Making an economic case for cross-sectoral investment in public health

David McDaid

Swiss Public Health Conference 2012, Lausanne, August 2012

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Structure

- The importance of the economic case for health and wellbeing
- What do we know about the economic case for health promoting interventions?
- How can we co-ordinate actions across sectors and stakeholders?

Why think about the economic case for investment?

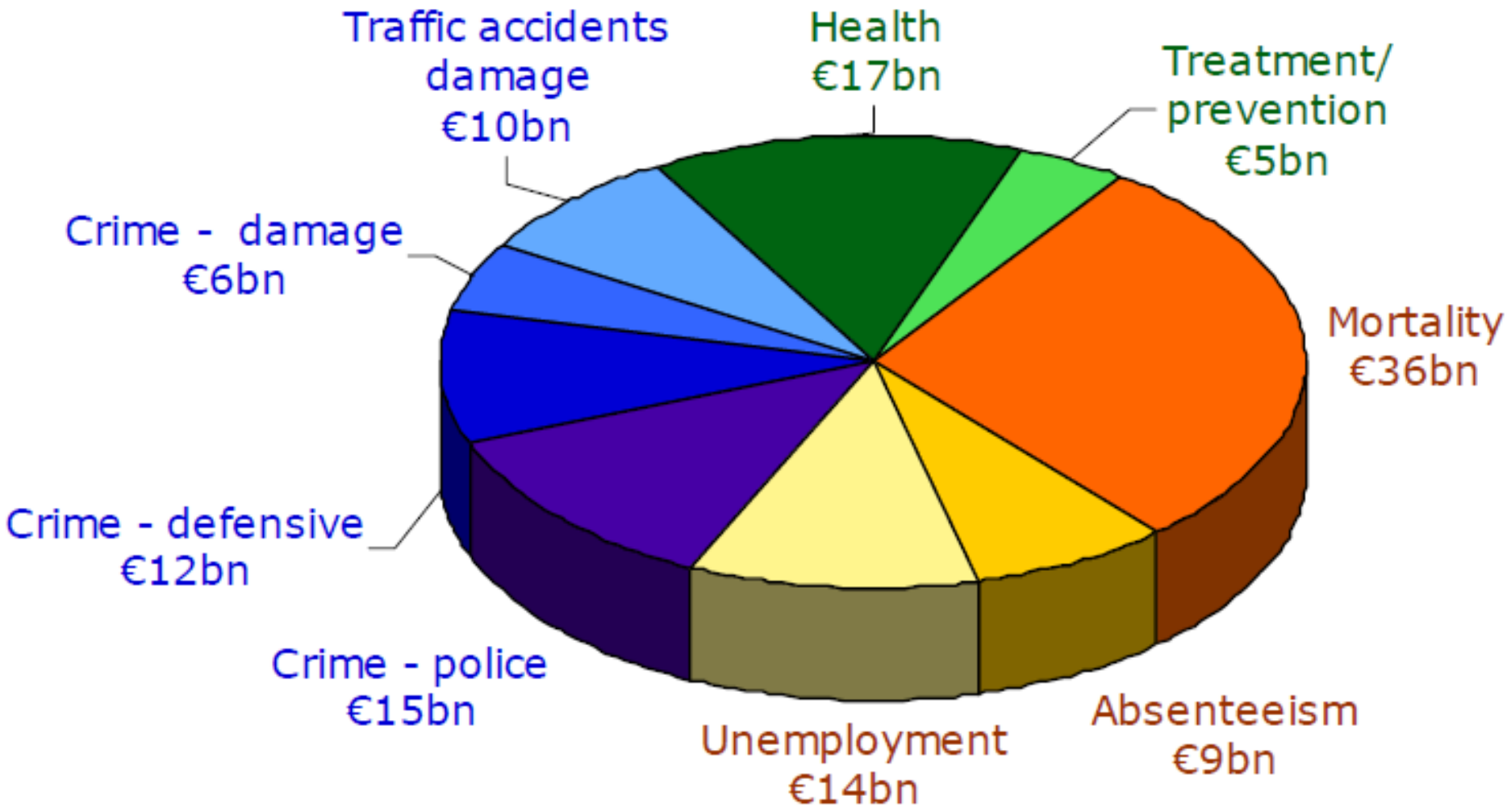
The costs of poor health are substantial and impact on many sectors

Economic impacts

- Cardiovascular disease €168 billion per annum in EU25; 60% of cost on health care systems (Leal 2006)
- Alcohol related harm €125 billion per annum (Substantial costs of lost employment, violence and crime)
- Depression and anxiety disorders €136 billion in EEA (McDaid 2008)
- Obesity related illness (including diabetes and CVD –more than 1% GDP (Sassi, 2010). Up to 4.5% of healthcare expenditure
- Cancer – 6.5% of all health care expenditure (Stark 2006)
- Road Traffic Accidents – between 1.5% and 2% of GDP in middle and high income countries

Impacts on Multiple Sectors

Costs of Alcohol Problems in EU in 2003

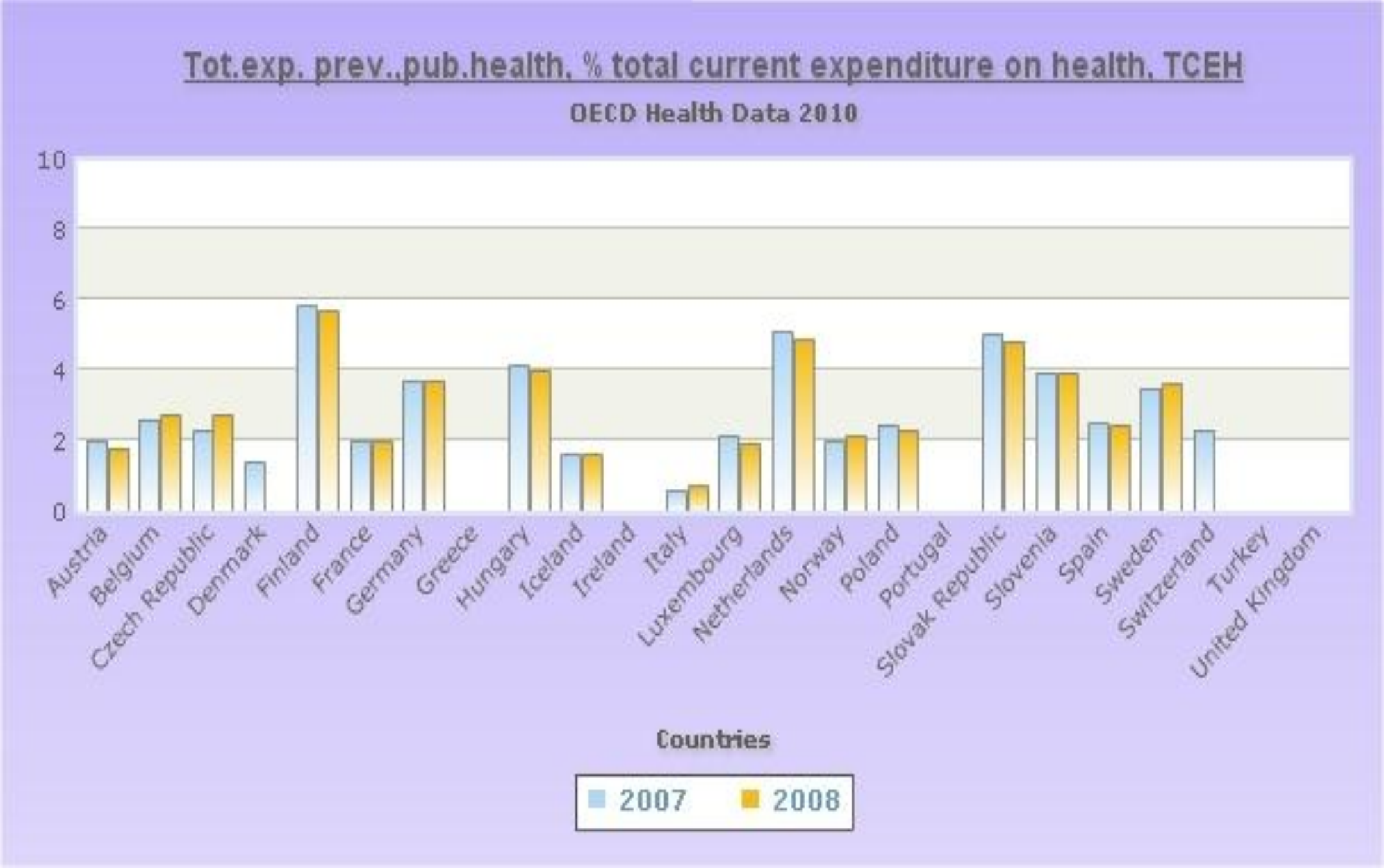


Health inequalities impact on economic growth health care expenditure and **well-being**

