



Health inequalities in the EU

Final report of a consortium

Consortium lead: Sir Michael Marmot



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UCL Institute of Health Equity

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This report contains the results of work carried out under the EU health programme in the framework of a service contract with the Executive Agency for Health and Consumers, number EAHC/2010/6202. It is based on the work of a consortium, led by University College London Consulting (UCLC). The consortium comprises: UCLC; EuroHealthNet; Health Action Partnership International (HAPI) within the National Heart Forum (NHF); and the Public Health Observatories in England, represented by the North East Public Health Observatory (NEPHO), based at the University of Durham and the London Health Observatory (LHO).

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Executive summary

This report provides an outline of new evidence on health inequalities in the European Union (EU) and the policy response at EU and national level to health inequalities since 2009.

Health inequalities between Member States and regions

The report confirms significant health inequalities between and within EU Member States. The size of the health inequalities is for the most part similar to that identified in 'Health inequalities: Europe in profile', published in 2006.

Within this broad picture some indicators of inequality have decreased, some have remained constant and others have increased.

By 2010, inequalities in life expectancy at birth between Member States in the EU had decreased by 10 % for women but only by 3 % for men compared with 10 years earlier. These changes reflected decreases in infant mortality and the mortality of children aged less than 15, and were partly offset for women, and fully offset for men, by increases in inequalities above this age, especially at ages 15–24.

Inequalities in infant mortality between Member States dropped by 26 % between 2000 and 2010. Progress was particularly marked after 2005, when inequalities fell by 19 % up to 2010. Inequalities in mortality between Member States at ages 1–14 also fell between 2000 and 2010 — by about 35 % for males and 27 % for females. In this case, the reductions were fairly evenly split between the first and second half of the decade.

For those aged 15–24, inequalities in mortality between Member States have increased since 2003. This is because death rates in low-mortality countries continued their downward trend but death rates in many countries in which mortality was above the EU average either stalled or increased slightly, particularly for males. Between the start and the end of the decade inequality between Member States increased by 64 and 19 % for men and women, respectively.

There is no evidence of a decline in inequalities in life expectancy between EU regions. Although inequality in infant mortality between regions in the EU in the period 2007–09 was nearly 12 % lower than in 2002–04, for other indicators — such as life expectancy at age 50 for males — it increased.

Within three countries — Belgium, France and Hungary — regional inequalities increased in infant mortality and male and female life expectancy at birth, 50 and 65. Within the Czech Republic, Poland, Slovakia and Sweden inequalities increased for six of these seven indicators. Reductions in inequalities were greatest in Spain, the Netherlands and Romania. In making these comparisons of trends, it should however be noted that absolute levels of mortality were very low in Swedish regions throughout the decade and higher than the EU average in Romania.



Social inequalities

In 2008, the World Health Organisation (WHO) Commission on Social Determinants of Health (CSDH) concluded that social inequalities in health arise because of inequalities in the conditions of daily life and the fundamental drivers that give rise to them: inequities in power, money and resources. They argued that social and economic inequalities underpin the determinants of health: the range of interacting factors that shape health and well-being.

This report demonstrates marked differences in the social determinants of health across EU Member States and inequalities in health between social groups based on these determinants.

Health inequalities between social groups

To examine the extent of social differences in individual health across the EU, two analyses are presented in the report: (a) the relationship between self-reported health and levels of education, income and deprivation; and (b) life expectancy and education.

In 2010, whichever indicator of socioeconomic status is considered — education, income or material deprivation — reporting of poor or very poor general health and long-standing health problems tends to be infrequent in the most advantaged group and increasingly common as disadvantage worsens. The steepest social gradients are those between material deprivation and adverse health outcomes. For both men and women at ages 25 and over, less than 1 in 20 of the least deprived fifth of the population reported poor or very poor general health. For the most deprived fifth of men and women the reported levels exceeded 20 %. For long-standing illness, the comparable ranges were from around a quarter of both men and women to approximately 40 %.

Women were more likely than men to report that their general health is poor or that they have a long-standing illness. This is partly attributable to women's lower socioeconomic status.

Trend data on self-reported health presented in the report for 2007–10 show annual fluctuations that are consistent with estimates derived from small sample surveys — there is no robust evidence of either a reduction or an increase in socio-economic inequalities in self-perceived health status during this period. Monitoring of socio-economic inequalities in health at EU level is at an early stage. It will be some years before trends can be measured reliably.

The analysis of mortality in 2008–09 by educational level was based on Member States for which mortality data are available by educational level. This indicated that educational gradients in life expectancy existed in all Member States but that they vary by sex, age and the overall level of survival. The steepest social gradients were those for male life expectancy at age 25 in Estonia, Czech Republic, Hungary, Bulgaria and Poland — Member States with some of the highest levels of mortality in the EU. For women aged 25 and men aged 65, inequalities in life expectancy according to level of education were smaller, but the same patterns are evident.



Life expectancy at age 25 for men with tertiary education in Estonia was 17.8 years longer, or 50 % higher, than life expectancy for men who did not complete secondary education; the corresponding figures for Hungary were 13.3 years and 34 %. In contrast, in Malta, Norway, Sweden and Italy the differences between the same two groups ranged from 3.2 to 5.2 years, which is 6–10 %. Moreover, life expectancy at age 25 for highly educated men in Estonia was the same as life expectancy for poorly educated men in Italy, at 53 years.

The variation in female life expectancy between Member States was smaller than for males. Similarly, educational gradients for women were less steep within Member States. At age 25, the difference between highly educated and poorly educated women ranged from 9.1 years in Estonia and 7.5 years in Bulgaria to 2.9 years in Italy and only 1.7 years in Malta.

There is evidence from published studies reviewed for this report of an increase in health inequalities between social groups within countries, including some in the east of the EU (such as Hungary, Estonia, Lithuania and Poland), as well as in the Nordic countries. Action on health inequalities must therefore remain a public health priority for the EU. This review has identified the clear existence of inequalities by educational status for total mortality, cancer, ischaemic heart disease, general morbidity, diabetes and suicide.

Although inequalities in health by ethnicity — including Roma — were included in the criteria for inclusion, very few comparative papers were identified that examined the impact of ethnicity. This suggests a strong need for more comparative longitudinal research across the EU in this area.

Causes of health inequalities

The report examines some of the factors causing health inequalities. The analysis supports the findings of the WHO CSDH (1) that social inequalities in health arise because of inequalities in the conditions of daily life and the fundamental drivers that give rise to them. This review found many examples of associations between risk factors for health, including tobacco use and obesity, and socio-economic circumstances. This reflects the influence that lack of control, stress and reduced capabilities — all strongly associated with social disadvantage — have on both health and health-related behaviours.

At a national level, the report identified that Member States with lower levels of social protection tended also to have higher rates of self-reported bad or very bad health. This is supported by recent research showing that the association is greatest among those with lower levels of education.

When this review examined the life expectancy of regions in relation to income levels, a difference of about 2 years in life expectancy at age 50 was identified between the poorest and the richest regions in Member States that joined the EU between 2004 and 2007 and a 1-year difference in Member States that joined before 2004.



A number of other key socio-economic determinants also vary across the EU, such as income distribution and unemployment levels, which help to explain inequalities between Member States. Of particular concern for health is the variation in long-term unemployment, the proportion with education levels at lower secondary level or below and those suffering material deprivation. Variability between Member States was also identified in lifestyles and behaviours, such as the proportion of people smoking or who are overweight or obese.

Current inequalities in mortality between regions — based on net disposable income per inhabitant — are largely explained by inequalities in non-communicable diseases for both men and women. The most pronounced gradients in the relationship between mortality and average income at a regional level are for circulatory diseases, in particular those for cerebrovascular disease.

Policy response

The report includes a review of actions on health inequalities at EU and national levels in the last few years.

At the EU level, the publication in 2009 of the European Commission's communication 'Solidarity in health: reducing health inequalities in the EU' was an important step, and this report provides information on how this initiative is being taken forward — including through a joint action by Member States and the EU on health inequalities.

The EU research programme has supported a number of studies on health inequalities, several of which are ongoing. There has also been support for the development and exchange of information on addressing health inequalities through the EU programme for employment and social solidarity (Progress). The European Commission has also set out a goal to support Member States to reduce the gap in health between the Roma and the general population, as part of overall Roma integration.

There have been a number of improvements in data availability in the EU enabling the assessment of health inequalities. These include several years of data from the EU Statistics on Income and Living Conditions, which allow assessment of self-perceived level of health by income, education and level of deprivation. Mortality data also allow comparison at regional level within the EU. Some EU Member States have also been able to supply data on mortality by educational level.

The EU health programme has also supported work on measuring differences in health between vulnerable groups of the EU population, such as migrants or ethnic minorities, and the population as a whole. Although a number of projects at the EU level have sought to improve the quality and analysis of data for specific vulnerable groups, limited data availability has restricted this type of analysis.

There has been some use of EU Structural Funds for addressing health inequalities. Proposals for the European Regional Development Fund (ERDF) for the period 2014–20 also identify reducing health inequalities as one of a number of priorities.



Despite these developments, the analysis of the EU policy response in this report suggests some concerns around dedicated funding for health inequalities in future research and other programmes, and the need for more policy coherence in relation to the goals of Europe 2020.

At national level, the extent of the policy response across European countries was found to be highly variable. The majority of countries do not have national-level strategies in place for tackling health inequalities. Only 12 % of policies reviewed as part of this study were national- or regional-level policies with an explicit focus on health inequalities.

However, there appears to be an overall increase in the level of explicit policy responses to address health inequalities in many countries, though there are some where the response has diminished. The involvement of non-health sectors in explicit and implicit policies tackling health inequalities has increased. While there has been an increase in policies which explicitly address the 'social gradient' in health, this principle has yet to be widely put into practice. Most policies still tend to focus on 'vulnerable groups', and therefore lack sufficient scale across the population to level up the gradient or are universal policies that are not sensitive to the intensity of action required to improve the health of those with greater levels of need, and they consequently risk increasing health inequalities. Greater emphasis should be placed on introducing policies which have this component.

