection : a new challenge for their health management in a lifelong perspective.

Gilles J. Thöni [1,2,3,4] , Guillaume Walther [2], Iris Schuster [2], Stéphane Nottin [2], Agnès Vinet [2], Alain Varray [3], Jacques Mercier [4], Philippe Obert [2].
and the "Groupe d'Evaluation Coeur et Muscle" (***GECEM***) / Heart and Muscle Study Group.

INTRODUCTION

- 10 years ago : Antiretroviral Therapies used in combination
- Effects of **H**ighly **A**ctive **A**nti**R**etroviral **T**herapy (**H.A.A.R.T.**) :
  - ✓ Decreased AIDS related morbidity and mortality
  - ✓ HIV infection = Chronic Disease
- Management : quality of life, aging, long term adverse effects

(Figure 1)

Figure 1. Complications observed in multi-treated HIV+ subjects

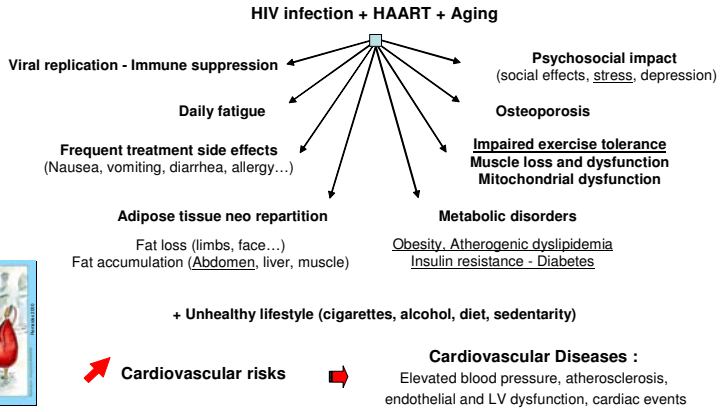
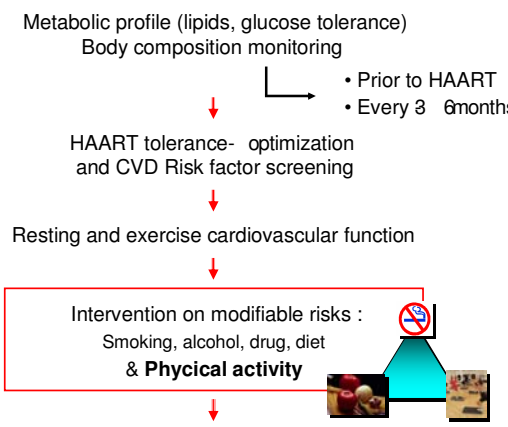


Figure 2. Cardiovascular risk management in HIV+



Modified from Dubé et al. 2003, Volberding et al. 2003

Recommendations (Figure 2)

- Current clinical practice : Find the best compromise, i.e. :
  The more efficient ARV combination using agents with lower toxicities
- When metabolic disorders or CVD riks are diagnosed :
  - ✓ Switching strategies removing 'causal' agents (risks for resistance and virologic failure)
  - ✓ Pharmacological therapies against side effects (risk for interaction, medical 'burn out')
- Recent french and international recommendations for primary prevention and intervention :

Promotion of health-enhancing physical activity in metabolic & CVD risk management

- ✓ Physical activity, adapted according to individual physiopathological objectives
- ✓ Following general international recommendations, favourable to well- being and pleasure
- ✓ Avoiding heavy exercise if depressed immunity++ & strenuous endurance if major fat loss

Evidence-based interventions

 # General Knowledge about PA from uninfected subjects

- Cardiac & vascular Health
- Obesity & diabetes
- Adipose accumulation in non adipose tissue
- Bone mineral density
- Mitochondrial density & function
- Chronic fatigue & stress
- Social contacts and peer support

• More cost effective than standard medical approaches

 # Clinical trials in HIV+: effects on...

- Obesity, Central fat *(Roubenoff 1999 & 2002, Smith 2001, Thöni 2002)*
- Dyslipidemia *(Jones 2001, Yarasheski 2001, Thöni 2002)*
- Insulin sensitivity, glucose tolerance *(Roubenoff 2002, Driscoll 2004)*
- Muscle mass and function *(Grinspoon 2000,Yarasheski 2001, Roubenoff 1999 2001, Agin 2000, Fairfield 2001)*
- Exercise tolerance, aerobic function *(Evans 1998, Perna 1999, Thöni 2002, Scevola 2003, O'Brian 2004)*
- Fatigue and quality of life *(Stringer 1998, Smith 2001)*

• Without side effects on immune system, viral replication & fat atrophy

Four actions promoting physical activity in HIV+

A supervised program In a local University Hospital	Leisure time activities In a non- profit organisation	A rehabilitation program In a medical center	Scientific and educational communications
• Metabolic screening • Aerobic Training • ~ 100 out-patients / year • Health education for HIV-infected children	• 4 activities / week (fitness, swimming, strength, outdoor activities) • ~ 70 persons / year • Peer activities and self-governing practice	• Functional evaluation • Aerobic/strength Training • ~ 10 in-patients / month • Lifestyle management • Quality of life / fatigue	Clinical trials Publications National & international meeting WORLD HEALTH ORGANIZATION EUROPE HEPA

[1] *'Heart & Muscle Study Group' (GECEM, National Agency for Aids Research and Sidaction)*
[2] Laboratory of Cardiovascular Adaptations to Exercise, Faculty of Sciences, Avignon,
[3] *Lab. "Motor efficiency and deficiency", University of Sports Sciences, Montpellier;*
[4] *INSERM 'Muscle and Chronic Diseases', Dpt. of Clinical Physiology, Lapeyronie University Hospital, Montpellier.*
France. Contact : gilles.thoni@univ-montp1.fr

10 Physical activity intervention in DE-Plan

Silvia Marchl[1], Christine Neuhold[1], Karin Reis-Klingspiegl[1]

[1] *Styria vitalis, Graz*

Diabetes in Europe (DE-PLAN) – A program involving prevention using lifestyle, physical activity and nutritional intervention is an EU project with 25 partners of 16 countries, coordinated by the National Public Health Institute Helsinki.

Unlike other partners, Styria vitalis, the Styrian association of health promotion, embedded DE-Plan in the already existing Styrian network of healthy communities (Gesunde Gemeinde) and plans to contact people within 13 communities in a certain district (Bezirk Deutschlandsberg).

Within these 13 communities, we plan to identify persons at increased diabetes risk using the FINDRISC questionnaire which comprises eight items (concerning age, BMI, medical history of blood glucose and blood pressure, lifestyle and family history of diabetes). Persons reaching 15 or more points in the FINDRISC questionnaire will be further validated via oral glucose tolerance tests. Persons with normal glucose tolerance and impaired glucose tolerance/impaired fasting glucose will be included in the DE-PLAN intervention. A lifestyle intervention will also take place in 9 communities involving 10 groups.

Evaluation
During one year of intervention a clinical, a lifestyle and a quality of life questionnaire will be distributed and Body-Mass-Index, waist circumference and blood pressure will be assessed four times (April 07, July 07, October 07, January 08) including personal aims which should be reached within a certain period (e.g. 3-4 weeks). Three signs (↓↑=) will indicate the readiness of these individuals to change their lifestyle and health related behaviour.

Local respected laypersons living in these communities with experience in group leading and basic knowledge in physical activity and/or nutrition were trained by professionals in basics of nutrition, physical activity and motivation. These so called Prevention-Coaches will implement the following lifestyle intervention (including nutrition, lifestyle and physical activity) in their community after an intensive intervention, involving six meetings in each community supported by nutritionists and sport scientists.

Intervention on physical activity
Physical activity will include walking, Nordic walking, weight training, stretching and aqua gym. The physical activity should be based on the requirements and preferences of the participants. Additionally, people with increased diabetes risk will receive an activity pass, to monitor their weekly exercise. A certain duration and intensity of activity stands for a certain score. High risk individuals will be recommended to achieve 15 points each week without the possibility of transferring additional points from one week to the following. Achieving these 15 points involves at least 30 minutes physical activity per day or more than 4 hours per week.

DE-Plan®

Diabetesprävention Steiermark

implemented by

sponsored by

in cooperation with

Physical activity intervention in DE-Plan®

Silvia Marchl[1], Christine Neuhold[1], Karin Reis-Klingspiegl[1]
[1]Styria vitalis

Diabetes in Europe (DE-Plan®) - A program involving prevention using lifestyle, physical activity and nutritional intervention is an EU project with 25 partners of 16 countries, coordinated by the National Public Health Institute Helsinki.

Unlike other partners, **Styria vitalis, the Styrian association of health promotion**, embedded DE-Plan® in the already existing Styrian network of healthy communities (Gesunde Gemeinde®) and plans to contact people within 13 communities in a certain district (Bezirk Deutschlandsberg).

National Public Health Institut - Helsinki
Coordination of DE-Plan®

25 Partners of 16 countries

Styria vitalis - Partner of Graz

13 Healthy Communities - Gesunde Gemeinden®

Target group: Inhabitants between 45 - 75 years

HIGH RISK INDIVIDUALS

Drop out: Type 2 Diabetes ← Oral Glucose Tolerance Test

NGT [normal glucose tolerance]
IGT [impaired glucose tolerance]
IFG [impaired fasting glucose]

Intervention in DE-Plan®
Lifestyle intervention & motivation in physical activitiy & nutrition

Styrian intervention in DE-Plan®

Local respected laypersons living in these communities with experience in group leading and basic knowledge in physical activity and/or nutrition were trained by professionals in basics of nutrition, physical activity and motivation. These so called Prevention-Coaches will implement the following lifestyle intervention (including nutrition, lifestyle and physical activity) in their community after an intensive intervention, involving six sessions in each community supported by nutritionists and sport scientists.

Sport scientists and nutritionist —implement→ Intensiv intervention 6 sessions

Sport scientists and nutritionist —trained→ respected laypersons “Prevention Coaches”

respected laypersons “Prevention Coaches” —implement→ Continuous intervention [May 2007-January 2008]

Styrian intervention on physical activity

The physical activity should be based on the requirements and preferences of the participants. Additionally, people with increased diabetes risk will receive an activity pass, to monitor their weekly exercise. A certain duration and intensity of activity stands for a certain score. High risk individuals will be recommended to achieve 15 points each week without the possibility of transferring additional points from one week to the following. Achieving these 15 points involves at least 30 minutes physical activity per day or more than 4 hours per week.

DE-Plan® Activity Pass

Our goal is 15 points per week.

You receive one point for:	
15 Min.	Walking / hiking
15 Min.	Biking
12 Min.	Exercise machine
12 Min.	Nordic Walking
10 Min.	Spinal gymnastics
10 Min.	Crosstraining
10 Min.	Skiing
8 Min.	Aerobic / Pilates
8 Min.	Weight training
8 Min.	Aqua gym

Example:

Date	Exercise	Duration	Points
16.04.07	Walking	60 min	4
17.04.07	Spinal gymnastics	30 min	2
19.04.07	Walking	45 min	3
20.04.07	Weight training	45 min	3
21.04.07	Walking	45 min	3
Week 16			15

Evaluation

During one year of intervention a clinical, a lifestyle and a quality of life questionnaire will be distributed and Body-Mass-Index, waist circumference and blood pressure will be assessed four times (April 07, July 07, October 07, January 08) including personal aims which should be reached within a certain period (e.g. 3-4 weeks). Three signs (↑↓=) will indicate the readiness of these individuals to change their lifestyle and health related behaviour.

Time schedule

April 07 — July 07 — October 07 — January 08

11 EUNAAPA – European network of action on aging and physical activity

Michael Kolb[1] and Rosa Diketmüller, Christina Steininger[2]

[1] *University of Vienna, Centre for Sports Sciences and University Sports, Department for Sport Pedagogy*
[2] *University of Vienna, Centre for Sports Sciences and University Sports, Department for Sport Pedagogy*

The European Network of Action on Aging and Physical Activity (EUNAAPA) is an informal Network of 21 health orientated organisations from 15 European countries, which are specialized in the work and the research with older people.

The network has the goal to improve the health, wellbeing and independence of older people throughout Europe by the promotion of evidence-based physical activity.

The specific objectives of this project are:

1. To identify, disseminate and promote evidence-based practice in physical activity for all older people in Europe.
2. To select or develop evidence-based guidelines for practice in the area of ageing and physical activity.
3. To provide information and expert advice to policy makers, providers and professionals in the fields of ageing, physical activity and health.
4. To develop synergies among researchers, providers and professionals in the fields of ageing, physical activity, and health.
5. To support policy makers in intersectoral approaches to the promotion of physical activity among all older people in Europe.
6. To cooperate with other organisations relevant to the promotion of physical activity among all older people.
7. To involve older people in the development and implementation of network activities.

To achieve its general objectives the EUNAAPA has organized work packages for the following work phases:

Phase 1: At a starting meeting of the network partners in November 2006 information on the topic was collected and shared as well as duties among all Network partners were arranged.

Phase 2: Network partners evaluated independently the collected information, which will be discussed at the meeting in Porto in May 2007 and finally reach agreement on best practice.

Phase 3: Network partners will identify and engage in an exchange with policy makers, providers and professionals in the fields of ageing, physical activity and health in order to learn about policy rationales and windows of opportunities for the implementation of policies in this field.

The network partners will also engage in an exchange with older people and representatives of older people in order to learn about the appropriateness of physical activity promotion strategies and adequate implementation and dissemination strategies from their perspective. The information will be evaluated by network partners.

Phase 4: Network partners will continue an exchange with policy makers, providers and professionals in order to develop physical activity promotion strategies and implementation and dissemination strategies. The network partners will function as consultants for policy makers, providers and professionals on these topics.

The EUNAAPA Project

Univ.Prof. Dr. Michael Kolb
Ass.-Prof. Dr. Rosa Diketmüller
Mag. Christina Steininger

Center for Sports Sciences and University Sports
Department for Sports Pedagogy
University of Vienna - Austria

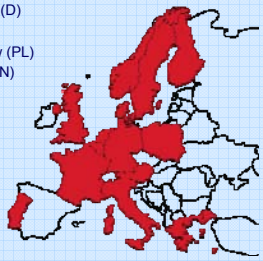
EUNAAPA

The **E**uropean **N**etwork of **A**ction on **A**ging and **P**hysical **A**ctivity is an informal Network of health orientated European organisations. **15 associated partners** and **9 collaborating partners** take part in the project.



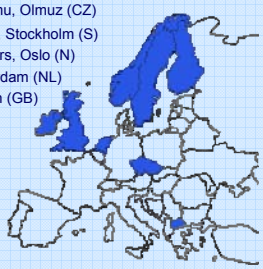
Associated Partners

- **University of Erlangen-Nuremberg** (D)
- Karolinska Institute, Stockholm (S)
- National Institute of Hygiene, Warsaw (PL)
- Norwegian Institute of Public Health (N)
- TNO, Leiden (NL)
- University of Edinburgh (GB)
- University of Jyväskylä (FIN)
- University of Leuven (B)
- University of Nancy 1 (F)
- University of Porto (P)
- University of Southern Denmark (DK)
- University of Thrace (GR)
- University of Verona (I)
- University of Vienna (A)



Collaborating Partners

- Centrum Kinantropologického Výzkumu, Olmuz (CZ)
- National Board of Health and Welfare, Stockholm (S)
- Directorate for Health and Social Affairs, Oslo (N)
- VU University Medical Center, Amsterdam (NL)
- Royal Free and Univ. College, London (GB)
- HEPA Macedonia (MK)
- Oslo University College (N)
- Trinity College, Dublin (IRL)
- University of Jyväskylä (FIN)



Objectives of the EUNAAPA Project

General Objective:

To improve the health, wellbeing and independence of older people throughout Europe.


Objectives of the EUNAAPA Project

Strategic Objectives:

- To identify, disseminate and promote evidence-based practice in physical activity for all older people in Europe.
- To select or develop evidence-based guidelines for practice in the area of ageing and physical activity.
- To provide information and expert advice to policy makers, providers and professionals in the fields of ageing, physical activity and health.
- To develop synergies among researchers, providers and professionals in the fields of ageing, physical activity and health.
- To support policy makers in intersectoral approaches to the promotion of physical activity among all older people in Europe.
- To cooperate with other organisations relevant to the promotion of physical activity among all older people.
- To involve older people in the development and implementation of network activities.

Work Packages and Schedule

Date	09/06	09/06	10/06	11/06	12/06	01/07	02/07	03/07	04/07	05/07	06/07	07/07	08/07	09/07	10/07	11/07	12/07	01/08	02/08	03/08	04/08	05/08	06/08	07/08
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WP1	Coordination of the Project																							
WP2	Dissemination of the Results																							
WP3	Evaluation of the Project																							
WP4	Assessment of PA and Physical Functioning in Older People																							
WP5			Identifying Existing Programmes for PA and PA Promotion for Older People																					
WP6										Implementation and Dissemination of Programmes for PA and PA Promotion														
WP7																Securing the Existence of the EUNAAPA								

Work Phases in Work Packages 4, 5 and 6

Phase 1 Phase 2 Phase 3 Phase 4

- Partners meet to collect and share information on the topic.

Work Phases in Work Packages 4, 5 and 6

Phase 1 Phase 2 Phase 3 Phase 4

- Partners meet to collect and share information on the topic.
- Specify protocols for evaluation.
- Partners evaluate information independently following protocols.
- Meeting to reach agreement on best practice.
- Prepare deliverables

Work Phases in Work Packages 4, 5 and 6

Phase 1 Phase 2 Phase 3 Phase 4

- Partners meet to collect and share information on the topic.
- Specify protocols for evaluation.
- Partners evaluate information independently following protocols.
- Meeting to reach agreement on best practice.
- Prepare deliverables
- Exchange with policy makers, providers, professionals, representatives of older people.
- Evaluation of collected information.