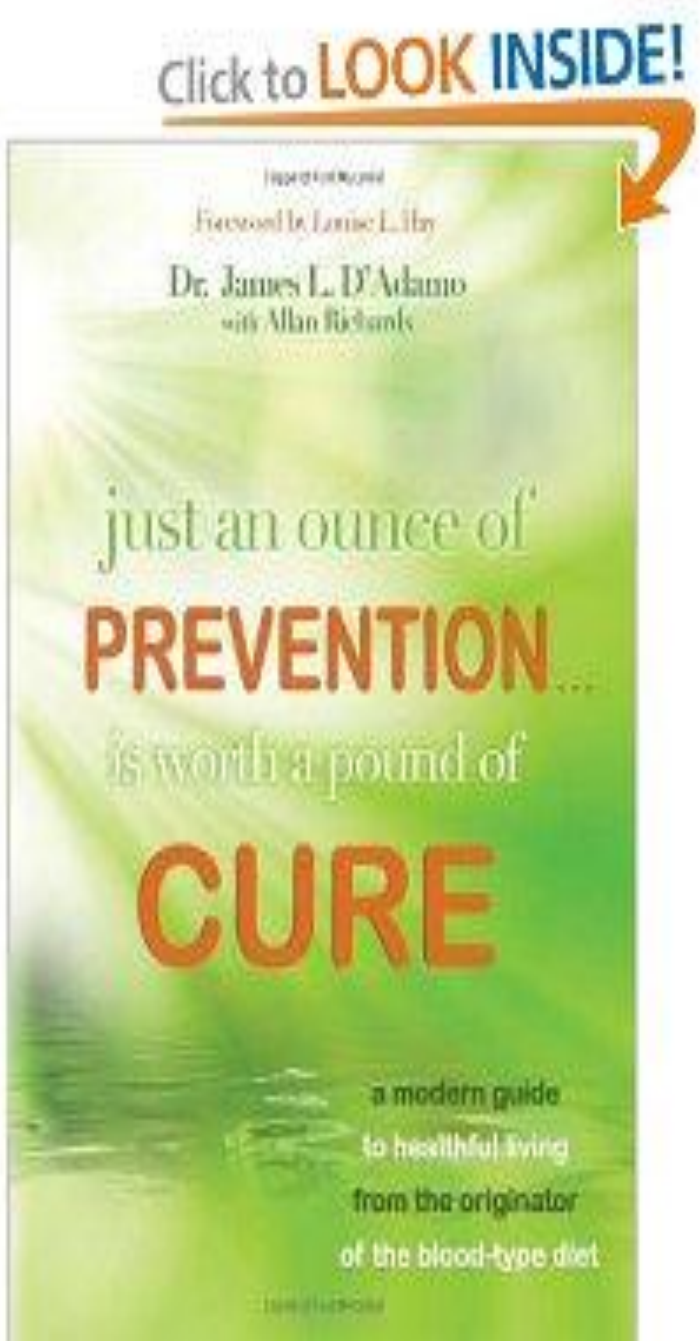
Health Inequalities in EU-25 result in:

- 700,000 deaths per year
- 1.4% less GDP growth due to reduced labor productivity
- 9.4% lost GDP (monetary value)
- 20% health care costs & 15% of total cost of social security benefits

Mackenbach et al, 2007 & 2011



Source: OECD Health Data (2011)



Searching for the Holy Grail

Is an ounce of prevention worth a pound of cure?

What do we know about economic evaluation of disease prevention and injury prevention and health promotion?

BACKGROUND DOCUMENT

The Economic Case for Public Health Action

Edited by: David McDaid, Franco Sassi and Sherry Merkur

OECD

EUROPE

Obesity and the Economics of Prevention

FIT NOT FAT

Franco Sassi

OECD

THE UNIVERSITY OF QUEENSLAND AUSTRALIA | DEAKIN UNIVERSITY AUSTRALIA

Assessing Cost-Effectiveness in Prevention

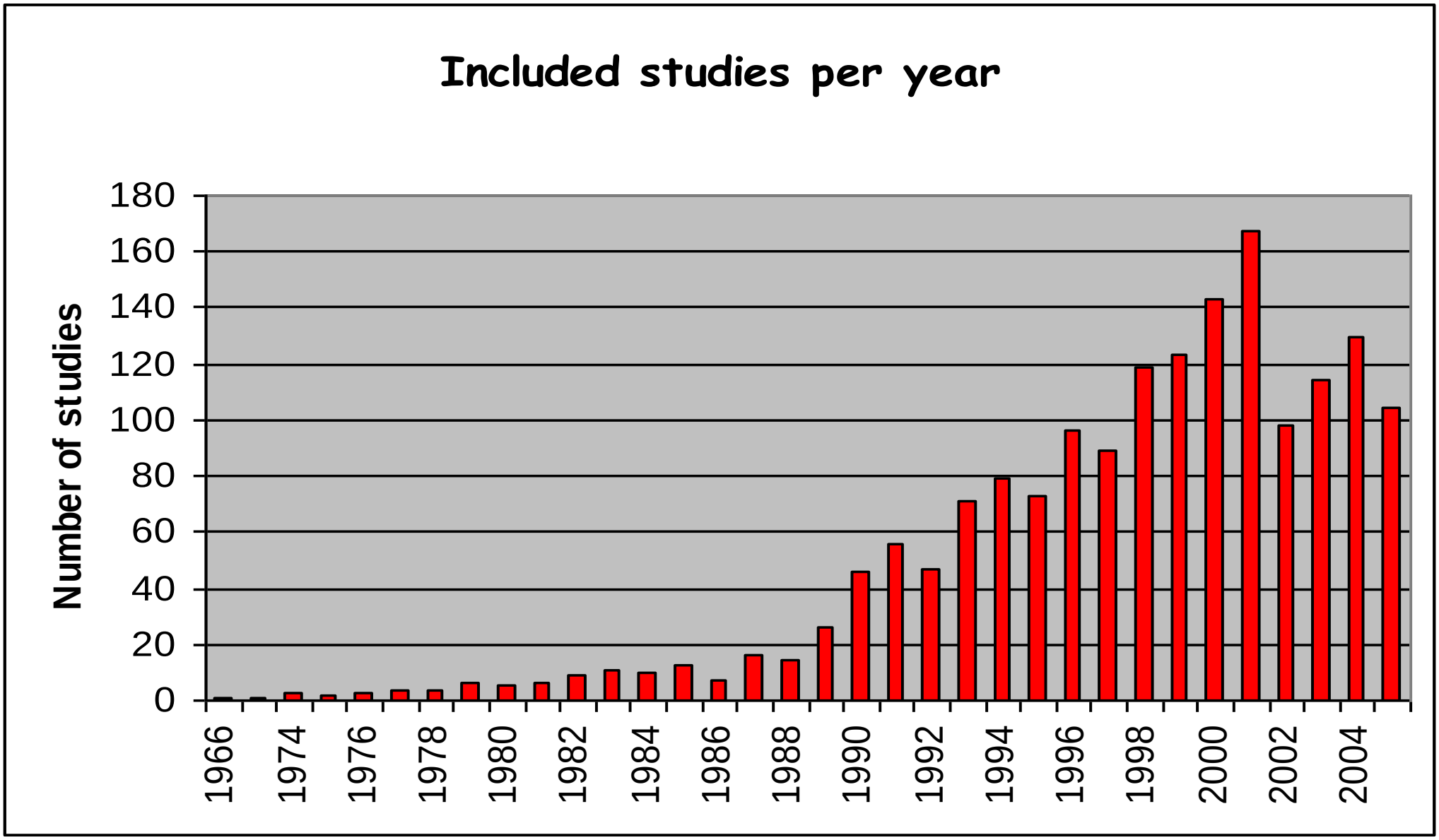
ACE–Prevention

September 2010

Theo Vos[1], Rob Carter[2], Jan Barendregt[1], Cathrine Mihalopoulos[2], Lennert Veerman[1], Anne Magnus[2], Linda Cobiac[1], Melanie Bertram[1], Angela Wallace[1]
For the ACE–Prevention team

FINAL REPORT

Growth in economic studies

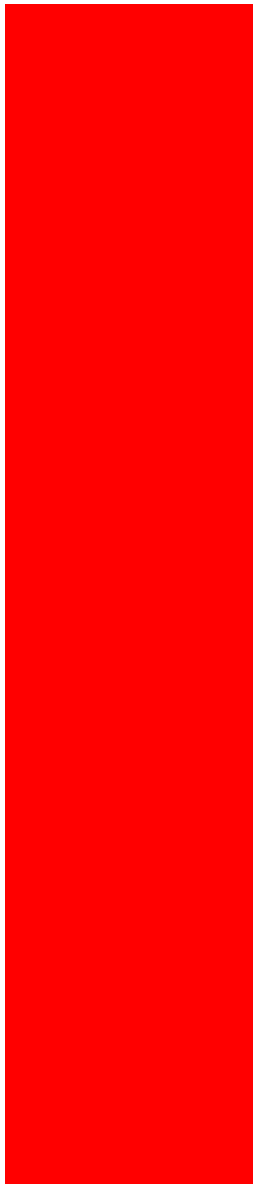


Source: McDaid & Needle 2007

Health Promotion: The Economic Case

McDaid D, Sassi F, Merkur S (eds)

- Joint European Observatory/OECD publication on the economics of health promotion and disease prevention
- Aim: to review the evidence base on the effectiveness and cost-effectiveness of interventions addressing major risk factors for NCDs
- Methodological and policy implementation issues addressed
- Publication in early 2013

