Kanton Zürich
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Physical Activity Promotion in the Context of Overall Health Policy

PD Dr. med. Brian Martin, MPH

Kantonsarzt Zürich
Co-Director of the WHO Collaborating Centre
for Physical Activity and Health at EBPI UZH

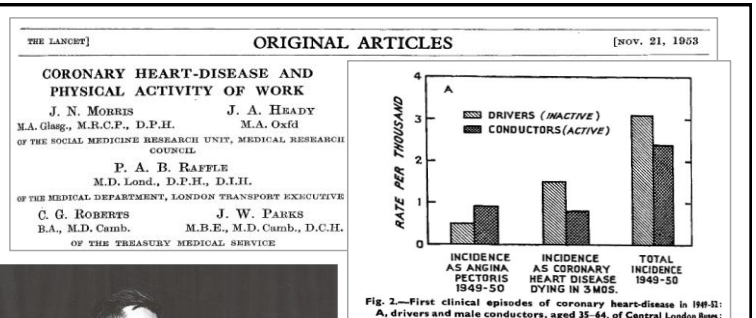
Colloquium in series „Physical Activity and Public Health“

IUMPS Lausanne, 28.11.2017

Including links to additional material on the last two slides,
added after the discussion

PA Promotion in the Context of Overall Health Policy

- What do we know about physical activity and health?
- What do we know about physical activity promotion?
- Physical activity in health policy
- Physical activity in overall health
- PA promotion in the context of overall health policy


THE LANCET] ORIGINAL ARTICLES [NOV. 21, 1953

CORONARY HEART-DISEASE AND PHYSICAL ACTIVITY OF WORK

J. N. MORRIS, M.A. Glasg., M.R.C.P., D.P.H. — J. A. HEADY, M.A. Oxfd
OF THE SOCIAL MEDICINE RESEARCH UNIT, MEDICAL RESEARCH COUNCIL

P. A. B. RAFFLE, M.D. Lond., D.P.H., D.I.H.
OF THE MEDICAL DEPARTMENT, LONDON TRANSPORT EXECUTIVE

C. G. ROBERTS, B.A., M.D. Camb. — J. W. PARKS, M.B.E., M.D. Camb., D.C.H.
OF THE TREASURY MEDICAL SERVICE

Fig. 2.—First clinical episodes of coronary heart-disease in 1949-52: A, drivers and male conductors, aged 35–64, of Central London Buses;

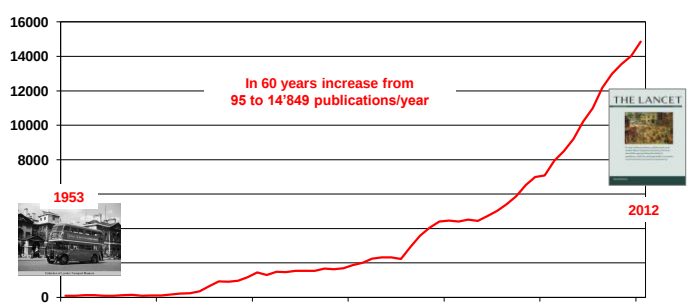

Morris addressing the 1954 World Conference of Cardiology in Washington DC


Collection of London Transport Museum

The Telegraph, 02.11.2009

Scientific Publications on Physical Activity in the Pubmed Database

MeSH terms „physical activity“ OR „exercise“ OR „sport“ OR „sports“



www.pubmed.org, 02.10.13

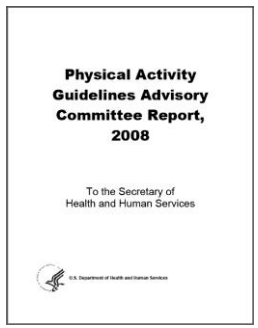
Panel 1: **Health benefits of physical activity in adults**[3-5]

Strong evidence of reduced rates of:

- All-cause mortality
- Coronary heart disease
- High blood pressure
- Stroke
- Metabolic syndrome
- Type 2 diabetes
- Breast cancer
- Colon cancer
- Depression
- Falling

Strong evidence of:

- Increased cardiorespiratory and muscular fitness
- Healthier body mass and composition
- Improved bone health
- Increased functional health
- Improved cognitive function



Recommendations

USA 2008 WHO 2010

Lee IM, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT, for the Lancet Physical Activity Series Working Group. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. Lancet. 2012 Jul 21;380(9838):219-29.

Panel 1: **Health benefits of physical activity in adults**[3-5]

Strong evidence of reduced rates of:

- All-cause mortality
- Coronary heart disease
- High blood pressure
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- Type 2 diabetes
- Breast cancer
- Colon cancer
- Depression
- Falling

Strong evidence of:

- Increased cardiorespiratory and muscular fitness
- Healthier body mass and composition
- Improved bone health
- Increased functional health
- Improved cognitive function

conservative assumptions

↓

calculation of burden of disease ← physical inactivity

- 6% to 10% of cases for these diseases worldwide
- 9% of premature mortality worldwide (5.3 million deaths)

~ comparable to worldwide effects of smoking or obesity

Lee IM, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT, for the Lancet Physical Activity Series Working Group. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. Lancet. 2012 Jul 21;380(9838):219-29.

Scientifically proven health effects of physical activity

Health impact of physical activity in children and adolescents			
Cardiovascular endurance	✦	Risk profile for cardiovascular diseases	✦
Muscle power	✦	Risk profile for metabolic disorders	✦
Healthy body weight	✦	Anxiety-related symptoms	✦
Bone healths	✦	Depressive symptoms	✦
In adults			
Life expectancy	✦	Cardiovascular disease	✦
Fitness	✦	Stroke	✦
Healthy body weight	✦	High blood pressure	✦
Bone health	✦	Type 2 diabetes	✦
Psychological well-being	✦	Colon cancer	✦
Quality of sleep	⇧	Breast cancer	✦
Health-related quality of life	⇧	Depression	✦
Additionally in older adults			
Independence	✦	Falling accidents	✦
Mental acuity	✦		
Key			
Improvement in relation to this health-related aspect	✦	Decrease in risk in relation to this health problem	✦
Strong evidenc ✦ Moderate evidence ⇧			

Fig. 2: Overview of scientifically proven health impact of physical activity in different age groups.

FOSPO, FOPH, Health Promotion Switzerland, bfu, Suva, Health and Physical Activity Network Switzerland. Health-Enhancing Physical Activity. Core document for Switzerland. Magglingen, FOSPO 2013.