Work Phases in Work Packages 4, 5 and 6

Phase 1 Phase 2 Phase 3 Phase 4

- Partners meet to collect and share information on the topic.
- Specify protocols for evaluation.
- Partners evaluate information independently following protocols.
- Meeting to reach agreement on best practice.
- Prepare deliverables
- Exchange with policy makers, providers, professionals, representatives of older people.
- Evaluation of collected information.
- Network will function as consultant for policy makers, providers and professionals on ageing, PA and health, and PA promotion strategies.

Work Package 1: Coordination of the Project

Lead Partner:

University of Erlangen-Nuremberg

Objectives:

- Communication with partners and the European Commission
- Search for new partners from the new EU member states

Description of the Work:

- Finalizing the contractual agreement with the European Commission
- Putting the work plan of the EUNAAPA into action
- Establishing effective communication methods with all partners
- Maintaining regular contact with the project evaluators

Work Package 2: Dissemination of the Results

Lead Partner:
University of Verona

Objectives:
- Dissemination of project results among scientists, policy makers, providers and professionals in the fields of ageing, PA and health for older people
- Exchanging with existing networks and organizations in the field

Description of the Work:
- Setting up an internet platform: **www.eunaapa.org** **www.eunaapa.eu**
- Organizing a conference at the end of the project: **Verona, 19th - 21st of June 2008**

Work Package 3: Evaluation of the Project

Lead Partner:
TNO, Leiden

Objectives:
- Evaluation of the quality of the EUNAAPA's work, deliverables and milestones
- Development of a mechanism for the EUNAAPA to evaluate itself after the end of the funding period

Work Package 4: Identifying Existing Programmes for PA and PA Promotion for Older People

Lead Partner:
Karolinska Institute, Stockholm

Objectives:
- Collecting information on instruments for assessing physical activity and physical functioning in older people
- Evaluation of the existing instruments
- Exchange with other networks and organisations on assessment instruments

Description of the Work:
- Phase 1: Meetings of project partners, scientists and practitioners to discuss and evaluate assessment instruments
- Phase 2: Exchange with other networks/organisations; consulting fellow scientists and professionals in the field

Work Package 4: Assessment of Physical Activity and Physical Functioning in Older People

Deliverable D 6
Inventory/critical review of existing instruments for PA and physical functioning assessment

Date	08/06	09/06	10/06	**11/06**	12/06	01/07	02/07	03/07	04/07	05/07	06/07	**07/07**	08/07	09/07	10/07	11/07	12/07	01/08	02/08	03/08	04/08	05/08	06/08	07/08
Month	1	2	3	**4**	5	6	7	8	9	10	11	**12**	13	14	15	16	17	18	19	20	21	22	23	24
WP4	Assessment of PA and Physical Functioning in Older People																							

Erlangen *Porto* *Oslo* *Verona*

Work Package 4: Preliminary Results

Assessments of PA and PF for Older People in Europe
- Assessment instruments are hardly known nor used in Europe
- Country-specific differences (national instruments in use)
- Only a few **assessment instruments** are **common known** and **used**, e.g.:

CATEGORIES	NAME of INSTRUMENT
Overall Index Test	Tinettis Performance-Oriented Mobility Assessment *(Tinetti 1990)*
Activities of Daily Living	Barthel Index *(Mahoney & Barthel 1965)*
Physical Functioning - Endurance	6-minutes walking *(Guyatt et al 1985, Cooper 1968)* 12-minutes walking *(Nakagaichi & Tanaka 1998, McGavin et al 1976)*
- Mobility	TUG – Timed Get-Up & Go-Test *(Podsiadlo & Richardson 1991)*
- Balance	Romberg test *(Fregly 1961)*
- Muscle Strength	Chair stand 5 times *(Newitt et al 1989, Shumway Cook & Wollacott 1995)*

Work Package 5: Identifying Existing Programmes for PA and PA Promotion for Older People

Lead Partner:
University of Edinburgh

Objectives:
- Collecting information on existing programmes for PA and PA promotion for older people
- Evaluation of these programmes and development of best practice guidelines

Description of the Work:
- Phase 1: Meetings of project partners, scientists and practitioners to discuss and evaluate existing programmes for PA and PA promotion for older people
- Phase 2: Collecting additional information and developing best practice guidelines

Work Package 6: Implementation & Dissemination of Programmes for PA and PA Promotion

Lead Partner:
University of Erlangen-Nuremberg

Objectives:

- Exchange with policy makers and professionals in the field of PA and ageing
- Exchange with older people and their representatives
- Consulting policy makers/professionals on PA promotion, implementation and dissemination

Work Package 7: Securing the Existence of the EUNAAPA

Lead Partner:
TNO, Leiden

Objectives:

- to identify funding sources for the EUNAAPA to secure its development and sustained existence
- to establish mechanisms for securing the existence of the EUNAAPA
- to demonstrate the impact of the EUNAAPA on public agencies, policy makers and professionals

EUNAAPA

EUROPEAN NETWORK FOR **ACTION** ON AGEING AND PHYSICAL ACTIVITY

Final Conference

Verona

19th - 21st, June 2008

www.eunaapa.org
www.eunaapa.eu

Thank you for your attention!

13 Cycling and health referral projects: are they effective? Should they be encouraged?

Nick Cavill [1] and Ian Tierney [2]

[1] *Public Health advisor, Cycling England*
[2] *Cycling Projects, UK*

There has been an increase in 'cycling and health referral projects' in England in recent years. In these projects, health professionals (doctors; practice nurses; cardiac rehabilitation nurses) offer structured programmes of cycling to priority patients. Patients may be selected according to health criteria (overweight; at risk of cardiovascular disease;) or may be invited to attend through more general publicity. Patients are referred into a structured programme led by a trained health rides leader, where they are given access to bikes and safety equipment, and taken on low-intensity sociable rides, graded according to their experience. The aim is to encourage the patients to increase their level of physical activity, and to make cycling a part of their life.

These schemes were the subject of a recent review by the National Institute for Health and Clinical Excellence (NICE, the body in England responsible for national guidance on promoting good health and preventing and treating ill health), to consider whether there was evidence that cycle referral schemes were effective, and whether they should be recommended across the National Health Service. NICE's collaborating centre carried out a systematic review of the international published literature but found no controlled studies of the effectiveness of led rides. There were some studies that were either in the 'grey' literature (such as government reports or databases) or were unpublished and these generally provided evidence that cycle referral programmes were popular and had positive results. As a result of this poor evidence base, NICE was not able to recommend the uptake of cycle referral projects.

In the face of this lack of evidence, what is the cycle promoter to do? Cycle referral projects have a high 'feel good factor': anecdotal feedback from participants is almost universally positive, and they have helped to strengthen relationships between health and cycling professionals. But is this enough? Do we need stronger evidence of effectiveness? And does this need to come from controlled studies? This poster presentation will present both sides of the debate and encourage some new thinking about how to achieve the necessary 'joined-up policymaking' between transport and health.

Cycling and Health Referral projects:

are they effective? Should they be encouraged?

Nick Cavill [1] and Ian Tierney [2]

[1] *Public Health advisor, Cycling England*
[2] *Cycling Projects, UK*

Abstract

There has been an increase in 'cycling and health referral projects' in England in recent years. In these projects, health professionals (doctors; practice nurses; cardiac rehabilitation nurses) offer structured programmes of cycling to priority patients.

Patients may be selected according to health criteria (overweight; at risk of cardiovascular disease;) or may be invited to attend through more general publicity. Patients are referred into a structured programme led by a trained health rides leader, where they are given access to bikes and safety equipment, and taken on low-intensity sociable rides, graded according to their experience.

The aim is to encourage the patients to increase their level of physical activity, and to make cycling a part of their life.

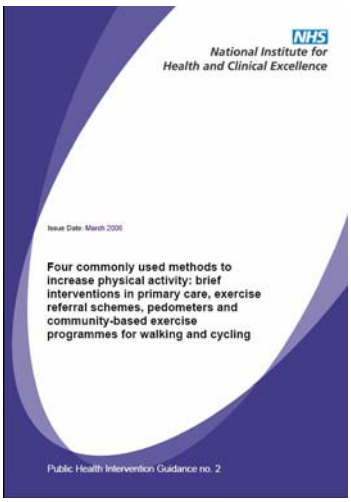
These schemes were the subject of a recent review by the National Institute for Health and Clinical Excellence (NICE, the body in England responsible for national guidance on promoting good health and preventing and treating ill health), to consider whether there was evidence that cycle referral schemes were effective, and whether they should be recommended across the National Health Service.

NICE's collaborating centre carried out a systematic review of the international published literature but found no controlled studies of the effectiveness of led rides. There were some studies that were either in the 'grey' literature (such as government reports or databases) or were unpublished and these generally provided evidence that cycle referral programmes were popular and had positive results.

As a result of this poor evidence base, NICE was not able to recommend the uptake of cycle referral projects.

In the face of this lack of evidence, what is the cycle promoter to do? Cycle referral projects have a high 'feel good factor': anecdotal feedback from participants is almost universally positive, and they have helped to strengthen relationships between health and cycling professionals.

But is this enough? Do we need stronger evidence of effectiveness? And does this need to come from controlled studies?



In England, NICE produces guidance for the health service and others on effective public health practice.

Due to the emerging practice of cycling referral projects, they were asked by the Department of Health to review whether such projects were effective in increasing cycling (alongside other 'commonly used' approaches) .

They reviewed only controlled studies in the published literature with a pre- and post-intervention measure of physical activity.

They found 0 studies.

NHS
National Institute for Health and Clinical Excellence

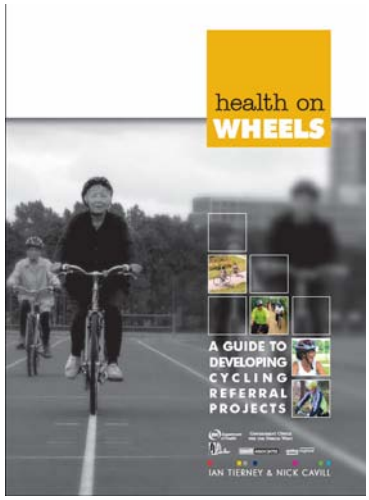
"…there was insufficient evidence to recommend…walking and cycling schemes to promote physical activity, other than as part of research studies where effectiveness can be evaluated.

However, professionals should continue to promote walking and cycling (along with other forms of physical activity) as a means of incorporating regular physical activity into people's daily lives"

Issue Date: March 2006

Informal feedback has shown that some cycling promoters in the health service are now finding it more difficult to develop cycling schemes.

Some managers appear to be using the NICE guidance to stop existing schemes, or to reduce or remove their funding.



At around the same time as NICE reviewed the evidence for the effectiveness for cycling referral schemes, the Government Office in the North West of England commissioned a guide to developing such projects.

Their aim was to bring together the 'best practice' from emerging schemes and spread innovation.

The Evidence

What sort of evidence do we need?

Does this depend on the audience?

Does this depend on where the project is in the cycle of innovation?

14 Cycling demonstration towns: will they improve public health?

Nick Cavill [1], Harry Rutter[2], Melvyn Hillsdon[3], Alison Hill [1, 2]

[1] *Cycling England* [2] *South East Public Health Observatory*
[3] *University of Bristol*

Cycling England is a new national body set up to plan and co-ordinate the development of cycling across the country. It was launched by the Minister for Local Transport in March 2005 and replaces the previous National Cycling Strategy Board.

One of the core components of Cycling England's work is the funding of six Cycling Demonstration Towns (CDTs: Brighton, Darlington, Derby, Exeter, Lancaster and Aylesbury). These towns will lead the way in encouraging local people to cycle. The funds will be used to make the environment more cyclist friendly, offering safety training and promotion to encourage take-up.

The CDT programme aims to increase levels of cycling across the six towns, and a monitoring programme is in place to measure levels of cycling through roadside traffic counts and cycle user surveys. This will provide very valuable data, but will not enable us fully to answer the question: *will increases in cycling in the towns benefit public health?*

To address this issue, a survey of cycling and physical activity was conducted across the towns in early 2006. This focused on collecting data on population levels of physical activity (across each town) to look into the impact that increases in cycling are having on overall levels of physical activity. The survey uses a standard validated physical activity questionnaire – the European Prospective Investigation into Cancer (EPIC) questionnaire. In addition there are enhanced questions on cycling.

The poster will present the rationale for this research design; describe the baseline results; and allow discussion about the importance of assessing the health impacts of cycling (and other) projects.

Cycling Demonstration Towns:

will they improve public health?

Nick Cavill [1], Harry Rutter[2], Melvyn Hillsdon[3], Alison Hill [1, 2]

1 Cycling England
2 South East Public Health Observatory
3 University of Bristol

Abstract

Cycling England is a new national body set up to plan and co-ordinate the development of cycling across England .
It was launched by the Minister for Local Transport in March 2005 and replaces the previous National Cycling Strategy Board.

One of the core components of Cycling England's work is the funding of six Cycling Demonstration Towns (CDTs: Brighton, Darlington, Derby, Exeter, Lancaster and Aylesbury).
These towns will lead the way in encouraging local people to cycle. The funds will be used to make the environment more cyclist friendly, offering safety training and promotion to encourage take-up.

The CDT programme aims to increase levels of cycling across the six towns, and a monitoring programme is in place to measure levels of cycling through roadside traffic counts and cycle user surveys. This will provide very valuable data, but will not enable us fully to answer the question:

"will increases in cycling in the towns benefit public health?"

To address this issue, a survey of cycling and physical activity was conducted across the towns in early 2006. This focused on collecting data on population levels of physical activity (across each town) to look into the impact that increases in cycling are having on overall levels of physical activity.

The survey uses a standard validated physical activity questionnaire – the European Prospective Investigation into Cancer (EPIC) questionnaire. In addition there are enhanced questions on cycling.

Background

- CDT programme monitored through multiple methods
- Measuring any increase in cycle use in each town
- But will this lead to health benefit?
  - Old cyclists cycle more..?
  - New cyclists don't cycle 'enough'..?
  - New cyclists stop other activity..?
- Answered through representative survey of sample of the population in each town

Monitoring framework

Project A.
Commissioned bespoke survey of random sample in each town

Project B.
Analyse 2005 and 2008 data from Sport England's Active People Survey

Project C.
Enhance the cycle user monitoring to maximise data on health impact

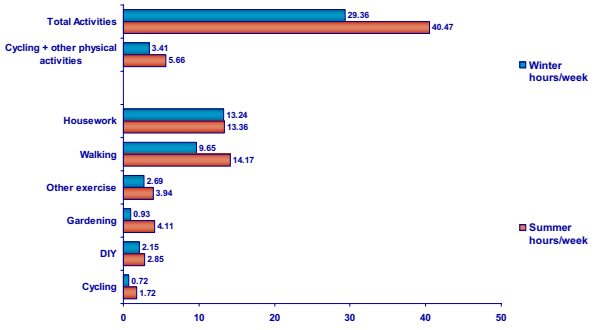
Project D.
Investigate potential for specific monitoring in towns dealing with children and young people

Bespoke telephone research among quota samples
Darlington 1,538
Lancaster 1,514
Derby 1,537
Aylesbury 1,541
Brighton & Hove 1,539
Exeter 1,540

Data weighted to reflect adults aged 16+ in each town

Survey designed to monitor the level of physical activity across the local population

Physical activity – hours per week

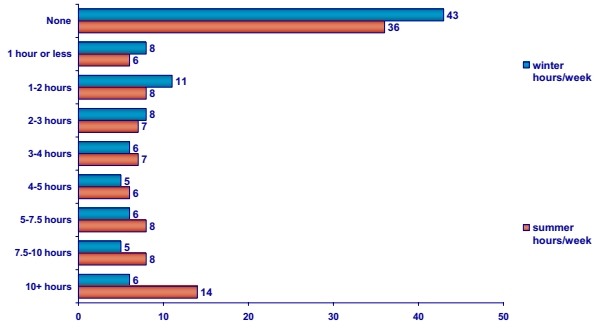


CDT Health Monitoring – March 2006

Q2 In a typical week during the past 12 months, how many hours did you spend on each of the following activities?

Base: All respondents *(9,209)*

Weekly activity – Cycling + other physical activity

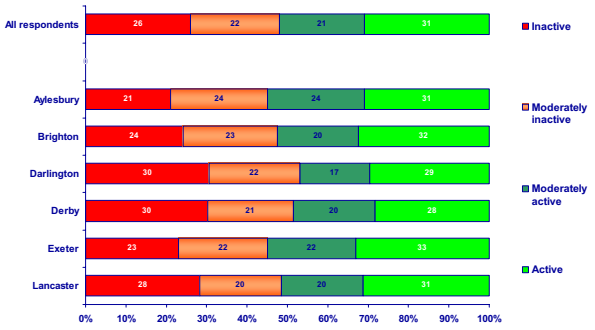


CDT Health Monitoring – March 2006

Q2 In a typical week during the past 12 months, how many hours did you spend on each of the following activities?