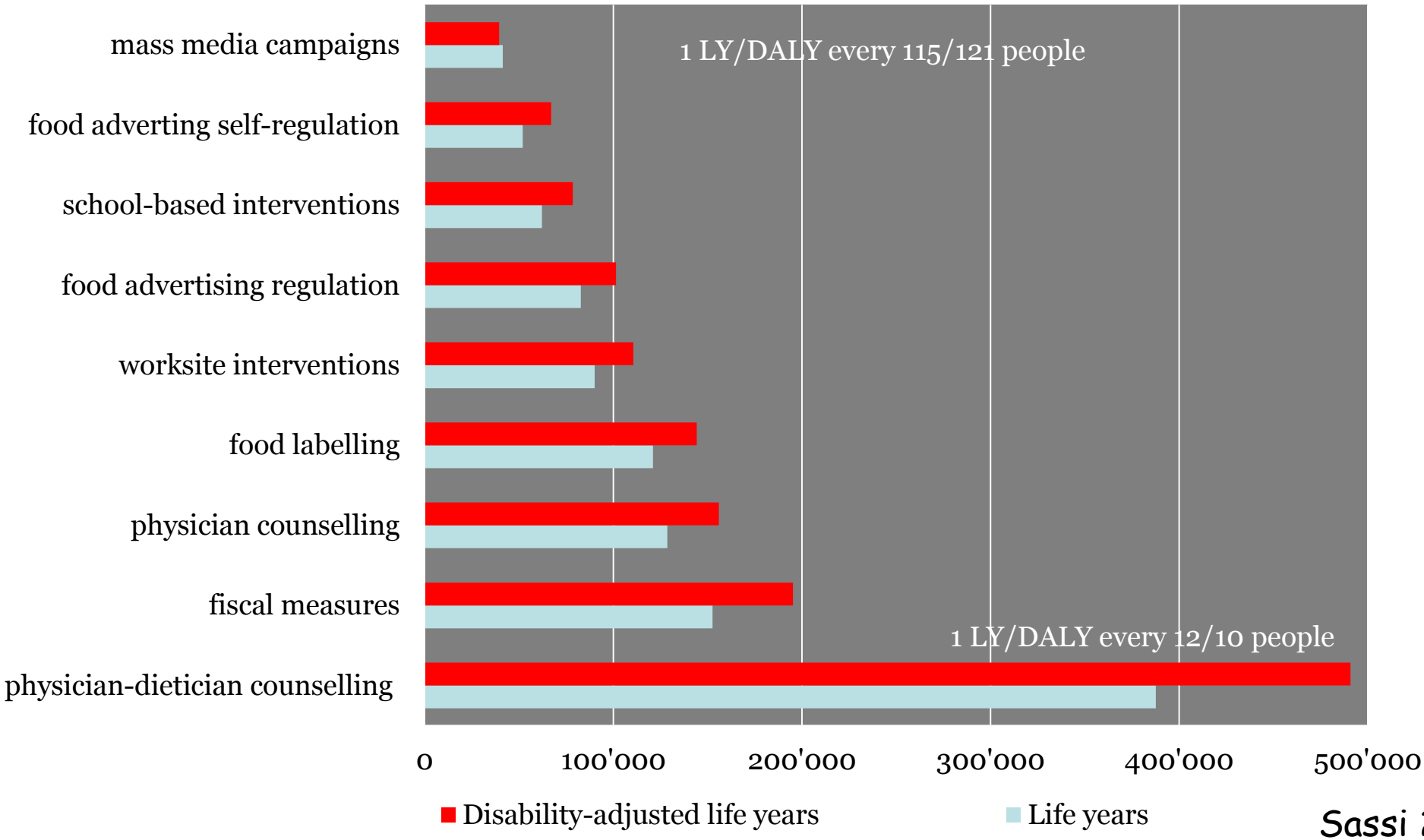


Some illustrative examples

Interventions Assessed

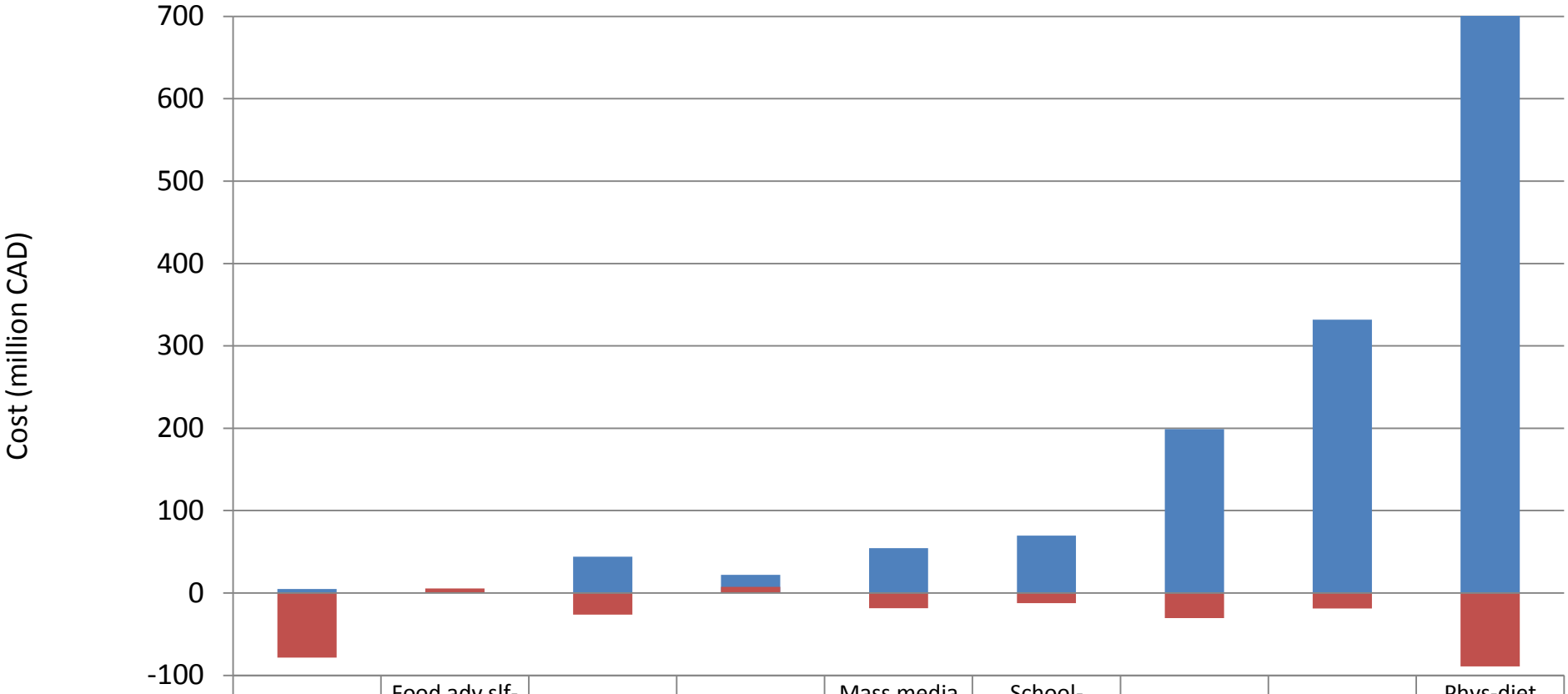
Health education and health promotion	Regulation and fiscal measures	Primary-care based interventions
Mass media campaigns	Fiscal measures (fruit and vegetables and foods high in fat)	Physician counselling of individuals at risk
School-based interventions	Government regulation of food advertising to children	Intensive physician and dietician counselling of individuals at risk
Worksite interventions	Compulsory food labelling	

