

Why cycling and walking?

Francesca Racioppi¹

Sonja Kahlmeier²

Carlos Dora, Tim Armstrong, Vanessa Candeias³

¹ WHO Regional Office for Europe, European Centre for Environment and Health

² Institute of Social and Preventive Medicine, University of Zurich, Switzerland

³ World Health Organization Headquarters, Department of Chronic Diseases and Health Promotion



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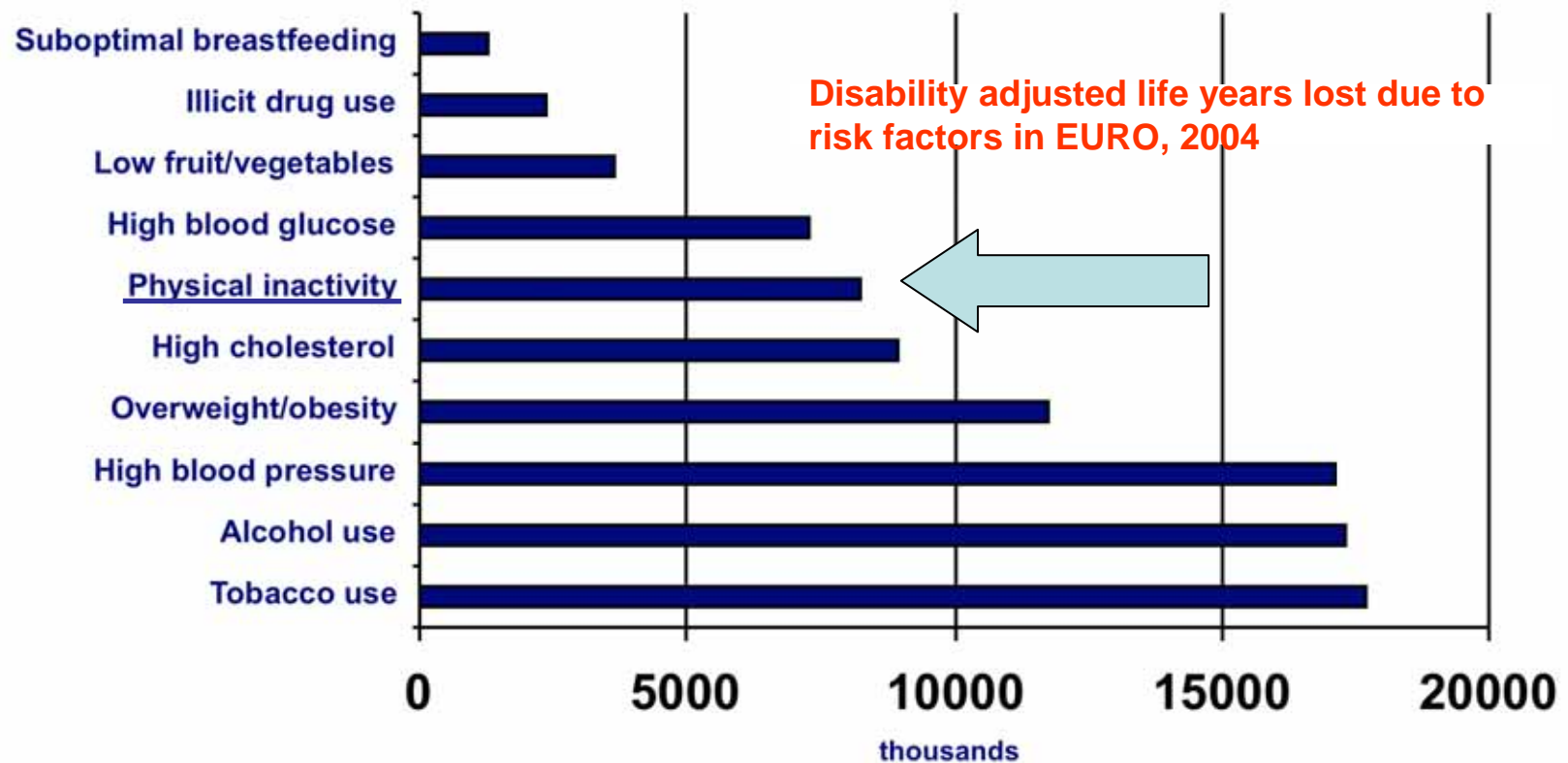
Europe

In this presentation:

- Physical activity and health: what do we know?
- WHO Global Recommendations on Physical activity for Health
- Why cycling and walking?
- Health dividends from Green Growth Strategies

Physical activity and health: what do we know?