Base: All respondents *(9,209)*

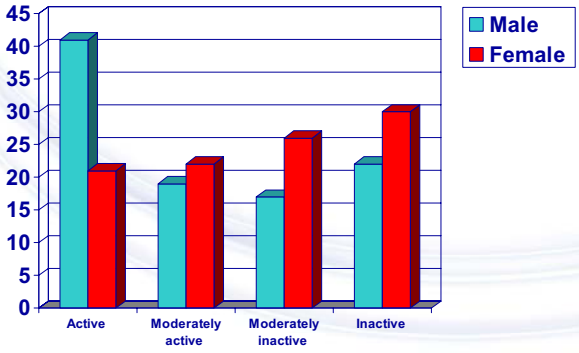
Levels of Physical Activity



CDT Health Monitoring – March 2006

Base: All respondents *(9,209)*

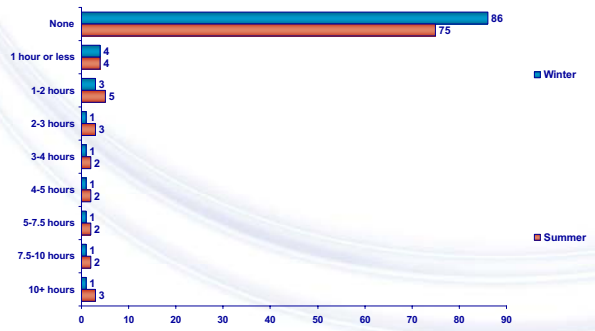
Physical activity and gender. % men and women active at different levels



CDT Health Monitoring – March 2006

Base: All respondents *(9,209)*

Weekly activity – Cycling

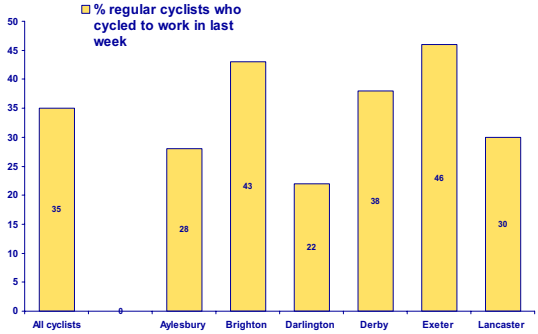


CDT Health Monitoring – March 2006

Q2 In a typical week during the past 12 months, how many hours did you spend on each of the following activities?

Base: All respondents *(9,209)*

Cycled to work in the last week



CDT Health Monitoring – March 2006

Q7 Did you cycle to work at all in the last week?

Base: All working cyclists who cycle at least once a week *(799)*

Conclusions

- These data present a solid baseline measure of cycling and physical activity before the interventions began in the Cycling Demonstration Towns.
- Follow-up data will show whether there have been any changes in levels of cycling, and whether these have had an impact on total physical activity.
- Alongside other monitoring, this will give a clear picture of whether the CDTs have increased cycling, and will help us to understand the potential impact on public health.

15 Results of a literature review on health-related physical activity

Dimitar T. Tomov[1] and Zhulieta G. Videnova[2]

[1]*Department of Health Economics and Management, Faculty of Public Health, Prof. Paraskev Stoyanov Medical University of Varna, 55 Marin Drinov St., BG-9002 Varna, Bulgaria*
[2]*Department of Foreign Languages, Communications and Sports, Prof. Paraskev Stoyanov Medical University of Varna, 55 Marin Drinov St., BG-9002 Varna, Bulgaria*

Nowadays individual health-related quality of life is more and more closely related with modern life-style of substantially reduced physical activity of the population in the developed countries. The health-enhancing physical activity should be widely and intensively promoted in order to achieve a true prevention of a series of chronic and socially significant diseases. The purpose of the present communication is to trace out the most essential scientometric patterns of international publication output on the topic of health-related physical activity in humans thus enabling a more efficient interdisciplinary and international scientific collaboration.

We carried out problem-oriented information Internet-based retrieval in Web of Science, i. e., *Science Citation Index* (*SCI*) and *Social Sciences Citation Index* (*SSCI*) as a component of Web of Knowledge database of Thomson Scientific (Philadelphia, PA, USA) during a free-access period kindly granted to Bulgarian university libraries in 2007. The observation covered the period from 1976 until 2006. All the relevant papers dealing immediately with health-related physical activity were extracted. We used the numerous computer-aided facilities for scientometric analyses of the secondary documents such as number of the publications, authors, journals, and scientific institutions, countries of these institutions, subject categories of journals, types and languages of publications in their one-, five- and ten-year distributions.

The total number of publications on this topic available in *SCI* and *SSCI* is 11 610. Recently, there has been a dramatic increase of the publication output: In 1976-1990, there are 60 papers only. In 1991-1995, there are already 1083 papers, in 1995-2000 - 2912, in 2001-2005 - 5809, and in 2006 only - 1746. Journal articles prevail followed by reviews, meeting abstracts, editorials, letters-to-the-editor, and book reviews. The most common subject category of the journals is 'public, environmental and occupational health' followed by 'sport sciences', 'medicine, general and internal', etc. The most attractive journals or the so-called 'core' journals during this period remain '*Medicine and Science in Sports and Exercise'*, '*Preventive Medicine'*, '*International Journal of Obesity'*, etc. Some authors are very productive on this topic such as W. C. Willett, J. F. Sallis, S. N. Blair, G. A. Colditz and J. E. Manson. The most cited paper up-to-now is by W. B. Kannell & P. Sorlie published in 1979 (cited 418 times).

It should be concluded that this comprehensive information could successfully be used by scientists worldwide in order to promote their effective collaboration.

RESULTS OF A LITERATURE REVIEW ON HEALTH-RELATED PHYSICAL ACTIVITY

Dimitar T. Tomov[1] and Zhulieta G. Videnova[2]

[1]Department of Health Economics and Management, Faculty of Public Health, and [2]Department of Foreign Languages, Communications and Sports, Prof. Paraskev Stoyanov Medical University of Varna, Bulgaria

Address for correspondence:
Assoc. Prof. Dimitar T. Tomov, MD, MA, PhD
Department of Health Economics and Management
Faculty of Public Health
Prof. Paraskev Stoyanov Medical University of Varna
55 Marin Drinov St., BG-9002 Varna, Bulgaria
Phone: +359-52-322 425, Fax: +359-52-
E-mail: dimtomov@yahoo.com

INTRODUCTION

Nowadays individual health-related quality of life is more and more closely related with modern life-style of substantially reduced physical activity of the population in the developed countries. That is why the health-enhancing physical activity should be widely and intensively promoted in order to achieve a true prevention of a series of chronic and socially significant diseases. Recently, two attractive publications of WHO have focused on this actual topic (1,5).

On the other hand, modern computer-aided information retrieval in large scientific databases enables hot-topic-oriented bibliometric studies not only by experienced scientometricians but also by beginners and research policy makers at different level - institutional, regional, national and international (3,14), especially in intensive interdisciplinary research fields (7,8,11). Nowadays science mapping is a powerful tool in science evaluation (4,6).

AIM OF THE STUDY

The aim of the present communication is to trace out the most essential scientometric patterns of international publication output on the topic of health-related physical activity in humans thus enabling a more efficient interdisciplinary and international scientific cooperation in this interdisciplinary field of rising socio-medical importance.

MATERIAL AND METHODS

We carried out problem-oriented information Internet-based retrieval in Web of Science, i. e., *Science Citation Index Expanded* (*SCI-Expanded*), *Social Sciences Citation Index* (*SSCI*) and *Arts & Humanities Citation Index* (*A&HCI*) as a component of Web of Knowledge database of Thomson Scientific (Philadelphia, PA, USA) during a free-access period kindly granted to some Bulgarian university libraries in 2007. The observation covered a 30-year period - from 1977 until 2006. The bibliographic records and abstracts of all the relevant publications dealing immediately with health-related physical activity were extracted and processed.

We used a series of computer-aided facilities for complex scientometric analyses of the secondary documents in their one-, five- and ten-year distributions concerning the following parameters:

- number of relevant publications
- languages of these publications
- types of these publications
- number and names of authors
- countries of these authors
- number and titles of journals
- number and titles of scientific institutions
- subject categories of journals
- citations received within these comprehensive data-bases.

RESULTS AND DISCUSSION

Some essential scientometric patterns of the publication output on health-related physical activity are summarized on Table 1. The total number of publications available in *SCI*, *SSCI* and *A&HCI* is 11630, that of authors' countries - 102, of languages - 16, and of types of documents - 10. There is a dramatic increase of the publication output (Fig. 1 and Fig. 2). In 1976-1990, there are 60 papers only. In 1991-1995, there are already 1083 papers, in 1995-2000 - 2912, in 2001-2005 - 5809, and in 2006 only - 1746.

The dynamic distribution of the languages of the publications emphasizes the dominating role of the English language, the 'lingua franca of science' (2) (Table 2 and Fig. 3). The dynamic distribution of the different types of publications is illustrated on Table 3 and Fig. 4. Journal articles prevail followed by reviews, editorial materials, meeting abstracts, etc. There is an enormous enlargement of the number of authors involved in research in this actual field in the recent years from all over the world. Table 4 shows the countries presenting with the most intensive publication output. Some Eastern-European countries become internationally visible, too, while Bulgaria is not listed yet at all. Similar science-stratification data were previously reported in biomedical research (9,10,12,13).

Table 5 indicates ten most-attractive journals (so-called 'core' journals) during this period. Fist come '*Medicine and Science in Sports and Exercise'* and '*Preventive Medicine'* followed by '*International Journal of Obesity*', '*American Journal of Preventive Medicine*', etc. The most common subject category of the journals is 'Public, environmental and occupational health' followed by 'Sport sciences', 'Medicine, general and internal', etc. (Table 6).

There exists continuous science stratification in any advancing research field (Felmy.). It is manifested, for instance, by the dominance of a few outstanding scientific institutions mainly from the USA (Table 7).

Some authors are very productive on this narrow topic. Walter C. Willett (Harvard University, School of Public Health, Department of Nutrition, 665 Huntington Ave, Boston, MA 02115, USA; e-mail address: walter.willett@channing.harvard.edu) has 1398 publications abstracted in these data-bases between 1976 and 2007, 123 of which are on 'physical activity and health' only. J. F. Sallis (San Diego State University, Department of Family Medicine, San Diego, CA 92182, USA; e-mail address: alr@projects.sdsu.edu) has 312 publications between 1979 and 2007, 124 of which on this topic only. S. N. Blair (Cooper Institute, 12330 Preston Rd, Dallas, TX 75230, USA; e-mail address: sblair@cooperinst.org) has 300 publications between 1975 and 2007, 90 of which on this topic only. We should add the recent contributions in this narrow field of J. E. Manson (94 papers), G. A. Colditz (86 papers), M. J. Stampfer (76 papers), E. B. Rimm (74 papers), A. C. King and B. E. Ainsworth (71 papers each), etc.

Among the papers published in 1987-1996 that one of R. R. Pate, M. Pratt, S. N. Blair, et al. (*JAMA*, 1995, 273:402-407) occupies the first place with a total of 2092 citations (160.92 citations per year) received until early 2007 while among those published in 1977-1986 the paper of W. B. Kannell and P. Sorlie (*Archives of Internal Medicine*, 1979, 139:857-861) is most-cited. It received 420 citations (14.48 citations per year) until early 2007. Until early 2007, 20 papers out of 31 primarily published in 1977-1986 received 1674 citations (54.00 citations per year) while 1423 papers out of 1514 primarily published in 1987-1996 received 63483 citations (3023.71 citations per year).

Our results convincingly demonstrate the magnitude of truly intensive research activity engaging interdisciplinary teams to combine modern biomedical, clinical and sports science concepts and methods.

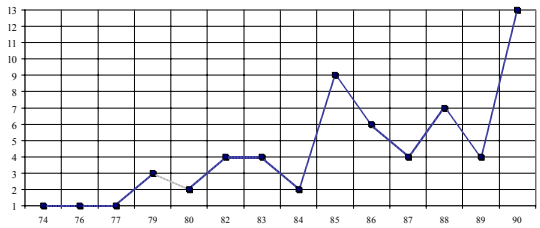


Fig. 1. Annual dynamics of papers (1974-1990)

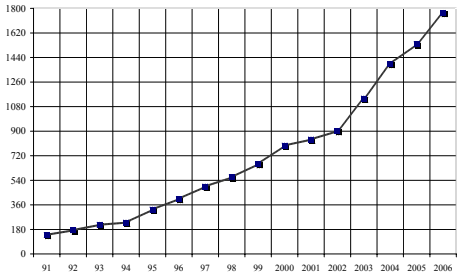


Fig. 2. Annual dynamics of papers (1991-2006)

Table 1. General scientometric characteristics of the publication output

No	Parameter	Time span (years)		
		1977-1986	1987-1996	1997-2006
1.	Number of papers	31	1514	10085
2.	Number of journals	17	490	1456
3.	Number of countries of authors	8	57 (49 new)	100 (45 new)
4.	Number of unique authors	73	4104	26190
5.	Number of authors' institutions	32	1080	5513
6.	Number of languages of papers	3	10	15
7.	Number of types of documents	5	10	9
8.	Number of journal subject categories	7	107	176

Table 2. Language distribution of papers

No	Languages	Total	Time span (years)/papers					
			1977-1986		1987-1996		1997-2006	
			n	%	n	%	N	%
1.	English	11232	28	90,32	1459	96,37	9745	96,63
2.	German	177	-	-	23	1,52	154	1,53
3.	French	91	2	6,45	15	1,00	74	0,73
4.	Spanish	74	-	-	10	0,66	64	0,63
5.	Italian	13	-	-	1	0,07	12	0,12
6.	Portuguese	10	-	-	1	0,07	9	0,09
7.	Japanese	10	-	-	1	0,07	9	0,09
8.	Russian	8	-	-	1	0,07	7	0,07
9.	Czech	5	-	-	2	0,13	3	0,03
10.	Croatian	2	-	-	1	0,07	1	0,01
11.	Norwegian	2	-	-	-	-	2	0,02
12.	Polish	2	-	-	-	-	2	0,02
	Other (4 languages)	4	1	3,23	-	-	3	0,03

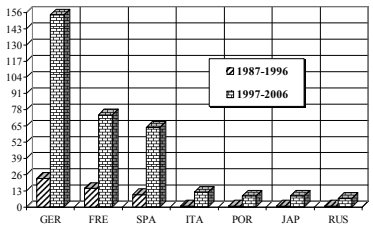


Fig. 3. Language distribution of non-English papers

Table 3. Document-type distribution of papers

No	Document types	Total	Time span (years)/papers					
			1977-1986		1987-1996		1997-2006	
			n	%	n	%	N	%
1.	Article	10220	20	64,52	1343	88,71	8857	87,82
2.	Review	925	4	12,91	97	6,40	824	8,17
3.	Editorial material	234	5	16,13	24	1,58	205	2,03
4.	Meeting abstract	145	1	3,23	4	0,26	140	1,39
5.	Book review	28	4	12,91	10	0,66	14	0,14
6.	Letter	26	-	-	11	0,73	15	0,15
7.	Note	21	-	-	21	1,39	-	-
8.	Other (3 types)	34	-	-	4	0,27	30	0,30

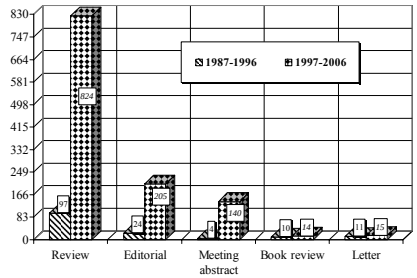


Fig. 4. Distribution of some document types

Table 4. Country distribution of authors of papers

No	Countries	Total	Time span (years)/papers		
			1977-1986	1987-1996	1997-2006
1.	USA	6337	15	855	5467
2.	UK	1108	1	140	967
3.	Canada	893	3	130	760
4.	England only	883	1	101	781
5.	Australia	631	1	57	573
6.	The Netherlands	481	1	46	434
7.	Germany	395	-	41	354
8.	Finland	358	1	51	306
9.	Sweden	353	2	58	293
10	Japan	245	-	29	216
11.	France	229	-	19	210
12.	Italy	217	-	17	200
13.	Norway	191	4	23	164
14.	Spain	185	-	13	172
15.	Switzerland	146	-	14	132
16.	Denmark	136	-	15	121
17.	Scotland	127	-	15	112
18.	China	118	-	7	111
19.	Belgium	111	-	7	104
20.	New Zealand	111	-	10	101
21.	Brazil	83	-	9	74
22.	Israel	83	-	9	74

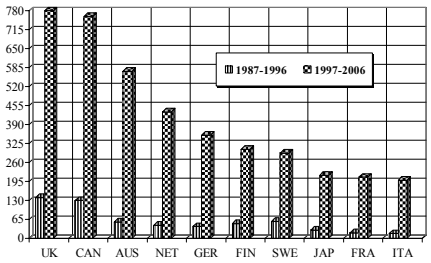


Fig. 5. Publications of authors of some countries

Table 5. 'Core' journals

No	Journal titles	Total	Time span (years)/papers		
			1977-1986	1987-1996	1997-2006
1.	*Medicine and Science in Sports and Exercise*	330	2	65	263
	Preventive Medicine	330	1	29	300
3.	*International Journal of Obesity*	223	-	25	197
4.	*American Journal of Preventive Medicine*	218	-	9	209
5.	*American Journal of Epidemiology*	183	1	50	132
6.	*Journal of the American Geriatrics Society*	138	-	19	119
7.	*American Journal of Clinical Nutrition*	136	-	19	117
8.	*Journal of Aging and Physical Activity*	130	-	16	114
9.	*American Journal of Public Health*	120	-	22	98
10.	*Obesity Research*	119	-	7	112

Table 6. 'Core' journal subject categories*

No	Journal subject categories	Total	Time span (years)/papers		
			1977-1986	1987-1996	1997-2006
1.	Public, environmental & occupational health	3007	17	356	2634
2.	Sport sciences	1547	3	227	1317
3.	Medicine, general and internal	1517	9	214	1294
4.	Psychology*	1400	-	262	1138
5.	Nutrition & dietetics	1214	-	111	1103
6.	Geriatrics & gerontology*	1177	-	141	1036
7.	Endocrinology & metabolism	864	-	91	773
8.	Cardiac & cardiovascular systems*	557	1	86	470
9.	Pediatrics	473	-	41	432
10.	Rheumatology	399	-	49	350
11.	Education & educational research*	337	1	54	282
12.	Rehabilitation	334	-	29	305
13.	Oncology	312	-	18	294
14.	Nursing	297	1	26	270
15.	Psychiatry	294	-	43	251

*Some subject categories of ISI are aggregated here as follows: 'Psychology' additionally includes applied, clinical, developmental, experimental, multidisciplinary, and social psychology; 'Geriatrics & gerontology' is combined with 'Gerontology'; 'Cardiac & cardiovascular systems' is combined with 'Peripheral vascular disease', and 'Education & educational research' is combined with 'Education, scientific disciplines'.