Prevention Does Save Lives…



Sassi 2010

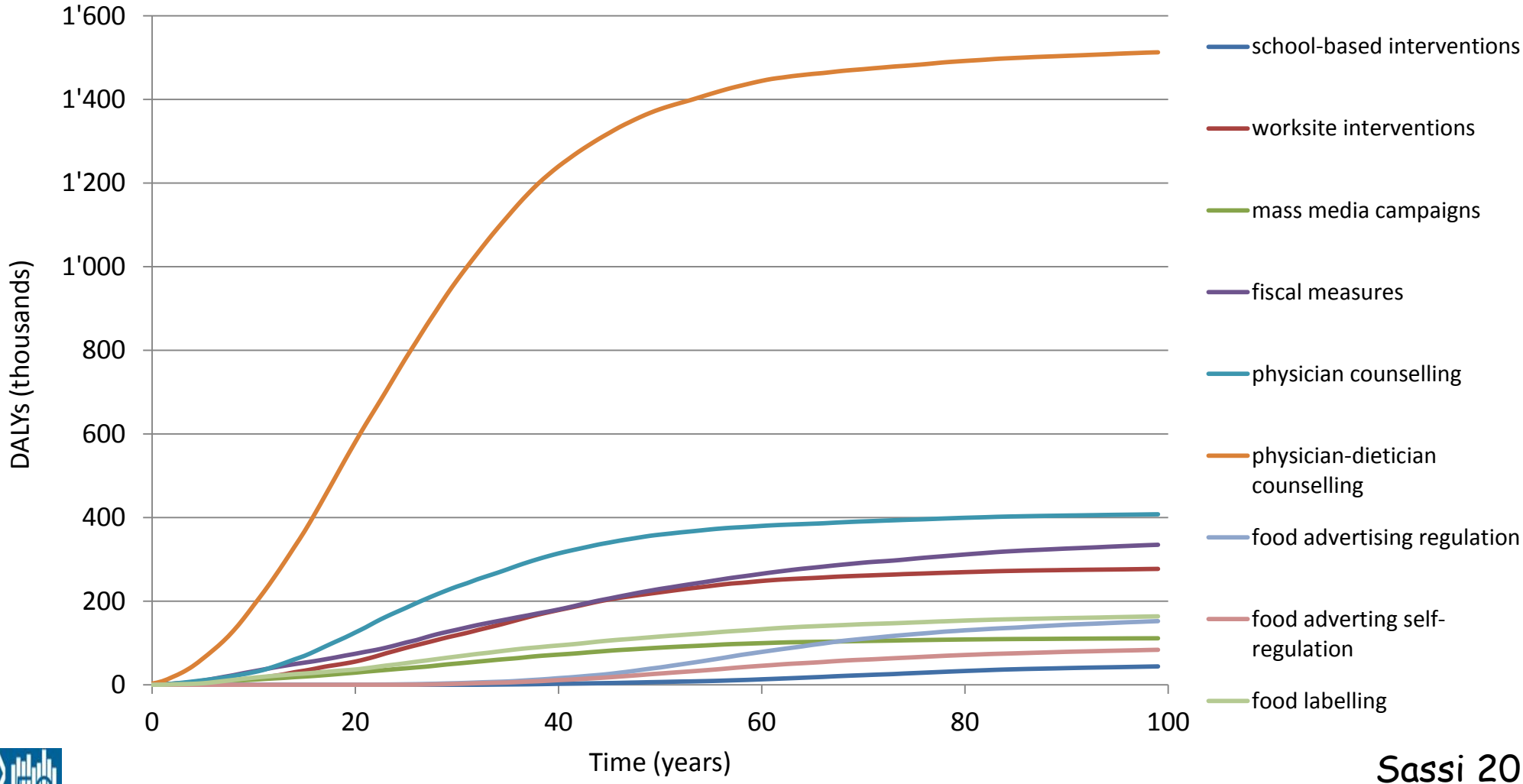
… But It Does Not Always Save Money



	Fiscal meas	Food adv slf-rg	Food label	Food adv reg	Mass media camp	School-based int	Worksite int	Phys couns	Phys-diet couns
Intervention costs	5.0	1.5	44.1	21.9	54.4	69.7	198.9	331.7	703.7
Health expenditure	-78.4	5.6	-26.3	7.6	-18.3	-12.3	-30.5	-18.7	-89.2
Net cost	-73.4	7.1	17.8	29.5	36.1	57.4	168.3	313.0	614.5

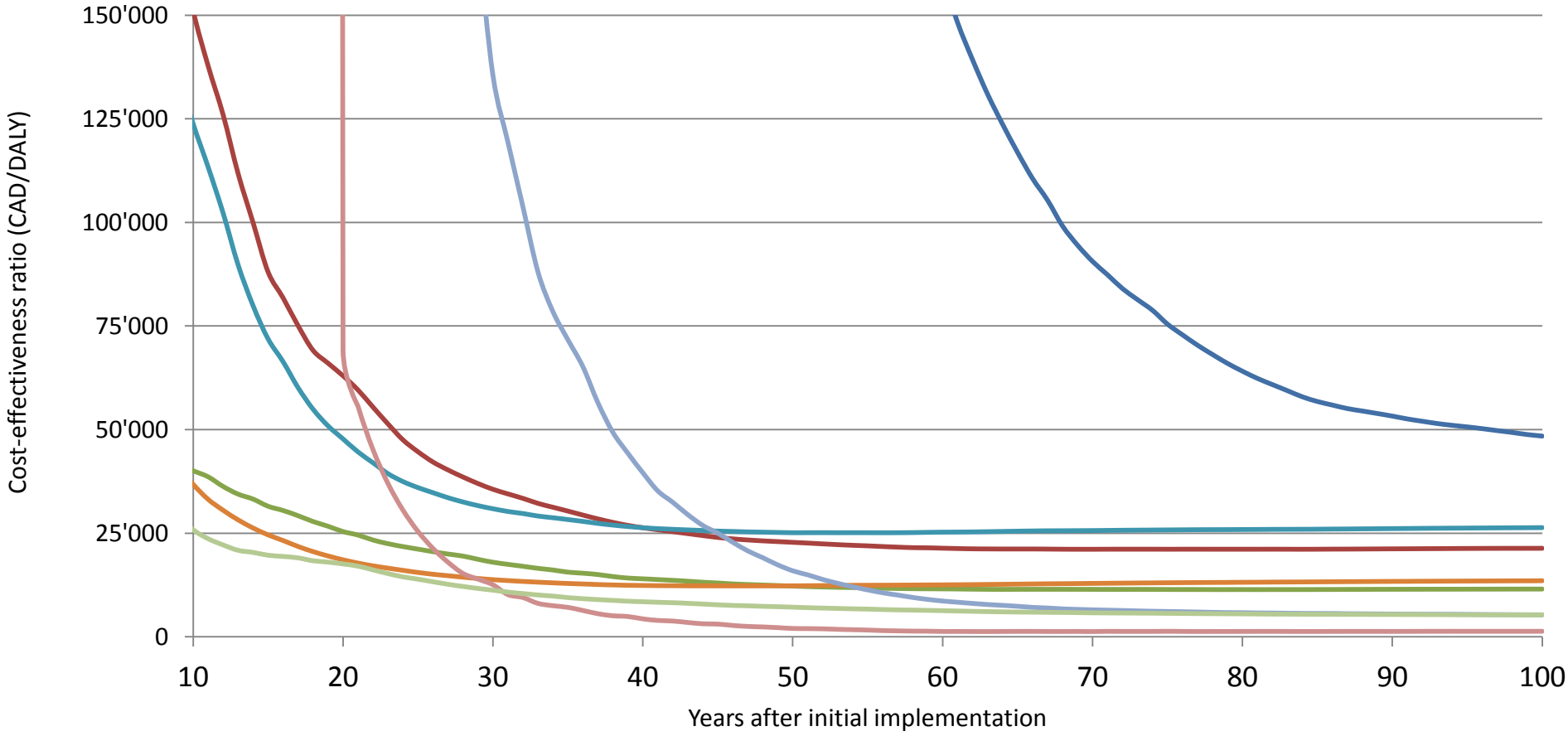
Sassi 2010

And It Takes Time to Produce Effects



Sassi 2010

Cost-effectiveness of Interventions Over Time



Sassi 2010

Cost effectiveness of actions to address harmful alcohol consumption

Target area Specific intervention(s)	Coverage (%)	WHO sub-region (exemplar countries)								
		Eur-A (e.g. Spain, Sweden)			Eur-B (e.g. Bulgaria, Poland)			Eur-C (e.g. Russian Federation, Ukraine)		
		Annual cost per million persons[a]	Annual effect per million persons (DALYs saved)	I US$ per DALY saved[b]	Annual cost per million persons[a]	Annual effect per million persons (DALYs saved)	I US$ per DALY saved[b]	Annual cost per million persons[a]	Annual effect per million persons (DALYs saved)	I US$ per DALY saved[b]
School-based education	80	0.84	–	n/a[c]	0.70	–	n/a[c]	0.34	–	n/a[c]
Mass media campaign	80	0.83	–	n/a[c]	0.95	–	n/a[c]	0.79	–	n/a[c]
Brief interventions for heavy drinkers	30	4.20	672	6256	0.77	365	2100	1.78	667	2671
Drink-driving legislation and enforcement (via random breath-testing campaigns)	80	0.77	204	3762	0.74	160	4625	0.72	917	781
Reduced access to retail outlets	80	0.78	316	2475	0.56	414	1360	0.47	828	567
Comprehensive advertising ban	95	0.78	351	2226	0.56	224	2509	0.47	488	961
Increased excise taxation (by 20%)	95	1.09	2301	472	0.92	726	1272	0.67	1759	380
Increased excise taxation (by 50%)	95	1.09	2692	404	0.92	852	1083	0.67	1995	335
Tax enforcement (20% less unrecorded)	95	1.94	2069	939	1.26	706	1780	0.87	1741	498
Tax enforcement (50% less unrecorded)	95	2.21	2137	1034	1.34	790	1692	0.93	1934	480
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Anderson, forthcoming

Economic burden of children's exposure to hazardous chemicals alongside intervention costs, effectiveness and potential benefits

Risk factor	Current and proposed policies and interventions	Economic costs of intervention	Effectiveness or economic benefit of intervention
Methylmercury exposure from coal-fired power plants.	• US Clean Air Act (1970 USA, cobenefit). • Mercury and Air Toxics Standards (2011 USA). • European Emissions Trading Scheme (2005 EU, cobenefit).	• US$ 2,943–355,526 per kg Hg **emitted** (Rezek, Campbell 2007, projected permit price in US$ 1998). • US$ 178,420 in 2010, US$ 36,040 in 2015, per kg Hg **emitted** (Palmer, Burtraw, et al. 2007, projected permit price in US$ 1999). • US$ 8,457–117,436 per kg Hg **removed** (Schloss 2008, engineering cost using ACI, US$ 2005).	• *Research generally lacking on how mercury emissions reductions translate into reduced childhood exposure.* • USA 2011 Mercury and Air Toxics Standards estimated to yield benefits of US$ 37 billion per year across USA.
Exposure to lead-based paint and plumbing in homes.	• Deleading homes in at-risk neighbourhoods.	• €3,562–9,162 per deleaded home (Pichery et al. 2011, €2008). • US$ 1,200–10,800 per deleaded home (E Gould 2009,US$ 1996). • US$ 2,370 per deleaded home (Taha et al.1999,US$ 1994).	• €8,827.79–51,361 reduction in COI per deleaded home (Pichery et al. 2011, €2008). • US$ 188,608–265,147 reduction in COI per deleaded home (E Gould 2009, US$ 1996).
Exposure to air pollution from vehicle emissions.	• Air quality standards (US Clean Air Act 1970). • Designate congestion charging schemes and low-emission zones in metro areas.	• *US Clean Air Act:* • *London congestion charge:* €175.7 million per year. • *Stockholm congestion charge:* €38.5 million per year.	• *US Clean Air Act:* 30% reduction in annual childhood asthma associated costs in US over ten-year period. (Trasande and Liu, 2011). • *London traffic congestion charge:* 9% reduction in bronchiolitis hospitalizations.

