Promoting Health, Preventing Disease

The economic case

This book provides an economic perspective on health promotion and chronic disease prevention, and gives a rationale for assessing the economic case for action. It provides a comprehensive review of the evidence base in support of a broad range of public health interventions, addressing not only their effectiveness in improving population health, but also their implementation costs, impacts on health expenditures and wider economic consequences.

An economic perspective is about more than counting the costs associated with poor health. It is about understanding how economic incentives can influence healthy lifestyle choices in the population. The book provides tools for developing effective and efficient policy strategies and addressing trade-offs between the goals of improving population health, while being mindful of the need to tackle inequalities in health outcomes across individuals and populations.

The book:
- practically illustrates methods and measures of cost and outcome used in the evaluation of interventions
- covers specific risk factor areas including tobacco smoking, alcohol, unhealthy diets, physical inactivity, poor mental health and harmful environmental factors
- considers cross-cutting themes including key implementation issues, health inequalities, and the merits of early life interventions

The book is designed for health policy makers and all those working or studying in the areas of public health, health research, medicine or health economics.

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Promoting Health, Preventing Disease

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Promoting Health, Preventing Disease

The Economic Case

Edited by

David McDaid, Franco Sassi and Sherry Merkur

Open University Press
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14.1 Barriers to the cross-sectoral implementation of health-promotion measures  296
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Today, the economic case for investing in health promotion and non-communicable disease prevention is stronger than it has ever been. Chronic noncommunicable diseases are the main cause of death and disability. Yet the main risk factors associated with chronic diseases are largely preventable, and this book provides compelling evidence that addressing those risk factors is an efficient use of governments’ money. In particular, the book presents the case for investing upstream, prior to the onset of illness and before health care services are required.

Actions to improve people’s health by making their behaviours and consumption choices healthier are starting to receive more attention in European countries’ public health policies. Countries are increasingly reluctant to accept the detrimental consequences of tobacco smoking, harmful use of alcohol, unhealthy diets and sedentary lifestyles, among other risk factors. This book shows that governments can have a major impact on these behaviours by raising the price of unhealthy choices, and making them less affordable, by regulating business conduct in ways that would limit commercial influences on individual choices and ensure that healthier products are placed on the market, and by informing and educating people about healthier lifestyles. The following are some examples from the work presented in this book:

- Raising cigarette prices across Europe to the European Union (EU) average of $5.50 would save hundreds of thousands of lives each year – 100,000, in the Russian Federation alone.
- Over 10,000 years of life in good health could be gained in western Europe each year, and even more in central and eastern Europe, at a negligible cost,
by limiting children’s exposure to advertising of foods and beverages high in salt, sugar and fat.

- Cutting salt intake through regulation and food product reformulation led to a gain of 44,000 life-years in good health in England, with savings in health care expenditures largely offsetting implementation costs.
- Road traffic accidents cost European countries as much as 3 per cent of GDP; measures to cut this burden pay for themselves within 5 to 10 years.
- The value of the health and economic benefits generated by regulating chemical hazards for children and adults is ten times larger than the costs of implementing regulatory measures.

All this can be achieved in partnership with a wide range of state and non-state partners, while it is essential that verifiable targets are set, and progress towards key health objectives is closely monitored and evaluated.

This book is the result of a collaborative effort between the European Observatory on Health Systems and Policies, the Organisation for Economic Co-operation and Development, and the World Health Organization (WHO) Regional Office for Europe. The economics of health promotion and noncommunicable disease prevention features prominently in our two organizations’ agendas. We have been working together, in a cross-disciplinary way, to present the best available evidence on what countries should be doing to prevent unhealthy behaviour.

The evidence of this study has informed the development of the new WHO European region policy framework and strategy for health and well-being – Health 2020. The OECD’s Economics of Prevention Programme has made a major contribution to the evidence base for tackling leading risk factors for chronic diseases. The Programme aims at enhancing public health and creating the conditions for economic growth and development. By shaping environments conducive to healthier consumption choices, people’s health and life expectancy will be improved, health care systems will be relieved of a meaningful share of the burden of treating chronic diseases, the economy will benefit from a healthier and more productive workforce, and society will enjoy greater welfare and fairer health outcomes.

