# Table of Contents

Abbreviations ................................................................. 13

Executive Summary ......................................................... 15

**Chapter 1. Introduction: Obesity and the Economics of Prevention** ........................................ 23
   Obesity: The extent of the problem .................................. 24
   Obesity, health and longevity ........................................ 26
   The economic costs of obesity ........................................ 28
   The implications for social welfare and the role of prevention ................................ 30
   What economic analyses can contribute ............................ 32
   The book's main conclusions ......................................... 38
   Overview of the remaining chapters ................................ 42
   Key messages ................................................................ 44
   Bibliography ................................................................ 44

**Special Focus 1. Promoting Health and Fighting Chronic Diseases: What Impact on the Economy?** (by Marc Suhrcke) ........................................ 49

**Chapter 2. Obesity: Past and Projected Future Trends** ................................................................. 57
   Obesity in the OECD and beyond ..................................... 58
   Measuring obesity .......................................................... 59
   Historical trends in height, weight and obesity .................... 61
   Cohort patterns in overweight and obesity .......................... 65
   Projections of obesity rates up to 2020 ............................. 67
   Key messages ................................................................ 74
   Notes .......................................................................... 75
   Bibliography ................................................................ 76

**Chapter 3. The Social Dimensions of Obesity** ................................................................................. 79
   Obesity in different social groups ...................................... 80
   Obesity in men and women .............................................. 80
   Obesity at different ages .................................................. 81
   Obesity and socio-economic condition ............................... 82
   Obesity in different racial and ethnic groups ....................... 95
   Does obesity affect employment, wages and productivity? ...... 97
   Key messages ................................................................ 102
   Bibliography ................................................................ 103
## TABLE OF CONTENTS

Special Focus II. **The Size and Risks of the International Epidemic of Child Obesity** (by Tim Lobstein) ........................................ 107

Chapter 4. **How Does Obesity Spread?** ........................................ 115
- The determinants of health and disease ........................................ 116
- The main driving forces behind the epidemic ............................... 121
- Market failures in lifestyle choices ............................................. 122
- The social multiplier effect: Clustering of obesity within households, peer groups and social networks ..................................... 129
- Key messages ............................................................................. 134
- Bibliography ............................................................................... 135

Special Focus III. **Are Health Behaviors Driven by Information?**
(by Donald Kenkel) ........................................................................ 141

Chapter 5. **Tackling Obesity: The Roles of Governments and Markets**  ................................................................. 147
- What can governments do to improve the quality of our choices? ........ 148
- Government policies on diet and physical activity in the OECD area ................................................................. 154
- Private sector responses: Are markets adjusting to the new challenges? ................................................................. 158
- Key messages ............................................................................. 161
- Bibliography ............................................................................... 162

Special Focus IV. **Community Interventions for the Prevention of Obesity** (by Francesco Branca) ............................................ 165

Chapter 6. **The Impact of Interventions** ........................................ 175
- What interventions really work? .................................................. 176
- Cost-effectiveness analysis: A generalised approach ...................... 186
- Effects of the interventions on obesity, health and life expectancy .... 189
- The costs and cost-effectiveness of interventions ........................... 194
- Strategies involving multiple interventions ................................... 198
- Distributional impacts of preventive interventions ......................... 201
- From modelling to policy: Key drivers of success ........................... 203
- Key messages ............................................................................. 205
- Notes ......................................................................................... 206
- Bibliography ............................................................................... 207

Special Focus V. **Regulation of Food Advertising to Children: the UK Experience** (by Jonathan Porter) ........................................ 211

Special Focus VI. **The Case for Self-Regulation in Food Advertising** (by Stephan Loerke) ................................................................. 217
## TABLE OF CONTENTS

**Chapter 7. Information, Incentives and Choice:**

- Tackling the obesity problem ........................................... 221
- Populations or individuals? ........................................... 222
- Changing social norms .................................................. 223
- A multi-stakeholder approach .......................................... 228
- How much individual choice? .......................................... 232
- Key messages .............................................................. 234
- Bibliography .............................................................. 235

**Annex A. Supplementary Figures and Tables** ........................................... 237

**Annex B. Author's and Contributors' Biographies** ...................................... 263

### Tables

- SFII.1. Estimated prevalence of excess body weight in school-age children in 2010 .................................................. 110
- A.1. Description of the national health survey data used in the analyses reported in Chapters 2 and 3 .................................. 238
- A.2. Main input parameters used in CDP model-based analyses and relevant sources .................................................. 243
- A.3. Costs and coverage of selected preventive interventions ........ 249
- A.4. Magnitude of health gains associated with preventive interventions (population per DALY/LY gained) ......................... 250