Scientifically proven health effects of physical activity

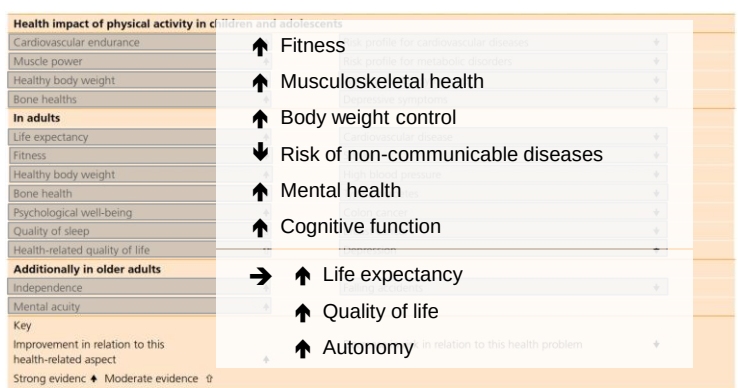


Fig. 2: Overview of scientifically proven health impact of physical activity in different age groups.

FOSPO, FOPH, Health Promotion Switzerland, bfu, Suva, Health and Physical Activity Network Switzerland. Health-Enhancing Physical Activity. Core document for Switzerland. Magglingen, FOSPO 2013.

The economic burden of physical inactivity: a global analysis of major non-communicable diseases

Ding Ding, Kenny D Lawson, Tracy L Kolbe-Alexander, Eric A Finkelstein, Peter T Katzmarzyk, Willem van Mechelen, Michael Pratt, for the Lancet Physical Activity Series 2 Executive Committee*

www.thelancet.com Published online July 27, 2016 http://dx.doi.org/10.1016/S0140-6736(16)30383-X

"Based on data from 142 countries, representing 93·2% of the world's population, we conservatively estimated that in 2013 the effect of physical inactivity on five major NCDs and all-cause mortality cost the world economy more than $ 67·5 billion through health-care expenditure and productivity losses. This is equivalent to the total GDP of Costa Rica (ranked around 80th out of all 193 countries with data) in the same year.
(…) Further, sensitivity analysis using less conservative assumptions led to much higher estimates (…)

www.thelancet.com/series/physical-activity-2016

Sitting Time and Mortality from All Causes, Cardiovascular Disease, and Cancer

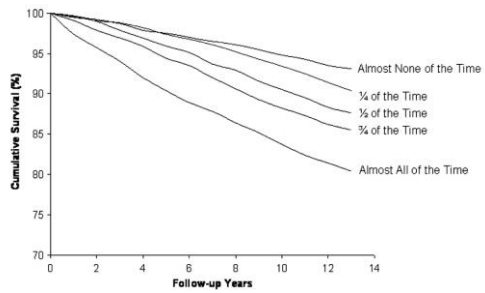
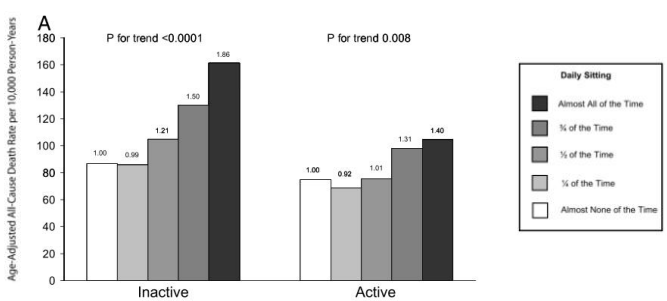


FIGURE 1—Kaplan–Meier survival curve for all-cause mortality across categories of daily sitting time in 17 ,013 men and women 18–90 yr of age, in the Canada Fitness Survey, 1981–1993. Log-rank $\chi^2 = 174.4$, $df = 4$, $P < 0.0001$. The sample sizes across the categories were 3022 (17.8%), 6652 (39.1%), 4379 (25.7%), 2138 (12.6%), and 822 (4.8%), for the categories of almost none of the time, one fourth of the time, half of the time, three fourths of the time, and almost all of the time, respectively.

Katzmarzyk P et al. Med Sci Sports Exerc 2009: 998–1005.

Sitting Time and Mortality from All Causes, Cardiovascular Disease, and Cancer

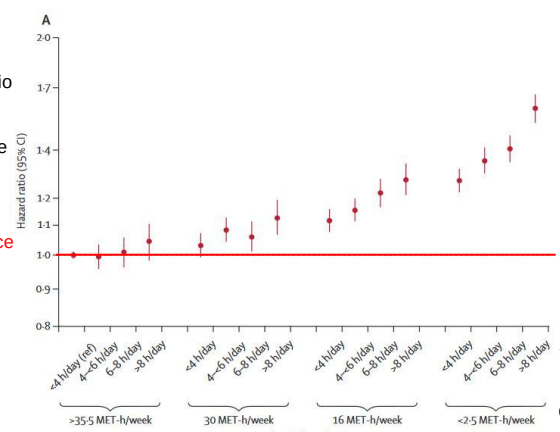


Katzmarzyk P et al. Med Sci Sports Exerc 2009: 998–1005.

Joint associations of sitting-time and PA with all-cause mortality

Hazard ratio for dying with 95% confidence intervals

Indifference value



Sitting duration per day

Quartiles of PA (MVPA)

Ekelund et al. www.thelancet.com/series/physical-activity-2016

Does physical activity attenuate, or even eliminate, the detrimental association of sitting time with mortality? A harmonised meta-analysis of data from more than 1 million men and women

Ulf Ekelund, Jostein Steene-Johannessen, Wendy J Brown, Morten Wang Fagerland, Neville Owen, Kenneth E Powell, Adrian Bauman, I-Min Lee, for the Lancet Physical Activity Series 2 Executive Committe and the Lancet Sedentary Behaviour Working Group**

www.thelancet.com **Published online July 27, 2016 http://dx.doi.org/10.1016/S0140-6736(16)30370-1**

"High levels of moderate intensity physical activity (ie, about 60–75 min per day) seem to eliminate the increased risk of death associated with high sitting time.
However, this high activity level attenuates, but does not eliminate the increased risk associated with high TV-viewing time."

www.thelancet.com/series/physical-activity-2016

Evidence-based physical activity interventions: lessons from around the world – mean effect sizes