Developing the evidence base on what works to promote better health and well-being, in different contexts, and at what cost, is a key element in achieving progress towards national health policy goals. Health 2020 is value- and evidence-informed, and aims at improving the health and well-being of populations, reducing health inequalities, strengthening public health and ensuring sustainable people-centred health systems. It envisages actions and outcomes well beyond the boundaries of the health sector and beyond the remit of health ministries.

This book has benefited from wide consultations with Member States and experts that have taken place over the last two years. It shows that promoting health and preventing chronic diseases through interventions aimed at modifying lifestyle risk factors is possible and cost-effective. However, this often requires fundamental changes in individual and collective behaviours. As this joint work by the OECD, the WHO European Region and the European Observatory on Health Systems and Policies shows, such changes can only
be triggered by wide-ranging promotion and prevention strategies addressing multiple determinants of health across social groups.

Zsuzsanna Jakab, WHO Regional Director for Europe
Angel Gurria, Secretary General, Organisation for Economic Co-operation and Development
Executive summary

Health promotion and disease prevention have a major role to play in health policy worldwide, yet they are underused, partly because evidence to support a strong case for action is difficult to gather. Aimed at a broad audience of policymakers, practitioners and academics, this book is designed to provide an economic perspective on the challenges to better health promotion and chronic disease prevention. Chronic noncommunicable diseases, including cardiovascular conditions, cancers, mental disorders, chronic respiratory conditions and diabetes, are the main cause of disability and death worldwide. Some of the disease burden associated with these diseases can be avoided through health promotion and disease prevention. A key question is whether or not there is an economic case for action, rather than treating poor health when it arises.

The first chapters of the volume look at how economics can contribute to our understanding of the pathways through which chronic diseases are generated, and of the choices and behaviours involved in those pathways. They include a discussion of basic concepts and theories, including the economic rationale for action, as well as a practical illustration of the methods, and measures of cost and outcome, that are typically used in economic analysis.

One key conclusion is that many different market failures create a compelling economic rationale for government intervention in health promotion and disease prevention, as a way of improving social welfare. Behaviours conducive to poor health may entail costs that are not borne by those who engage in such behaviours. Externalities associated with their adverse impacts go beyond the individual. They affect families and can put a strain on public services. Examples
Executive summary

include the harms caused by passive smoking, violent and disorderly behaviour associated with alcohol abuse, and road traffic injuries resulting from reckless driving. Prices are unlikely to reflect these impacts in a free market.

There may be a lack of information for consumers to make rational and efficient choices, often compounded by uncertainty or miscommunication on the health benefits and harms of different lifestyle choices. And, people do not always act rationally when making choices, sometimes because their behaviours may be addictive, or habit-forming, as with smoking and gambling, sometimes because they can be myopic, choosing to ‘enjoy’ an unhealthy lifestyle today, either dismissing future risk or intending but failing to change future behaviour. Choices are also influenced by the way in which products are advertised or displayed in shops, and by peer pressures.

The core of the book contains reviews of the economic evidence for tackling specific behavioural risk factors, including tobacco smoking, harmful alcohol use, physical inactivity and unhealthy diets, as well as selected risk factors related to the environment, roads and mental health and well-being. Cross-cutting themes, including interventions on selected social determinants of health, with a focus, in particular, on education and early life interventions, the distributional implications of policy interventions and key implementation issues are then considered in subsequent chapters.

A central message is that there is strong evidence of the cost-effectiveness of at least some actions in all of the thematic areas examined. In many of these areas, a combination of measures involving fiscal policies, regulation and improved access to health-relevant information are more cost-effective than any one measure in isolation. In the case of tobacco control, for instance, taxation is the single most cost-effective action; but even greater health benefits can be obtained by combining this with legislation on smoke-free environments, banning advertising, making use of warning labels and running mass media campaigns, still with favourable cost-effectiveness.

Efficient alcohol policies include restricting access to retailed alcohol, enforcing bans on alcohol advertising, including on social media, raising taxes and instituting a minimum price per gram of alcohol. More expensive, but still cost-effective measures include enforcing drink-driving laws through breath testing, delivering brief advice for higher risk drinking, and providing treatment for alcohol-related disorders. Media campaigns, on their own, and school-based health promotion programmes, do not appear to be cost-effective. A strategy that combines interventions is likely to generate additional health benefits, while still remaining cost-effective.