There is a clear gap between policymaking and the actual implementation of policies. In some countries this 'implementation gap' appears to be wider than in others, an appearance which is reinforced by the current financial crisis. Public spending and planning processes indicate reduced attention to, and investment in, the type of priorities recommended by the Commission's communication 'Solidarity in health: reducing health inequalities in the EU'.

Since 2006, there has been a positive development demonstrating that knowledge about 'health-in-all-policy' approaches (links between the social determinants and health outcomes) is becoming widespread, and should be cultivated further.

Most strategies and policies are still not sufficiently monitored or evaluated. There appears to be a generalised trend towards decentralisation in health system governance and the delivery of health services, including strategies to tackle health inequalities. The Commission should consider means of including regional-level policymakers in EU discussions and providing support to the regional and local level, including more effective use of EU spending instruments.

Cross-sectoral strategies with common goals and broad support from a range of stakeholders are most likely to be sustainable. Reviews of cross-cutting approaches are beginning to take place in several countries. The Commission could support such processes by, for example, facilitating peer reviews. Further leadership and action by the Commission is required to (re)stimulate action and build capacity on tackling health inequalities. The Commission should provide different levels and types of



support to targeted countries and regions, according to the level of health inequalities and the Member States' policy response.

Conclusions

Action on health inequalities, such as attention to, and investment in, the type of priorities recommended by the Commission's communication 'Solidarity in health: reducing health inequalities in the EU', should remain a public health priority at EU and national levels.

The current financial, economic and social crisis is threatening to undermine existing policies, and may negatively affect health inequalities.

Reports indicate a significant scaling back in responses to health inequalities. If a significant proportion of the reviewed policies are being halted or scaled back, then arguments for an emergency review of the effects of fiscal consolidation on health and health inequalities would be merited. Those with lower education levels are more likely to be unemployed; increases in welfare spending therefore act to reduce social inequalities among the non-employed, and thus have a clear potential to contribute to the reduction of health inequalities based on education and material deprivation.

The health sector needs to incorporate tackling health inequalities into the mainstream of its own core policies. Wider engagement outside the health sector remains essential.

The role of the health sector in tackling health inequalities is vital, though it has failed to incorporate the issue into its core policies. However, inequalities in health cannot be reduced by the health sector alone — they require action on all the social determinants of health. Other sectors are increasingly involved, though further, wider engagement outside the health sector is still necessary.

Further research and knowledge-building on effective policies and interventions is necessary. Policy monitoring, evaluation, implementation research and impact analysis are crucial next steps.

Most policies with explicit aims to reduce health inequalities focus on 'vulnerable groups' such as immigrants, ethnic minorities, early school leavers, people from lower socio-economic groups or unemployed or homeless people. Equally, universal policies almost never have a proportionate 'levelling-up' component. The policy implications of the social gradient in health, and effective methods of addressing these gradients, appear to be poorly understood and acted upon. Greater emphasis should be placed on introducing, monitoring and evaluating policies which have this component.

Further leadership and action at the Commission level should be considered to (re)stimulate action and build capacity to tackle health inequalities.

The current resources to support actions within the EU to incorporate health inequalities across the broad range of relevant policies, and the different policy cycles, are inadequate to enable the comprehensive consideration of health inequalities that is required if action is to be stepped up.



The recommendations of the WHO European region review of the health divide and the social determinants of health should be supported and taken forward by policymakers at local, national and EU levels.

The WHO review recommendations incorporate expert knowledge on evidence linking each of the social determinants to health in a European context, and identify actions required in each domain.

Summary of the recommendations of the review

It is recommended that Member States should:

- lead on clear and comprehensive strategies to redress the current patterns and magnitude of health inequalities;
- ensure the coherence and effectiveness of action to reduce health inequalities at all levels of government and across all sectors and stakeholders;
- ensure that the capacities exist for coherent and effective implementation of action on health inequalities;
- ensure progressive improvement in the availability and use of data needed to identify priorities, plan action, monitor trends and evaluate what actions are most effective

In relation to the Commission the recommendation is that:

- leadership and action should be taken at the Commission level to stimulate action and build capacity to tackle health inequalities.



Final report

1. Background

1.1. Introduction

This report provides an outline of health inequalities in the European Union (EU) and the policy response at EU and national level to health inequalities since 2009.

The report was commissioned by the European Commission ('the EC' or 'the Commission') and prepared by a consortium, led by University College London Consulting (UCLC), together with: EuroHealthNet; Health Action Partnership International (HAPI) within the National Heart Forum (NHF); and Public Health Observatories in England, represented by the North East Public Health Observatory (NEPHO), based at the University of Durham and the London Health Observatory (LHO).

In general, this report uses the term 'health inequalities' rather than focusing on 'health inequities', i.e. those differences in health that are avoidable by reasonable means (see Section 2.1). This is to reflect the terms of reference of the work. Most of the policy responses included in the review referred to 'health inequalities'. However, the term 'health inequities' is used in this report to describe a policy response when it was explicitly included in the response provided.

A major milestone in the evolution of EU-level action on health inequalities was the publication by the Commission in 2009 of a major communication on health inequalities, 'Solidarity in health: reducing health inequalities in the EU' (2). This communication outlined the extent of the challenge: while the average level of health in the EU has continued to improve over the last decades, differences in health between people living in different parts of the EU, and between the most advantaged and most disadvantaged sections of the population, remain substantial, and in some instances have increased.

The communication was widely discussed and supported within the institutions and committees of the EU. In February 2011, the European Parliament approved a resolution on reducing health inequalities in the EU which welcomed the communication (3). The communication was also discussed and supported by EU Member States meeting in the Council of the European Union, which adopted conclusions on equity and health in all policies in 2010 and on reducing health inequalities through action on health-related behaviours in 2011. It was also discussed in the Social Protection Committee (4), the European Economic and Social Committee (5) and the Committee of the Regions (6).



This recent interest reflects the growth in the importance of both health and inequality as policy issues for the EU over more than a decade. However, there has not always been a strong recognition of the causal links between the two policy areas, as was highlighted in the 2009 communication. This report focuses on the extent of changes in both health inequalities and the policy response to these, before and after the 2009 communication.

1.2. Policy development

The Lisbon strategy in 2000 set out to make the EU, through economic, social, and environmental renewal and sustainability:

... the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion.

It stressed the importance of poverty reduction and elimination of social exclusion in the EU (7).

There was, however, wide divergence at the time in the extent to which health inequality reduction was seen to form part of this agenda or was being addressed separately. In some Member States, a start was made in tackling health inequalities in the 1980s (examples include Hungary, Finland, the United Kingdom) while others have only started to address the issue recently (e.g. Bulgaria, France, Romania). This partly reflects differences in national pressures to engage in discussions of inequalities and partly reflects how countries have responded to international and transnational concerns. Clearly, the political focus on health inequalities within countries depends on the political priorities of governments and the environment in which they operate, which varies over time in most countries.

One of the first Commission publications to address health inequalities was *The health status of the European Union – Narrowing the health gap*, published in 2003 (8). This report highlighted areas of action for Member States, and at EU level, to narrow health inequalities.

In 2004, the EC also established a High-Level Group on Health Services and Medical Care and issued a communication, 'Follow-up to the high-level reflection process on patient mobility and healthcare developments in the European Union' (9). The focus of the group and this document was to take forward European collaboration to bring concrete benefits to the effectiveness and efficiency of health services across Europe. The remit of the group and the publication did not, however, include health inequalities.

During the period following the adoption of the Lisbon strategy, health considerations were also addressed in a range of other EU policies and legislation. For example, health was identified as an issue in the EU sustainable development strategy (10). This strategy also recognised the link between poverty and ill health.

This growing interest in health inequalities at EU level intensified when the United Kingdom Council Presidency in 2005 made the reduction in health inequalities a



Presidency priority and organised a ministerial conference on the topic which took place in London in December 2005. In the same year, the World Health Organisation (WHO) set up the global Commission on Social Determinants of Health (CSDH), with the recognition that inequalities in health within and between countries are, in large measure, avoidable and hence unfair (1).

As part of its Presidency, the United Kingdom, with support from the EU health programme, commissioned two reports on health inequalities. The first of these was 'Health inequalities: Europe in profile', led by Johan Mackenbach (11), which reviewed evidence on the existence of socio-economic inequalities in health in the EU and its immediate neighbours. This report highlighted the fact that:

Inequalities in health between people with higher and lower educational level, occupational class and income level have been found in all European countries.

It concluded:

According to many, current socio-economic inequalities in health are unacceptable, and represent one of Europe's greatest challenges for public health.

The second report commissioned as part of the United Kingdom Presidency, 'Health inequalities: a challenge for Europe', reviewed national-level policies and strategies that either had been or were in the process of being developed to tackle health inequalities (12). The report concluded that much progress had been achieved, but many challenges remained. It identified one of the biggest challenges facing all Member States — how to assess the impact of their policies on health inequalities. Several developments were considered critical:

- assessing the potential impacts of non-health-sector policies on health inequalities;
- recognising that monitoring of progress is crucial at all stages of the policy process;
- the need for a more integrated approach to evaluation and implementation;
- using the most robust and sound methodologies;
- evidence-based guidance derived from comparative national-level analyses about the nature and significance of the relationships between poverty, income inequality and many other manifestations of social exclusion, on the one hand, and different manifestations of health inequality, on the other.

Importantly, the report also concluded:

Action at the European level is needed in order to progress policy processes that might contribute to the reduction of health inequalities and to respond to the unique challenges facing an enlarged Community of 25 Member States. Facilitating effective action to reduce health inequalities will contribute to one of the EU's strategic objectives — promoting a more cohesive society — as outlined by the Lisbon agenda. EU Member States should be encouraged to take advantage of every opportunity to learn from each other ... The European Union can play a major role in facilitating these exchanges.