Table 7. Most productive research institutions

No	Institutions	Total	Time span (years)/papers		
			1977-1986	1987-1996	1997-2006
1.	Harvard University	526	-	56	470
2.	University of North Carolina	327	-	29	298
3.	Center for Disease Control and Prevention	322	5	49	268
4.	University of Minnesota	298	3	49	246
5.	University of Texas	276	1	46	229
6.	Stanford University	253	5	45	203
7.	Brigham & Women's Hospital	251	-	26	225
8.	University of Pittsburgh	241	1	31	209
9.	San Diego State University	220	-	31	189
10.	University of South Carolina	219	1	22	196
11.	University of Washington	194	-	26	168
12.	Johns Hopkins University	178	-	18	160
13.	University of California of San Francisco	174	2	19	153
14.	University of Michigan	165	-	17	148
15.	University of Illinois	165	-	18	147
16.	University of California of Los Angeles	145	-	15	130
17.	Boston University	127	1	18	108
18.	Karolinska Institutet	111	1	15	95

CONCLUSION

This comprehensive scientometric and factual information could successfully be used by research planners and managers as well as by scientists themselves worldwide in order to further encourage the effective international collaboration in the expanding field of health-enhancing physical activity of the population at any age within the health promotion for all.

REFERENCES

1. Edwards, P, Tsouros, T. Promoting physical activity and active living in urban environments. The role of local governments. The solid facts. Geneva, WHO Press, 2006.
2. Garfield, E. Citation indexing - its theory and application in science, technology, and humanities. Philadelphia, ISI Press, 1983.
3. Leydesdorff, L. The challenge of scientometrics - the development, measurement, and self-orgnization of scientific communications. Leiden, DSWO Press, 1995.
4. Noyons, ECM. Bibliometric mapping as a science policy and research management tool. Leiden, DSWO Press, 1999.
5. Physical activity and health in Europe: evidence for action. Cavill, N, Kahlmeier, S, Racioppi, F., eds. Geneva, WHO Press, 2006.
6. Tijssen, RJW. Cartography of science: scientometric mapping with multidimensional scaling methods. Leiden, DSWO Press, 1992.
7. Tomov, DT, Mutafov, HG. Comparative indicators of interdisciplinarity in modern science. *Scientometrics*, 37, 1996, 267-278.
8. Tomov, D. The unity of interdisciplinarity, institutionalization and internationalization of science: reflections from/on cell biology. *Biomedical Reviews*, 12, 2001, 41-55.
9. Tomov, D, Gerasimova, S. Computerized historiography of interdisciplinary collaboration in memory research. In: Collaboration in Science and in Technology. Proceedings of the Second Berlin Workshop on Scientometrics and Informetrics. Berlin, 1-3.IX.2000. F. Havemann, R. Wagner-Döbler and H. Kretschmer, eds. Berlin, Gesellschaft für Wissenschaftsforschung, 2001, 185-196.
10. Tomov, D. International visibility of Bulgarian memory research. *Scripta Scientifica Medica*, 36, 2004, 65-69.
11. Tomov, DT, Mutafov, HG. Dynamic stratification of document-type distributions in interdisciplinary biomedical research. *Scripta Periodica*, 7, 2004, Suppl. 1, 12-18.
12. Tomov, DT. Adipobiology: a scientometric view to its increasing significance. *Biomedical Reviews*, 17, 2006, 113-118.
13. Tomov, D, Kostadinova, T, Dervisheva, R. Neuropsychopharmacology and poverty in the elderly: scientometric and econometric aspects. In: Vital politics II. Health, medicine and bioeconomics into the 21st century. International conference. London, London School of Economics and Political Science, 7-9.IX.2006. Abstracts, p. 46.
14. Tomov, DT, Murad AA. International communication patterns in an emerging interdisciplinary field - applications of geographic information systems in public health. In: 11th International Conference of the International Society for Scientometrics and Informetrics. Madrid, 25-27.VI.2007. (Poster presentation).

17 Obesity and physical activity evaluation of Russian population

Rimma Potemkina[1], E. Varavikova[2]

[1] *State research Centre for Preventive Medicine, Moscow, Russia)*
[2] *Ministry of Health and Social Development of Russian Federation*

In Russia the leading causes of death and disability are directly associated with behavioral risk factors (BRF). One of the most important of them is a high level of overweight and obesity as well as inadequate physical activity (PA).

In 2000-2003 6 Russian regions conducted behavioral BRF survey among 25-64 years old people in random samples of 2000-3000 participants from each region. Response rate varied from 60-80% in the regions. Standard questionnaire includes questions on height and weight, PA patterns during working time, leisure time and time spending for walking. Data analysis has shown that overweight (body mass index ≥25) and obesity (body mass index ≥30) are highly prevalent in the different geographic and administrative settings in the Russian population: about half of men and 2/3 of women are overweight and about 1/10 of men and up to ¼ women were obese.

Low level of PA is also prevalent in the Russian population: about one third of the men and about half of the women have a mainly sedentary work, only 1/5-1/4 of respondents have leisure time activity of at least 30 min/day on 5 days/week or more. Nevertheless mean walking time varied in the different regions from 70 min/day to 85 min/day in men and from 70 min/day to 90 min/day in women.

The obtained data was disseminated among high-ranking decision makers. It's evident that the development of an adequate policy on PA promotion as a part of noncommunicable disease prevention is necessary in Russia. Currently the Ministry of Public Health of Russian Federation initiated the process involving different partners.

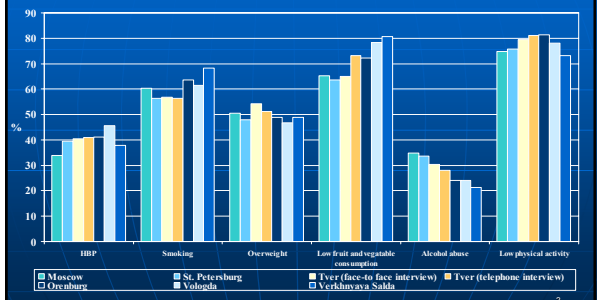
OBESITY AND PHYSICAL ACTIVITY EVALUATION OF RUSSIAN POPULATION

Rimma Potemkina[1], E. Varavikova[2]

[1]National Research Centre for Preventive Medicine
Moscow, Russia
[2] Ministry of Health and Social Development of Russian Federation

1

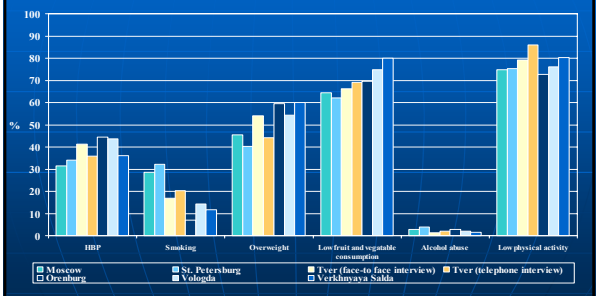
Prevalence of risk factors in Russian men of 25-64 age in 2000-2002 (adjusted by age)



Source: Surveys done in Russian CINDI regions

2

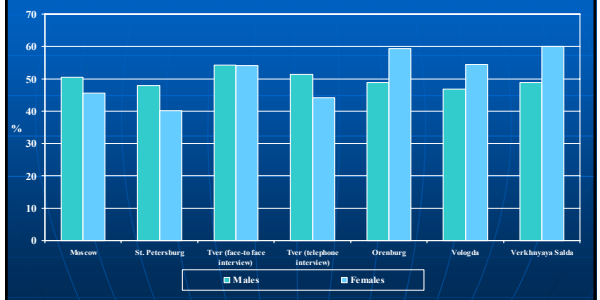
Prevalence of risk factors in Russian women of 25-64 age in 2000-2002 (adjusted by age)



Source: Surveys done in Russian CINDI regions

3

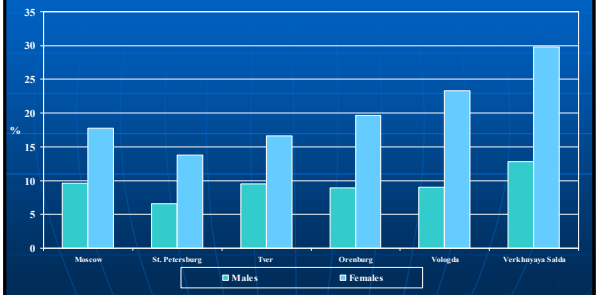
Prevalence of overweight (BMI=>25) in Russian population in 2000-2002 (adjusted by age)



Source: Surveys done in Russian CINDI regions

4

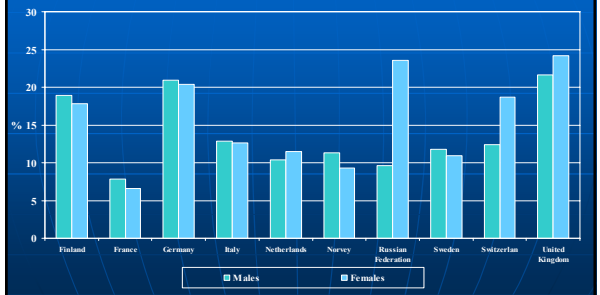
Prevalence of obesity (BMI=>30) in Russian population in 2000-2002 (adjusted by age)



Source: Surveys done in Russian CINDI regions

5

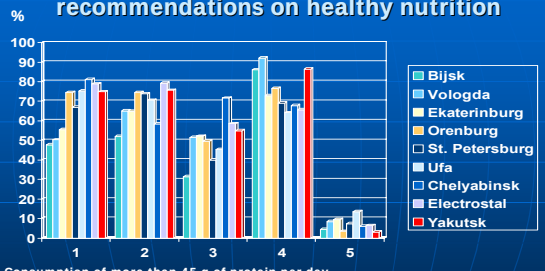
Prevalence of obesity (BMI=>30) in European population in 2005



Source: WHO Global InfoBase

6

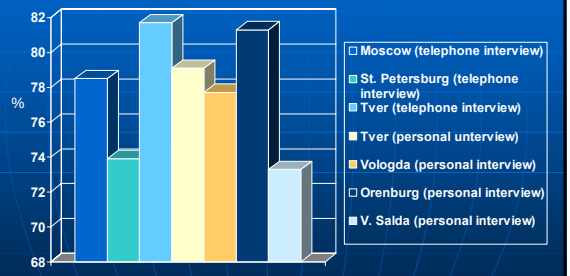
Consumption patterns of respondents whose nutrition does not correspond with the recommendations on healthy nutrition



1. Consumption of more than 45 g of protein per day
2. Energy contribution from fat in daily caloric intake more than 30%
3. Energy contribution from carbohydrates in daily caloric intake less than 50%
4. Consumption less than 400 g of fruits and vegetables per day
5. Consumption of more than 20 g of alcohol per day

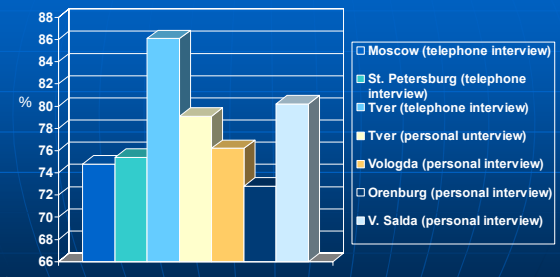
Source: Surveys done in Russian CINDI regions in 2003-2005

Prevalence of low-level physical activity[1] in leisure time in Russian men in 2000-2002



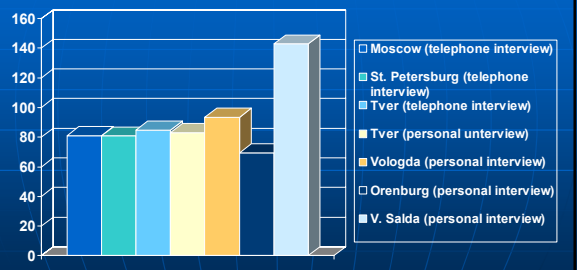
[1]Engaging in physical exercise for at least 20-30 minutes which makes person at least mildly short of breath or perspire in leisure time less then 5 days a week

Prevalence of low-level physical activity[1] in leisure time in Russian women in 2000-2002

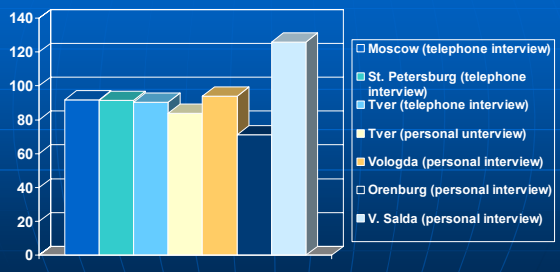


[1]Engaging in physical exercise for at least 20-30 minutes which makes person at least mildly short of breath or perspire in leisure time less then 5 days a week

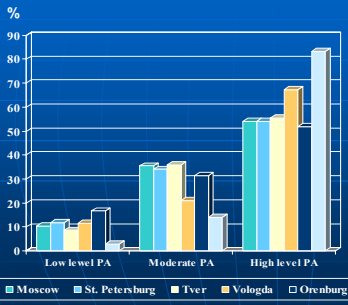
Mean walking time (min/day) in Russian men in 2000-2002 (age adjusted)



Mean walking time (min/day) in Russian women in 2000-2002 (age adjusted)



Distribution of PA in Russian men 25-64 age group in 2000-2002



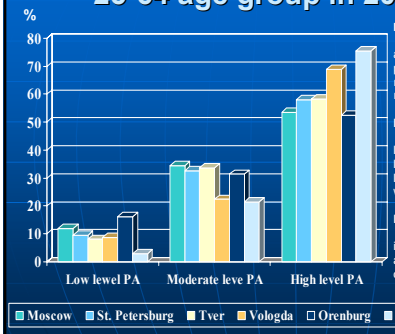
Low level
Mainly sedentary at the work, and engaging in leisure time physical exercise less then 30 min/day or at all, and less then 60 min. of daily walking

Moderate level
Mainly walking or lifting, carrying light loads at work or engaging in leisure time physical exercise for at least 30 minutes 1-4 days a week or walking 60-89 min/day

High level
Having heavy work or engaging in leisure time physical exercise for at least 30 minutes 5 days a week or walking at least 90 min/day

Source: Surveys done in Russian CINDI regions

Distribution of PA in Russian women 25-64 age group in 2000-2002



Low level
Mainly sedentary at the work, and engaging in leisure time physical exercise less then 30 min/day or at all, and less then 60 min. of daily walking

Moderate level
Mainly walking or lifting, carrying light loads at work or engaging in leisure time physical exercise for at least 30 minutes 1-4 days a week or walking 60-89 min/day

High level
Having heavy work or engaging in leisure time physical exercise for at least 30 minutes 5 days a week or walking at least 90 min/day

Source: Surveys done in Russian CINDI regions

13

TOWARDS A HEALTHY RUSSIA
HEALTHY NUTRITION: PLAN OF ACTION TO DEVELOP REGIONAL PROGRAMMES IN RUSSIA

A Guidebook

14

Steps on policy development of NCD prevention and health promotion in Russia

- Policy for Health Promotion and Disease Prevention: Focus on Major NCD, 1994
- Policies and Strategies for the Prevention of CVD and other NCD within the Context of Public Health Reforms in Russia, 1997
- Healthy nutrition: plan of action to develop regional programmes in the Russian Federation, 2001

15

Future strategies

- ✓ Development of the policy and the programs on healthy nutrition and physical activity at the national and regional level
- ✓ Partnership creation between different governmental and society structures
- ✓ Education of the decision-makers, health professionals and population
- ✓ Monitoring system on main risk factors including physical activity and nutrition indicators development

16

18 Developing the physical activity workforce, Scotland

Monica Smith

NHS Health Scotland

Physical activity as a priority topic related to the prevention of ill health and the promotion of well-being is now well embedded in Scottish health policy. The work of a Physical Activity Task Force over 18 months culminated in the publication of Scotland's first ever national strategy (Scottish Executive 2003), and established a vision that 'people in Scotland will enjoy the benefits of ha*ving a physically active life'*. In the foreword to this policy document, the First Minister of Scotland acknowledged that:

> 'evidence shows that successful approaches are long term, involve many sectors and agencies….In short, it will take a lot of us, working together over many years, to change the social, economic and environmental roots of this problem."

Within the national strategy, an objective is to provide accurate and evidence-based advice to those staff involved in government policy and service delivery and who work in the voluntary and private sectors. **The physical activity workforce development plan** (Health Scotland 2004), informed by a comprehensive mapping exercise to investigate current training provision and identify skills and knowledge gaps, identified the following main areas for development:

- establishment of a physical activity workforce as an entity, albeit one which is broad and diverse in nature;
- increased knowledge and understanding of physical activity, and the skills, both generic and specialist, required to promote physical activity;
- infrastructure to support the national co-ordination of training and development opportunities

For planning purposes, three broad categories of workers were identified:- Group 1: those who promote activity as a core part of their work (e.g. Physical Education Teachers; Active Travel Co-ordinators); Group 2: those for whom it forms a key part of their work but is not their main focus (e.g. Health Visitors, dieticians; childminders); Group 3: those who play a supporting role in the promotion of physical activity (e.g. Town and transport Planners, Social Services).