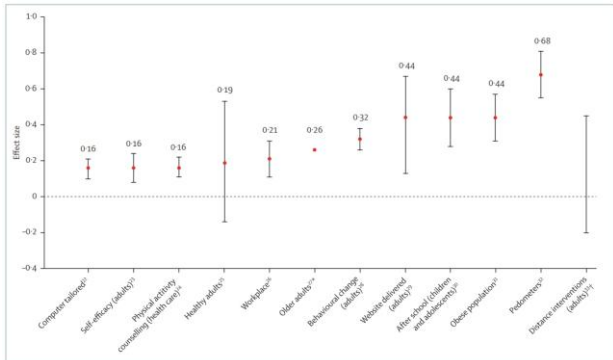
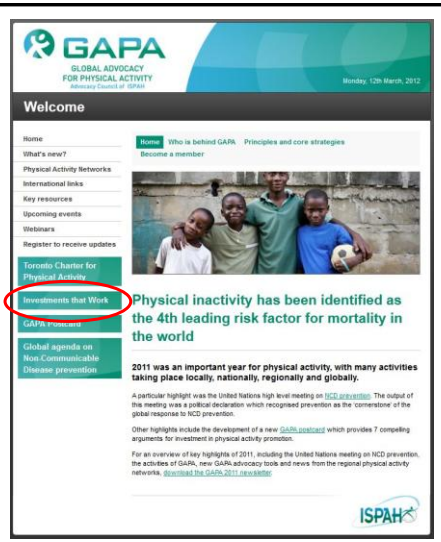


Figure: **Mean effect-size estimates from original systematic reviews**
All are mean effect size and 95% CIs, unless otherwise indicated. *Index. †Range.

Heath GW, Parra-Perez D, Sarmiento OL, et al, for the Lancet Physical Activity Series Working Group. Lancet. 2012 Jul 21;380(9838):272-81.



GAPA, a council of the International Society for Physical Activity and Health ISPAH
www.globalpa.org.uk

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www.globalpa.org.uk


Review

Effect of school-based interventions on physical activity and fitness in children and adolescents: a review of reviews and systematic update

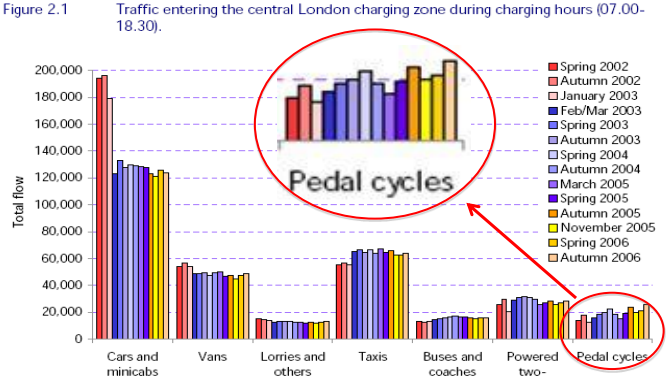
S Kriemler,[1,2] U Meyer,[1] E Martin,[2] E M F van Sluijs,[3] L B Andersen,[4,5] B W Martin[2]

Br J Sports Med 2011;**45**:923–930. doi:10.1136/bjsports-2011-090186

London Congestion Charge

London Congestion Charge

Figure 2.1 Traffic entering the central London charging zone during charging hours (07.00-18.30).



Comparison of inhabitants' physical activity behaviour in Zermatt (Community 1), Crans-Montana und Verbier

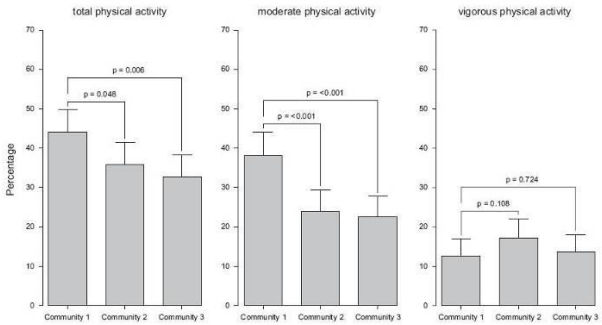
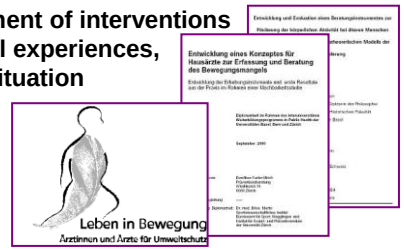


Fig. 1. Age- and sex-adjusted prevalence of sufficient total, moderate and vigorous physical activity by community.

Thommen Dombois O, Braun-Fahrländer Ch, Martin-Diener E. Comparison of adult physical activity levels in three Swiss alpine communities with varying access to motorized transportation. Health & Place, 2007; 13(3): 757-66

PA promotion in primary care

- **Since 1990s development of interventions based on international experiences, but adapted to local situation**
  - ➔ *Good acceptance in patients, GPs and other primary care staff*



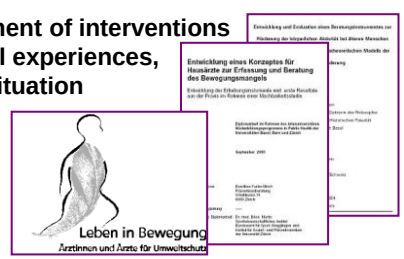
Märki A, Bauer GB, Angst F, Nigg CR, Gillmann G, Gerhing TM. Systematic counselling by general practitioners for promoting phyiscial activity in elderly patients: a feasibility study. Swiss Med Wkly 2006; 236: 482-488.

Allenspach EC, Handschin M, Kutlar Joss M, Hauser A, Nüscheler M, Grize L, Braun-Fahrländer C. Patient and physician acceptance of a campaign approach to promoting physical activity: the "Move for Health" project. Swiss Med Wkly. 2007 May 19;137(19-20):292-9.

Bize R, Surbeck R, Padlina O, Peduzzi F, Cornuz J, Martin B. Promotion of physical activity in the primary care setting: The situation in Switzerland. Schweiz Z Sportmed Sporttraumatol 2008; 56 (3): 112–116.