In 2007, the EC developed this agenda in the White Paper 'Together for health: a strategic approach for the EU 2008–13' (13). This indicated that reducing inequalities



in health must be a core value of future EU-level activities on health and tasked the Commission with developing actions to take this forward. The European Council underlined this commitment in the Presidency conclusions of 2008 (14), which stressed the importance both of:

... closing the gap in health and in life expectancy between and within Member States and ... of preventative activities in the field of major chronic non-communicable diseases.

The renewed social agenda in 2008 also restated the fundamental social objectives of Europe as being a strong commitment to harmonious, cohesive and inclusive societies respecting fundamental rights in healthy social market economies (15).

Action on health inequalities in Europe since 2008 also needs to be viewed against wider international developments at the time. In 2008, the CSDH final report *Closing the gap in a generation – Health equity through action on the social determinants of health* (1) concluded that:

... the unequal distribution of health-damaging experiences is not in any sense a 'natural phenomenon' but is a result of a toxic combination of poor social policies and programmes, unfair economic arrangements and bad politics.

Consequent inequities in power, money and resources, and the conditions in which people are born, grow, live, work and age, constitute the social determinants of health.

In the following year, the World Health Assembly passed Resolution WHA62.14 on reducing health inequalities through action on the social determinants of health, supporting the CSDH findings and urging its Member States to take action. Later that year, a major milestone in the evolution of EU-level action on health inequalities was achieved with the publication by the Commission of a major communication on health inequalities: 'Solidarity in health: reducing health inequalities in the EU' (2). This communication outlined the extent of the challenge of health inequalities and set out a range of actions to address them.

1.3. Scope of the report

This report provides an outline of health inequalities in the EU, based on the understanding reached between the consortium undertaking this work and the Commission, which included the following structure of the final report:

- health inequalities situation in the EU — a statistical analysis with a narrative;
- policy response to health inequalities — assessment of the policy response at EU, national and sub-national levels;
- commentary and recommendations — proposals on the actions that should be taken at EU, national and sub-national levels.

A high-level steering group, comprising independent experts from across Europe and senior scientists drawn from the consortium and contractors, advised the consortium. The WHO Regional Office for Europe was represented on the steering group.



1.4. Structure of the report

This report comprises the following.

- The background to policy development in this area and the current policy context.
- A description of national and regional inequalities in health.
- Discussion of the social determinants of health and health behaviours.
- A description of the variation in the social determinants of health and health behaviours in the EU.
- Discussion and analysis of the relationship between inequalities in social determinants, health behaviours and health outcomes.
- Description of the policy response to health inequalities in the EU. This is in two parts:
 - an overview of the EU-level actions on health inequalities prior to and following the Commission's 2009 communication;
 - a country-by-country assessment of policy responses to health inequalities at national and, where possible, regional and local level.
- Discussion of the policy responses.
- Recommendations on the actions that should be taken at EU, national and sub-national levels.



2. Health inequalities between EU Member States and regions

2.1. Introduction

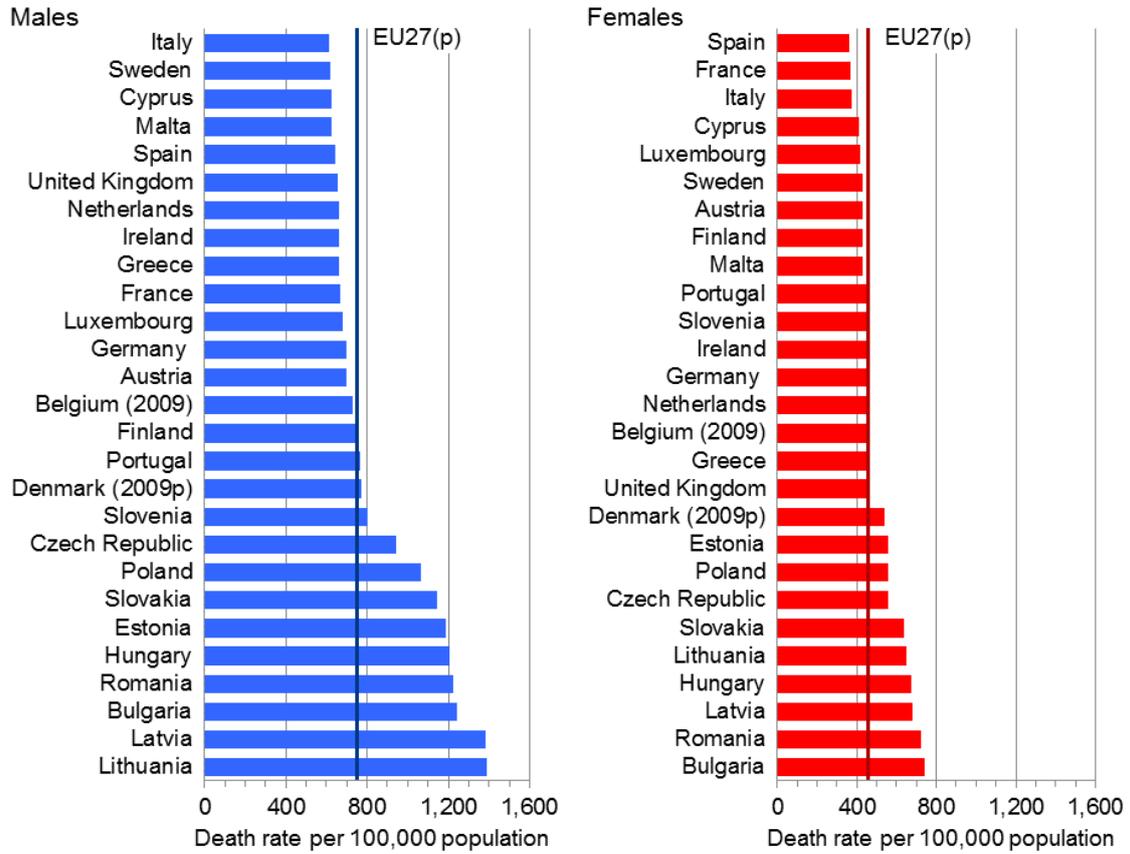
This section summarises the current situation concerning the magnitude of both health differences in the EU and the social determinants that give rise to potentially avoidable inequalities — health inequities (16). In Section 2.2, the extent of the current health divide between Member States is summarised. This is followed by an examination of recent trends in inequalities in mortality between EU Member States. In Sections 2.4 and 2.5, the extent to which health varies between regions is described, both in terms of overall variation across the EU and in terms of revealing geographic inequalities within Member States. This analysis is based on the 268 areas defined as 'NUTS 2 regions' in the EU's nomenclature of territorial units for statistics.

2.2. The current health divide between EU Member States

2.2.1. Mortality rates

There are significant differences in mortality between Member States, with higher mortality for males than females in each Member State — see Figure 2.1. In Lithuania, Latvia, Bulgaria, Romania and Hungary, the age-standardised death rate for males in 2010 exceeded 1 200 per 100 000, while it was below 800 in 17 Member States, with the lowest values being 561 for Greece and 619 for Sweden. A similar pattern was seen for females, but at a lower level of mortality. In six Member States the female rate exceeded 600 per 100 000 and in 16 Member States it was below 500 per 100 000. In this case the highest values were seen in Bulgaria, Romania, Hungary, Latvia, Lithuania and Slovakia, and the lowest were in Spain — 362 — and France — 368.

Figure 2.1. Age-standardised death rates in EU Member States, 2010, by sex



(p) Provisional.

Figures for Belgium and Denmark are for 2009.

Other countries participating in the EU health programme:

- males: Iceland (2009) 604.2, Norway 646.5, Liechtenstein 591.2, Croatia 1028.7;
- females: Iceland (2009) 422.0, Norway 438.8, Liechtenstein 397.9, Croatia 615.7.

Source: Eurostat database, [hlth_cd_asdr](#) (17), last accessed 23 may 2013.

Table 2.1. shows the pattern of mortality rates by age and sex. While the ordering of Member States based on age specific mortality rates varied slightly, the broad patterns described above were apparent at most ages.