A recent international benchmarking exercise (Health Scotland 2006) positioned Scotland at the forefront of physical activity workforce development. It indicated that whilst there are significant ad hoc or spontaneous efforts at building workforce capacity in physical activity promotion in other identified best practice countries, there are few examples globally of well developed systemic physical activity workforce development strategies.

Key milestones to date within Scotland's plan include: the establishment of the Physical Activity and Health Alliance; piloting of on-line learning; training needs analyses for groups working with specific life stages; introduction of National Occupational Standards; national guidance on accreditation; motivational interviewing and exercise consultation skills development.

Literature:
Scottish Executive 2003: Let's Make Scotland More Active: a strategy for physical activity
Health Scotland 2004: Physical Activity Workforce Development Plan 2005-2008
Health Scotland 2006: An international benchmarking exercise to identify those countries that are considered to be examples of best physical activity training practice

Physical activity workforce development in Scotland

Government policy

- Building a better Scotland
- Towards a healthier Scotland
- **Let's make Scotland more active**
- Improving health in Scotland The challenge
- Our national health: A plan for action, a plan for change

International benchmarking

- **Canada** Framework for public health HR planning
- **Europe**
  Finland — local approach to development
  Sweden — academic programmes
  Denmark— no central strategy
- **Australia** Appropriate health promotion interventions
- **USA** ad hoc or spontaneous efforts

Workforce development activities

- Building networks through the Physical Activity and Health Alliance (PAHA) www.paha.org.uk
- Develop and run training courses
  - Leadership for health improvement
  - Train the Trainer Participatory Appraisal motivating behaviour change
  - Physical activity consultation
  - e.Learning — let's make Scotland activ-e
- Resource development
- Building an evidence base

19 Recruiting sedentary individuals to physical activity trials: intentions and reality

Rebecca Shaw[1], Graham Baker[1], Claire Fitzsimons[1], Ruth Lowry[1], Catherine Millington[2], Myra Nimmo[3], Annemarie Wright[1], Nanette Mutrie[1]

[1]Department of Sport, Culture and the Arts, University of Strathclyde, 76 Southbrae Drive, Glasgow, G13 1PP, Scotland.
[2] Edinburgh College of Art, 79 Grassmarket, Edinburgh, EH1 2HJ, Scotland.
[3]Strathclyde Institute of Pharmacy and Biomedical Sciences, University of Strathclyde, 199 Cathedral Street, Glasgow, G4 OQU, Scotland.

Increasing the population level of physical activity, particularly among the most sedentary, has become a leading aim of public health policy. Walking has been identified as the mode of activity most likely to appeal to the most sedentary and there is a growing body of evidence suggesting that pedometers, combined with a goal setting programme, can be an effective short term motivational tool to increase walking. However, few studies have examined the use of pedometers in the longer term. Importantly, the lowest socio-economic groupings have the highest proportions of sedentary adults and so attracting these groups to projects that promote activity is a key public health objective.

The 'Walking for Wellbeing in the West' study in Scotland aims to assess whether pedometers in conjunction with physical activity counselling, can increase and maintain independent walking behaviour over 12 months in sedentary individuals. The study adopts the RE-AIM principles and recognises that the first of these, 'Reach', is important but difficult to achieve. The study aimed to recruit equal numbers of men and women from areas identified as being in the top 15% of the Scottish Deprivation Statistics. Participants were recruited via leaflets delivered to households, posters displayed in the local community and adverts in the local press.

Over a period of four months, 16 men (20%) and 63 women (80%) were recruited; all classified as not meeting current recommendations. The distribution of participants according to the Scottish Index of Multiple Deprivation (SIMD) classification was:

SIMD classification	**No. of participants**
Top 15% (most deprived)	8
15-20%	11
20-40%	11
40-60%	11
60-80%	4
80-100% (least deprived)	34
	N = 79

N=8 (10%) were successfully recruited from the top 15%. In order to gain insight into these response rates, participant observation and semi-structured interviews were carried out. Interviews with community members showed that leaflets and posters had been well-received. During observation in the local community it was noted that more people accepted a leaflet than rejected one and that on more than one occasion they returned to ask for more information. However, it was also noted that some of those accepting a leaflet then immediately discarded the leaflet. It is difficult therefore to uncover exactly why people aren't interested in being involved. It would be worthwhile spending time establishing community links and developing innovative ways of encouraging participants to come forward in order to help reach into the population.

Recruiting sedentary individuals to physical activity trials: intentions and reality.

Rebecca Shaw, Graham Baker, Claire Fitzsimons, Ruth Lowry, Catherine Millington, Myra Nimmo, Catharine Ward Thompson, Annemarie Wright, Nanette Mutrie.

WALKING FOR WELL-BEING IN THE WEST

Introduction

Increasing the population level of physical activity, particularly among the most sedentary, has become a leading aim of public health policy[1-2]. Walking has been identified as the mode of activity most likely to appeal to the most sedentary and there is a growing body of evidence suggesting that pedometers, combined with a goal setting programme, can be an effective short term motivational tool to increase walking[3-4]. However, few studies have examined the use of pedometers in the longer term. Importantly, the lowest socio-economic groupings have the highest proportions of sedentary adults[2] and so attracting these groups to projects that promote activity is a key public health objective.

WWW project

The WWW study aims to promote walking in a West of Glasgow community using pedometers in conjunction with physical activity counselling. The study is an aspect of the work of the Scottish Physical Activity Research Collaboration (www.sparcoll.org.uk).

The study adopts the RE-AIM principles[5] and attempts to measure the following:

R*each* into the target population of the suggested intervention.
E*fficacy* or effectiveness of the intervention.
A*doption* of the intervention by different settings or institutions.
I*mplementation* or the consistency of delivery of the intervention.
M*aintenance* of intervention effects in individuals and populations over time.

Aim of the poster

This poster describes how participants were recruited to the project and presents findings from qualitative work (participant observation and semi-structured interviews) carried out during the recruitment phase.

Methods

The WWW project aimed to recruit equal numbers of men and women from areas identified as being in the top 15% of the Scottish Index of Multiple Deprivation (SIMD). This index contains 37 indicators in seven domains: Current Income, Employment, Health, Education Skills and Training, Geographic Access to Services, Housing and Crime.

The SIMD is presented at data zone level, which have a median population size of 769 people, enabling small pockets of deprivation to be identified. The data zones are rated from most deprived to least deprived. The result is a comprehensive picture of relative area deprivation across Scotland.

Participants to the WWW project were recruited via leaflets delivered to households, posters displayed in the local community (as shown in Figure 1) and adverts in the local press.

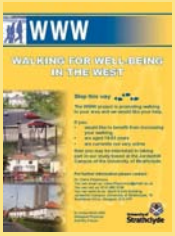


Figure 1: Poster used for recruitment

Results

Over a period of four months, 91 participants were recruited; all classified as not meeting current recommendations for physical activity[6]. Of these, 79 were randomised; comprising 63 women (80%) and 16 men (20%). The distribution of participants according to the SIMD classification was as follows (in Table 1 and Figure 3):

SIMD classification	Number of participants
Top 15% (most deprived)	8
15-20%	11
20-40%	11
40-60%	11
60-80%	4
80-100% (least deprived)	34
	N = 79

Table 1: WWW respondents

Figure 2: Map of UK with Glasgow marked

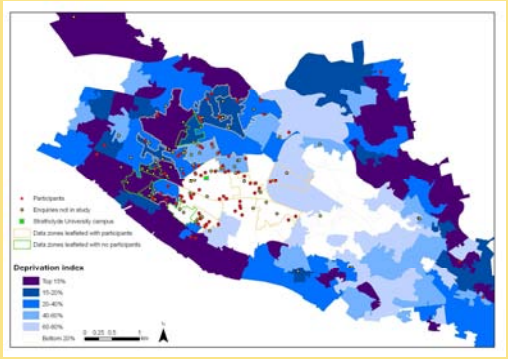


Figure 3: Areas targeted and location of respondents according to SIMD classification

Only 8 participants (10%) were successfully recruited from the most deprived areas (the top 15%) and more women than men were recruited. As a result of not meeting our aim regarding recruitment, we undertook qualitative research (participant observation and semi-structured interviews) in order to determine awareness of the project within the local community and to gain some insight into why the response rate was lower than anticipated. Interviews with community members showed that leaflets and posters had been well-received. Respondents described the main message as "getting people to walk more", for "fitness" and to "improve their health". When asked for examples of what increased walking would entail, respondents mentioned "walking to work" and "going for walks at the weekend".

During observation in the local community it was noted that more people accepted a leaflet than rejected one and that on more than one occasion they returned to ask for more information, saying "I heard about it in the press. How unfit do you have to be and what does it entail?" and "I'd be interested I think, because since starting college I've stopped walking, I get the bus because I don't have time to walk."

However, it was also noted that some of those accepting a leaflet then immediately discarded the leaflet. It is difficult therefore to uncover exactly why people aren't interested in being involved.

Conclusions

The study recognises that the first of the RE-AIM principles, '**R***each*', is important but difficult to achieve. Findings from the qualitative research carried out during the recruitment phase of the WWW project, suggest that it would be worthwhile spending time establishing community links and developing innovative ways of encouraging participants to come forward in order to help reach into the population. Our future analysis incorporates an audit of the local environment and participants' perceptions of their neighbourhood environment, in order to uncover any relationship between walking behaviour and the environment.

References

1. Department of Health (2004). *At least 5 a week: Evidence of the impact of physical activity and its relationship to health. A report from the Chief Medical Officer.* Department of Health: London.
2. Scottish Executive (2003). *Let's make Scotland more active.* The Stationary Office: Edinburgh.
3. Chan, C.B., Ryan, D.A.J., & Tudor-Locke, C. (2004). Health benefits of a pedometer-based physical activity intervention in sedentary workers. *Preventative Medicine*, 39, 1215-1222.
4. Moreau, K., Degarmo, R., Langley, J., McMahon, C., Howet, E. & Basset, D.R.J. (2001). Increasing daily walking lowers blood pressure in postmenopausal women. *Medicine and Science in Sports and Exercise*, 33, 1825-1831.
5. Estabrooks, P.A. & Gyurcsik, N.C. (2003). Evaluating the impact of behavioural interventions that target physical activity: issues of generalisability and public health. *Psychology of Sport and Exercise*, 4 (1), 41-55.
6. World Health Organisation (2004). *Global Strategy of Diet, Physical Activity and Health.*

If you would like further information on WWW please see the SPARColl website (www.sparcoll.org.uk) or contact the SPARColl project co-ordinator, Dr. Claire Fitzsimons (claire.fitzsimons@strath.ac.uk).

20 Sports medical evaluation of a german youth obesity therapy approach

Christian Thiel[1], Lutz Vogt[1], Winfried Banzer [1,2,3]

[1] *J.W. Goethe-University of Frankfurt, Department of Sports Medicine*
[2] *German Olympic Sports Confederation (DOSB) for Sports and Health*
[3] *Steering Committee of the European network for the promotion of health-enhancing physical activity (HEPA Europe)*

Objective
Physical activity (PA) plays an important role in the multimodal prevention and rehabilitation of obesity in youth. However, to date few studies have evaluated whether national exercise intervention approaches comply with international guidelines. Furthermore, there is a lack of adequate information on cardiorespiratory load during exercise therapy and on energy expenditure in different modes of exercise in the young obese. This study assessed the amount of moderate to vigorous PA (MVPA) and energy expenditure (EE) in a structured inpatient rehabilitation programme representative for therapy approaches in Germany, and compared seven different exercise modes.

Methods
Individual heart rate (HR) – EE relationships were obtained in 20 adolescents without comorbidities (13.6±1.4 years, BMI 31.8±4.1 kg/m^2, VO_2peak 30.1±4.9 ml/(kg*min)) who attended an inpatient obesity therapy programme in Germany following national guidelines of the Consensus group obesity training (KgAS). Typical phases of seven exercise therapy modes were identified by visual observation and then chosen for HR monitoring. According to the flex HR method, oxygen consumption (VO_2) and EE were calculated using individual HR-VO_2 regressions.

Results
Adolescents completed 7.5h of exercise therapy per week, increasing EE by a net 1,871±533 Kcal/wk and accumulating 3.5±1.1h of MVPA (>40% of oxygen consumption reserve, VO_2R) corresponding to 47±15% of total exercise time. EE [KJ/kg/h] of swimming (19.9±5.9), water games (18.0±4.4), 65-85W cycle ergometry (19.6±3.7), strength/stability circuit (18.9±3.7), small group games/relays (19.0±5.4) and team sports (20.6±7.0) differed significantly only from walking (14.0±2.9) (Friedman test, $p<0.05$).

Discussion
Measuring exercise intensity can help to objectively assess programme quality and provide evidence base for the selection of efficient therapeutic modes in obesity therapy. In a representative German therapy programme, 75% of adolescents accumulated more than 150 minutes of MVPA, fulfilling specific guidelines of the American Heart Association (AHA), Committee of Atherosclerosis, Hypertension, and Obesity of the Young (AHOY) for cardiovascular health in obese youth, and reaching the upper end of the recommended range of general energy expenditure goals of the American College of Sports Medicine (ACSM) by spending more than 300Kcal/day. However, large interindividual differences indicate that exercise therapy needs to be tailored even more towards individual needs to increase efficiency. Since EE and INT showed significant differences only between walking and other exercise modes, the development of appropriate exercise therapy programmes can mainly be guided by adolescents' preferences to promote long-term behaviour change.

SPORTS MEDICAL EVALUATION OF A GERMAN YOUTH OBESITY THERAPY APPROACH

Thiel C[1], Vogt L[1], Banzer W[1,2,3]

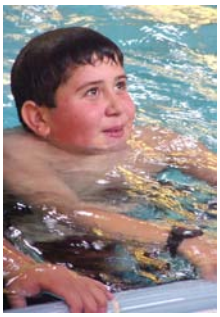
[1]J.W. Goethe-University of Frankfurt, Department of Sports Medicine
[2]German Olympic Sports Confederation (DOSB) for Sports and Health
[3]Steering Committee of the European network for the promotion of health-enhancing physical activity (HEPA Europe)

Goal: Gain objective information on quality of German exercise intervention approach

Physical activity (PA) plays an important role in the multimodal prevention and rehabilitation of obesity in youth. However, to date few studies have evaluated whether national exercise intervention approaches comply with international guidelines. There is also a lack of adequate information on cardio-respiratory load and energy expenditure (EE) in different modes of exercise in the young obese. This evaluation assessed the amount of moderate to vigorous PA (MVPA) and EE in a structured inpatient rehabilitation programme representative for therapy approaches in Germany. Furthermore, seven different exercise modes were compared.

EE monitoring during exercise therapy

Subjects were 20 adolescents without comorbidities (13.6±1.4 years, BMI 31.8±4.1 kg/m2, VO2peak 30.1±4.9 ml/(kg*min)) who attended an inpatient obesity therapy programme in Germany following national guidelines of the Consensus group obesity training (KgAS). Individual heart rate (HR) – EE relationships were obtained by using concurrent HR measurement (Polar) and portable indirect calorimetry (Oxycon Mobile, Viasys Healthcare) during standardised rest and activity conditions (lying, sitting, standing and a modified Bruce treadmill protocol).



Typical phases of seven exercise therapy modes were identified by visual observation and then chosen for HR monitoring. According to the flex HR method, VO_2 and EE were individually derived from HR data by applying the linear HR-VO_2 regression.

Exercise therapy induced + 3.5 h MVPA and + 1,871 Kcal EE per week

Adolescents completed 7.5h of exercise therapy per week, increasing EE by a net 1,871±533 Kcal/wk and accumulating 3.5±1.1h of moderate to vigorous physical activity (MVPA: >40% of oxygen consumption reserve, VO_2R) corresponding to 47±15% of total exercise time. Only walking differed significantly from other exercise intervention modes (Table 1).

N=20	MVPA (%)	EE (KJ/kg/h)
Swimming (breast stroke)	76±22 **	21.2±4.5 **
Water games (water volleyball, diving, relays…)	51±29	17.5±3.2 *
Cycle ergometry (65-85W)	87±9 **	20.0±2.3 **
Strength/stability circuit	58±15	18.9±2.3 **
Small group games (relays, badminton, dodgeball…)	55±14 *	18.9±4.2 **
Team sports (soccer, basketball, hockey)	71±25 **	23.0±4.5 **
Walking	11±11	14.6±2.0

*Table 1: Portion of moderate to vigorous physical activity (MVPA) relative to total exercise time and energy expenditure (EE) during various exercise intervention modes. Median ± median absolute deviation. * p<0.05, ** p<0.01 significantly different from walking*

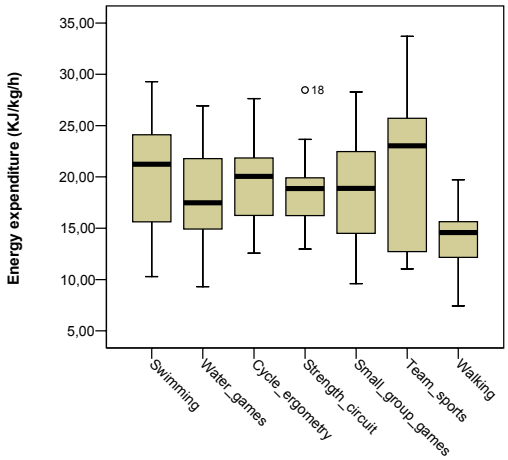


Figure 1: Boxplots: Energy expenditure in selected exercise interventions of juvenile obesity therapy.