PA promotion in primary care

- **Since 1990s development of interventions based on international experiences, but adapted to local situation**
  - ➔ *Good acceptance in patients, GPs and other primary care staff*
  - ➔ *Indications for effectiveness*



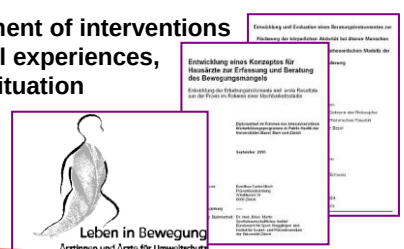
Jimmy G, Martin BW. Implementation and effectiveness of a primary care based physical activity counselling scheme. Patient Educ Couns 2005; 56(3): 323-31

Märki A, Bauer GF, Nigg CR, Conca-Zeller A, Gehring TM. Transtheoretical model-based exercise counselling for older adults in Switzerland: Quantitative results over a 1-year period. Soz Praventivmed. 2006;51(5):273-80.

Sabtia Z, Handschin M, Kutlar Joss M, Allenspach EC, Nüscheler M, Grize L, C Braun-Fahrländer C. Evaluation of a physical activity promotion program in primary care. Family Practice 2010; 0:1-6.

PA promotion in primary care

- **Since 1990s development of interventions based on international experiences, but adapted to local situation**
  - ➔ *Good acceptance in patients, GPs and other primary care staff*
  - ➔ *Indications for effectiveness*
  - ➔ *But: difficulty to recruit primary care partners*



Bize R, Surbeck R, Padlina O, Peduzzi F, Cornuz J, Martin B. Promotion of physical activity in the primary care setting: The situation in Switzerland. Schweiz Z Sportmed Sporttraumatol 2008; 56 (3): 112–116.

PA promotion in primary care

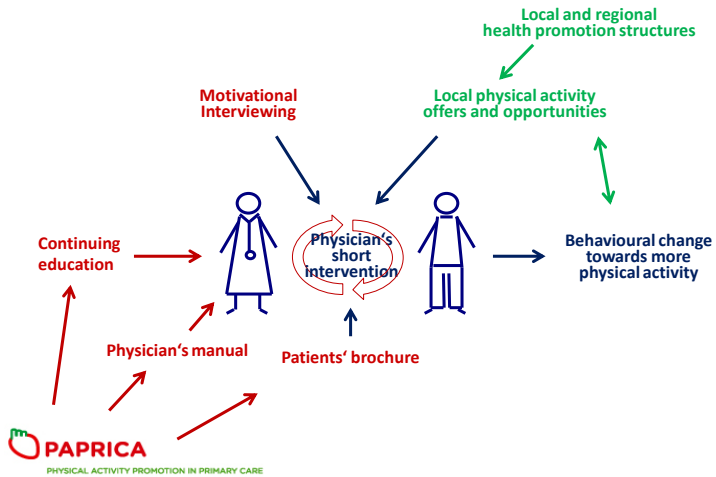
- **Development of professional communication materials and procedures for large scale implementation**
- **Joint project with Swiss College of Primary Care Medicine**

KOLLEGIUM FUER HAUSARZTMEDIZIN
COLLEGE DE MEDECINE DE PREMIER RECOURS
COLLEGIO DI MEDICINA DI BASE
COLLEGE OF PRIMARY CARE MEDICINE

- **Testing in 19 primary care practices in French speaking and 6 in German speaking Switzerland**
- **Adaptation of final materials and procedures**

Schmid M, Egli K, Martin BW, Bauer G. Health promotion in primary care: evaluation of a systematic procedure and stage specific information for physical activity counselling. Swiss Med Wkly 2009; 139 (45–46): 665–671.

Bize R, Surbeck R, Padlina O, Peduzzi F, Cornuz J, Martin B. Promotion of physical activity in the primary care setting: The situation in Switzerland. Schweiz Z Sportmed Sporttraumatol 2008; 56 (3), 112–116.



www.panh.ch/paprica


ARTICLE DE REVUE

Approches pour les maladies non transmissibles et au-delà

Conseil-santé dans la médecine de premier recours, partie 1

PD Dr méd. Brian W. Martin[a,*]; Dr méd. Stefan Neuner-Jehle[a,*]; Eva Martin-Diener, MPH; Dr méd. Ueli Grüninger[b,*]; Dr méd. Raphaël Bize[c]; Barbara Wolf[c]; Dr méd. Carlos Quinto[d,e,*]; Dr méd. Reto Auer[f,*]; Dr méd. Jean-Paul Humair[g]; Prof. Dr méd. Jacques Cornuz[h]

Les maladies non transmissibles (MNT, en anglais «non-communicable diseases») sont actuellement un enjeu de santé publique en Suisse. La prévention au cabinet médical joue un rôle particulier dans ce contexte. Cet article décrit les différentes approches de conseil préventifs en Suisse et leurs fondements. Un deuxième article[1] se consacrera aux conditions requises pour la diffusion de ces approches au sein du corps médical.

Contexte

Augmentation des maladies non transmissibles

ARTICLE DE REVUE

Objectif de la prévention des maladies non transmissibles au niveau de la population

Conseil-santé dans la médecine de premier recours, partie 2

PD Dr méd. Brian W. Martin[a,*]; Dr méd. Stefan Neuner-Jehle[a,*]; Eva Martin-Diener, MPH[a]; Dr méd. Ueli Grüninger[b,*]; Dr méd. Raphaël Bize[c]; Barbara Wolf[c]; Dr méd. Carlos Quinto[d,e,*]; Dr méd. Reto Auer[f,*]; Dr méd. Jean-Paul Humair[g]; Prof. Dr méd. Jacques Cornuz[h]

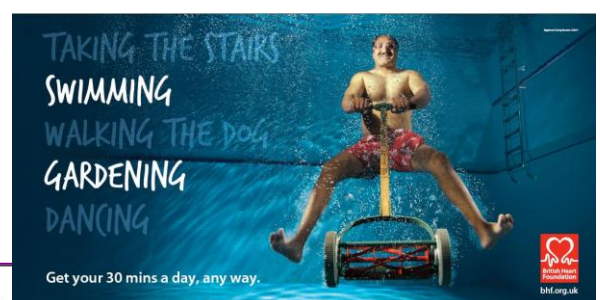
Les maladies non transmissibles (MNT, en anglais «non-communicable diseases») ont gagné du terrain dans le monde entier: Les approches de conseil fournis au cabinet médical ont déjà été présentées dans un premier article. Le présent article se consacre aux conditions permettant à ces approches de déployer leur efficacité au niveau de la population. Ceci est illustré sur la base des programmes suisses actuels «Vivre sans tabac», PAPRICA et «Coaching Santé» ainsi que de l'exemple historique «Ça débouche sur quoi?».