**Table 2.1. Directly age-standardised mortality rates of EU Member States, 2010, by broad age group and sex**

| | Male deaths per 100 000 population | | | | | Female deaths per 100 000 population | | | | |
|-----------------------|------------------------------------|-------|-------|-------|-------|--------------------------------------|-------|-------|-------|-------|
| | 1-14 | 15-24 | 25-44 | 45-64 | 65-84 | 1-14 | 15-24 | 25-44 | 45-64 | 65-84 |
| Belgium (2006) | 16 | 58 | 119 | 649 | 3 345 | 10 | 24 | 65 | 371 | 1 917 |
| Bulgaria | 37 | 76 | 207 | 1 393 | 5 818 | 27 | 39 | 100 | 541 | 3 544 |
| Czech Republic | 15 | 65 | 136 | 953 | 4 530 | 13 | 24 | 55 | 407 | 2 644 |
| Denmark (2009 (p)) | 10 | 44 | 105 | 690 | 3 606 | 7 | 22 | 53 | 428 | 2 468 |
| Germany | 13 | 43 | 100 | 658 | 3 351 | 11 | 20 | 51 | 342 | 1 954 |
| Estonia | 26 | 94 | 274 | 1 362 | 5 539 | 22 | 21 | 76 | 446 | 2 570 |
| Ireland | 13 | 76 | 110 | 492 | 3 182 | 10 | 21 | 55 | 319 | 2 042 |
| Greece | 14 | 72 | 126 | 609 | 3 048 | 12 | 27 | 50 | 264 | 1 792 |
| Spain | 13 | 37 | 89 | 588 | 2 984 | 10 | 15 | 44 | 243 | 1 467 |
| France | 13 | 60 | 136 | 703 | 2 842 | 11 | 21 | 60 | 316 | 1 438 |
| Italy (2009) | 12 | 49 | 85 | 482 | 3 002 | 9 | 19 | 41 | 265 | 1 666 |
| Cyprus | 15 | 69 | 106 | 512 | 2 986 | 9 | 13 | 49 | 241 | 2 017 |
| Latvia | 31 | 101 | 319 | 1 683 | 6 206 | 27 | 28 | 114 | 601 | 3 067 |
| Lithuania | 23 | 129 | 404 | 1 773 | 5 840 | 17 | 28 | 105 | 577 | 2 786 |
| Luxembourg | 5 | 59 | 93 | 585 | 3 346 | 11 | 17 | 55 | 340 | 1 803 |
| Hungary | 16 | 51 | 188 | 1 597 | 5 579 | 13 | 21 | 76 | 649 | 3 104 |
| Malta | 13 | 46 | 108 | 471 | 2 942 | 17 | 14 | 29 | 279 | 2 065 |
| Netherlands | 13 | 37 | 75 | 498 | 3 252 | 11 | 14 | 52 | 359 | 1 971 |
| Austria | 12 | 72 | 103 | 652 | 3 191 | 12 | 22 | 48 | 320 | 1 821 |
| Poland | 18 | 86 | 219 | 1 259 | 4 860 | 14 | 22 | 66 | 479 | 2 529 |
| Portugal | 15 | 49 | 149 | 725 | 3 486 | 12 | 27 | 66 | 290 | 1 906 |
| Romania | 37 | 79 | 221 | 1 468 | 5 588 | 30 | 33 | 87 | 567 | 3 448 |
| Slovenia | 10 | 56 | 122 | 797 | 3 819 | 17 | 14 | 51 | 324 | 2 024 |
| Slovakia | 22 | 66 | 177 | 1 238 | 5 592 | 20 | 23 | 68 | 462 | 3 120 |
| Finland | 12 | 81 | 149 | 734 | 3 408 | 11 | 27 | 59 | 326 | 1 789 |
| Sweden | 10 | 50 | 81 | 457 | 2 921 | 10 | 22 | 42 | 292 | 1 878 |
| United Kingdom | 14 | 46 | 117 | 557 | 3 121 | 12 | 21 | 66 | 359 | 2 093 |

(p) Provisional.

Figures for Belgium are for 2006 and for Denmark and Italy are for 2009.

Source: Calculated from Eurostat database, demo_pjan and demo_magec (18;19), last accessed 27 April 2012.



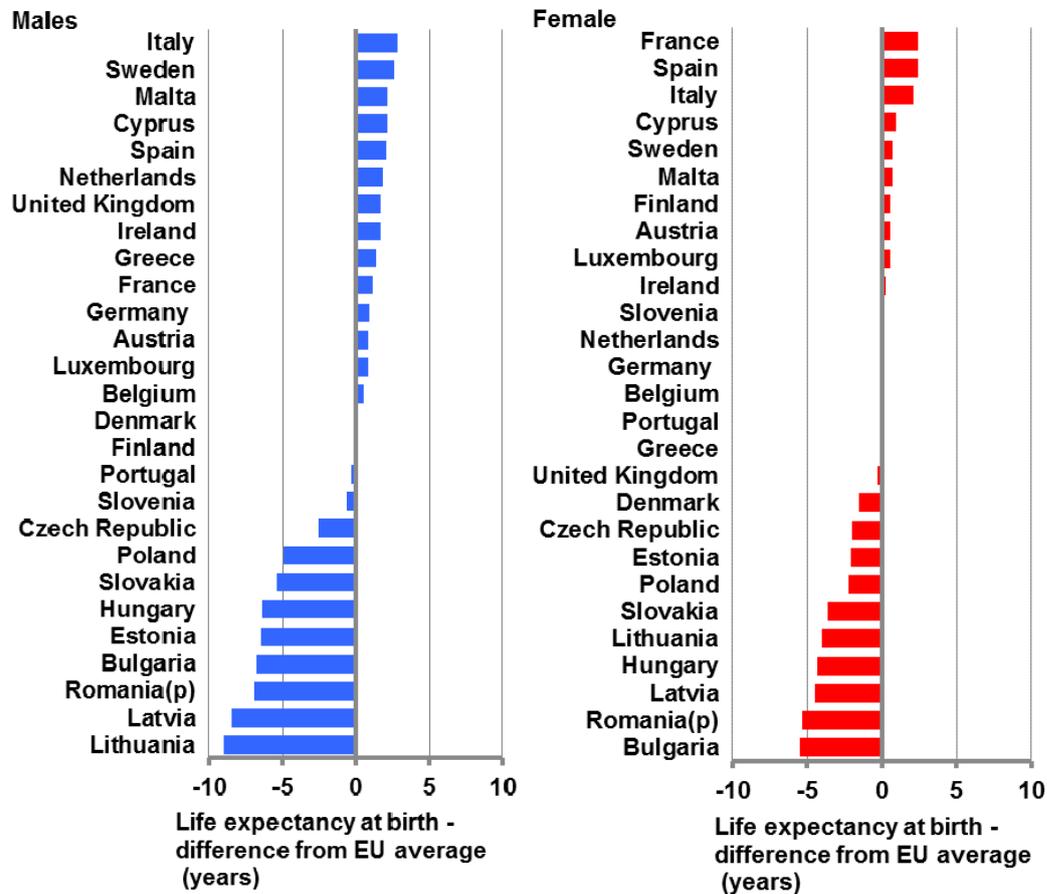
2.2.2. Life expectancy at birth

In 2010, life expectancy for males in the EU was 77.0 years and life expectancy for females was 82.9 years. Figure 2.2 shows how life expectancy in each Member State varied from these figures.

Male life expectancy was highest in Italy — 2.8 years above the EU figure — and lowest in Lithuania — 9 years below the EU average. These figures equate to 17 % higher life expectancy in Italy than in Lithuania, with a gap of 11.8 years. Life expectancy for males in five Member States, in addition to Italy, was more than 2 years above the EU average in 2010 (Sweden, Malta, Cyprus, Spain and the Netherlands). It was at least 6 years lower than the EU average in Latvia, Romania, Bulgaria, Estonia and Hungary, as well as in Lithuania.

Inequalities in life expectancy between Member States were smaller for females than for males (Figure 2.2). Female life expectancy was lowest in Bulgaria — 5.5 years below that for the EU — and 7.9 years or 10 % higher than in Bulgaria in both France and Spain — i.e. 2.4 years above the EU average. Apart from Bulgaria, life expectancy for females in five other Member States — Romania, Latvia, Hungary, Lithuania and Slovakia — was at least three years lower than in the EU as a whole in 2010. Italy had the third highest female life expectancy — 2.1 years higher than the EU average. In no other country was female life expectancy more than 2 years above the EU average.

Figure 2.2. Difference in life expectancy at birth between EU Member States and the EU average, 2010, by sex



Countries are ranked by sex-specific life expectancy in 2010.

(p) 2010 figures for the EU-27 and Romania are provisional.

Other EU health programme countries- difference from EU-27 average in 2010:

- males: Iceland 2.8, Norway 2.0, Liechtenstein 2.5, Croatia - 3.5;
- females: Iceland 1.2, Norway 0.4, Liechtenstein 1.4, Croatia - 3.0.

Source: Eurostat database, demo_mlexpec_(20), last accessed 3 June 2013.

2.2.3. Self-perceived health status

Internationally comparable measures of health status are less widely available than mortality statistics. However, three questions on self-perceived health status are asked of adults in the data collection for the EU Statistics on Income and Living Conditions (EU-SILC). The responses to these questions yield three measures for assessing variations in health between countries.

The three EU-SILC health questions asked are as follows.

- How is your health in general?
Is it: very good/good/fair/bad/very bad?
 - Do you have any long-standing illness or health problem? Yes/No
 - For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do?
Would you say you have been:
severely limited/limited but not severely/not limited at all?
- (Additional information on these questions is presented in Annex 1.)



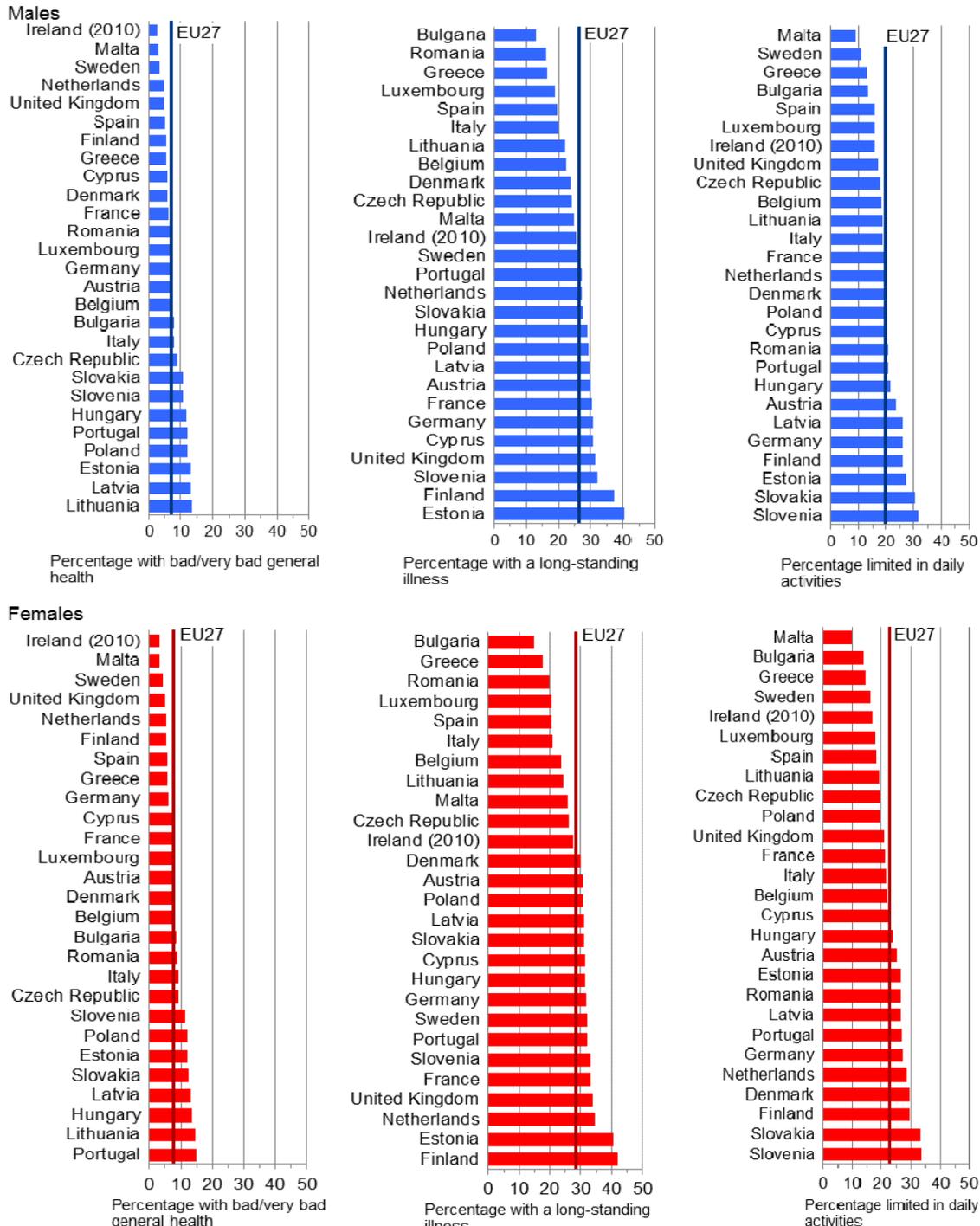
Results from EU-SILC for 2011 are shown in Figure 2.3. In general, women under the age of 85 were more likely than men of the same age to report health-related problems. In the EU, 7.0 % of men and 7.8 % of women reported bad or very bad general health. The corresponding figures for a long-standing illness were 26.2 % for men and 28.4 % for women and the percentages of men and women who were somewhat or severely limited in their daily activities were 19.9 % and 22.6 % respectively.