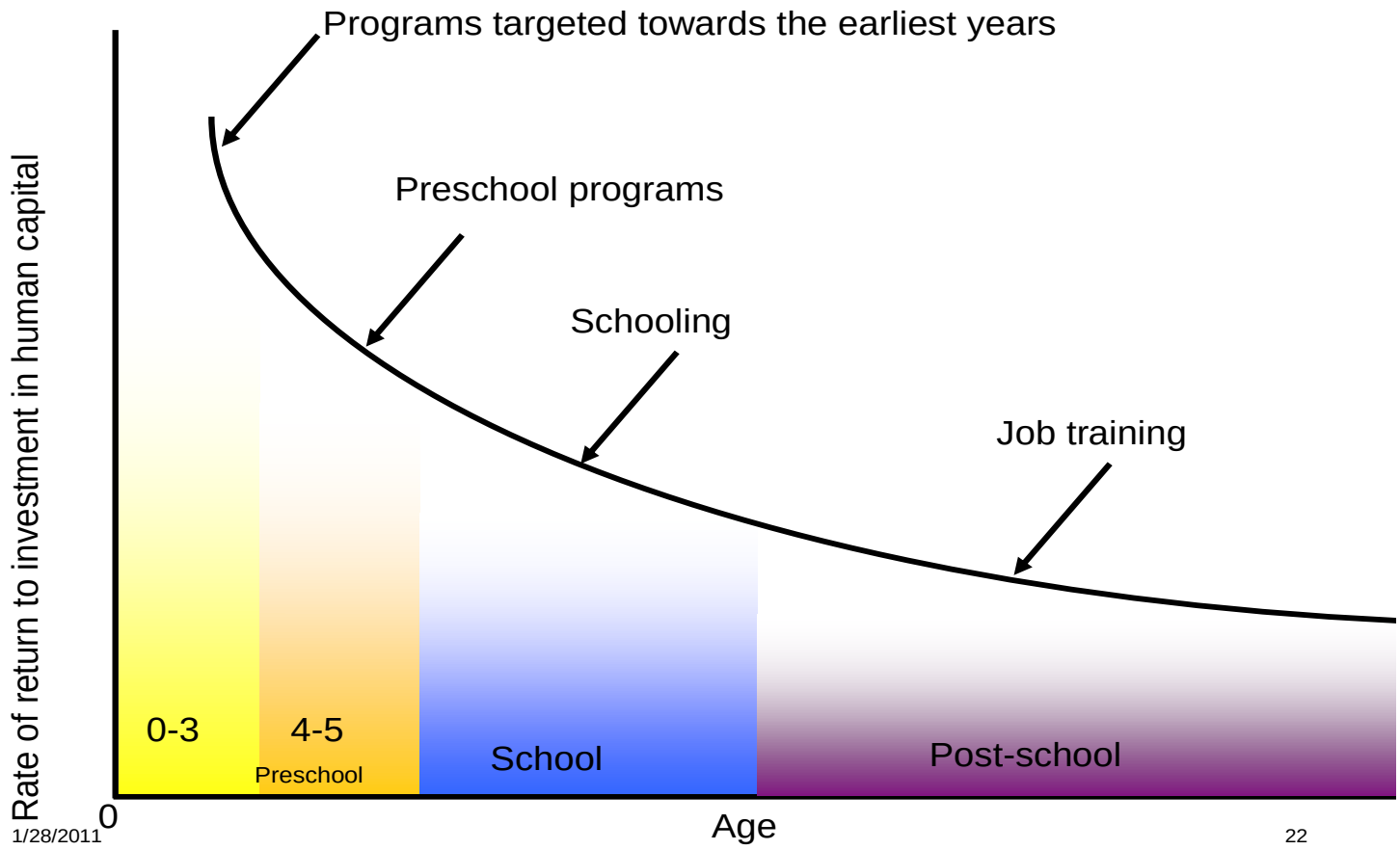
Trasande & Brown, forthcoming

Investing in road safety measures

Phase		Human	Vehicles & Equipment	Environment
Pre-accident	Accident Prevention	• Police enforcement of laws e.g. on mobile phones/ alcohol/speeding/drink-driving/ seat belts, mobile phone use etc. • Breathaliser tests. • Media campaigns. • Screening for dementia in drivers. • Automated seat belt reminder systems. • Advanced driver training and driving practice. • Road safety education. • Vision tests for drivers.	• Intelligent Speed Adaptation Devices. • Regulation of motor vehicle maintenance. • Vehicle Lighting. • Alcohol ignition interlocks.	• Speed bumps. • 20 mph zones. • Wide range of road design measures – including 'rumble strips' and other audible measures. • Street lighting. • Dedicated cycleways. • Speed limits. • Speed cameras.
Accident	Injury prevention during accident	• Use of seat belts/helmets/ restraints etc. • Financial incentives/access to loans to buy child care seats.	• Air Bags. • Seat Belts. • Rear Impact Guards. • Side protection and other vehicle strengthening actions. • Roll over protectors.	• Central reservation barriers on roads. • Road shoulder installation.

Anderson, McDaid & Park, forthcoming

Economic case for investing in health of children



Source: Heckman

Net Return on Investment

LSE PSSRU

Centre for Mental Health

Institute of Psychiatry at The Maudsley — King's College London

Mental health promotion and mental illness prevention:

The economic case

Martin Knapp, David McDaid and Michael Parsonage (editors)

Personal Social Services Research Unit,
London School of Economics and Political Science

April 2011

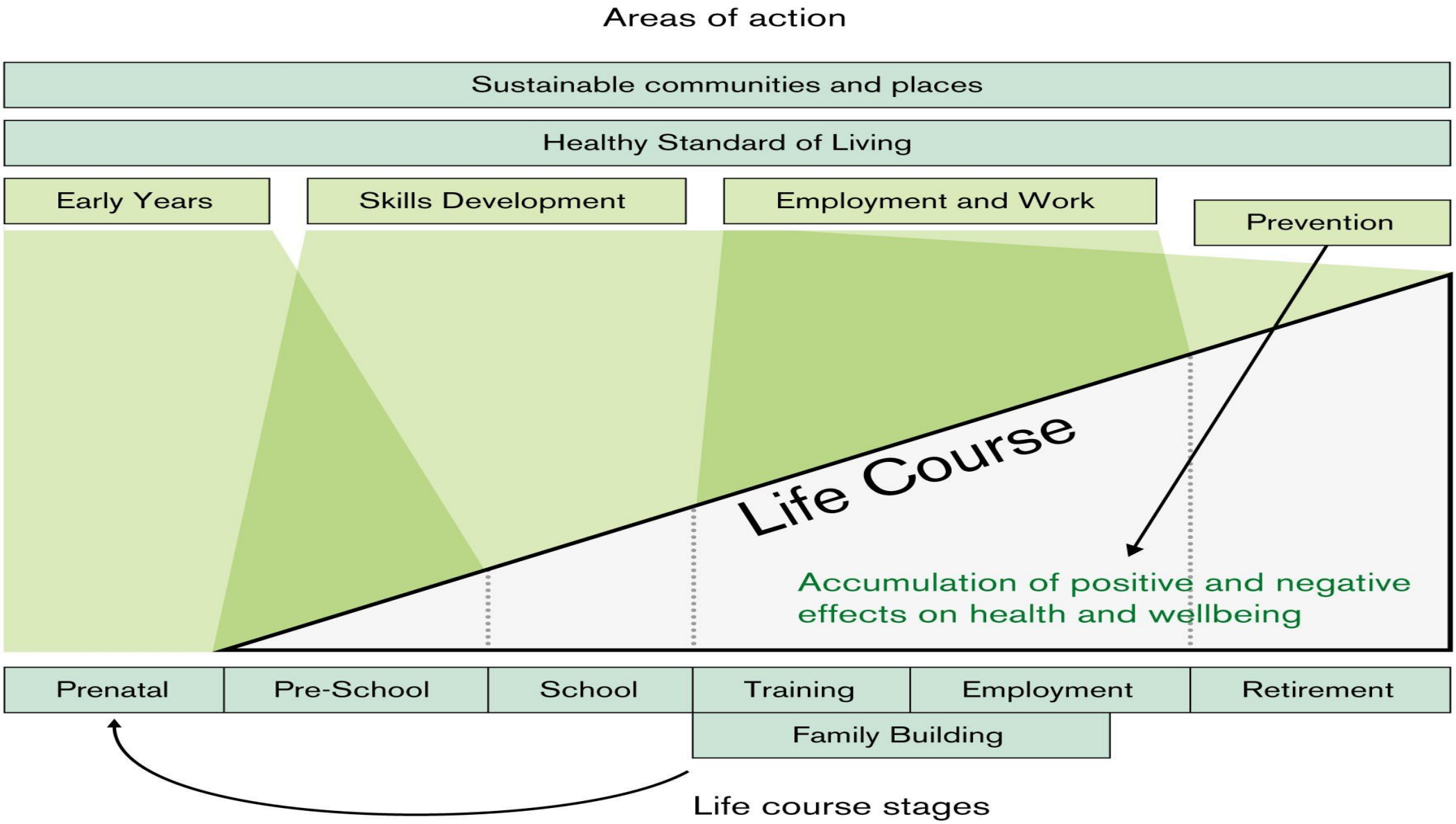
Report published by the Department of Health, London