Physical inactivity is a leading risk factor for health in Europe, associated to nearly 1 million deaths/year



Source: Global Health Risks.. Geneva, World Health Organization, 2009
(http://www.who.int/healthinfo/global_burden_disease/global_health_risks/en/index.html/).

Inactivity status in the European Region

- WHO estimates that in adults :
 - 63% are not reaching the minimum recommended level of physical activity
 - 20% of those are rated as “inactive”
 - 38% are sufficiently/highly active
- 40% of EU citizens say that they play sport at least once a week
- Citizens of Mediterranean and central European countries tend to exercise less
- 22% of 11-year old girls and 30% of boys report at least one hour of daily moderate to vigorous PA (MVPA)



Global Health Risk Report, World Health Organization, 2009
Eurobarometer 72.3. Special Eurobarometer 334: Sport and PA
Health Behaviour in School Aged Children 2005/06 Survey

Physical inactivity estimated to cause:

21–25% of breast and colon cancer burden

27% of diabetes burden

30% of ischaemic heart disease burden

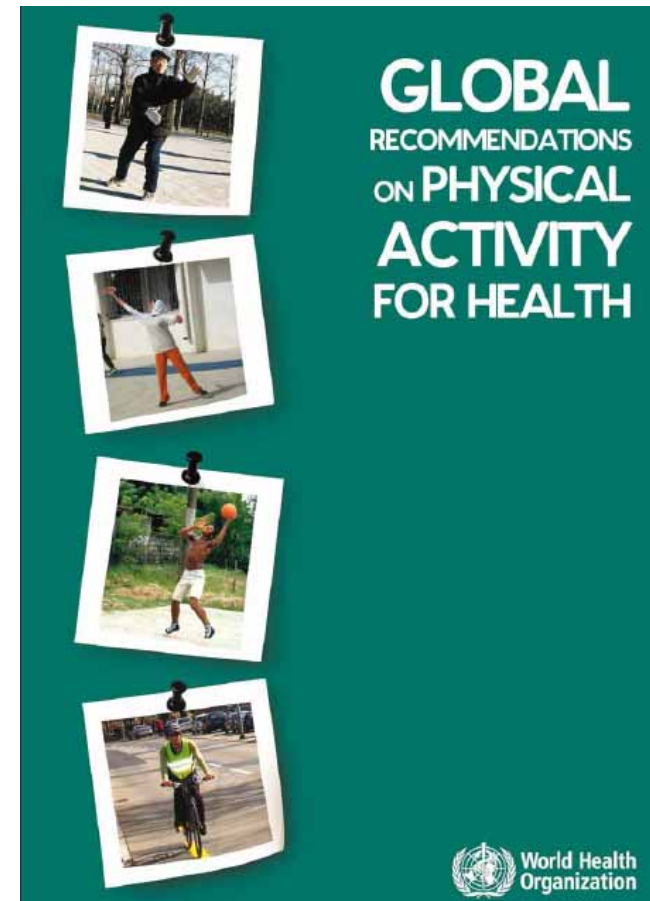
Magnitude of benefits from reaching minimum recommendations for physical activity

- Risk reductions for:
 - 20-30% for CHD and CVD morbidity and mortality
 - Cancer risks:
 - 30% for colon cancer
 - 20% - 40% for breast cancer
 - 20% for lung cancer
 - 30% for endometrial cancer
 - 20% for ovarian cancer
 - 30% for developing functional limitations
 - 30% for premature all-cause mortality



Physical Activity Guidelines Advisory Committee. Physical Activity Guidelines Advisory Committee Report, 2008. Washington, DC: U.S. Department of Health and Human Services, 2008.

WHO Global recommendations on physical activity for health



Adults aged 18-64

- **At least 150 minutes** of Moderate intensity PA spread throughout the week

OR

at least 75 minutes of Vigorous PA spread throughout the week

OR

an equivalent combination of those two

- Bouts of at least **10 minutes**.



WHY CYCLING AND WALKING?



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ITF Forum

Leipzig, 25 May 2011

Cycling and walking: a great way to meet the recommendations for healthier life!

- Do not require making a time slot available for that
 - *“I have no time for physical activity”*
- Equitable and accessible options
- Feasible
 - 10% of trips made in car in Europe cover distances of less than 1 km
 - more than 30% less than 3 km and 50% of less than 5 km
- Most people can do it
- Is enjoyable!!!!