The gap between the Member States with the highest and lowest percentages of men who report that their general health is bad or very bad was about 11 percentage points. The corresponding gap for women was about 12 percentage points and the highest/lowest ratios were 5.2 for men and 4.5 for women. As Figure 2.3(a) shows, the variation by Member State does not always reflect the pattern seen for life expectancy. In part this is because self-perceived health is affected by attitudes to health and what constitutes a limitation in activity in different countries. But it also reflects the fact that these limitations and perceptions of less than good health do not always give rise to a substantially shorter life. Among men, bad or very bad general health was most often reported in Lithuania; among women, in Portugal. Reporting was least common in Ireland, Malta and Sweden for both sexes. Other Member States where more than 10 % of both men and women were recorded as having bad or very bad health were Estonia, Hungary, Latvia, Poland, Slovakia, and Slovenia.

Some, but not all, long-standing health problems are associated with health-related limitations in daily activities, and there are both similarities and differences in the Member States recording large and small percentages of the population with these conditions. Men and women in Finland and Slovenia were among the most likely to report long-standing illnesses and to report activity limitations (Figure 2.3(b) and (c)). In contrast, reporting of these two indicators was low for both sexes in Greece and Bulgaria. Reporting of long-standing illness was also high for both sexes in Estonia, Netherlands and the United Kingdom, while levels were also low for both sexes in Belgium, Italy, Lithuania, Luxembourg, Romania and Spain. In the case of activity limitations, reporting was also high in Slovakia but low in Malta and Sweden.

Figure 2.3. Age-standardised percentages of the population aged 16–84 with self-perceived health problems, EU Member States, 2011, by sex

(a) Percentage with bad/very bad general health (b) Percentage with a long-standing illness (c) Percentage limited in daily activities



Other countries participating in the EU health programme:

- males (%):(a) Iceland (4.8), Norway (6.6); (b) Iceland (26.2), Norway (30.5); (c) Iceland (14.1), Norway (16.1);
- females(%):(a) Iceland (7.0), Norway (8.6); (b) Iceland (32.1), Norway (38.6); (c) Iceland (19.0), Norway (22.5).

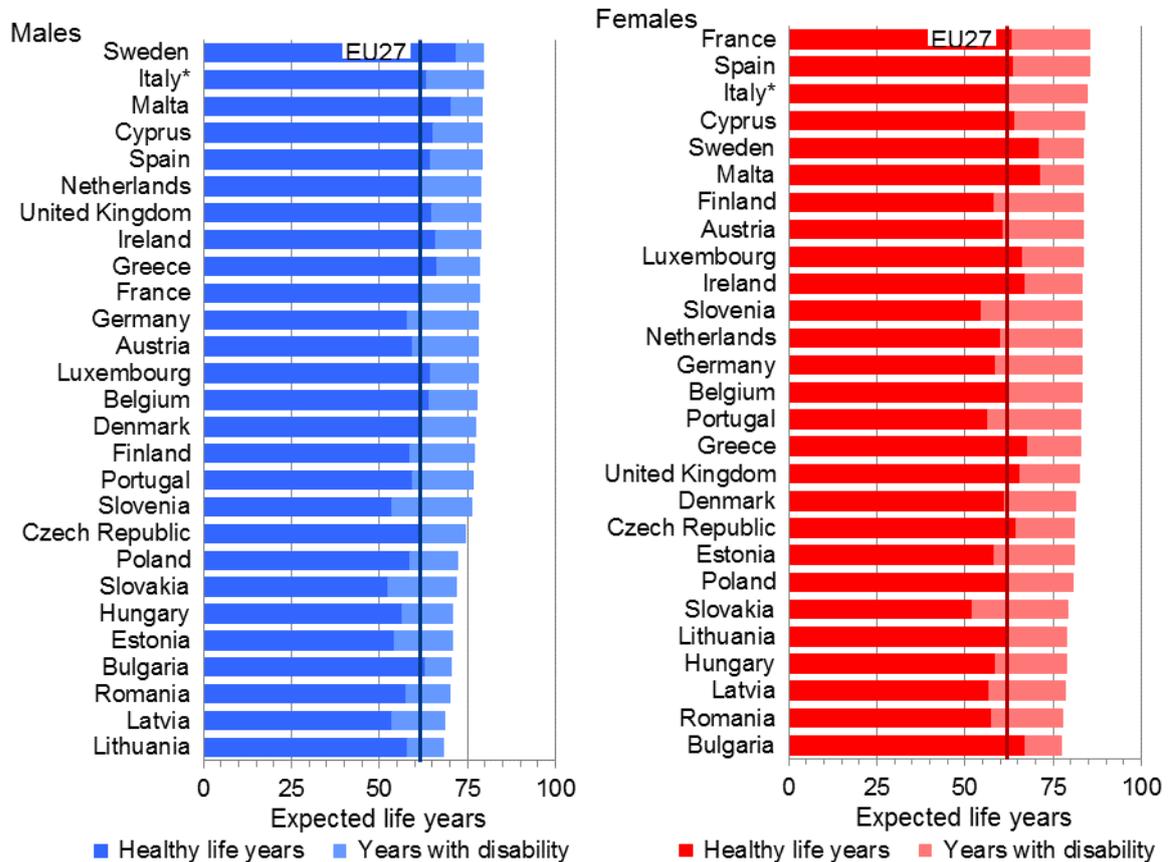
Sources: Calculated from Eurostat database, [hlth_silc_01](#) (21), [hlth_silc_04](#) (22) and [hlth_silc_06](#) (23), last accessed 23 February 2013.

2.2.4. Healthy life years and years with disability

In 2004, 'healthy life years', also termed healthy or disability-free life expectancy, was selected as one of the EU structural indicators that should be monitored annually. Estimates of healthy life years, and years lived with a disability, are derived from the combination of EU-SILC statistics on limitations in daily activity and age-specific mortality data.

According to Eurostat's estimates for 2010, men in the EU as a whole could expect to live 61.7 healthy life years and women almost 1 year longer, or 62.6 years in good health. These results, and the healthy life years and years with disability estimates for individual Member States, are presented in Figure 2.4.

Figure 2.4. Expected healthy life years and years with disability, EU Member States, 2010, by sex



Member States are ranked by sex-specific total life expectancy. (†) Healthy life years Eurostat estimate for 2010, years with disability estimated from life expectancy 2009.

Other countries participating in the EU health programme: healthy life years (years with disability):

- males: Iceland 69.3 (10.5), Norway 69.8 (9.2), Croatia 57.3 (16.2);
- females: Iceland 68.1 (16.0), Norway 69.8 (13.5), Croatia 60.7 (19.2).

Source: Eurostat database, [hlth_hlye](#) (24), last accessed 30 November 2012.