Contexte

Choix et description des programmes

Martin et al. Swiss Medical Forum 2016.

www.medicalforum.ch



Dr. Luzi Fehrs Krankheits-Tipp Nr. 2:

Vermeiden Sie sorgfältig jede sportliche Betätigung. Gehen Sie nie zu Fuss. Fahren Sie nie Velo. Grundsätzlich verboten ist tiefes Durchatmen - es sei denn, Sie ziehen Rauch ein.

„Dr. Luci Fehr's Illness Tip No 2:

Carefully avoid all forms of sports and physical activity. Never walk. Never use your bicycle. Never ever breathe harder – unless you are inhaling tobacco smoke."

Time Trends in Physical Activity in the State of São Paulo, Brazil: 2002–2008

VICTOR K. R. MATSUDO[1], SANDRA M. MATSUDO[1], TIMÓTEO L. ARAÚJO[1], DOUGLAS R. ANDRADE[1], LUIS C. OLIVEIRA[1], and PEDRO C. HALLAL[2]

[1]Physical Fitness Research Center, CELAFISCS, São Caetano, BRAZIL; and [2]Federal University of Pelotas, Pelotas, BRAZIL

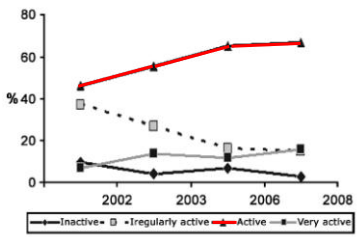


FIGURE 1—Trends of physical activity categories in the state of São Paulo, Brazil (2002, 2003, 2006, and 2008).

Med Sci Sports Exerc. 2010 Dec;42(12):2231-6.

29

The programme Allez Hop

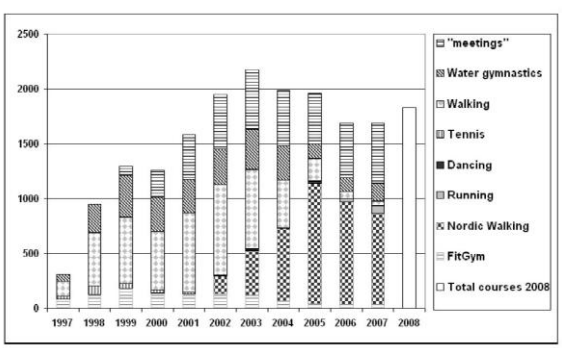
ALLEZ HOP Bewegen. Mit Spass.

- Weekly lessons during ten week courses, qualified instructors
- National programme
- At the beginning in collaboration with sports clubs and associations; later also with independent instructors

Wanner M, Martin-Diener E, Bauer G, Stamm HP, Martin BW. Allez Hop, a nation-wide programme for the promotion of physical activity in Switzerland: What is the evidence for a population impact after one decade of implementation. Brit J Sport Med 2010.

ALLEZ HOP Bewegen. Mit Spass.

Course development 1997-2008



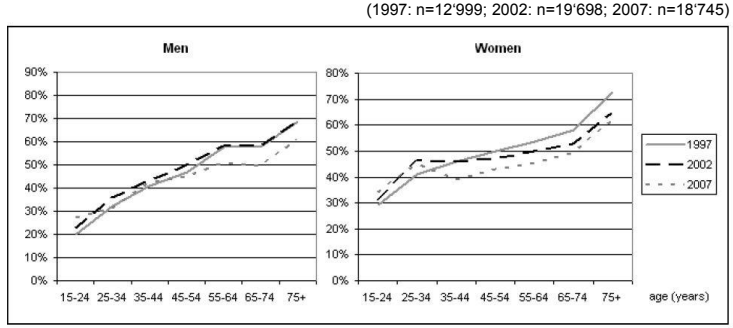
Wanner M, Martin-Diener E, Bauer G, Stamm HP, Martin BW. Allez Hop, a nation-wide programme for the promotion of physical activity in Switzerland: What is the evidence for a population impact after one decade of implementation. Br J Sports Med. 2011 Dec;45(15):1202-7.

ALLEZ HOP Bewegen. Mit Spass.

Population impact of a nation-wide physical activity programme with 200'000 participants

1997-2008

<1 „sweat episodes" during leasure time reported in the Swiss Health Survey (1997: n=12'999; 2002: n=19'698; 2007: n=18'745)



Wanner M, Martin-Diener E, Bauer G, Stamm HP, Martin BW. Brit J Sport Med 2011.

Scaled up PA interventions in GAPA's 7 investments

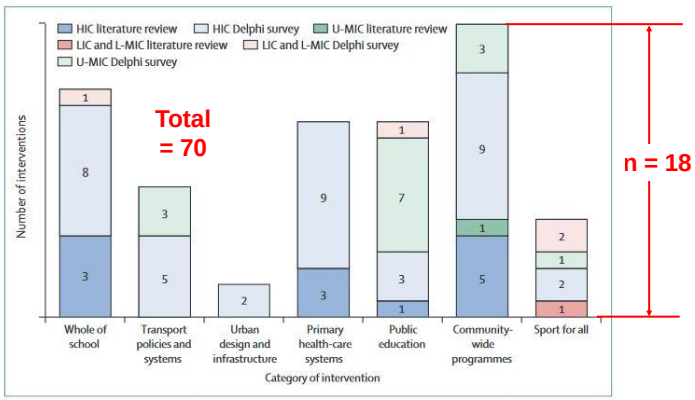


Figure 1: **Number of scaled-up physical activity interventions identified in the literature review and in the Delphi study**
HIC=high-income countries. LIC=low-income countries. L-MIC=lower-middle-income countries. U-MIC=upper-middle-income countries.

Reis et al. www.thelancet.com/series/physical-activity-2016

Physical Activity 2016: Progress and Challenges

Scaling up physical activity interventions worldwide: stepping up to larger and smarter approaches to get people moving

*Rodrigo S Reis, Deborah Salvo, David Ogilvie, Estelle V Lambert, Shifalika Goenka, Ross C Brownson, for the Lancet Physical Activity Series 2 Executive Committee**

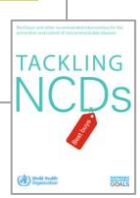
www.thelancet.com **Published online July 27, 2016 http://dx.doi.org/10.1016/S0140-6736(16)30728-0**

"Drawing on input from researchers and stakeholders across the world, more than 50 unique physical activity interventions were identified that have been scaled up but not reported in the peer-reviewed literature.
Not every intervention implemented at scale is effective in increasing population physical activity levels, and not every effective, researcher-led intervention is scalable (…)"
Large-scale problems require large-scale solutions, and we need the committed and joint efforts of all sectors of government and society to tackle the global public health challenge of inactivity."