Adolescents' PA mostly complies with international guidelines

Measuring exercise intensity can help to objectively assess programme quality and provide evidence base for the selection of efficient therapeutic modes in obesity therapy. In a representative German therapy programme, 75% of adolescents accumulated more than 150 minutes of MVPA, fulfilling specific guidelines of the American Heart Association (AHA), Committee of Atherosclerosis, Hypertension, and Obesity of the Young (AHOY) for cardiovascular health in obese youth (Williams et al. 2002), and reaching the upper end of the recommended range of general energy expenditure goals of the American College of Sports Medicine (ACSM) by spending more than 300Kcal/day. However, large interindividual differences indicate that exercise therapy needs to be tailored even more towards individual needs to increase efficiency.

Choice of exercise mode might follow adolescents' preferences

Since EE and INT showed significant differences only between walking and other exercise modes, the development of appropriate exercise therapy programmes can mainly be guided by adolescents' preferences to promote long-term behaviour change.

REFERENCES

Williams CL et al. Circulation 2002; 106(1): 143-60.

c.thiel@sport.uni-frankfurt.de J.W. Goethe-Universität, Abteilung Sportmedizin, Ginnheimer Landstr. 39, 60487 Frankfurt/Main, Germany

22 Making the case for physical activity at the workplace – best practices from Europe

Wolf Kirsten

International Health Consulting, Germany

The workplace is a promising setting as a means to promote physical activity. Unfortunately, this is often overlooked or undervalued in public health strategies. Corporate human resource managers and occupational physicians, physical activity experts and public health specialists rarely collaborate to develop cohesive strategies. A majority of adults spend a large part of their waking day at the workplace, therefore it provides a huge opportunity to get the message to the people. Workplace health promotion is an established field in many countries and has contributed significantly to public health in the past. Starting with corporate fitness programs in the United States und company sports activities in Europe, health-enhancing physical activity programs at the workplace have evolved in various European countries. Employers have recognized the immense benefits of physical activity with regard to employee health, motivation, morale and productivity. Therefore, it has become an attractive financial consideration as well.

The poster presentation will highlight successful examples of companies which have implemented physical activity programs as part of a comprehensive health promotion program and have integrated physcial activity into the corporate culture. For example, DaimlerChrysler in Germany runs a targeted back strengthening program ("Projekt Kraftwerk") in collaboration with the sickness funds. Movable training units were set up in the production sites so workers would not lose any time and have immediate access to go through a 10-15minute training program. The results are impressive: 21% increased their back strength, functional ability was improved by 20%, disability was reduced by 38% and overall sick leave was much lower than the industry norm. The truck manufacturer Scania in Sweden has built a major health and fitness center on campus for employees, their dependents and retirees where they can take advantage of a vast array of sports activities: volleyball, badminton, table tennis, cycling, weight lifting, running, swimming, football, athletics, tennis, nordic walking, ice hockey, cross country skiing, etc. There are also treatment rooms for massage and physiotherapy. All employees are offered health risk profiles and fitness tests to ensure safe and tailored programs. Absenteeism rates have steadily decreased at Scania and are much lower compared to industry norms.

The presentation will conclude by making a strong business case for implementing more comprehensive and integrated physical activity programs at the workplace.

Making the Case for Physical Activity at the Workplace – Best Practices from Europe

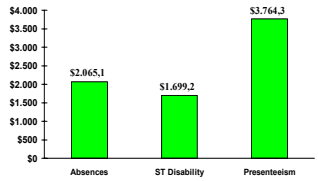
Wolf Kirsten, M.Sc.
Berlin, Germany
3rd Annual Meeting of HEPA Europe
Graz, May 16-18, 2007

Global Challenges

- Health care costs are rising:
- aging workforce and improved medical technologies
- Fight for qualified employees → the knowledge worker
- Cost containment is not enough (e.g., disease management)
- Sick leave is a huge problem
- Inactivity cost the USA $75 billion in 2000
- Canada: physical inactivity accounts for 6% of total health care costs

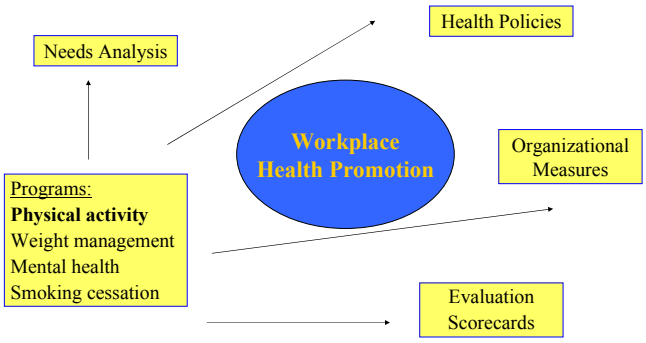
Why the Workplace?

- Large number of people spend majority of waking hours at the workplace
- Perceived impact of the work environment on health is very high
- Captive audience at workplace (worker and dependents)
- Origin of stress (e.g. work/family conflict)
- Economic "engine" of any country



In California, total lost productivity cost tied to physical inactivity is approximately $7.53 billion

Source: *The Economic Costs of Physical Inactivity, Obesity and Overweight in California Adults: Health Care, Workers' Compensation and Lost Productivity,"* April 2005.



Successful Corporate Interventions in Europe

DaimlerChrysler in Germany
"Kraftwerk-Mobil"
- Mobil strength training unit to avoid back pain and disability (on the floor)
- During work time (only 5-10 minutes per session)
- High participation rates

Improvements:
- 21% increased their back strength
- functional ability was improved by 20%
- disability was reduced by 38%
- overall sick leave was much lower than the industry norm.

Unilever in the UK
Senior Leadership Health Initiative
- personal coaching program: exercise, nutrition, resilience
- exercise program:
- individual fitness assessment
- stamina
- strength
- flexibility
- individual training program
- Stages of Change model
- physical – mental energy link

Improvements (after 6 months):
- Body fat %: - 7.96%
- Push-ups: 61%
- Sit-ups: 23%
- Flexibility: 12.7%
- VO2 max: 43.10%
- Grip strength: 7.5%

OKE Automotive – the SME example
(260 employees)
- individual health testing
- fitness center, group activities, events
- extended blood tests
- combined with smoking cessation program

Improvements:
- 97% completed the voluntary testing
- after 24 months endurance improved by an average of 20%
- 30 of the 45 participants quit smoking
- sick leave was decreased by 40%
- each employee takes part in at least one activity on a regular basis

Home of Corporate Fitness

- Physically active individuals save app. $500 per year in health care costs (1998)
- **Coca Cola**: reduction in health-care claims with an exercise program alone saving $500 per employee per year for the employees who joined their HealthWorks fitness program.
- **Dupont**: reduction in absenteeism of 47.5% over 6 years and 14% fewer disability attributed to fitness programming
- Active Living at Work (business case) in Canada

Europe

- higher activity levels than North America in the past
- outdoor culture in Scandinavia
- better infrastructure for physical activity
- tradition of company sports

→ **but** no tradition of workplace health promotion beyond the legal requirements

The Business Case

Economic Benefits for Companies

- Reduced health care costs
- Increased productivity
- Reduced absenteeism
- Reduced turnover
- Positive return on investment

Characteristics of H ighly Successful Programs

- Leadership commitment
- Employee involvement
- Clear purpose
- Integrated effort
- Support structure
- Cultural context
- Measured outcomes

CONTACT
Wolf Kirsten
WEB: www.wolfkirsten.com
EMAIL: wk@wolfkirsten.com
TEL: 49 30 3082 4887

WOLF KIRSTEN
INTERNATIONAL HEALTH CONSULTING

23 A survey of health enhancing physical activity in Iceland – preliminary results

Svandis J Sigurdardottir and Torarinn Sveinsson

Department of Physiotherapy, Faculty of Medicine, University of Iceland, Reykjavik

In recent years evidence of health benefits from physical activity has been gradually emerging.
For public health reasons there is a need for knowledge and understanding of how much and in what way people engage in physical activity. The aim of this survey was to assess the current situation in Iceland.

In total 1,600 adults aged 18-80 years were randomly selected from the National Registry. The long version of the International Physical Activity Questionnaire (IPAQ) was sent to the selected individuals in May 2006. This version of the IPAQ subjectively assesses health enhancing physical activity (HEPA) in various areas of daily life, i.e at work, commuting, at home and in leisure time. The relation of physical activity to social and demographic factors is assessed as well.

Questionnaires from 511 respondents were suitable for analysis. Of the respondents 44% were men and 56% women. The mean age was 48 +/- 16 years and BMI 26.7 +/- 4.5 kg/m2. Forty two percent of the total sample were classified as overweight and 19% as obese (WHO 2002).

Men reported a median of 720 metabolic equivalents (MET) min/week of vigorous HEPA and this type of activity varied with age, BMI, education and self-rated health. The median for moderate HEPA in the men´s group was 1810 MET min/week and varied with age. Finally, the median value for walking was 495 MET min/week and did not vary with the socio-demographic factors above.

Women reported a median of 20 MET min/week of vigorous HEPA and it varied with age, education and self-rated health. The median for moderate HEPA in the women´s group was 1740 MET min/week and did not vary with any of the socio-demographic factors. Finally the median value for walking was 792 MET min/week and varied with self-rated health.

The results from the survey show a great need for continued promotion of physical activity in Iceland.

Literature:
WHO (2002) Diet, nutrition and the prevention of chronic diseases. WHO technical report series. Geneva.

24 The HEPA-practises from the city of Turku (Finland)

Heini Parkkunen[1], Minna Lainio [2,] , Riitta Asanti[1]

[1]*City of Turku and Baltic Region Healthy Cities Association*
[2]*City of Turku, Sports and Sports and Physical Activities Department*

The City of Turku has almost fifteen years of experience in the citizen-driven HEPA promotion. The efforts are fuelled by a desire to improve the well-being of all inhabitants of the city. New approaches and rapid reacting to the possibilities of physical activity as a health-promoting factor of all population groups has secured the city a reputation as a forerunner in Finland.

According to the experiences of Turku it is essential to develop a long-term strategy and management in physical activity promotion. The multi-sectoral collaboration at the city level as well as the innovative and enthusiastic solutions to find the sedentary people are crucial for success. The best practices of Turku and the successful HEPA products can be described as a kind of cook-book: what are the necessary preparations, which ingredients should be combined for best results, and how does a successful result looks like.

The Baltic Region Healthy Cities Association is a WHO collaborating centre. The association has all the ten countries of the Baltic Sea Region as its field of operation, and the cities belonging to the WHO Healthy Cities network in the region as its primary clients. The goal of the Association is to increase the awareness of the network cities on importance of health promotion, including physical activity. The association supports and develops the know-how of the cities. Therefore, it collected and published the physical activity experiences of the City of Turku to share the experiences so that the issue may be implemented as a central part of the decision-making, strategies, and action in the cities within the Baltic Sea Region and Europe.

The reform of the City of Turku Sports and Physical Activities Department was initiated with the remarkable Motion 2000 project, during which the Department's focus areas were renewed with excellent outcome. Within a period of ten years (1993-2004) the share of inhabitants between the ages 17 and 70 who engage in physical activities sufficiently to maintain their health has grown by over ten percentage points. Currently, the city's focus is on the Schools on the Move project, promoting the well-being of children. Physical activity and nutrition have a central role both in the TurkuDEE project preventing type 2 diabetes, and the project A Weighty Matter for the intervention on children's overweight.

Baltic Region Healthy Cities Association

WHO Collaborating Centre for Healthy Cities and Urban Health in the Baltic Region

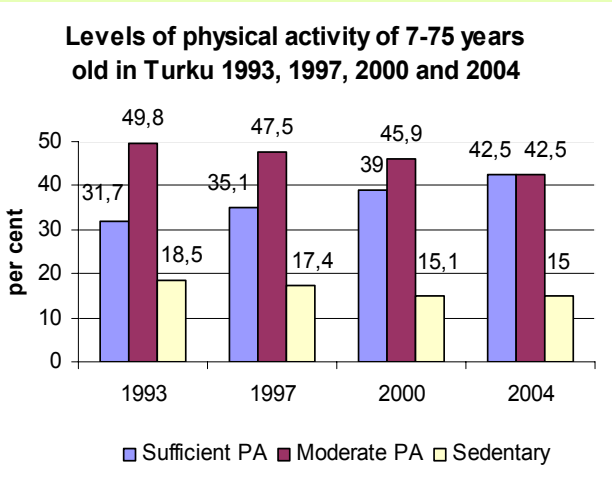
Active Living in Turku

Promoting Health by Means of Physical Activity

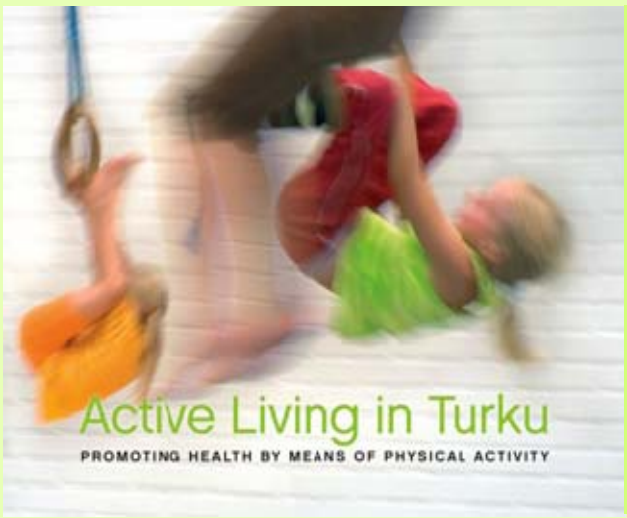
It is evident that physical activity influences physical, mental and social well-being of people and therefore is among the major issues in health promotion activities.

In the City of Turku the citizen-driven health enhancing physical activity has been developed systematically, actively and successfully since 1994.

The work has been guided by a desire to improve the well-being of all inhabitants of the city.



(City of Turku, Paavo Nurmi Centre, Efektia)



It is essential to develop a long-term strategy and management in physical activity promotion.

The multi-sectoral collaboration at the city level as well as the innovative solutions to find the sedentary people are crucial for success.

The 'cook-book' of successful practices in physical activity promotion presents

- what are the necessary preparations
- which ingredients should be combined for best results
- how does a successful result looks like

25 Fit on the way – combining transport matters with health issues

Robert Pressl

Forschungsgesellschaft Mobilität Austrian Mobility Research FGM-AMOR

Problem description
Nowadays our lifestyle lacks physical exercise. Cycling and walking would be the best to get into balance but some times the distances are too far or the weather conditions do not allow that. Only public transport (pt) is seen as alternative to the car. The door-to-door travelling times in pt are composed of the riding times and the so-called residual times (going to the bus / tram stop, waiting & changing times). In general, using public transport will be felt to take more time longer than it actually does. This mainly is due to the waiting times at the bus / tram stop. On the other hand, car transport is often perceived to be quicker than it is in reality. Here it is often only the pure driving time that is measured while the door-to-door time, i.e. the time from leaving the house to reaching the destination (incl. way to go to the parking lot, looking for a parking lot), is not taken into account.

This means the two means of transport are assessed differently in subjective terms even if their door-to-door time is the same. The EU-funded GOAL project focuses on shortening the perceived waiting time. Therefore, the time in which the passengers have nothing to do, i.e. the time on the bus / tram stop, is particularly interesting.

Implementation of the pilot project
The waiting time on the pt stops but also during the ride in means of public local passenger transport must be made more diverting. In order to achieve this, the passengers were offered a special programme. This programme provides exercises that can be made by the passengers on the bus / tram stops that mainly serve to help people to relax and to minimise stress. This means the most important thing is to make sure that these exercises are largely invisible and are not identified as such by other passengers so that nobody needs to feel ashamed. In detail, the exercises are as follows:

- strengthening exercises;
- balancing exercises;
- relaxation exercises / breathing exercises;
- acupressure exercises

The overall programme was highly activity based. 29 exercises were conceived and processed for being made visible on the pt stops frequented most but also in the vehicles of the Transport Association Graz. The passengers could make the exercises right on the spot. For doing so, they were supported by pictures and texts. In addition, all the exercises as well as suggestions for nutrition were compiled in a brochure, which is available free of charge. At the start of the campaign 10 "trainers" were on their way to familiarise the citizens with these exercises. In order to make interaction with the citizens as intensive as possible, a participation campaign was initiated.

HANDGELENKE DEHNEN

BEI BEWEGUNGSEINSCHRÄNKUNG DER HANDGELENKE ODER SCHMERZEN IN DEN HANDGELENKEN VERSUCHEN SIE FOLGENDE ÜBUNG

SO WIRD'S GEMACHT

Stehen Sie aufrecht und halten Sie Ihre Hände mit den Fingerspitzen nach oben vor dem Körper. Drücken Sie jetzt mit dem linken Handballen langsam gegen die Finger der rechten Hand. Halten Sie die Position ca. 10 Sekunden!

Wichtig: Ziehen Sie gleichzeitig Ihre Schultern nach unten!

Wiederholen Sie diese Übung 2- bis 3-mal pro Seite.

Das FIT in FAHRT - Heft mit allen Übungen erhalten Sie als pdf im Internet: www.goal-graz.at

Stadt GRAZ Umwelt, Gesundheit & Sport
ZENTRUM FÜR GESUNDHEITS FÖRDERUNG
Life
GVB
FGM AMOR austrian mobility research

26 Development of the national strategy for health enhancing physical activity promotion and its community-wide implementation in Slovenia

Zlatko Fras[1], Jožica Maučec Zakotnik[2], Rok Poličnik[3] for the Slovene HEPA National Strategy Working Group

[1] *University Medical Centre Ljubljana, Dpt of Vascular Medicine, Preventive Cardiology Unit, Ljubljana, Slovenia*
[2] *CINDI Slovenia Preventive Unit, Community Health Centre Ljubljana,*
[3] *Ministry of Health of the Republic of Slovenia*

Introduction
It is now widely accepted that a national policy and strategy for health promotion and disease prevention through health-enhancing physical activity (HEPA) should be an integral part of the national care for the health of the society.