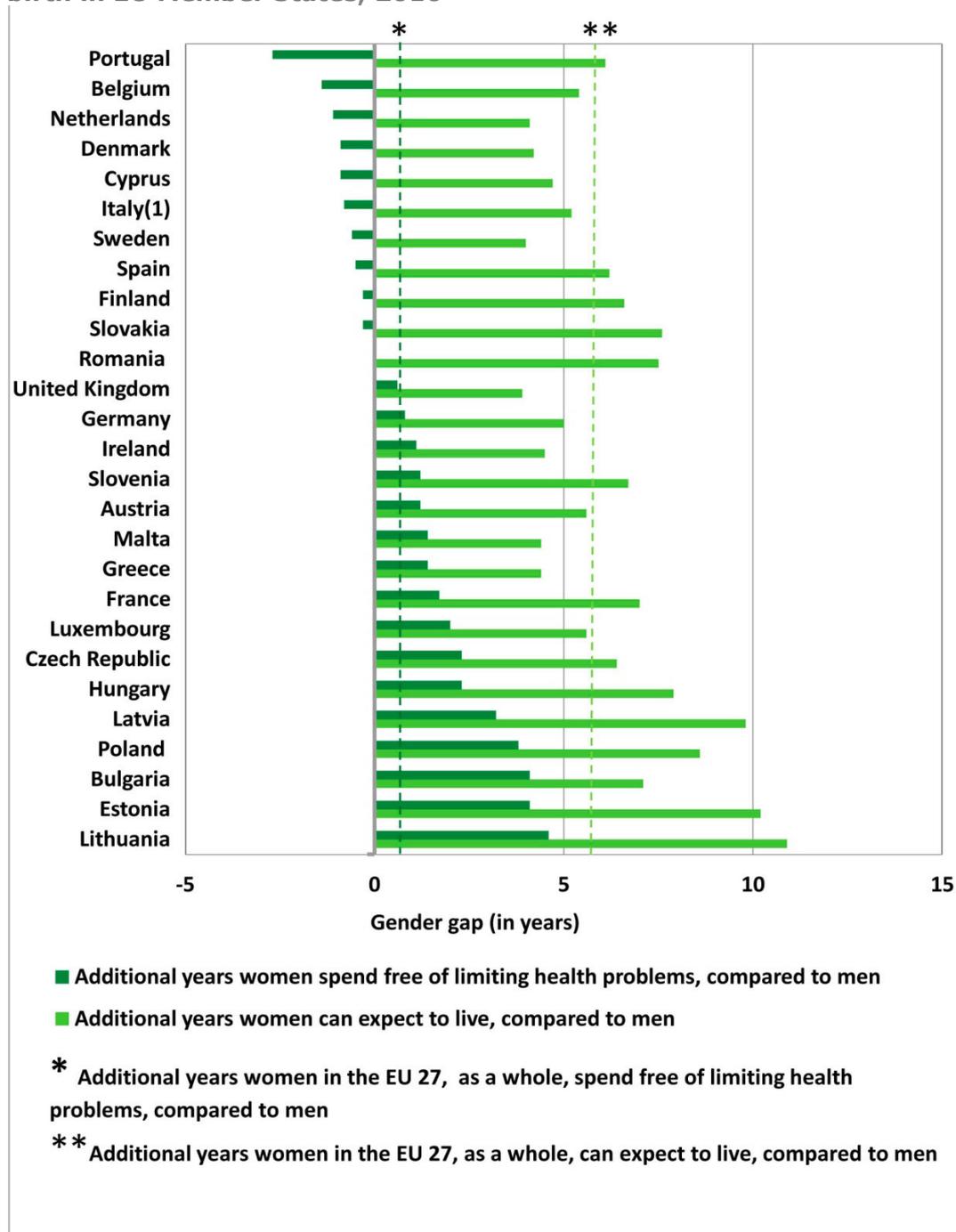
For men, healthy life expectancy varies between 52 years in Slovakia and 72 years in Sweden. For women, the lowest figure was 52 years, also in Slovakia, and the highest was 72 in Malta. However, as Figure 2.4 shows, people in a large number of Member States can expect to spend many years living with a disability. For males this varies from 7 years in Malta to 20 years in Slovakia and 23 years in Slovenia, and for females the range is from 10 years in Bulgaria to 27 years in Slovakia and 29 years in Slovenia. (In 2009, prior to a change in methodology, the figures for Slovenia were 15 and 21 years for males and females respectively.)

Figure 2.5 provides a comparison of the difference in life expectancy between women and men and the difference in years spent free of limiting health problems. This shows that women can expect to live longer than men in every EU Member State. The largest difference was in Lithuania, where life expectancy for women was 10.9 years longer, or 16 % higher, than that for men. In Estonia the difference was 10.2 years. At the other end of the scale, in the United Kingdom the gap between the sexes was only 3.9 years, in Sweden 4 years, in the Netherlands 4.1 years and in Denmark 4.2 years.

Women also spend more years living with limiting health problems than men. However, variability in the differences between the sexes in expected years of life and years with limiting health problems are largely unrelated. As a consequence, the differences between the sexes in years spent free of these limiting health problems, shown in Figure 2.5, had a very different pattern to those for life expectancy.

At one end of the range, women in Portugal could expect to live 6 years longer than men but spend 9 more years with a disability. This means that, in Portugal, healthy life expectancy for men exceeded healthy life expectancy for women by 3 years. At the other end of the range, women in Lithuania could expect to live 11 years longer than men and spend 6 years more with a disability. As a result, women's healthy life expectancy was about 5 years greater than men's. Overall, women spend longer than men free of limiting health problems in 16 Member States, whereas men spend more years free of limiting health problems than women in 10 Member States.

Figure 2.5. Gender differences in life expectancy and healthy life years at birth in EU Member States, 2010



([†]) Figures for Italy and EU-27 are for 2009.

Member States are ranked by the number of extra years women spend free of limiting health problems compared to men.

For other countries participating in the EU health programme, the gender gaps in years spent free of limiting health problems and life expectancy are as follows:

- Iceland – 1.2, 4.3; Norway 0, 4.3; Croatia 3.4, 6.4.

Source: Eurostat database, [hlth_hlye](#) (24), last accessed 25 January 2013.

2.3. Recent trends in inequalities in mortality between EU Member States

2.3.1. Measures of inequality

Inequalities in health status can be quantified in several different ways. The simplest to calculate, and easiest to comprehend, are the absolute gap and the relative gap or ratio, which are used in Section 2.2. These two measures are calculated from the worst value and the best value for the group of countries (or other areas or populations) of interest. Ratios provide a more useful tool than absolute gaps for examining time trends in inequalities. However, annual fluctuations in the lowest value or denominator may undermine this strength of the standard ratio. Such fluctuations are most likely to occur in small populations, especially in age groups where mortality is low. For example, in Table 2.4 the mortality rate in Luxembourg for females aged 1–14 was only two deaths per 100 000 population in 2004. The ratio compared to the Member State with the highest rate in 2004 was then 15.4, compared to ratios in 2003 and 2005 of 4.9 and 4.1 respectively.

To address this problem, a second ratio, 'ratio*', is also used in this report. The ratio* is the relative gap for Member States with at least 1 million total population, and it is estimated by dividing the highest value by the lowest value after excluding Malta, Cyprus and Luxembourg from this comparison. For example, in Table 2.4 for females in 2004, the ratio* is 3.3, compared to 15.4 for the uncensored ratio.

Important limitations of both the gap and the ratios are that they do not take into account the health status or mortality of the intermediate areas or groups and they do not take into account the size (population) of the groups. Estimation methods that deal with both of these weaknesses are known as gradient measures. One such measure is the Gini coefficient, which is used to quantify inequalities in income distributions and is therefore familiar to many policymakers. When applied to health outcomes, the Gini coefficient shows how unevenly health is distributed according to population share. It takes a value between zero and one (or 100 %), where zero indicates perfect equality and one indicates 'ultimate inequality'. Outcomes for all population groups are used in the calculation of the Gini coefficient. The calculation of the Gini coefficient is summarised in Box 2.1.

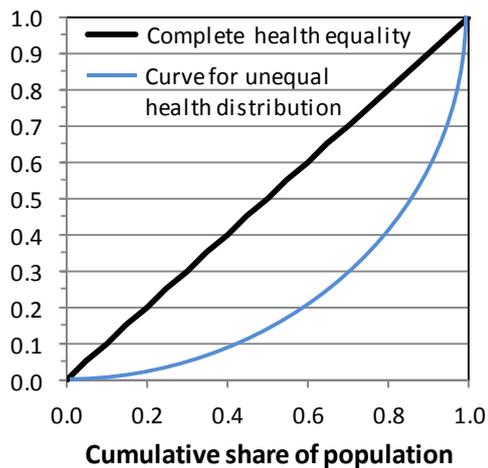
In the following sections, gaps, ratios and Gini coefficients are used to assess recent trends in inequalities in mortality. The focus is on territories — countries and regions — and patterns for selected broad age groups are examined.

A second gradient measure of inequality is the slope index of inequality (SII). The difference between the SII and the Gini coefficient is that, in addition to taking account of the health status in all population groups in the distribution, the SII also incorporates a third dimension, which is usually a measure of socio-economic position. The SII is described in greater detail, and applied to the data examined, in Section 3. The strengths and weaknesses of all the inequality measures employed in this report are summarised in Annex 1.

Box 2.1. Gini coefficient of inequality

The Gini coefficient is calculated from a plot of the cumulative share of health in the population on the y axis against the cumulative proportion of the population ranked by health on the x axis. In the diagram below, the Gini coefficient can be understood as the area between the blue curve and the diagonal as a proportion of the triangular area between the diagonal, the horizontal axis and the right-hand vertical axis.

Cumulative share of health



The Gini coefficient indicates how unevenly health is distributed according to population share. It takes a value between zero and one, where zero indicates perfect equality and one indicates 'ultimate inequality'.

2.3.2. Infant mortality

In 2000, the infant mortality rate of 18.6 infant deaths per 1 000 live births in Romania was the highest of the 27 EU Member States, and the lowest rate was 3.4 in Sweden. By 2010, infant mortality had fallen to 9.8 deaths per 1 000 live births in Romania and the lowest rate in the EU was 2.3 in Finland (Table 2.2).