'Best buys': Effective interventions with cost effectiveness analysis
≤ I$ 100 per DALY averted in LMICs

Effective interventions with cost effectiveness analysis
>I$ 100 per DALY averted in LMICs.

Other recommended interventions from WHO guidance
(cost effective analysis not available).

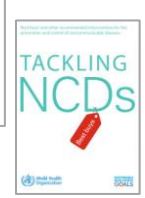


2017

Tackling Physical Inactivity

'Best buys' and other recommended interventions

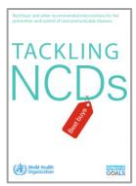
'Best buys': effective interventions with cost effectiveness analysis (CEA) ≤ I$100 per DALY averted in LMICs	Implement community wide public education and awareness campaign for physical activity which includes a mass media campaign combined with other community based education, motivational and environmental programmes aimed at supporting behavioural change of physical activity levels*
Effective interventions with CEA >I$100 per DALY averted in LMICs	Provide physical activity counselling and referral as part of routine primary health care services through the use of a brief intervention[14]



2017

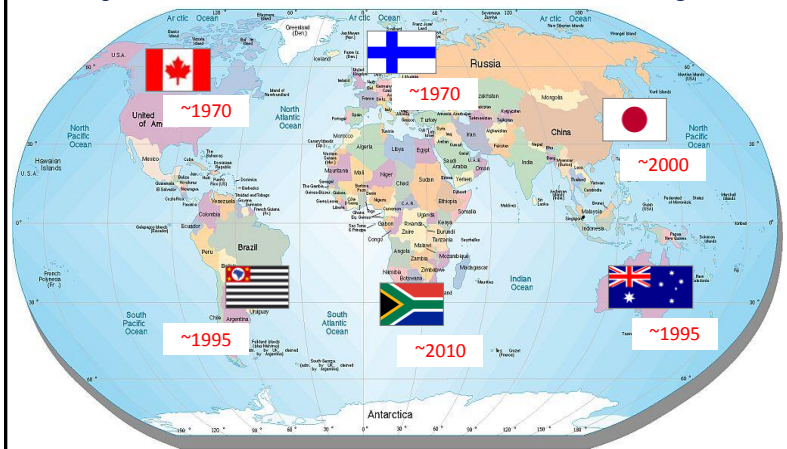
Tackling Physical Inactivity

Other recommended interventions from WHO guidance (CEA not available)	Ensure that macro-level urban design incorporates the core elements of residential density, connected street networks that include sidewalks, easy access to a diversity of destinations and access to public transport[15]
●	Implement whole-of-school programme that includes quality physical education, availability of adequate facilities and programs to support physical activity for all children
	Provide convenient and safe access to quality public open space and adequate infrastructure to support walking and cycling
	Implement multi-component workplace physical activity programmes
	Promotion of physical activity through organized sport groups and clubs, programmes and events



2017

Emergence of National **PA Policies in Different World Regions**



Martin BW, Kahlmeier S. Physical activity and health at the population level – the role of international networks. Res Exerc Epidemiol 2014; 16(1): 1-8.

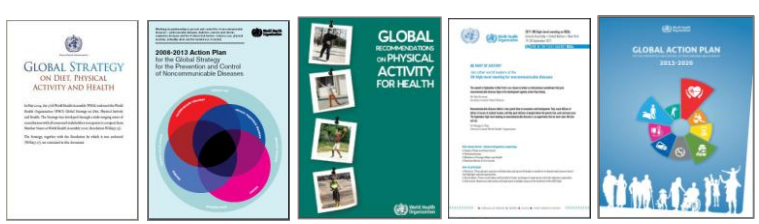
VOLUNTARY GLOBAL TARGETS

- A 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases.
- At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context.
- A 10% relative reduction in prevalence of insufficient physical activity.
- A 30% relative reduction in mean population intake of salt/sodium.
- A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years.
- A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances.
- Halt the rise in diabetes and obesity.
- At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes.
- An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities.

Including 1 target and 2 indicators on physical inactivity

WHO Global NCD Action Plan 2013-2020

HEPA promotion in international public health



2004 2008 2010 2011 2013

Martin BW, Kahlmeier S. Physical activity and health at the population level – the role of international networks. Res Exerc Epidemiol 2014; 16(1): 1-8.

HEPA promotion in European public health

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

WELTGESUNDHEITSORGANISATION
REGIONALBÜRO FÜR EUROPA

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

WHO Ministerial Conference on Nutrition and Noncommunicable Diseases in the Context of Health 2020
Vienna
4–5 July 2013

5 July 2013

Vienna Declaration on Nutrition and Noncommunicable Diseases in the Context of Health 2020

"9. We urge the WHO Regional Committee for Europe to mandate the development of a physical activity strategy, alongside the new food and nutrition action plan."

Martin BW, Kahlmeier S. Physical activity and health at the population level – the role of international networks. Res Exerc Epidemiol 2014; 16(1): 1-8.

"On 26 November [2013] the [EU] Council adopted the first ever Council Recommendation in sport, notably on promoting health-enhancing physical activity (HEPA) . […] There was a shared understanding that more can be done together to address the high rates of physical inactivity in the EU and the economic and social costs related to it."

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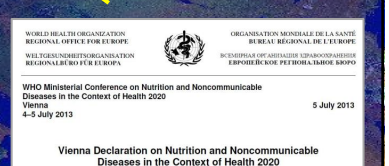
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

WHO European Region Informal Meeting on a Road Map for a Strategy on Health Enhancing Physical Activity