Photo courtesy of BASPO

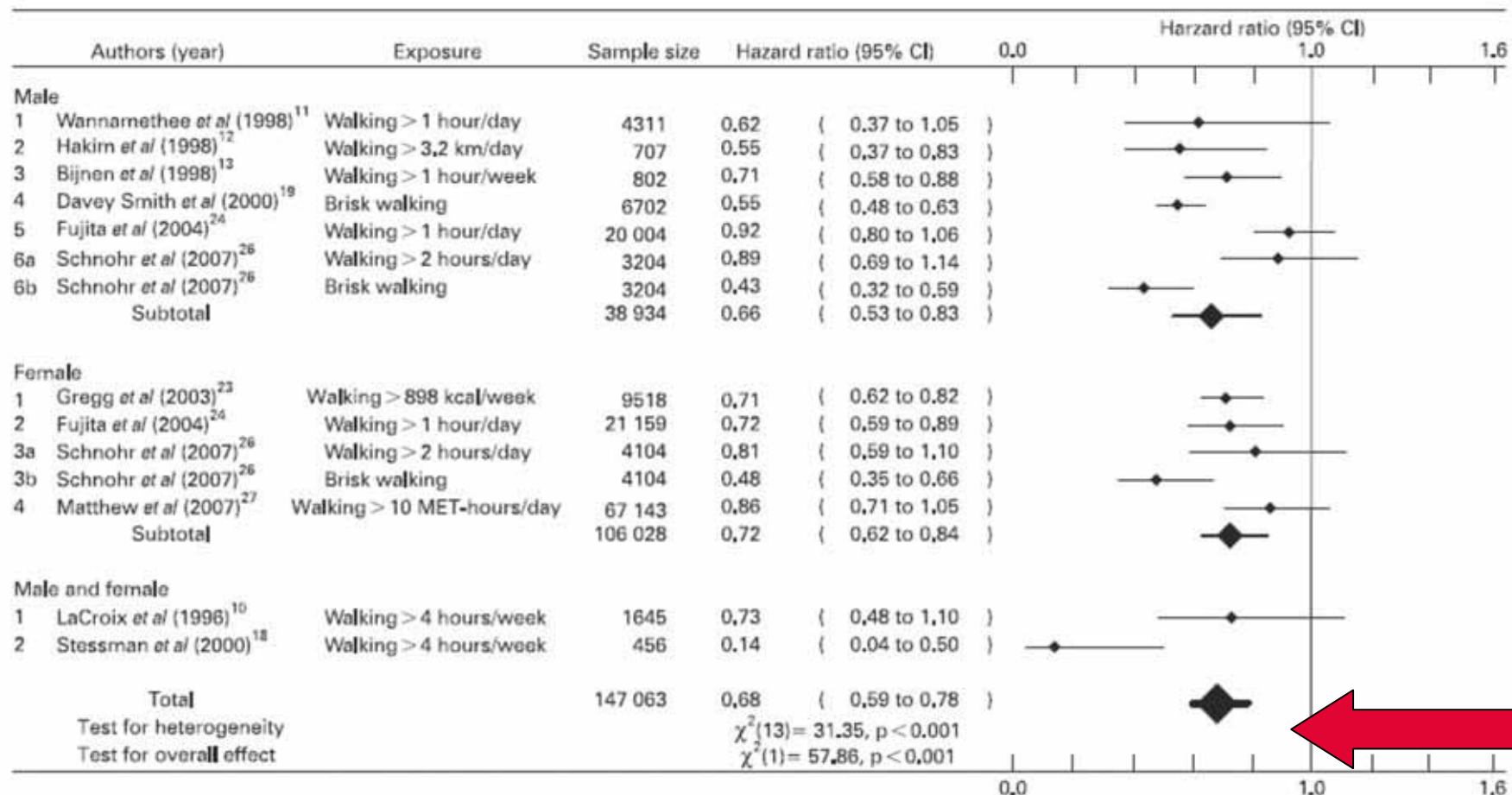
The benefits of physical activity come as a “package” and are reflected on overall reduction in total mortality - 1/2

Cycling and effects on total mortality

	FINDINGS	Reduction in risk for all cause mortality
Andersen et al (2000) Copenhagen Hearth Study	Danish adults reporting cycling to and from work: RR = 0.72 (95 % CI: 0.6, 0.9) for all cause mortality	28 %
Matthews et al (2007) Shangay Women’s Health Study	Chinese women reporting regular cycling for transportation: RR=0.79 (0.61-1.01) (0.1-3:4METs) and 0.66 (0.40-1.07) (>3.5METs) for all-cause mortal.	21-34%

The benefits of physical activity come as a “package” and are reflected on overall reduction in total mortality - 2/2

Meta-analysis results show nearly 30 % reduced all-cause mortality for regular walkers



The association between walking and all-cause mortality in men and women. The referent group refers to the lowest walking (volume/intensity) group and hazard ratios of less than 1.0 suggest benefits of walking. MET, metabolic equivalent.



