European **Observatory** on Health Systems and Policies Series

Promoting Health, Preventing Disease

The economic case

Edited by
David McDaid
Franco Sassi and
Sherry Merkur

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Promoting Health, Preventing Disease

The Economic Case

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European Observatory on Health Systems and Policies Series

The European Observatory on Health Systems and Policies is a unique project that builds on the commitment of all its partners to improving health systems:

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The volumes in this series focus on key issues for health policymaking in Europe. Each study explores the conceptual background, outcomes and lessons learned about the development of more equitable, more efficient and more effective health systems in Europe. With this focus, the series seeks to contribute to the evolution of a more evidence-based approach to policy formulation in the health sector.

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Foreword

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

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.

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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

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

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