DH Department of Health

	NHS	Other public sector	Non-public sector	Total
Early identification and intervention as soon as mental disorder arises				
Early intervention for conduct disorder	1.08	1.78	5.03	7.89
Health visitor interventions to reduce postnatal depression	0.40	–	0.40	0.80
Early intervention for depression in diabetes	0.19	0	0.14	0.33
Early intervention for medically unexplained symptoms [b]	1.01	0	0.74	1.75
Early diagnosis and treatment of depression at work	0.51	–	4.52	5.03
Early detection of psychosis	2.62	0.79	6.85	10.27
Early intervention in psychosis	9.68	0.27	8.02	17.97
Screening for alcohol misuse	2.24	0.93	8.57	11.75
Suicide training courses provided to all GPs	0.08	0.05	43.86	43.99
Suicide prevention through bridge safety barriers	1.75	1.31	51.39	54.45
Promotion of mental health and prevention of mental disorder				
Prevention of conduct disorder through social and emotional learning programmes	9.42	17.02	57.29	83.73
School-based interventions to reduce bullying	0	0	14.35	14.35
Workplace health promotion programmes	–	–	9.69	9.69
Addressing social determinants and consequences of mental disorder				
Debt advice services	0.34	0.58	2.63	3.55
Befriending for older adults	0.44	–	–	0.44

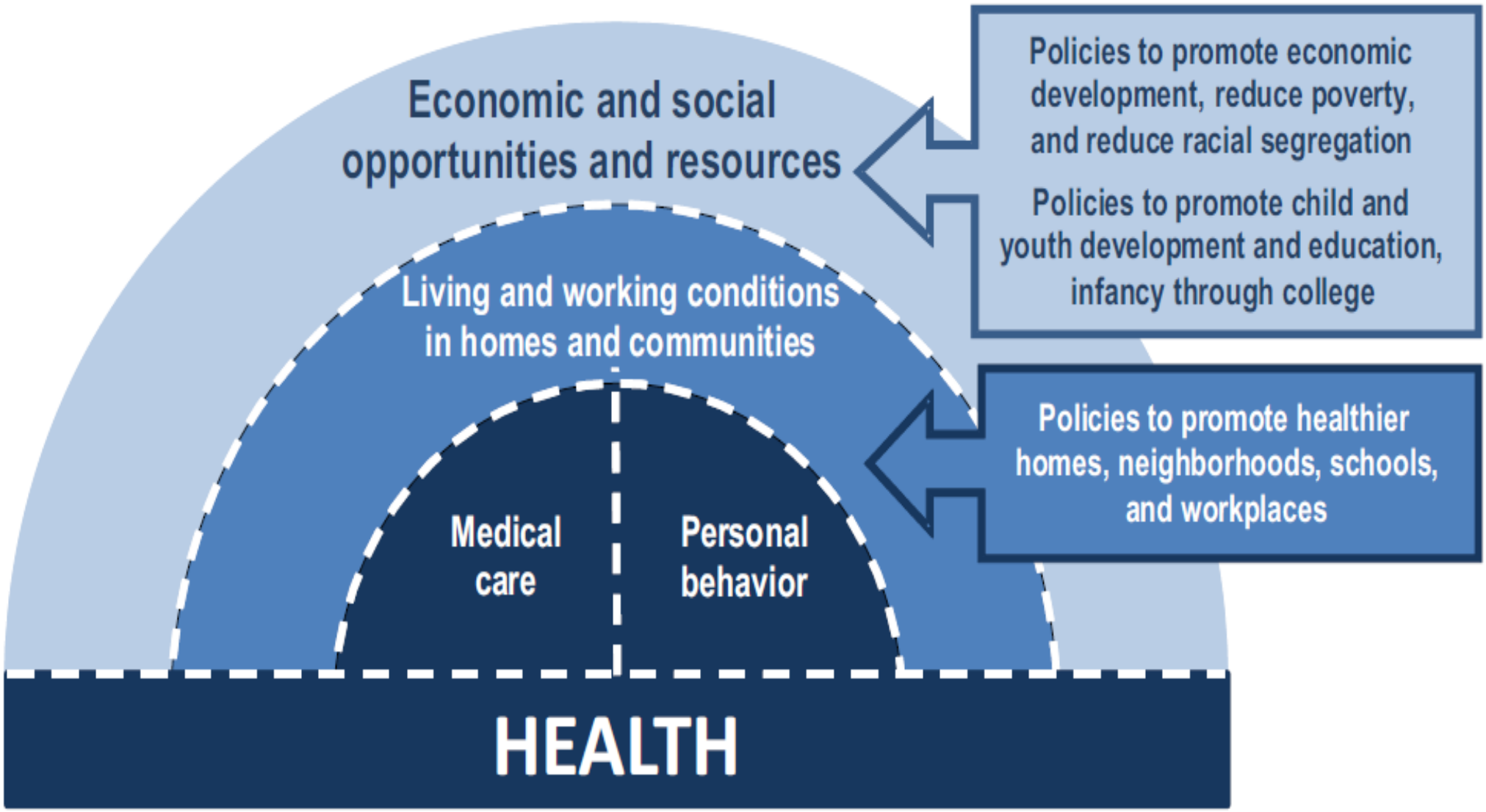
What of roles responsibilities and partnerships?

Figure 5 Action across the life course



Marmot Review: Fair Society Healthy Lives, 2010

Upstream actions in a US Health Policy Context



Braveman et al American Journal Preventive Medicine 2011

Contemporary Government Challenges

Australian Government
Australian Public Service Commission

Changing Behaviour

A Public Policy Perspective

Contemporary Government Challenges

CabinetOffice

INSTITUTE FOR GOVERNMENT

MINDSPACE

Influencing behaviour through public policy

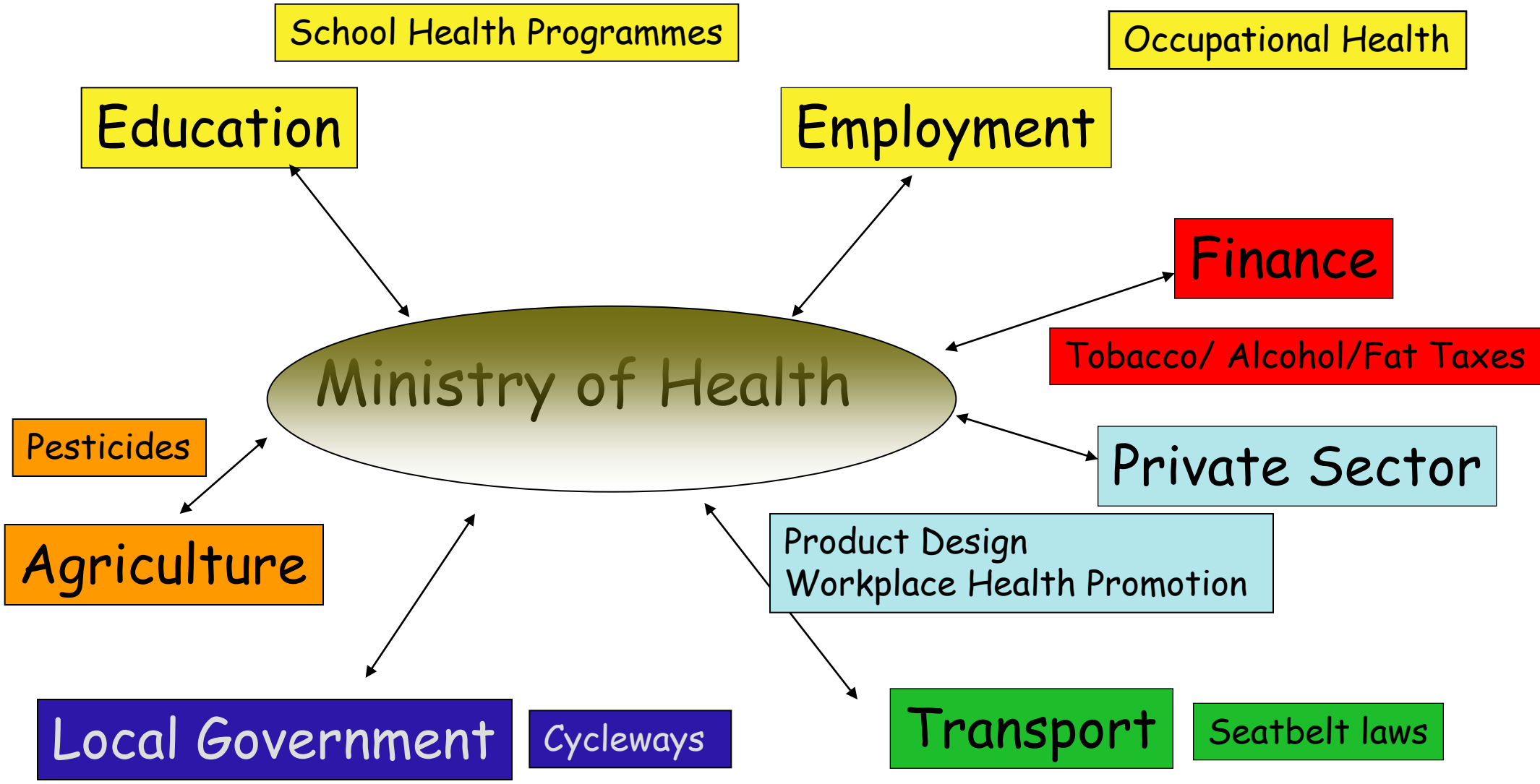
Influencing Public Behaviour to Improve Health and Wellbeing