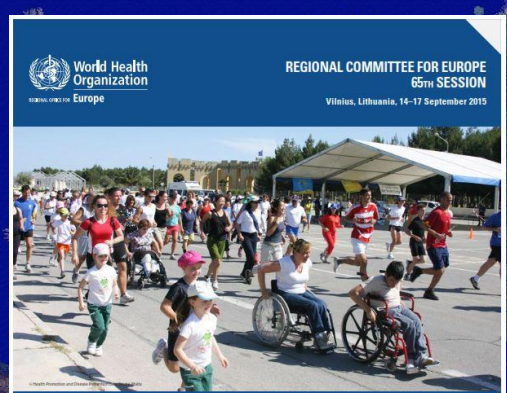
Erlangen, Germany
25-26 March 2014

03 March2014
Original: English

Starting point for the development of a European Physical Activity Strategy

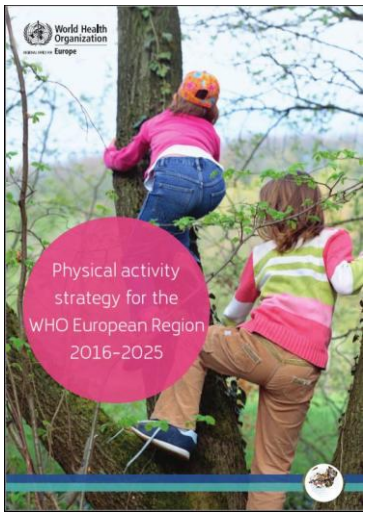


2014



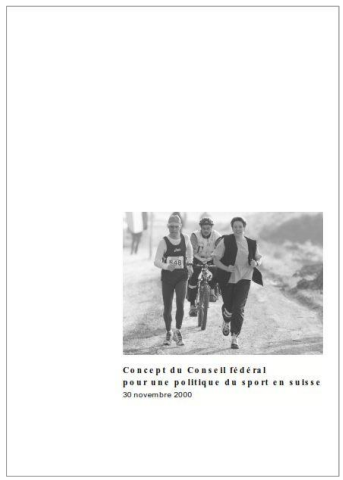
Physical activity strategy for the WHO European Region 2016–2025

2015



Priority areas

- **Priority area 1** – Providing leadership and coordination for the promotion of physical activity
- **Priority area 2** – Supporting the development of children and adolescents
- **Priority area 3** – Promoting physical activity for all adults as part of daily life, including during transport, leisure time, at the workplace and through the health-care system
- **Priority area 4** – Promoting physical activity among older people
- **Priority area 5** – Supporting action through monitoring, surveillance, the provision of tools, enabling platforms, evaluation and research

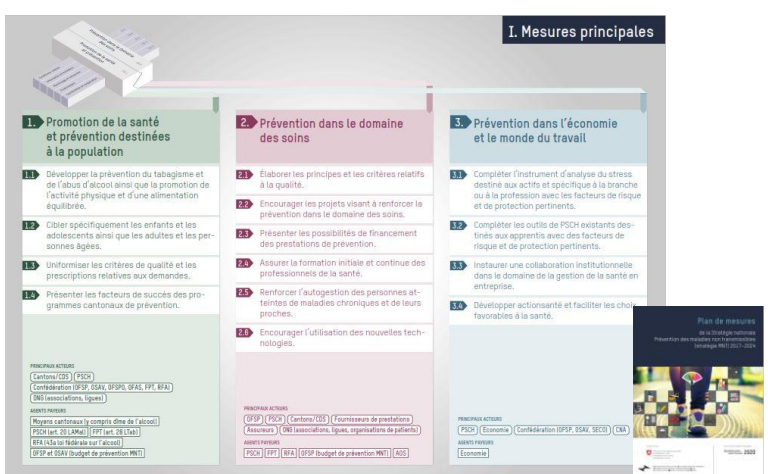


2000

2016

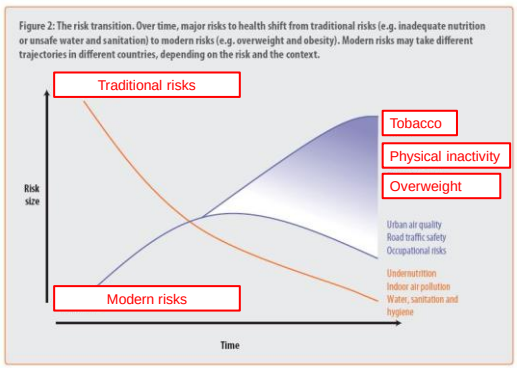
Les 7 champs d'action de la stratégie MNT

2016



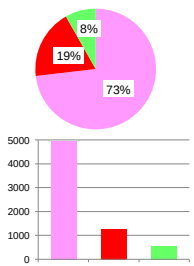
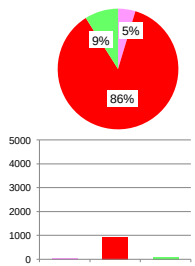
2016

The Risk Transition



Global Health Risks
WHO 2009

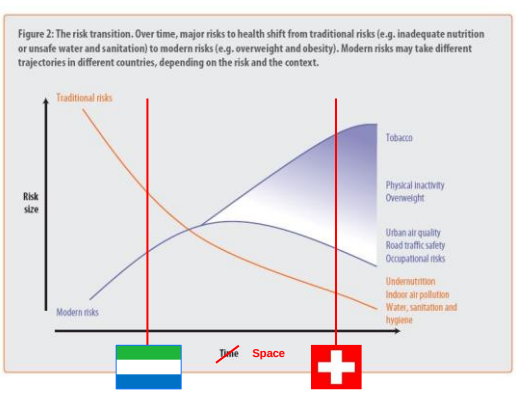
The Risk Transition

	Sierra Leone	Switzerland
Population	6.0 million	8.0 million
Years of Life Lost by causes		
Life expectancy	46 years	83 years
Healthy life expectancy	39 years	73 years

Communicable diseases
Non-communicable diseases
Injuries

Global Health Observatory WHO
www.who.int/gho
2012 data

The Risk Transition



Sierra Leone

Switzerland

Global Health Risks
WHO 2009

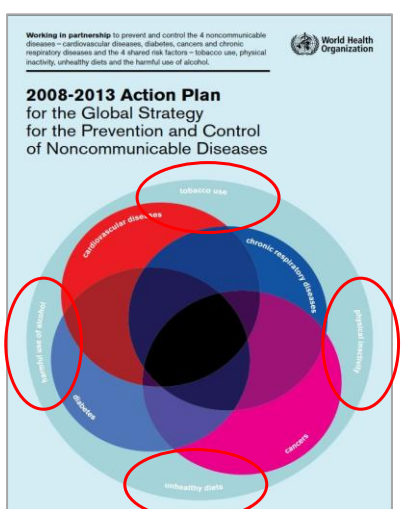
4 main risk factors

Tobacco use

Cardio-vascular diseases

Harmful use of alcohol

Diabetes



Chronic respiratory disease

Physical inactivity

Cancers

Unhealthy diets

Research aims

- Quantifying combined effects of the four behavioural risk factors for NCD on mortality
- Developing respective risk charts for communication