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Source: Hamer and Chida, 2008

Leipzig, 25 May 2011

Walking and cycling: an option that helps different sectors achieving their own goals

Goals	Interest
Reduce emissions of: –air pollutants; –greenhouse gases; –noise	Environment Health
Reduce congestion	Transport
Reduce road traffic injuries	Transport, Health
Reduce investments in infrastructure for more cars	Transport
Improve accessibility and quality of urban life	Transport, Health
Complement improvements to vehicles and fuels	Transport
Increase physical activity	Health
Promote tourism	Tourism and leisure industry
Creation of new jobs	Economy, welfare, labour

Health dividends from Green Growth Strategies

Active transport as part of policies to reduce greenhouse gases emissions provides important health benefits

Scenarios for urban transport in London

* *Health effects attributable to physical activity, air pollution, injuries per million population in 1 year, compared to “business as usual”. Negative numbers indicate a reduction in the disease burden.*

	Low emissions vehicles	Increase in active mobility	Combining low emissions vehicles and active mobility
Health effects*			
Premature mortality	-17	-530	-541
Years of Life Lost (YLL)	-160	-5188	-5295
Years of Life lived with Disability (YLD)	0	-2144	-2144
Disability Adjusted Life Years (DALYs)	-160	-7332	-7439

Source: Woodcock et al – Public health benefits of strategies to reduce greenhouse-gas emissions - :urban land transport – 2009 Lancet published online November 25, 2009

Evidence: physical activity and health linked to urban modal split

Factor	Studies finding improved outcomes	Studies finding worse outcomes
<i>Use of different travel modes</i>		
More active transport (walking, cycling)	Increased physical activity ^{88,185-197} Reduced BMI or obesity ^{35,109,118,148,188,199-205} Reduced air pollution-related effects ²³ Improved quality of life or reported health status ^{167,183,206} Reductions in specific health problems ^{188,206} Lower mortality / higher life expectancy ^{36,37,207}	Increased stress and psychological distress ¹⁹⁸ Increased road traffic injury ²³
More use of public transport	Increased walking, cycling or active transport ²⁰⁸ Increased physical activity ^{185,209,210} Reduced BMI or obesity ^{148,203,212} Reduced air pollution-related effects ^{70,213}	Increased air pollution-related effects ¹⁸⁵ Increased risk of tuberculosis ²¹¹
Lower car use, car ownership and traffic volumes	Increased walking, cycling or active transport ^{94,129,132,134,141-143,149,150,152,178,179,214-217} Increased physical activity ^{160,181,191,218} Reduced BMI or obesity ^{73,109,148,164,218-221} Improved reported health status ¹⁶⁶ Reductions in specific health problems ²²²	

Review of studies on urban travel mode, physical activity and health –

WHO/Health in Green Economy (forthcoming)

...and to mode of *infrastructure investment*

<i>Infrastructure for different travel modes (including presence and proximity of infrastructure)</i>		
More infrastructure facilitating walking (including general assessments of “walkability” of neighbourhoods as well as presence of specific features, e.g. pavements)	<p>Increased walking, cycling or active transport^{94,133,138,144,146,147,154,175,223–229}</p> <p>Increased physical activity^{104,154,155,160,176,184,223,228,230–239}</p> <p>Reduced BMI or obesity^{111,118,119,165,224,234,238–240}</p> <p>Reduced air pollution-related effects²³⁴</p> <p>Improved reported health status²²⁴</p> <p>Reductions in specific health problems^{222,224}</p> <p>Lower mortality / higher life expectancy⁴⁷</p>	Less active transport ¹⁷⁹
More infrastructure facilitating cycling	<p>Increased walking, cycling or active transport^{94,136–139,141,144,171,175,241–243}</p> <p>Increased physical activity^{27,104,157,159,161,184,244}</p>	
More infrastructure facilitating public transport use	<p>Increased walking, cycling or active transport^{44,133,140,146}</p> <p>Increased physical activity^{103,140,157,159,182}</p> <p>Reduced BMI or obesity^{113,117}</p> <p>Reduced air pollution-related effects²⁴⁶</p>	Less walking, cycling or active transport ^{89,94,150,152,179,245}
Less infrastructure facilitating car travel (including parking, motorways)	<p>Increased walking, cycling or active transport^{245,247}</p> <p>Reduced BMI or obesity⁷³</p>	

Review of studies on infrastructure investment, physical activity and health –

WHO/Health in Green Economy (forthcoming)

Health Dividends from Green Growth

Conclusion:

Much greater health gains from shifting to rapid transit/public transport walking and cycling

than from improving fuel and vehicle efficiency

Consider all costs and benefits of Green Growth strategies!