An independent report

February 2010

The costs and benefits of population wide interventions are often fragmented. This can be a barrier to implementation

Health/ non-Health Sector Interfaces



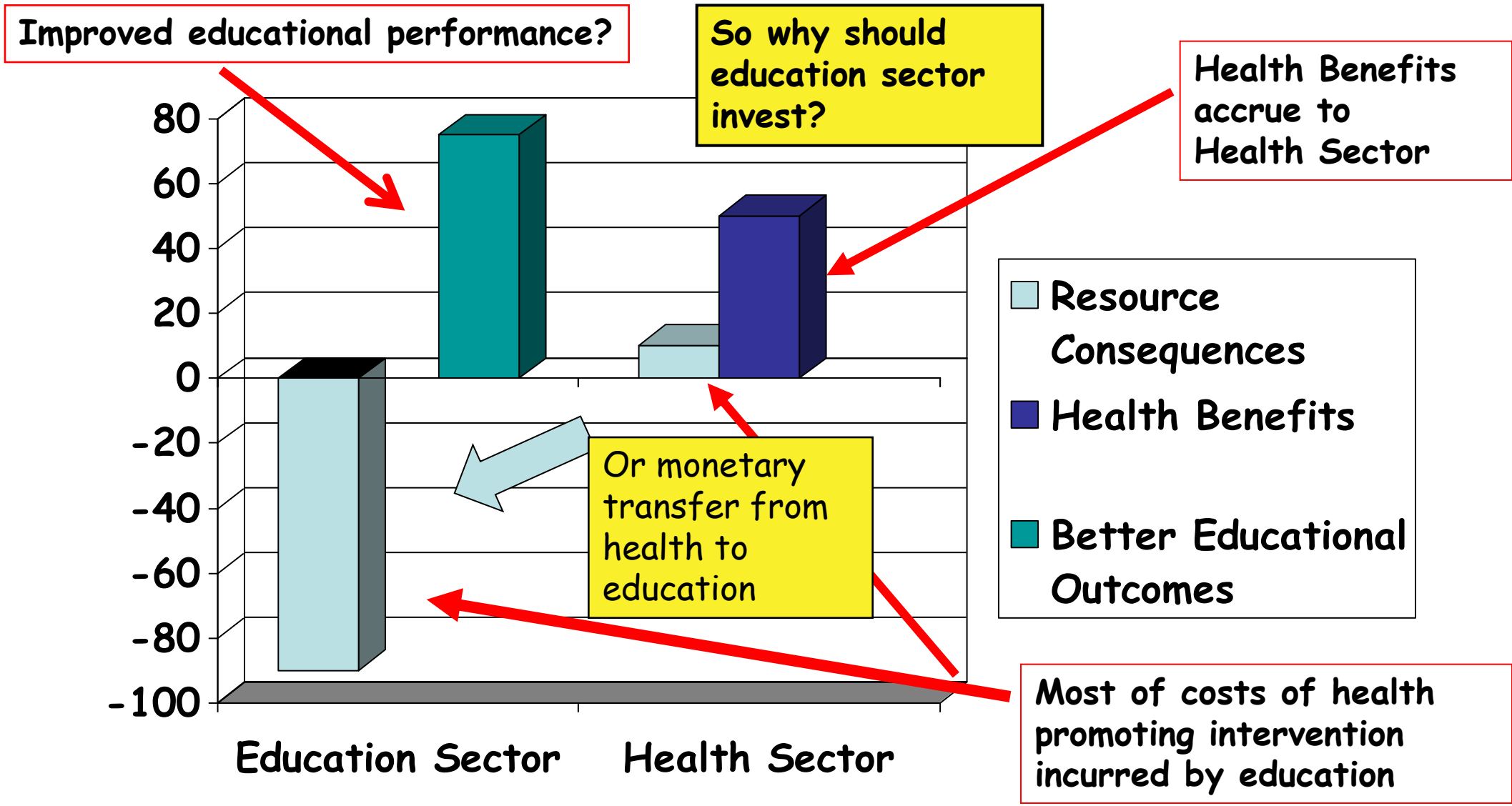
Much broader stakeholder perspective

Public health interventions impact on health and non health system stakeholders

Non health system stakeholders may not view health outcomes as a key concern – but they may be responsible for funding and implementing interventions

Growing recognition in public health of importance of quantifying non health benefits of interventions to encourage implementation

Impact of budgetary silos



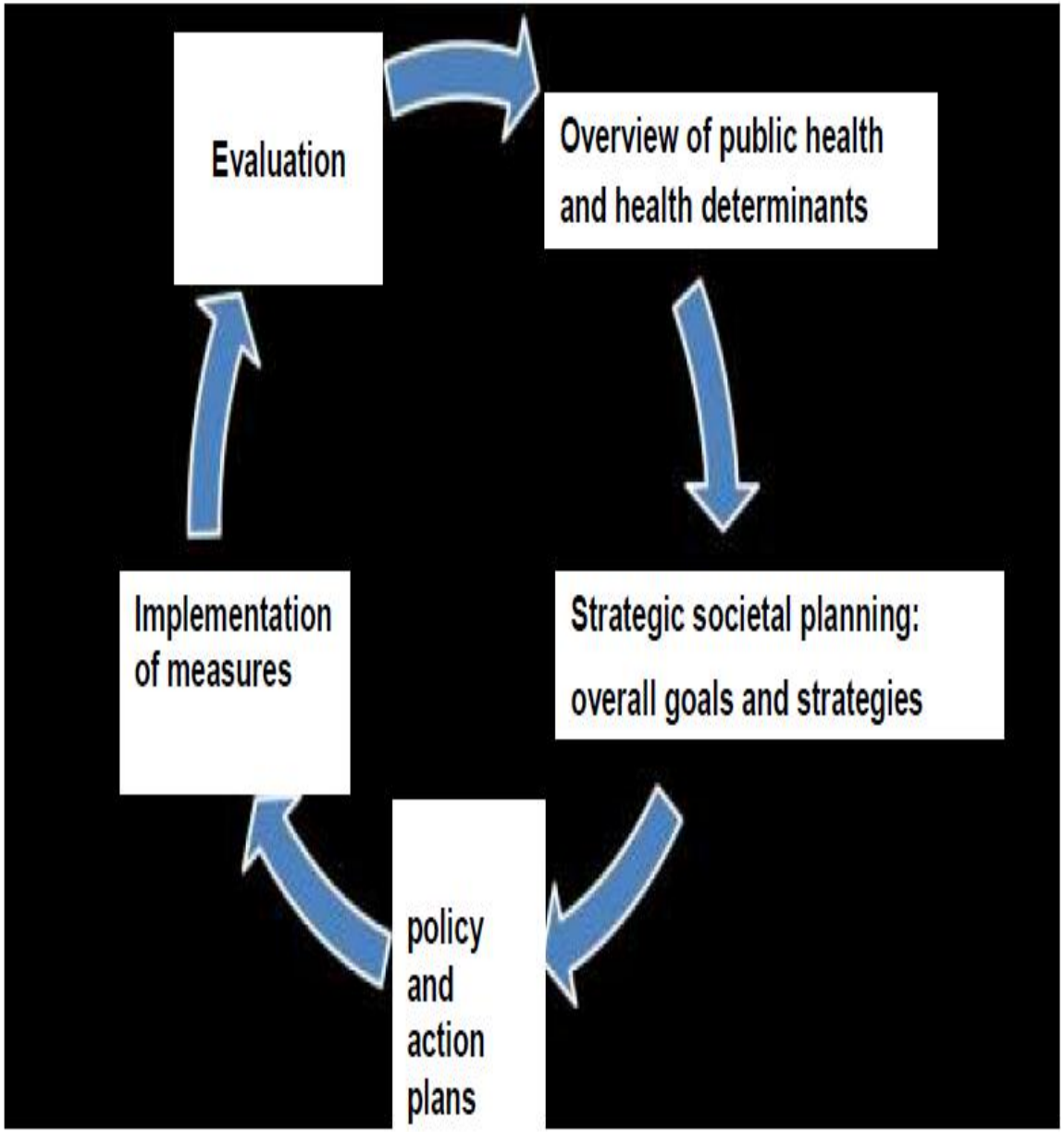
How can we co-ordinate actions across sectors and stakeholders?