**Table 2.2. Infant mortality rates per 1 000 live births in EU Member States, 2000–10**

| | Deaths per 1 000 live births | | | % Change |
|----------------|------------------------------|------|------|----------|
| | 2000 | 2005 | 2010 | 2000–10 |
| EU-27 | 5.9 | 4.9 | 4.0 | – 32 % |
| Belgium | 4.8 | 3.7 | 3.6 | – 25 % |
| Bulgaria | 13.3 | 10.4 | 9.4 | – 29 % |
| Czech Republic | 4.1 | 3.4 | 2.7 | – 34 % |
| Denmark | 5.3 | 4.4 | 3.4 | – 36 % |
| Germany | 4.4 | 3.9 | 3.4 | – 23 % |
| Estonia | 8.4 | 5.4 | 3.3 | – 61 % |
| Ireland | 6.2 | 4.0 | 3.8 | – 39 % |
| Greece | 5.9 | 3.8 | 3.8 | – 36 % |
| Spain | 4.4 | 3.7 | 3.2 | – 27 % |
| France | 4.5 | 3.8 | 3.6 | – 20 % |
| Italy | 4.3 | 3.8 | 3.2 | – 26 % |
| Cyprus | 5.6 | 4.6 | 3.2 | – 43 % |
| Latvia | 10.4 | 7.8 | 5.7 | – 45 % |
| Lithuania | 8.6 | 6.8 | 4.3 | – 50 % |
| Luxembourg | 5.1 | 2.6 | 3.4 | – 33 % |
| Hungary | 9.2 | 6.2 | 5.3 | – 42 % |
| Malta | 5.2 | 5.4 | 5.5 | 6 % |
| Netherlands | 5.1 | 4.9 | 3.8 | – 25 % |
| Austria | 4.8 | 4.2 | 3.9 | – 19 % |
| Poland | 8.1 | 6.4 | 5.0 | – 38 % |
| Portugal | 5.5 | 3.5 | 2.5 | – 55 % |
| Romania | 18.6 | 15.0 | 9.8 | – 47 % |
| Slovenia | 4.9 | 4.1 | 2.5 | – 49 % |
| Slovakia | 8.6 | 7.2 | 5.7 | – 34 % |
| Finland | 3.8 | 3.0 | 2.3 | – 39 % |
| Sweden | 3.4 | 2.4 | 2.5 | – 26 % |
| United Kingdom | 5.6 | 5.1 | 4.2 | – 25 % |

Other countries participating in the EU health programme:

| | 2000 | 2010 | (% change) |
|---------------|------|------|------------|
| Croatia | 7.4 | 4.4 | – 41 % |
| Iceland | 3.0 | 2.2 | – 27 % |
| Liechtenstein | 9.5 | 3.0 | – 68 % |
| Norway | 3.8 | 2.8 | – 26 % |

Source: Eurostat database, demo_minfind (25), last accessed 25 February 2013.

The rates for the highest and lowest infant mortality levels equated to an infant mortality gap of 15.2 deaths per 1 000 live births in 2000 and a gap of 7.5 in 2010; the corresponding relative ratios between highest and lowest were 5.5 and 4.3. These indices of inequality are shown in Table 2.3, together with the modified ratio (ratio*) and the Gini coefficients for all years from 2000 to 2010.

Table 2.3. Highest and lowest infant mortality rates per 1 000 live births and measures of inequality between EU Member States, 2000–10

| | Deaths under 1 year per 1 000 live births | | | | | | | | | | | % change 2000 –10 |
|--------------------------------------------|-------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | |
| Highest value | 18.6 | 18.4 | 17.3 | 16.7 | 16.8 | 15.0 | 13.9 | 12.0 | 11.0 | 10.1 | 9.8 | |
| Highest country | RO | RO | RO | RO | RO | RO | RO | RO | RO | RO | RO | |
| Lowest value | 3.4 | 3.2 | 3.0 | 3.1 | 3.1 | 2.4 | 2.5 | 1.8 | 1.8 | 2.4 | 2.3 | |
| Lowest country | SE | FI | FI | SE | SE | SE | LU | LU | LU | SI | FI | |
| Lowest value country 1 m + (†) | 3.4 | 3.2 | 3.0 | 3.1 | 3.1 | 2.4 | 2.8 | 2.5 | 2.4 | 2.4 | 2.3 | |
| Lowest country 1 m + (†) | SE | FI | FI | SE | SE | SE | SE | SE | SI | SI | FI | |
| Gap: highest – lowest | 15.2 | 15.2 | 14.3 | 13.6 | 13.7 | 12.5 | 11.4 | 10.2 | 9.2 | 7.7 | 7.5 | |
| Ratio: highest/lowest | 5.5 | 5.7 | 5.7 | 5.4 | 5.4 | 6.2 | 5.5 | 6.6 | 6.1 | 4.3 | 4.3 | |
| Ratio*: highest/lowest country 1 m + | 5.5 | 5.7 | 5.7 | 5.4 | 5.4 | 6.2 | 5.0 | 4.8 | 4.6 | 4.3 | 4.3 | |
| Gini coefficient | 0.21 3 | 0.205 | 0.199 | 0.198 | 0.196 | 0.195 | 0.185 | 0.175 | 0.173 | 0.167 | 0.157 | – 26.4 % |

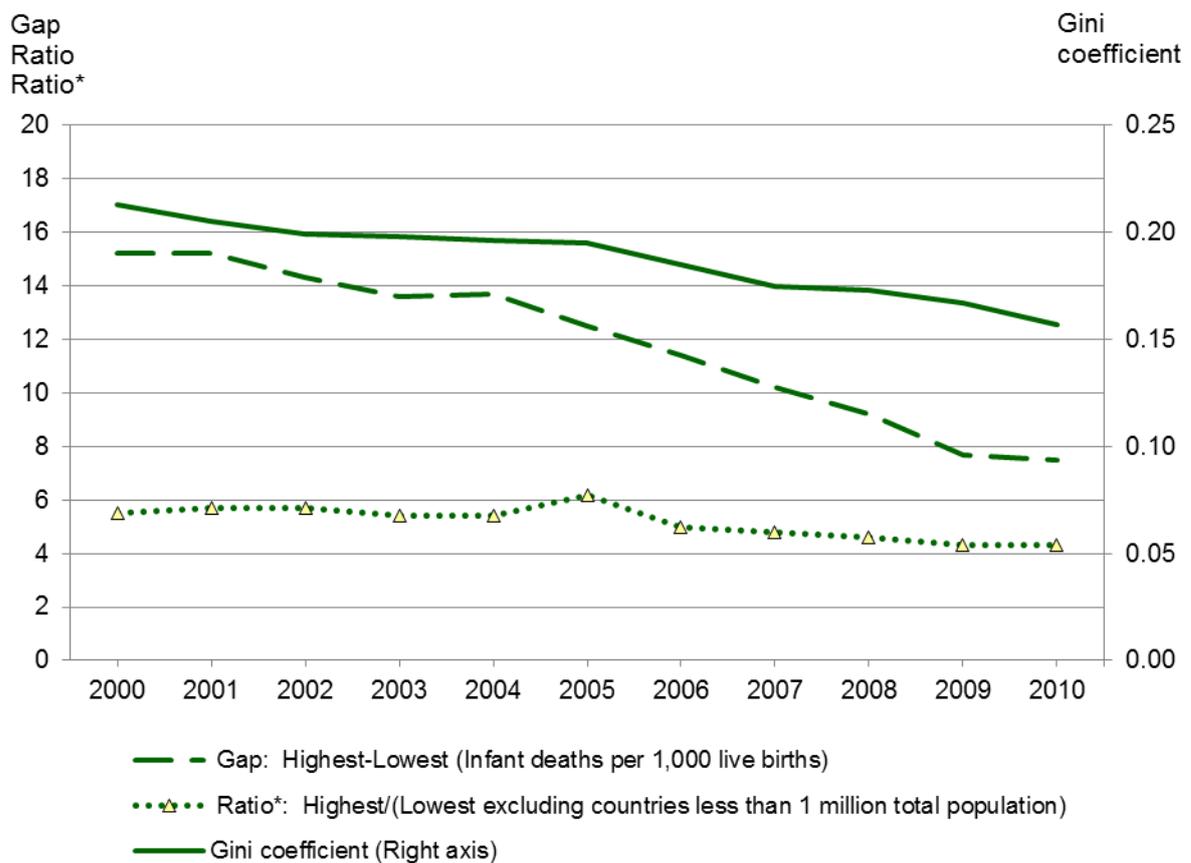
(†) Cyprus, Malta and Luxembourg — all Member States with fewer than 1 million inhabitants — are excluded.

Source: Calculated from Eurostat database, [demo_minf](#) (26) and [demo_gind](#) (27), last accessed 8 July 2012.

Figure 2.6 provides a graphical representation of three indices (excluding the standard ratio, which was distorted by fluctuations due to small numbers of deaths in Member States with less than 1 million population). It highlights the small increase in the absolute gap in infant mortality between 2003 and 2004 when infant deaths in Romania increased slightly but the lowest rate remained unchanged.

More generally, the time series for the absolute and the relative gaps emphasise the limitation of inequality measures derived from only the highest and lowest rates. In contrast, the Gini coefficients, which weight for the number of births in each Member State, are less affected by small fluctuations in mortality rates in individual Member States, and these coefficients show a year-on-year reduction of the inequality in infant mortality across the whole of the EU. Moreover, progress was particularly marked in the period 2005–10, when the Gini coefficient fell by 19 %, which compares with the smaller reduction of 8 % between 2000 and 2005.

Figure 2.6. Selected measures of inequality in infant mortality between EU Member States, 2000–10



For notes and sources, see Table 2.3.

2.3.3. Children and young people

In developed countries, child deaths after infancy are relatively rare and this often results in substantial annual variations in mortality rates at ages 1–14. Boys are more likely to die than girls — largely as a result of accidents — but the excess mortality tends to diminish as the overall level declines.

At the start of the decade, the highest national mortality rates recorded for both boys and girls were in Romania — 72 and 55 deaths per 100 000 population respectively — and the lowest rates in larger Member States were 12 among both boys and girls in Sweden (Table 2.4). Romanian children still experienced the poorest survival chances in 2010, but by this time the mortality rate for boys had fallen to 37 deaths per 100 000 population and the rate for girls had dropped to 30. These figures still contrast with substantially lower levels elsewhere — reaching rates as low as 10 among Slovenian boys and seven for Danish girls.