Health in the green economy

Co-benefits to health of climate change mitigation

TRANSPORT SECTOR

Preliminary findings – initial review

Key messages

Health potentials

- A shift to active transport (walking and cycling) and rapid transit/public transport combined with improved land use can yield much greater immediate health “co-benefits” compared with improving fuel and vehicle efficiency, yet the latter has been the mitigation strategy most emphasized by the Intergovernmental Panel on Climate Change (IPCC).¹
- Potential health gains of a shift from private motorized transport to walking, cycling and rapid transit/public transport include reduced respiratory and cardiovascular disease from air pollution and less exposure to traffic injury risks and noise/stress. In addition, large benefits are expected from increased physical activity leading to the prevention of obesity, diabetes, heart disease and cancer, as well as greater health equity achieved by better access to goods and services among groups without private motor vehicles.^{2,4}
- Shifting from gasoline- to diesel-powered engines to lower CO₂ emissions could increase emissions of health-damaging small particulates (PM₁₀, PM_{2.5}) per unit of travel.⁵ IPCC’s review of diesel technology’s potential does not consider potential health impacts, yet large shifts to diesel fuels in European cities in the last decade are considered to be a cause of stable (not lower) PM₁₀ levels in European cities in the last decade and no decline in the health impacts of air pollution – despite the introduction of cleaner diesel technologies.⁶
- Transport-related health risks currently affect millions of people. For example, urban air pollution (much of it transport-generated) and traffic injuries together kill about 2.5 million people every year, mostly in low- and middle-income countries. Active transport can help prevent the 3.2 million deaths annually attributable to physical inactivity.^{7,8}

The climate footprint of transport

Global transport emissions comprised an estimated 23% of direct CO₂ emissions in 2008, with land transport accounting for the largest share (12%). Under “business as usual” scenarios, emissions are projected to rise rapidly in absolute terms.⁹

“Win-win” health and transport mitigation strategies

- Health co-benefits (and potential risks) of transport mitigation strategies have not received systematic analysis, as reflected in IPCC’s Fourth Assessment Report on mitigation options for the transport sector.¹
- Improved active transport, rapid transit/public transport and land use strategies can be cost-effective in many settings, including rapidly developing states. For instance, relocating educational facilities in proportion to residential locations in Santiago, Chile, was estimated to potentially reduce transport emissions by 32% at a cost of only US\$ 2 per ton of carbon reduction over 20 years.¹⁰

About Health in the Green Economy

Many strategies to reduce climate change have large, immediate health benefits. Others may pose health risks or tradeoffs. Examined systematically, a powerful new dimension of measures to address climate change emerges.

WHO’s Health in the Green Economy series, to be published in spring 2011, is reviewing the evidence about expected health impacts of greenhouse gas mitigation strategies in light of mitigation options for key economic sectors considered in the Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007 (IPCC).¹

The aim is to propose important health co-benefits for sector and health policy-makers, and for consideration in the next round of IPCC mitigation reviews (Working Group III – Fifth Assessment Report (AR5)). Opportunities for potential health and environment synergies are identified here for key economic sectors, including transport.

Coming ...NOW!!!!



The screenshot shows the HEAT website interface. On the left is a navigation menu with the HEAT logo and links for Introduction, HEAT for cycling, HEAT for walking, Current Assessment, Previous Assessments, and Acknowledgements. The main content area is titled 'HEAT Introduction' and includes a welcome message, a description of the tool's purpose, and a list of situations where it can be used. A 'More information' box on the right contains a section titled 'What data do I need?' with a 'more...' link.

HEAT
Health economic assessment tool

Introduction

- HEAT for cycling
- HEAT for walking
- Current Assessment
- Previous Assessments
- Acknowledgements

HEAT ► Introduction

Welcome to the WHO/Europe Health Economic Assessment Tools (HEAT) for walking and for cycling.

This tool is designed to help you conduct an economic assessment of the health benefits of walking or cycling by estimating the value of reduced mortality that results from specified amounts of walking or cycling.

The tool can be used in a number of different situations, for example:

- 1. When planning a new piece of cycling or walking infrastructure.**

HEAT attaches a value to the estimated level of cycling or walking when the new infrastructure is in place. This can be compared to the costs of implementing different interventions to produce a benefit:cost ratio (and help to make the case for investment), or as an input into a

More information

What data do I need?

To produce an assessment, you need to provide data on the number of people walking or cycling, and the amount of walking they are doing (or are projected to do).

[more...](#)

**How much is reduced mortality
from
regular walking and cycling
worth?**