There is also evidence for actions that improve the quality of people's diets. Taxes on foods high in salt, sugar and fat are consistently cost saving, but tend to be regressive. They may need to be designed carefully to avoid undesirable substitution effects – for instance, by coupling them with subsidies targeting healthy food and drinks, or disadvantaged consumers. Policies aimed at reducing salt content in processed foods have favourable cost-effectiveness in several studies, but evidence on other reformulation (e.g. to reduce trans-fat content) is very limited. Policies aimed at making fruit and vegetables more available in schools can have a positive, albeit modest effect. Food labelling schemes can be cost-effective, but they have only been assessed in a handful
of studies. A few studies support restrictions on food advertising to children,
which are found to work better, and to be more efficient, when implemented on
a mandatory basis rather than through self-regulation.

The promotion of physical activity through mass media campaigns is
cost-effective and relatively inexpensive. However, returns in terms of health
outcomes may be lower than those provided by more targeted interventions –
for instance, those set in the workplace. Changes in the transport system and
increased access to opportunities for physical activity in the wider environment,
such as the provision of bicycle trails, also have potential benefits, but require
careful evaluation to ascertain affordability and feasibility. Actions targeting
the adult population and individuals at higher risk tend to produce larger effects
in a shorter time frame than actions targeted at children and young people.

The economic case for mental health promotion and disorder prevention
is encouraging. Evidence suggests a favourable return on investment from
many actions across the life course, starting from early actions in childhood
to strengthen social and emotional learning, coping skills and improved bonds
between parents and children. There are also economic arguments supporting
investment in workplace initiatives to promote better psychological health,
with much of the benefits falling on employers. Cost-effective prevention
programmes can also be targeted at high-risk groups of the population,
including isolated older people and new mothers.

Actions to prevent road traffic accidents, including road design modification,
urban traffic calming and camera and radar speed enforcement programmes,
are supported by sound economic evidence, especially when applied in higher-
risk areas. Active enforcement of legislation to promote good road safety
behaviours, including measures to reduce drink-driving, can also be highly
cost-effective.

Favourable economic studies support action to tackle environmental
chemical hazards. Examples include the comprehensive reform of the 2007
Regulation on Registration, Evaluation, Authorisation and Restriction of
Chemicals (REACH) in Europe; the removal of lead-based paint hazards; the
abatement of mercury pollution from coal-fired power plants and reduced
vehicle emissions in high-traffic areas, e.g., through congestion charging
schemes. These measures can reduce health care and other costs associated
with childhood asthma, bronchiolitis and other early life respiratory illnesses.

A further key message is that adequate implementation and monitoring
are essential to realize the cost-effectiveness potential of many interventions
reviewed. Steps need to be taken to help facilitate implementation of actions that
must be delivered outside of the health sector. These could include voluntary or
mandatory partnerships across sectors, possibly with the sharing of financial
risks and rewards of investment to overcome narrow sector-specific interests.

Finally, it is crucial that expectations concerning the benefits of health
promotion and disease prevention remain realistic. Reducing health expenditure
should not be regarded as the sole goal of prevention. An economic case
should be made in the same way as for other health interventions. This volume
indicates that prevention and health promotion can help improve health and
well-being, with a cost-effectiveness that is as good as, or better than, that of
many accepted forms of health care.
Acknowledgements

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Finally, this book would not have appeared without the hard work of the production team led by Jonathan North, with the able assistance of Caroline White.
List of abbreviations