Methods

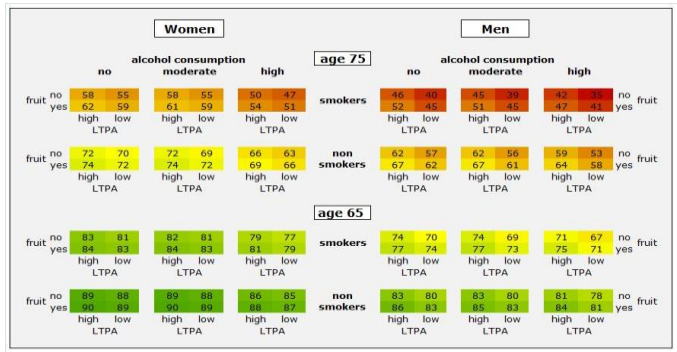
- Record linkage study: MONICA Study & Swiss National Research Programme 1A with Swiss National Cohort
- 16'721 Participants (16-90 years)
- Up to 32 years of mortality follow-up

Analyses

- (Mortality risks: Cox proportional Hazard Models)
- 10-year survival probabilities: Weibull Regression Models

Martin-Diener E, Meyer J, Braun J, Tarnutzer S, Fäh D, Rohrmann S, Martin BW, Swiss National Cohort (SNC). The combined effect on survival of four main behavioural risk factors for non-communicable diseases. Prev Med 2014; 65:148-52.
Project funded by Swiss Heart Foundation and Swiss Cancer League and supported by Swiss National Science Foundation.

10 year survival probabilities at 65 and 75 years of age in the Swiss National Cohort – risk charts



Models controlled for survey, education, marital status and nationality.

Men: N=8132 (of which 1967 cases) Women: N=8589 (of which 1566 cases). LTPA: leisure time physical activity

Martin-Diener E, Meyer J, Braun J, Tarnutzer S, Fäh D, Rohrmann S, Martin BW, Swiss National Cohort (SNC). The combined effect on survival of four main behavioural risk factors for non-communicable diseases. Prev Med 2014; 65:148-52.
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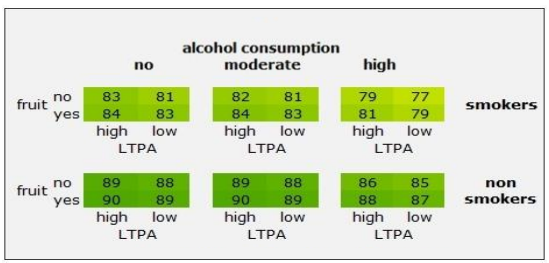
10 year survival probabilities in women at 65 years of age in the Swiss National Cohort – risk chart



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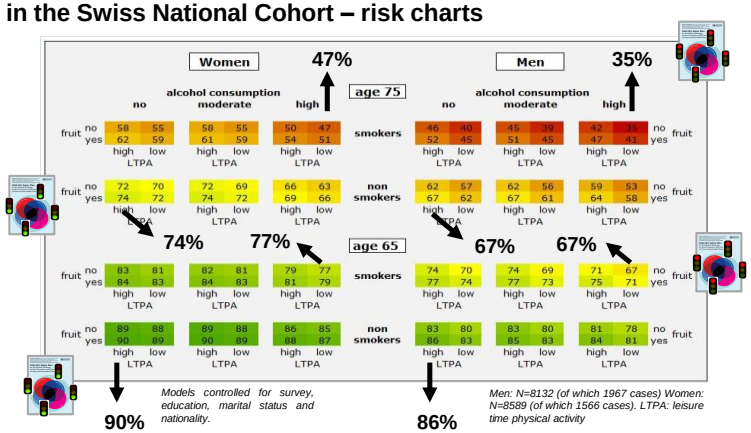

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Conclusions

- The independent and combined impact of WHO's four behavioural risk factors for NCD could clearly be shown in a Swiss population sample, i.e. in a population with a well developed health care system
- The combined impact of healthy behaviour on mortality is stronger than the differences between men and women
- Healthy behaviour keeps you young for ten years longer!

at 75 years

≈

at 65 years

Martin-Diener E, Meyer J, Braun J, Tarnutzer S, Fäh D, Rohrmann S, Martin BW, Swiss National Cohort (SNC). The combined effect on survival of four main behavioural risk factors for non-communicable diseases. Prev Med 2014; 65:148-52.
Project funded by Swiss Heart Foundation and Swiss Cancer League and supported by Swiss National Science Foundation.

PA Promotion in the Context of Overall Health Policy

- There is excellent evidence for the health effects of physical activity and for the impact of inactivity at the populaton level
- There is evidence for effective interventions, but need for more large scale approaches at the population level
- Physical activity has become a part of official health policy
- Integration in existing structures and establishment of funding mechanisms now are the challenges, following the rules and criteria of the sectors involved

Links added after the discussion at IUMSP Lausanne (1/2)

- HEPA Europe, European network for the promoting of health-enhancing physical activity at WHO Europe
  - www.euro.who.int/hepaeurope
- GAPA (Global Advocacy for Physical Activity) Advocacy Council of the International Society for Physical Activity and Health ISPAH.
  - http://www.ispah.org/gapa/
- WHO Europe's HEAT Health economic assessment tool for cycling and walking
  - http://www.euro.who.int/en/health-topics/environment-and-health/Transport-and-health/activities/guidance-and-tools/health-economic-assessment-tool-heat-for-cycling-and-walking
  - http://www.heatwalkingcycling.org

Links added after the discussion at IUMSP Lausanne (2/2)

- Martin-Diener E, Brügger O, Martin B. Physical Activity Promotion and Injury Prevention: Relationship in sports and other forms of physical activity. bfu-report no. 64. Berne, bfu – Swiss Council for Accident Prevention 2010.
  - https://www.bfu.ch/fr/recherche-et-statistique/recherche/articles-publications#1 (listed as "Promotion de l'activité physique et prévention des accidents")
- Martin-Diener E, Brügger O, Martin B. Promotion de l'activité physique et prévention des accidents: vue d'ensemble. bpa – Bureau de prévention des accidents, Office fédéral de la santé publique (OFSP), Promotion Santé Suisse, Santé publique Suisse, Société suisse de médecine du sport (SSMS), SuvaLiv – Vos loisirs en sécurité, Éd. Document de base pour la Suisse. Berne: bpa; 2012.
  - https://www.bfu.ch/fr/recherche-et-statistique/recherche/articles-publications#10