### Figures

- 2.1. Obesity and overweight in OECD and non-OECD countries .... 60
- 2.2. Age-standardised obesity rates, age 15-64, selected OECD countries .................................................. 63
- 2.3. Age-standardised overweight rates, age 15-64, selected OECD countries .................................................. 64
- 2.4. Cohort patterns in obesity and overweight in selected OECD countries .................................................. 67
- 2.5. Changes over time in the BMI distribution in Australia and England .................................................. 69
- 2.6. Past and projected future rates of obesity and overweight, age 15-74, selected OECD countries .................................. 70
- 2.7. Past and projected future rates of child obesity and overweight, age 3-17, in four OECD countries .................................. 73
- 3.1. Obesity and overweight by age in six OECD countries ........ 82
- 3.2. Obesity by education level in four OECD countries ........ 85
- 3.3. Years spent in full-time education according to obesity status at age 20, France, population aged 25-65 ........ 87
- 3.4. Disparities in obesity and overweight by education level, selected OECD countries .................................. 93
# TABLE OF CONTENTS

3.5. Disparities in obesity and overweight by household income or occupation-based social class, selected OECD countries ............. 94
3.6. Obesity and overweight by ethnic group in England (adults) ........ 95
3.7. Obesity and overweight by ethnic group in the United States (adults) .......................................................... 96
3.8. Obesity and overweight by ethnic group in England (children 3-17) ........................................................................... 97
3.9. Obesity and overweight by ethnic group in the United States (children 3-17) ................................................................. 97
SFII.1. Estimated prevalence of child overweight in OECD member states and associated countries .............................................. 108
SFII.2. Trends in prevalence of overweight among children in England, France and United States (obese only) ......................................... 110
4.1. Child obesity and overweight by parents’ obesity status ............ 132
4.2. BMI correlation between spouses and between mothers and children .............................................................................. 133
4.3. BMI Correlation in couples of different ages ............................ 133
5.1. Interventions in OECD and other EU countries by type ............. 156
5.2. Interventions in OECD and other EU countries by sector ........... 157
6.1. Health outcomes at the population level (average effects per year) .................................................................................. 191
6.2. Cumulative DALYs saved over time ....................................... 192
6.3. Effects of selected interventions in different age groups ............ 193
6.4. Cumulative impact on health expenditure over time .................. 194
6.5. Economic impact at the population level (average effects per year) .................................................................................. 195
6.6. Cost-effectiveness of interventions over time ............................ 197
6.7. Estimated impacts of a multiple-intervention strategy (average effects per year) ............................................................... 200
SFVI.1. A blueprint for marketing policies on food advertising ........... 218
A.1. Obesity by household income or occupation-based social class, selected OECD countries ...................................................... 239
A.2. Overweight by household income or occupation-based social class, selected OECD countries .............................................. 240
A.3. Obesity by education level, selected OECD countries ................ 241
A.4. Overweight by education level, selected OECD countries .......... 242
A.5. Cumulative DALYs saved over time (per million population) ....... 251
A.6. Cumulative impact on health expenditure over time ................. 253
A.7. Cumulative DALYs saved with a multiple-intervention strategy over time ................................................................. 255
A.8. Cumulative impact on health expenditure of a multiple-intervention strategy over time .................................................... 255
A.9. Cost-effectiveness of a multiple-intervention strategy over time 256
| A.10. Canada: Probabilistic sensitivity analysis of the cost-effectiveness of interventions at 30 years | 257 |
| A.12. Italy: Probabilistic sensitivity analysis of the cost-effectiveness of interventions at 30 years | 258 |
| A.15. Canada: Probabilistic sensitivity analysis of the cost-effectiveness of interventions at 100 years | 259 |
| A.17. Italy: Probabilistic sensitivity analysis of the cost-effectiveness of interventions at 100 years | 260 |
| A.18. Japan: Probabilistic sensitivity analysis of the cost-effectiveness of interventions at 100 years | 261 |
| A.19. Mexico: Probabilistic sensitivity analysis of the cost-effectiveness of interventions at 100 years | 261 |