Methods
Slovene National Strategy Recommendations were prepared under the auspices/patronage of the Ministry of Health of the Republic of Slovenia, where in late 2001 an Expert Working Group consisting of members from the fields of various medical sciences and health care, sports science and practice, field of education, social sciences, environmental and field of transportation and also representatives of various relevant non-governmental organizations was nominated. Based on the experiences of some foreign examples of good practice/models, workshops were organized and after nearly 3 years of work/consultations in either small groups or together with the core writing group, the final strategic document was developed during April 2004. After additional 2,5 years of discussions and harmonization of the document it was finally adopted by the Slovene government in early March 2007.

Results
The document includes all the important elements and activities necessary for the national strategy of health enhancement through regular physical activity to be implemented. Guidelines are based on key recommendations and leading principles of existing HEPA strategies, the recommended way for development and implementation of the specific national strategy, the principle of systemic approach, definition of target groups, the principle of integrated multilevel, multidisciplinary and intersectoral activities, the national recommendations on developing, implementing and evaluating the strategy, its content and key stakeholders. Strategic aims of the HEPA concept development in Slovenia are: (1) to increase safe and continuous physical activity for health, especially among less active part of the population, (2) to assure quality infrastructure, possibilities, programmes and support for participation in HEPA programmes and (3) to achieve social, health related and environmental benefits of the comprehensive concept of HEPA in Slovenia. In the strategy we especially emphasise the need for (A) training of public health professionals in the areas of the promotion of health enhancing physical activity, (B) more and better data on level and pattern of physical activity in the population, (C) innovative ways of tackling HEPA issues across the whole lifespan, and (D) further research into the effectiveness of promotion efforts in various HEPA areas. We declare that action to promote HEPA needs to focus on supporting changes to lifestyles and to the environment, work in different settings such as schools, workplaces and primary health care, using different approaches for different sections of the population.

Discussion/Conclusions

Achieving our goal will require political and nationwide public commitment and support, investment and resources. We are convinced that immediate community-wide action in the field of active lifestyle will decrease the burden of chronic non-communicable diseases and subsequent economic and environmental costs for this and future generations.

27 A qualitative approach to the development of physical activity promotion in primary care

Raphaël Bize[1 2], Jacques Cornuz[2], Brian Martin[1]

[1] *Swiss Federal Institute of Sports, Magglingen, Switzerland*
[2] *University Outpatient Clinic, Lausanne, Switzerland*

Purpose
To develop a widely acceptable concept, and the material for physical activity promotion in the Swiss primary care setting.

Background
A number of physical activity promotion models for primary care have been developed in Switzerland over the last few years. None of them has however been taken up by general practitioners on a wider scale.

Methods
We conducted a qualitative study with semi-structured interviews among a sample of family physicians (n=16) in the French speaking part of Switzerland, to assess their opinions and beliefs regarding physical activity promotion in their setting.

Results
Screening for sedentary lifestyle seemed to be routinely done with new cases, but not in a systematic manner. Counselling was more likely to be delivered when cardiovascular risk factors were present. According to some interviewees, more emphasis should be put on well-being as a motivational tool, rather than on disease prevention. Lack of time, lack of reimbursement, and lack of clear guidelines were the main cited barriers to counselling. Most physicians described themselves as rather pessimistic in their perception of counselling effectiveness. Practical continuing education should be directed to motivational interviewing skills and topic-specific tools.

Conclusions
In order to find wider acceptance in primary care settings, physical activity promotion should take into account physicians' attitudes and expectations, address their perceived barriers and try to improve their self-efficacy in physical activity counselling. Such an approach is currently being developed jointly with the Swiss College of Primary Care Medicine. Its feasibility, acceptance and use, is further tested among a sample of family physicians.

29 Heart rate monitoring in school curricula

Gerald Payer1, Peter Hofmann1,2

[1]Institute for Sport Science, Karl Franzens University of Graz, Austria
[2]Human Performance Research[Graz], Karl Franzens University and Medical University of Graz, Austria

Nowadays, heart rate monitoring is mainly used one-dimensionally, i.e. as a method to measure and monitor heart rate in order to improve performance in sports. This single-targeted and of course valuable perspective of heart rate monitoring is also valid and important in schools and even supported by school curricula.

However, heart rate monitoring can be much more comprehensive for the pupils' education. Our approach includes a provision of a wide set of experiences, cognitions, reflections with the aim to increase pupils' knowledge about heart rate in everyday life and to encourage the transfer of this knowledge to understand individual health and wellbeing (Payer/Hofmann 2006).
In addition, heart rate monitoring is not a subject matter only in sports education but also in other subject matters such as physics, mathematics, biology, chemistry, psychology, and philosophy in order to discover psychological and physical wellbeing, e.g. stress and relaxation.

The aim of the project is to develop and to provide means of education e.g. textbook, manual, CD-ROM, DVD for people working professionally with children in the area of physical activity and health.

The written information includes games, exercises, methods of reflection and interpretation with focus on:
(1) "Perception and Awareness": The use of the instrument as a method to become aware of the different aspects of heart rate monitoring and the variety of heart functions.
(2) "Awareness and Emancipation": After being aware of heart rate frequency the next step is to skip the instrument with the intention that the pupils have learned to feel understand, reflect, and react in an individually meaningful way.

This project aims from childhood to adolescence to provide a better understanding and knowledge of one's own physical constitution and a better capability to transform information and multi-dimensional competence into action.

The complete human being, the individual with all her/his differences in age, sex, biography, psycho-physical preconditions, developments, and needs is the focus of our research.

30 Sports organisations and health-enhancing physical activity (HEPA): "liikuttajatutkinto" - sports organisations' adults HEPA education in Finland

Aleksi Valta

Finnish Sport For All Association

Finland has roughly 8,000 sports clubs that mainly host elite sport and offer sports for all for children and youth. The Finnish population is ageing and there is a lack of physical activity among adults. Therefore there is a need to establish HEPA exercise groups to sports clubs, other associations and freely formed groups. To ensure successful launch of such groups a special HEPA education programme "Liikuttajatutkinto" has been started. It prepares peer instructors to run basic exercise groups and it is a common tool in Finnish sports organisations.

HEPA education was introduced to the Finnish sport clubs in order to start HEPA groups. In 2001-2003 education was linked to the Finnish Sports organisations' coach and instructor system as level 1 training (50 hours) in adults HEPA and fitness training.

The participants are usually beginners. There are no requirements for participation or previous instructor experience. Therefore education is easy to reach and is encouraging.

Objectives of the education

- To provide HEPA knowledge and practical tools for instructors in HEPA exercise groups
- To clear HEPA terms in a simple language
- To increase the number of HEPA instructors in communities
- To increase the physical activity of adults

The education is co-ordinated and developed by the Finnish Sport for All Association. The implementation is taken care of by Regional Sport Federations and sports disciplines are provided by National Sports Federations. Over ten National Sports Federations, e.g. volleyball and Nordic skiing, have contributed by offering HEPA applications of their disciplines. The funding of the programme is ensured by the Ministry of Education.

The education programme consists of three mandatory courses (total 21 h), optional courses (14 h) and independent work. The mandatory courses are: Introduction to HEPA, Instructing HEPA and Health effects of HEPA. In addition to sports disciplines introduction to healthy nutrition course is among the optional courses.

Future development possibilities

The number of participants has increased from 1200 (in 2004) to more than 3000 (in 2006) yearly. In the future the education programme could be tailored to meet the needs of health care education and work places.

SPORTS ORGANISATIONS' ADULTS' HEPA EDUCATION IN FINLAND

Aleksi Valta, Finnish Sport for All Association

Finland has roughly 8,000 sports clubs that mainly host elite sport and offer sports for all for children and youth. The Finnish population is ageing and there is a lack of inadequate amount of physical activity among adults. Therefore there is a need to establish HEPA exercise groups to sports clubs, other associations and freely formed groups. To ensure successful launch of such groups a special HEPA education programme "Liikuttajatutkinto" has been started. It prepares peer instructors to run basic exercise groups and it is a common tool in Finnish sports organisations.

HEPA education was introduced to the Finnish sport clubs in order to start HEPA groups. In 2001-2003 education was linked to the Finnish Sports organisations' coach and instructor system as level 1 training (50 hours) in adults HEPA and fitness training.

The participants are usually beginners. There are no requirements for participation or previous instructor experience. Therefore education is easy to reach and is encouraging.

The participants are of different ages and backgrounds - no previous experience is required.

Objectives of the education

- To provide HEPA knowledge and practical tools for instructors in HEPA exercise groups
- To clear HEPA terms in a simple language
- To increase the number of HEPA instructors in communities
- To increase the physical activity of adults

The education is co-ordinated and developed by the Finnish Sport for All Association. It is implemented by Regional Sport Federations and sports disciplines are provided by National Sports Federations. Over ten National Sports Federations, eg. volleyball and Nordic skiing, have contributed by offering HEPA applications of their disciplines. The funding of the programme is ensured by the Ministry of Education.

The education programme consists of three mandatory courses (total 21 h), optional courses (14 h) and independent work. The mandatory courses are: Introduction to HEPA, Instructing HEPA and Health effects of HEPA. In addition to sports disciplines introduction to healthy nutrition course is among the optional courses.

Future development possibilities

The number of participants has increased from 1200 (in 2004) to more than 3000 (in 2006) yearly. In the future the education programme could be tailored to meet the needs of health care education and work places.

National survey research 2005-2006

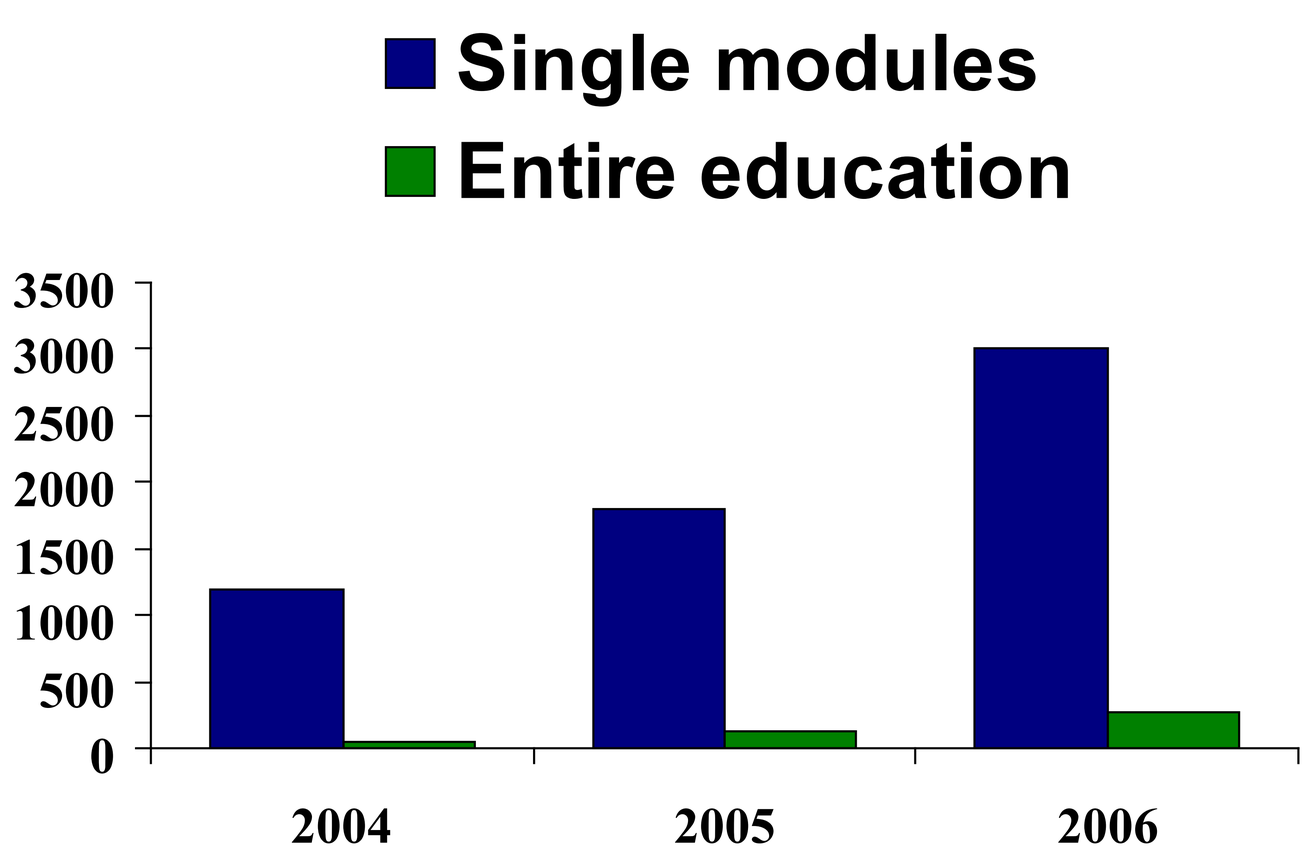
Physical activity among 19–65 year old Finns

31 % of Finns **are far from** the recommendations of Health-Enhancing Physical Activity

30 % of Finns **almost fulfil** the recommendations of Health-Enhancing Physical Activity

39 % of Finns **fulfil** the recommendations of Health-Enhancing Physical Activity

The amount of participants has expanded in three years



31 Developing a framework for appraising cycling and walking schemes

Andy Cope[1]

[1]*Sustrans, Research and Monitoring Unit*

The UK Department for Transport has compiled a suite of technical guidance for the appraisal of transport schemes over a number of years (www.webtag.org.uk). Long missing from this has been a framework for appraising cycling and walking schemes. Part of the reason for this is the different range of benefit values that needs to be taken into account for these modes. In particular, the benefit values of physical activity and journey ambience are critical to appropriate recognition of the net present value of benefits accruing to, for example, a traffic-free path, and consequently to the calculation of the benefit to cost ratio. These values can not be readily inferred from work done on other modes in the context of UK transport appraisal, because existing precedent (i.e. appraisal of schemes for different modes) simply disregards these issues. An additional problem is the paucity of data that is available on cycling and walking schemes, and the lack of transferability of the material from monitoring schemes to the appraisal process.

A new guidance module on appraising cycling and walking schemes, developed by the Department for Transport, with Sustrans and other partners, was consultation-launched in the UK in April 2007. In this guidance, benefit values are estimated for physical activity and journey ambience, and the data required to calculate the net benefits is detailed.

This paper presents several different perspectives on the new appraisal process:

- It explains how the appraisal framework is constructed, and how the benefit values are derived
- It discusses how data on usage that is/could be collected, can be transferred to the appraisal process
- It presents case studies of cycling and walking schemes that have been successfully appraised

The importance of the physical activity component to the overall benefit value is apparent from the case studies. The link between the appraisal mechanism, the usage data that may be available, and the quality of output is explored with specific reference to physical activity. The author expresses concern that a lack of adequate monitoring data will undermine the robustness of physical activity benefit calculation, and will inhibit the capacity of the appraisal mechanism to respond to the needs of transport planners in proving the viability of cycling and walking schemes. Some possible solutions to this problem are proposed. This paper links closely to a current WHO-led project which aims to standardise and improve approaches to estimation of physical activity benefit values.

32 Development of the socio-sanitary program "exercise looks after you": phase I for elderly

Narcis Gusi[1], Emilio Herrera[2], Manuel Dávila[3], Juan-Carlos Campón[4]

[1] Faculty of Sports Sciences, University of Extremadura, Cáceres, Spain
2 Health Department, Junta de Extremadura, Mérida, Spain
3 Culture Department, Junta de Extremadura, Mérida, Spain
4 Welfare Department, Junta de Extremadura, Mérida, Spain

The purpose is to present the structure and development of a new socio-sanitary approach to an "Exercise Referral scheme" for elderly labelled "Exercise Looks After You" –"El Ejercicio Te Cuida"-. The programme is a community-dwelling walk-based action addressed to elderly people. Basically, the programme starts with the participant's referral to a sports graduated sited in a public elderly centre who periodically assess participants (socio-demographics, health-related quality of life, fitness, blood analyses, and the use of National Health System) and delivers a walk-based programme 2-4 days a week.
The rationale of the programme is based on:
Sanitary personnel usually recommends moderate exercise to elderly with major health public problems (obesity I and II, diabetes II, hypertension and moderate depression), but less than 4% of Spanish elderly do exercise enough though the government and municipalities offers free classical exercise.
The adherence to exercise programmes could be improved by stressing psycho-social and health education aspects.

- Previous randomised controlled trial showed that a walk-based programme is feasible, permits equal access and is cost-effective in a target group of elderly people.

The development included:

- The development of cross-sectoral public regional policies at highest level (the departments of Health, Culture-Sports, and Welfare) because the supplier of services is frequently different from the department which enlists the benefits and the University assesses the development and evaluation, and provides data to authorities for mass media.
- The development of cross-sectoral and multilevel consensus of the protocol of delivering.
- The specific educational process of the professionals who delivers the programme.
- The publicity of programme to different collaborators and partners.
- The progressive delivery of the first 4-month of programme: more than 2300 elderly assessed and walking, from 24 to 56 municipalities, sources of recruitment (physicians, nurses, social assistants, mouse-to-hear from elderly peers, etc.).
- Overall, the programme is linked to the National Health Service through Primary Care Centres, the Public Welfare Service through Centres for Old People, and the Public Sports System through its personnel ("sport-health dynamizers").