$Int international dollars (currency)
A$/AUD Australian dollars (currency)
ACI activated carbon injection
ACSM American College of Sports Medicine
BBBF Better Beginnings, Better Futures
BCSP Bowel Cancer Screening Programme
BDI Becks Depression Inventory
BHPS British Household Panel Survey
BLLs blood lead levels
BMI body mass index
C$ Canadian dollars (currency)
CAAA Clean Air Act Amendments
CAP Common Agricultural Policy
CBA cost-benefit analysis
CBT cognitive behavioural therapy
CCA cost-consequence analysis
CDI Children’s Depression Inventory
CE cost-effectiveness
CEA cost-effectiveness analysis
CIS Commonwealth of Independent States
CMA cost-minimization analysis
COI cost of illness
CSDH Commission on Social Determinants of Health
CUA cost-utility analysis
List of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CV</td>
<td>contingent valuation</td>
</tr>
<tr>
<td>CVD</td>
<td>cardiovascular diseases</td>
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<tr>
<td>DALYs</td>
<td>disability-adjusted life-years</td>
</tr>
<tr>
<td>DCE</td>
<td>discrete choice experiment</td>
</tr>
<tr>
<td>DKK</td>
<td>Danish krone (currency)</td>
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<tr>
<td>DRNCDs</td>
<td>diet-related chronic noncommunicable diseases</td>
</tr>
<tr>
<td>ECD</td>
<td>early childhood development</td>
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<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>EUPASS</td>
<td>European Physical Activity Surveillance System</td>
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<tr>
<td>EuroNCAP</td>
<td>European New Car Assessment Programme</td>
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<tr>
<td>FCTC</td>
<td>Framework Convention on Tobacco Control</td>
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<tr>
<td>FOBT</td>
<td>faecal occult blood test</td>
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<tr>
<td>FSU</td>
<td>former Soviet Union</td>
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<tr>
<td>FYRR</td>
<td>first year rates of return</td>
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<tr>
<td>GDA</td>
<td>guideline daily allowance/amount</td>
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<tr>
<td>GDP</td>
<td>gross domestic product</td>
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<tr>
<td>GP</td>
<td>general practitioner</td>
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<tr>
<td>GPAQ</td>
<td>global physical activity questionnaire</td>
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<tr>
<td>HDA</td>
<td>Health Development Agency</td>
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<tr>
<td>HDL</td>
<td>high-density lipoprotein</td>
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<tr>
<td>HEHA</td>
<td>Healthy Eating, Healthy Action</td>
</tr>
<tr>
<td>HEPA</td>
<td>Health-Enhancing Physical Activity [Network]</td>
</tr>
<tr>
<td>HPV</td>
<td>high production volume</td>
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<tr>
<td>ICAP</td>
<td>International Centre for Alcohol Policies</td>
</tr>
<tr>
<td>ICECAP</td>
<td>ICEpop CAPability measure</td>
</tr>
<tr>
<td>ICER</td>
<td>incremental cost-effectiveness ratio</td>
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<tr>
<td>IPAQ</td>
<td>international physical activity questionnaire</td>
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<tr>
<td>IQ</td>
<td>intelligence quotient</td>
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<tr>
<td>ISA</td>
<td>Intelligent Speed Adaptation</td>
</tr>
<tr>
<td>IY</td>
<td>[Webster-Stratton] Incredible Years</td>
</tr>
<tr>
<td>MATS</td>
<td>Mercury and Air Toxics Standards</td>
</tr>
<tr>
<td>NGOs</td>
<td>non-governmental organizations</td>
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<tr>
<td>NCDs</td>
<td>noncommunicable diseases</td>
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<tr>
<td>NHS</td>
<td>National Health Service</td>
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<tr>
<td>NICE</td>
<td>National Institute for Health and Care Excellence</td>
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<td>NIS</td>
<td>newly independent states</td>
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<tr>
<td>NOPA</td>
<td>European Database on Nutrition, Obesity and Physical Activity</td>
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<tr>
<td>NRT</td>
<td>nicotine replacement therapy</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>PA</td>
<td>physical activity</td>
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<tr>
<td>PLN</td>
<td>Polish zloty (currency)</td>
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<tr>
<td>PPP</td>
<td>purchasing power parity</td>
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<tr>
<td>PUFA</td>
<td>polyunsaturated fats</td>
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<tr>
<td>QALYs</td>
<td>quality-adjusted life-years</td>
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<tr>
<td>RCT</td>
<td>randomized controlled trial</td>
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<tr>
<td>REACH</td>
<td>Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
</tbody>
</table>
List of abbreviations

ROI  return on investment
RUR  Russian rouble (currency)
RWJF  Robert Wood Johnson Foundation
SAPM  Sheffield Alcohol Policy Model
SDH  social determinants of health
SDR  standardized death rate
SEG  socioeconomic group
SEK  Swedish krona (currency)
SES  socioeconomic status
TSCA  Toxic Substances Control Act
TTCs  transnational tobacco companies
UKK  Urho Kaleka Kekkonen walking test
UN  United Nations
UNEP  United Nations Environment Programme
WIC  Women, Infants and Children [Fruit and Vegetable Voucher Campaign]
WEMWBS  Warwick–Edinburgh Mental Well-being Scale
WHO  World Health Organization
WTO  World Trade Organisation
VAS  visual analogue scale
VAT  valued-added tax
YLL  years of life lost
YLD  years lived with disability