Mechanisms to overcome financial disincentives

- Co-ordinating cross-sectoral body.
- (Voluntary) joint budgeting arrangements – remove disincentives to invest across sectors
- Where overall benefits to public purse set up mechanism to transfer funds from sector that benefits to the one that pays for implementation.
- Key role for Ministries of Finance?

McDaid, Drummond, Suhrcke, 2008

Norwegian Public Health Act 2012



Whole-of-government and a whole-of-municipality responsibility for public health – not just health sector.

In public health work municipalities must involve all sectors for the promotion of public health, not just the health sector.

Establish health improvement as a policy goal across sectors

- Establish collective sense of ownership over public health policy e.g. through intra-departmental arrangements – in Denmark 10 departments involved in public health policy 2002-2010

- Joint health related targets across sectors – but need to be explicit and clear – in England 82 commitments across 18 government departments to tackle health inequalities and promote good health

McDaid, Drummond, Suhrcke, 2008

Different approaches to joint budgeting

- **Budget alignment:** For instance, a health service commissioner can manage both a health budget and a separate local authority budget to meet an agreed set of public health aims.
- **Dedicated joint funds:** Different sectors may contribute a resources to a single joint fund to be spent on agreed projects or delivery of specific services. Often time-limited. Usually flexibility in how funds within the budget can be spent.
- **Joint-post funding:** Jointly fund a post where an individual is responsible for services and/or attaining objectives relevant to both departments.
- **Fully integrated budgets:** Budgets across sectors fully integrated with resources and workforce fully coming together. One partner typically acts as the 'host' to undertake the other's functions and to manage all staff.
- **Policy orientated funding:** Central or local government may set objectives that cut across ministerial and budget boundaries and the budget system. Money may be allocated to specific policy areas, rather than to specific departments.

Are they effective?

- Limited focus of evaluation on outcomes; largely on process; most experience at local/regional level
  - But some success in initiatives to reduce road traffic casualties in England, rehabilitation and return to work in Sweden, promoting child mental in England, promoting the health of older people in municipalities in Austria
- Evidence they can help overcome narrow sectoral interests by
  - Widening area of responsibility
  - Obtaining engagement and interest of different stakeholders
  - Promoting flexibility in funding
  - Ending the cross-sectoral blame game
  - Reduce need for complex contracts between different actors in different sectors
- Arrangements can be poorly understood / implemented (Audit Commission 2008, 2009)
- Important to look at economic benefits

Mandatory vs Voluntary Arrangements

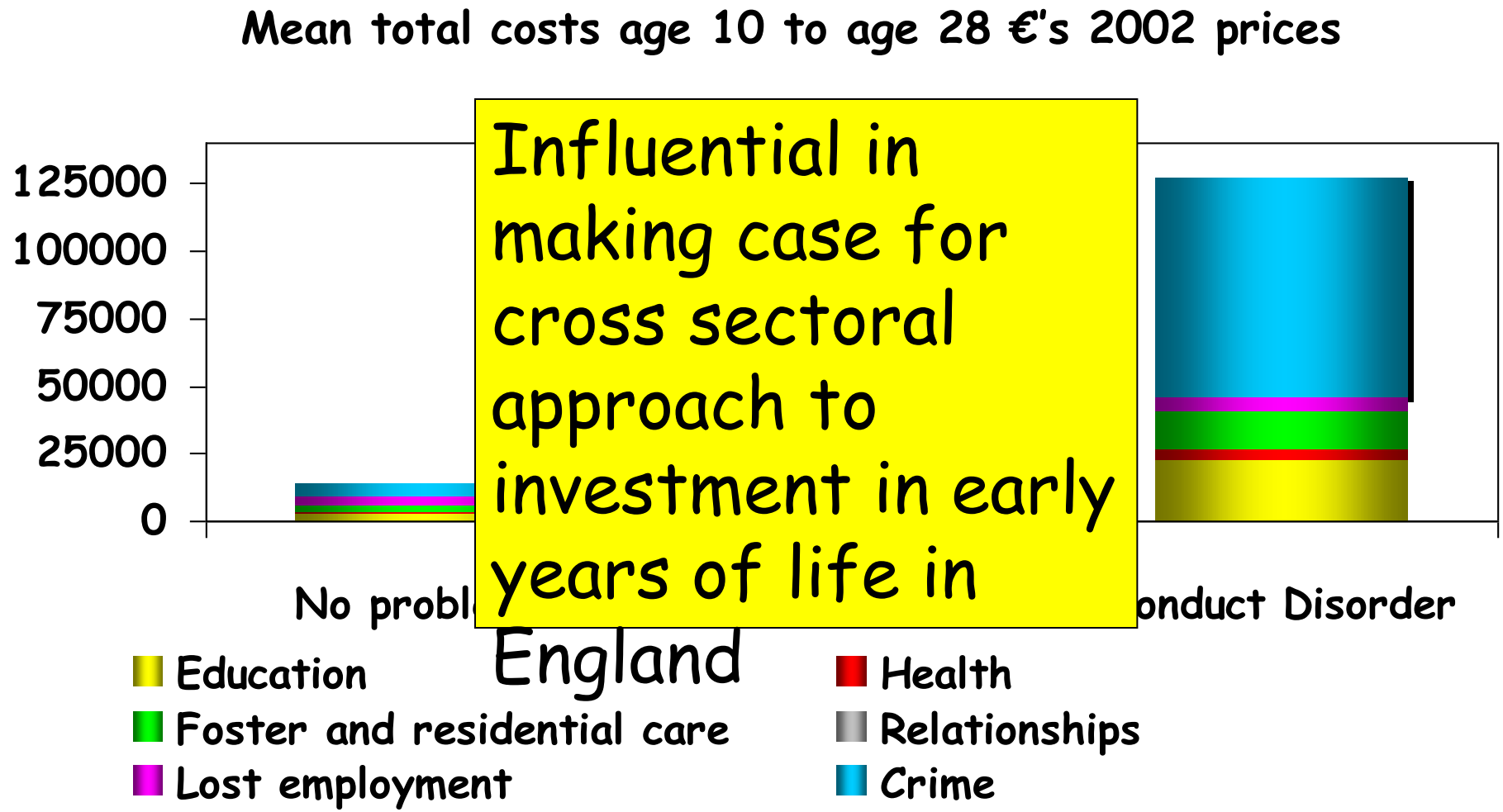
- Mandatory arrangements require detailed legal and contractual actions
- Opportunities for mutual learning arise
- But **maybe more difficult to sustain** in long run if created with time limited funding

- Voluntary arrangements: need to rely on building trust; can take time
- But if successful, can lead to more innovation
- May also be **more likely to be sustainable** in longer term

Factors to aid in implementation

- Define problem / joint benefits of action
- Identify all cross sectorial stakeholders / actors to be involved
- Understand what are their priorities and goals – how would joint funding of an initiative add value from their perspectives
- Vital to highlight non-health benefits; speak non-public health language
- Sustained effort needed to build cross-sectoral working relationships
  - Employing co-ordinators (esp where not full integration of budgets)
  - Co-locate team members to help trust/ working relationships develop
- A role for performance related financial incentives
  - Needs common set targets/performance indicators
- Highlight the economic case for cross-sectoral action

Financial costs of social exclusion: long term follow up of antisocial children



Influential in making case for cross sectoral approach to investment in early years of life in England

Scott et al BMJ 2002

Public Health at NICE

- National Institute for Health and Clinical Excellence (in England and Wales)
- Remit expanded in 2005 to consider not only health care but also case for investing in public health interventions
- Can be funded/delivered outside health system
- Assessments include smoking cessation; mental/ physical wellbeing at work or school; alcohol education; needle exchange programmes
- Consultation with relevant health and non health stakeholders throughout process

Expanding HTA: The NICE experience

- Most interventions examined appear highly cost effective compared to health care interventions
- Also often very low cost to implement
- Assessments have taken context and impacts on different sectors of population
- Has looked at non-health impacts to help strengthen case for action: e.g. benefits to workplace productivity of workplace smoking cessation programmes
- Transparent discussion of case for investment: meetings open to public and press – all documentation on internet

Going forward: strengthening cross-sectoral working

- Many highly cost effective population health interventions exist; evidence base strengthens case for investment; **but need more context specific analysis**
- Actions take place across many sectors: **co-operation & coordination across different sectors and actors**
- Identify key non-health impacts e.g. on education – **can help 'sell' case for action with other sectors**
- Look at how to overcome disincentives: health in all policies, bodies to assess cost effectiveness, funding transfers across sectors; joint budgeting and common health (and non health) policy targets