JUNTA DE EXTREMADURA

DEVELOPMENT OF THE SOCIO-SANITARY PROGRAM "EXERCISE LOOKS AFTER YOU": PHASE I

NARCIS GUSI[1], EMILIO HERRERA [2] , MANUEL DÁVILA[3], JUAN-ARLOS CAMPÓN[4]

[1)] FACULTY OF SPORT SCIENCES, University of Extremadura, Cáceres, Spain ngusi@unex.es

[2)] HEALTH DEPARTMENT, [3)]CULTURE-SPORT DEPARTMENT & [4)]WELFARE DEPARTMENT, Junta de Extremadura, Mérida, Spain

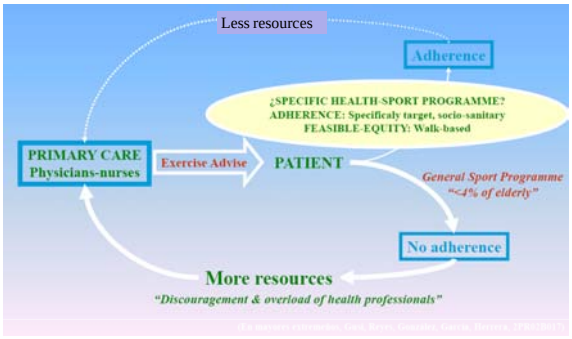
AIM

Physical exercise is an useful and feasible health technology to promote health related quality of life (HRQOL) and to prevent the dependence. The purpose is to present the structure and development of a new socio-sanitary approach to an "Exercise Referral Squeme" for elderly labelled:
"EXERCISE LOOKS AFTER YOU: EL EJERCICIO TE CUIDA"

RATIONALE

1)Sanitary personnel usually recommends moderate exercise to elderly with major health public problems (obesity I & II, diabetes mellitus II, hypertension and moderate depression), but less than 4% of Spanish elderly do exercise enough though goverment and municipalities offers free classical exercise.

2) Most of citizens is willing to increase the level of physical activity, but they usually fail. The adherence could be improved by stressing psycho-social and health education aspects.

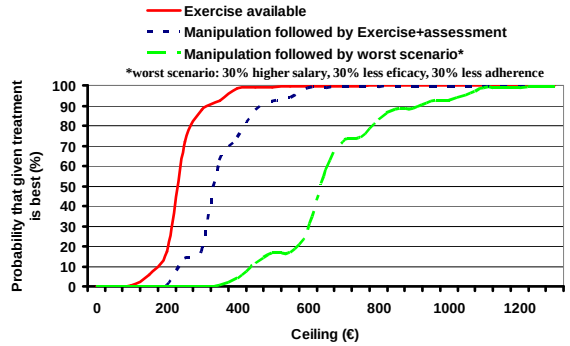


DEVELOPMENT

1.Evidence-based: research

1.1. Epidemiology (Gusi, Ortega, Gonzalez, 2005 in EQ-5D Meeting, Oslo)
walking associated to less primary care visits & higher HRQOL

1.2. Cost-efectiveness of a 6 month walk-based program in Primary Care in women older than 65 years old (Gusi, Reyes, Gonzalez Herrera, Garcia, 2007)
Adherence: 86% of retention
Cost-utility: 454 €/QALY ("66 times more efficient than minimum required")
Improved: leg strength, balance, BMI, Depression, Mobility, Endurance



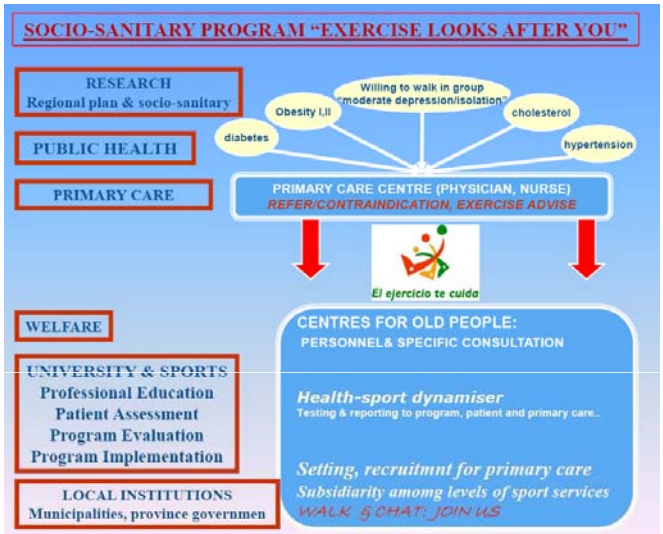
2. Study of Cost/Benefits by level of competencies

2.1. Cross-sectoral public regional policies at high level
COST-EFFECTIVENESS FOR GENERAL SYSTEM, BUT NOT FOR ALL
- **Benefit for TARGETED PATIENTS**
  WITH LESS THAN 0.8 QALYs PER YEAR AT BASELINE
- **Increased costs of suppliers at local level**

(municipalities, Primary Care Centres, etc.)
- **Cost-effectiveness at higher level**

(Public Health, Pharmacy, consultations/personnel, Preventive culture)
(Economy-employment, Culture-Sport service, Welfare , Research)

2.2. Risk of increased use of sanitary system
If exercise is done in Primary Care Centres ,
the consultations and sanitary culture could increase.



3. POLICIES
3.1. Socio-cultural innovation
Prevention-based health system Vs. Assistance-based sanitary system.

3.2. Cross-sectoral implementation and consensus
Health system supported by different departments and community.

POLICY-MAKING:
Regional & National Laws for new workers and services
Contrats among 3 government-departments and University
756.200 € FOR PILOTING NOVEMBER'06 TO DECEMBER '07

Recruitment: Primary Care +
mouth-to-hear, associations, municipalities, social workers, etc.

3.3. Multilevel & cross-sectoral implementation and consensus

Policy-makers level
- **First consensus: cross-sectoral with top level policy-makers**
- **Second consensus: higher level of executives and burocratic process**
- **Third: PROTOCOL OF IMPLEMENTATION**

Suppliers level
- **Fourth: Selection and Education of Healthsport dynamizers.**
- **Fifth: presentation to Primary Care, Welfare & Sport personnel**

Patients-recruitment level
Sixth: Campaign (mass media, speech at associations, social workers, etc.)

PATIENT ASSESSMENT AND REPORT
-Questionnaires
Sociodemographics, Healhy lifestyles, Stage of adoption of exercise habit, Sanitary resources consumption
EQ5D, GDS, MNA, IPAQ

Fitness (BMI, %fat, flexibility, trunk strength, Hand-grip, endurance by 6 min. Walk-test, Balance)

Glucose, Triglicerids, Cholesterol

4. Implementation, Evaluation, Reprograming for sustainability
4.1. Multidisciplinar evaluation of participants and report for participant & Primary Care
4.2. Evaluation of Process and reprograming
4.3. Collect demand from community to increase the program

5. Results first 4 months
5.1. Employment: 22 health-dynamisers (male/female) in rural and urban area
5.2. Patients assessed: 2200 (85% female, sociodemographic inequality), 85% retention
5.3. Improvements: balance, depression, flexibility
5.4. Politics: demand from several municipalities (both major parties),
more than 70 mass-media impacts, no inercies against the program
5.5. Research: data with baseline and follow-up.

Discussion paper on recommendations on health-enhancing physical activity

Pekka Oja

HEPA recommendations

Pekka Oja

European HEPA Network

Annual meeting

16-18 May 2007

Graz

1

European HEPA recommendation?

- HEPA Europe „discussion paper“
- Physical activity for health: Is there a need for European recommendations on health-enhancing physical activity?
  - Pekka Oja
  - Fiona Bull
  - Mikael Fogelholm
  - Brian Martin

2

Fitness recommendations

- ACSM Position Statement 1978
- ACSM Position Statement 1990: update of 1978
- ACSM Position Stand 1998: “The Recommended Quantity and Quality of Exercise for Developing and Maintaining Cardio-respiratory and Muscular Fitness and Flexibility in Healthy Adults”

3

HEPA recommendations

- US CDS & ACSM 1995
- US Department of Health and Human Services (Surgeon General’s Report) 1996
- WHO & FIMS 1995
- Institute of Medicine 2002
- IASO 2003

4

US CDS & ACSM (1995)

"Every US adult should accumulate 30 minutes or more of moderate-intensity physical activity on most, preferably all, days of the week.”

5

Physical activity

	Fitness-related	Health-enhancing
Intensity	≥60 % $\dot{V}O_2$max	50-75 % $\dot{V}O_2$max
Frequency	3-5/week	every day
Duration	15-60 min	≥ 30 min
Mode	aerobic, continuous	varied, intermittent
Other	resistance training	total amount

6

Existing European HEPA recommendations

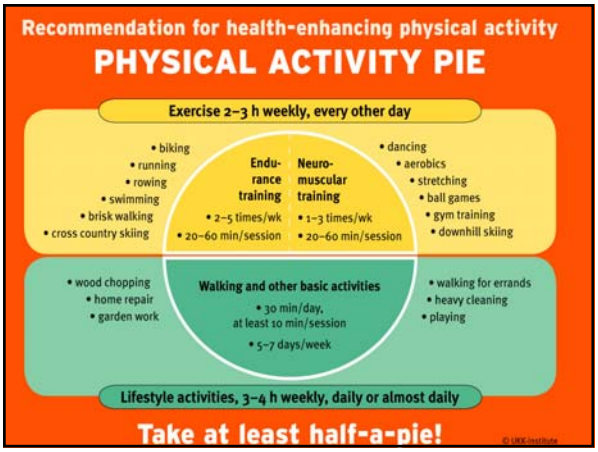
- Switzerland 1999
  - *Physical Activity Pyramid*
- United Kingdoom 2004
  - *At least five a week*
- Finland 2005
  - *Physical Activiy Pie*

Switzerland: Physical Activity Pyramid

- At least half an hour a day of moderate intensity physical activity is recommended to women and men of all ages
- People who already attain this level are encouraged to take up a training program for cardio-respiratory fitness, strength and flexibility.
- The top level of the pyramid contains physical activities exceeding the above recommendations

UK: at least five a week

- UK Chief Medical Officer 2004:
  - children and young people
    - *at least 60 min of at least moderate intensity pa each day, twice for bone, strength, flexibility*
  - adults
    - *similar to CDC & ACSM + pa for bone*
  - older adults
    - *same as adults appropriate, keep moving and retain mobility, + strength, coordination, balance*



New evidence on dose-response (1)
ACSM: Dose-response symposium 2001

- CDC/ACSM recommendation results in beneficial changes in risk factors of cardiovascular diseases and reduces the risk of colon cancer, depression and anxiety
- total volume of activity important with regard to mortality, cardiovascular disease, overweight and obesity and type 2 diabetes mellitus
- quantitative guidelines for total activity limited, epidemiological evidence suggests that minimum dose to reduce all-cause mortality is 500-1000 kcal/wk but considerably more is needed for weight reduction

New evidence on dose-response (2)
Oja 2004, review

- Recent evidence continues to support the moderate intensity concept of hepa
- Evidence suggests some differentiation in the dose-response relations of activity and health outcomes
  - Moderate-intensity, 30-60 min, 3-5 times/wk effective in reducing risk of *cardiovascular disease and its risk factors*
  - Physical activity can significantly reduce the risk of *type 2 diabetes and obesity* in overweight people – total amount of activity important – 50-80 minutes of daily moderate-intensity activity optinal
  - Activity dose for *musculoskeletal* benefits target-specific
  - Little data on dose-response in children and adolescents

New evidence on dose-response (4)

US National Academy of Sciences, 2007

- Adequacy of Evidence for Physical Activity Guidelines Development: Workshop summary

Amount:
1 = considerable data, 2 = some data, 3 = limited data

Strength:
1 = high, 2 = moderate, 3 = low

US NAS, 2007: adults (1)

All-cause mortality & major diseases

Outcome	Amount	Strength
All-cause mortality	1	1
Coronary heart disease	1	1
Cardiovascular disease	1	1
Type 2 diabetes mellitus	1	1
Cancer: colon and breast	1	2
Cancer: other sites	2	3

US NAS, 2007: adults (2)

Weight-related conditions

Outcome	Amount	strength
Prevention of weight regain	2	1
Contribution to long-term weight loss	1	2
Metabolic syndrome	2	1
Prevention of unhealthy weight gain	2	2

US NAS, 2007: adults (3)

Musculoskeletal

Outcome	Amount	Strength
Muscle quality	1	1
Muscle mass/sarcopenia	1	1
Bone health (osteoporosis)	2	1
Osteoarthritis of knee and hip	2	3

US NAS, 2007: adults (4)

Mental and neurological conditions

Outcome	Amount	Strength
Depression	1	1
Anxiety	1	2
Sleep quality	2	1
Altzheimer's disease	2	2
Chronic fatigue syndrome	2	2
Perkinson's disease	3	3

US NAS, 2007: children and youth

Outcome	Amount	Strength
Fitness	1	1
Skeletal health	2	2
Blood pressure in hypertension	2	2
Weight loss in OW & O	2	2
Metabolic syndrome factors	3	2
HDL cholesterol	2	3
Behevioral	2	3
Academic performance	2	3
Type 2 diabetes	4	NA

US NAS, 2007: elderly people (>65)

Outcome	Amount	Strenght
CHD, CVD	1	1
Diabetes mellitus	1	1
Osteoporosis	1	1
Sarcopenia	1	1
Fitness	1	1
Activities of daily living	1	1
Sleep quality	2	1
Congnitive function	1	2
Fall prevention	2	2
Disability	2	3

US NAS, 2007: conclusions

- The dose-response data indicate that the development of new or comprehensive guidelines based on such evidence would be feasible
- The evidence clearly indicates that the large volume of high-quality data could inform new physical activity guidelines

Vuori, 2006: accumulation (1)

- Clinical trials
  - If the criteria for intensity, duration and frequency are met the daily dose accumulated in several short bouts, e.g. in lifestyle activities, is effective in increasing physical **fitness**, especially among the sedentary
  - **Cardiovascular risk factors**: findings inconclusive

Vuori, 2006: accumulation (2)

- Epidemiological studies
  - Limited number of studies largely support the effectiveness of accumulated and lifestyle activities
  - Intensity is not sufficient in many common lifestyle activities particularly for men
  - Stair climbing is very effective

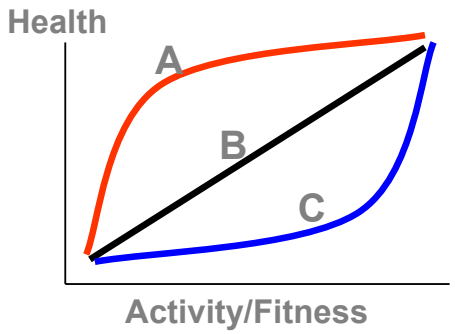
Vuori, 2006: accumulation (3)

- justified to continue to include the concepts of *accumulation* and *lifestyle activity* in the public health recommendations of physical activity
- very important to develop the wording of the recommendations and the examples of the activities in such a way that hepa is not put „on sale“ by including ineffective activities or that it is not „oversold“ by promising more health benefits than it can produce.

Discussion points

- Are quantitative recommendations justifiable?
- Current recommendations American-based, are there reasons for European recommendations? Scientific? Cultural?
- Are there reasons for country-specific recommendations?
- If new recommendations considered
  - for whom should they be targeted?
  - who should issue them, role of HEPA Europe?

Fitness/health dose response



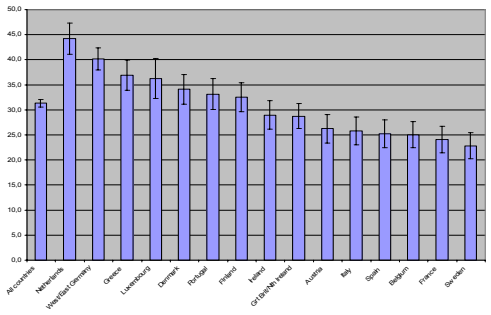
Physiological differences US/Europe?

- Sufficiently active adults
  - 31% in Europe, 46% in US
  - Assessment methodology different
  - Questionnaire methodolygy likely to overestimate
  - No evidence for real differences
- Fitness
  - Fragmentary data indicates no clear difference

Physiological differences across Europe?

- Sufficiently active adults: 31 % across EU countries, range 23-44%
- All European countries, more differences?
- Suggests country-specific recommendations?

Eurobarometer: sufficient activity



Attitudes towards sport, exercise, physical activity

- Americans instrumental?
- Europeans value sport for all
- If real differences
  - Qauntitative recommendations for Americans
  - Qualitative recommendations for Europeans

Attitudes towards HEPA in Europe

- Is physical activity important for health?
  - Finns: yes 44%
  - Greeks: yes 9%
- ~ readiness for change
- -> country-specific recommendations in Europe

If new recommendations, for whom?

- People: simple, clear, culturally sensitive
- Professionals: based on dose-response relationships, outcome-specific, target group-specific
- Politicians: public health perspective, economic aspects

Conclusions (1)

1. CDC/ACSM recommendation still valid as an orientation point
2. Much new data available, need to be analysed, synthesised, applied
3. Need recommendations for adults, children and youth, ageing people
4. No apparent physiological reasons for Europen recommendations
5. Large cross-country differences in pa suggest country-specific recommendations

Conclusions (2)

6. Possible differences in attitudes towards sport, exercise and physical activity in US and Europe may justify different message
7. Large cross-country differences in attitudes towards hepa in Europe suggest a need for cultural adaptations in the population message
8. Updated recommendations justified, need endosement from EU and WHO/Europe and from professional organisations
9. Should HEPA Europe take the lead?