Between 2000 and 2010 the gap between Member States fell from 60 to 32 deaths per 100 000 for boys, and that for girls dropped from 46 to 22 (Figure 2.7 and Table 2.4). For both sexes, the ratios and ratio*s for the highest mortality compared with the lowest mortality are smaller for recent years than those for the start of the 2000s, but the fluctuations highlight the weakness of this measure of inequality for comparing annual changes. The trends in the Gini coefficients are, however, less irregular (Figure



2.7 and Table 2.4). These gradient measures of inequality suggest that, between 2000 and 2010, inequalities in male mortality at ages 1–14 fell by about 35 % and inequalities in female mortality declined by about 27 %. Moreover, the larger inequalities for boys that existed at the beginning of the decade had disappeared by 2010.

Table 2.4. Highest and lowest standardised death rates per 100 000 population aged 1–14 and measures of inequality in mortality, EU Member States, 2000–10, by sex

| | Deaths per 100 000 population | | | | | | | | | | | % change 2000–10 |
|--------------------------------------------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | |
| Males aged 1–14 | | | | | | | | | | | | |
| Highest value | 72 | 68 | 66 | 58 | 54 | 48 | 47 | 44 | 41 | 39 | 37 | |
| Highest country | RO | RO | RO | RO | RO | RO | RO | RO | RO | LV | RO | |
| Lowest value | 12 | 13 | 14 | 9 | 10 | 13 | 11 | 11 | 11 | 9 | 5 | |
| Lowest country | SE | SE | SE | MT | SE | MT | MT | SE | SE | DK | LU | |
| Lowest value country 1 m + (†) | 12 | 13 | 14 | 15 | 10 | 14 | 13 | 11 | 11 | 9 | 10 | |
| Lowest country 1 m + (†) | SE | SE | SE | EL | SE | DK | IT | SE | SE | DK | SI | |
| Gap: highest – lowest | 60 | 55 | 51 | 49 | 44 | 36 | 36 | 33 | 30 | 30 | 32 | |
| Ratio: highest/lowest | 5.9 | 5.4 | 4.6 | 6.6 | 5.5 | 3.8 | 4.1 | 4.1 | 3.8 | 4.3 | 7.7 | |
| Ratio*: highest/lowest country 1 m + | 5.9 | 5.4 | 4.6 | 3.8 | 5.5 | 3.4 | 3.5 | 4.1 | 3.8 | 4.3 | 3.9 | |
| Gini coefficient | 0.21 | 0.204 | 0.201 | 0.172 | 0.187 | 0.160 | 0.174 | 0.161 | 0.162 | 0.141 | 0.140 | – 35.4 % |
| Females aged 1–14 | | | | | | | | | | | | |
| Highest value | 55 | 51 | 47 | 41 | 37 | 39 | 36 | 32 | 31 | 28 | 30 | |
| Highest country | RO | RO | RO | RO | RO | CY | RO | RO | BG | RO | RO | |
| Lowest value | 8 | 9 | 6 | 8 | 2 | 10 | 8 | 9 | 7 | 5 | 7 | |
| Lowest country | LU | SI | MT | MT | LU | DK | CY | MT | CY | LU | DK | |
| Lowest value country 1 m + (†) | 12 | 9 | 10 | 10 | 11 | 10 | 9 | 10 | 8 | 9 | 7 | |
| Lowest country 1 m + (†) | SE | SI | SE | FI | SE | DK | IE | AT | DK | IT | DK | |
| Gap: highest – lowest | 46 | 43 | 41 | 32 | 35 | 30 | 27 | 23 | 24 | 22 | 22 | |
| Ratio: highest/lowest | 6.7 | 5.9 | 7.7 | 4.9 | 15.4 | 4.1 | 4.3 | 3.6 | 4.7 | 5.3 | 4.0 | |
| Ratio*: highest/lowest country 1 m + | 4.7 | 5.9 | 4.9 | 4.2 | 3.3 | 4.1 | 3.9 | 3.2 | 3.7 | 3.0 | 4.0 | |
| Gini coefficient | 0.19 | 0.182 | 0.179 | 0.156 | 0.154 | 0.159 | 0.165 | 0.145 | 0.144 | 0.141 | 0.141 | – 27.4 % |

(†) Cyprus, Malta and Luxembourg – all Member States with fewer than 1 million inhabitants – are excluded.

Missing data are excluded from the highest and lowest values, gaps and ratios but estimates for missing data are included in the Gini calculations. Most of the estimates are based on recent or later trends.

Missing data: Latvia 2000 and 2001; Cyprus and Italy 2010.

Source: Calculated from Eurostat database, [demo_magec](#) (19) and [demo_pjan](#) (18), last accessed 8 July 2012.



In every EU Member State, death rates among young adults were lower around 2010 than at the start of the decade. However, both the levels of mortality and the patterns of change varied between Member States and differed by sex. In Cyprus, Malta and Luxembourg the mortality rates for both males and females aged 15–24 fluctuated widely from year to year. In all larger Member States, with the exception of the Netherlands in 3 years and Bulgaria and Portugal in 1 year, the death rate for males was at least double that for females. In Estonia, Greece, Lithuania, Poland and Slovenia, the male mortality rate was more than treble the female rate in most years during the period examined.

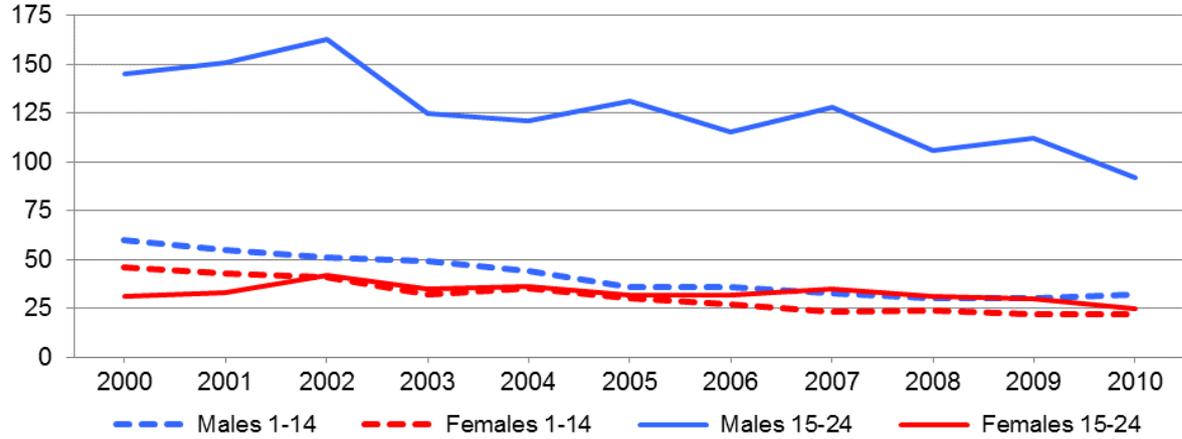
The mortality rates of young men in 2000, in Member States with over 1 million population, ranged from 61 in the Netherlands to 192 in Lithuania — a gap of 131 deaths per 100 000 between the highest and lowest rates and a highest/lowest value of 3.2 (ratio* comparison between Lithuania and the Netherlands). By 2010, mortality was still highest in Lithuania — 129 — and lowest in the Netherlands — 37 — equating to a gap of 92 deaths per 100 000 and a ratio* of 3.5 (Figure 2.7 and Table 2.5).

Inequalities in mortality among women aged 15–24 were consistently smaller than the inequalities in mortality among young men (Figure 2.7 and Table 2.5). At the start of the decade the female mortality ratio between the highest and lowest rates for Member States with over 1 million people was 2.0 (ratio* in Table 2.5, comparing Sweden and Lithuania). Ten years later, young women in Bulgaria had the highest level of mortality — 39 — which was 2.7 times higher than the rate of 14 deaths per 100 000 prevailing in the Netherlands.

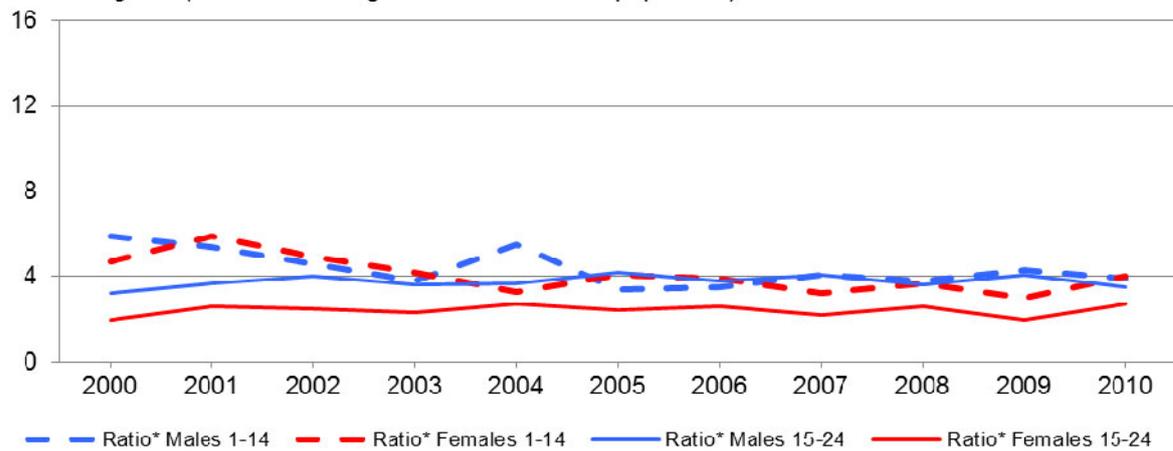
The fluctuations in the mortality ratios for young adults reflect rises and falls in mortality levels in individual Member States. But the variations in the pace of change, together with the different sizes of the countries experiencing these changes, combine to produce more systematic trends in the Gini coefficients. The Gini coefficients for young men rose more than those for young women. Between the start and the end of the decade the increases in inequality were 64 % and 19 % for men and women respectively (Figure 2.7 and Table 2.5).

Figure 2.7. Selected measures of inequality between EU Member States in mortality at ages 1–14 and 15–24, 2000–10, by sex

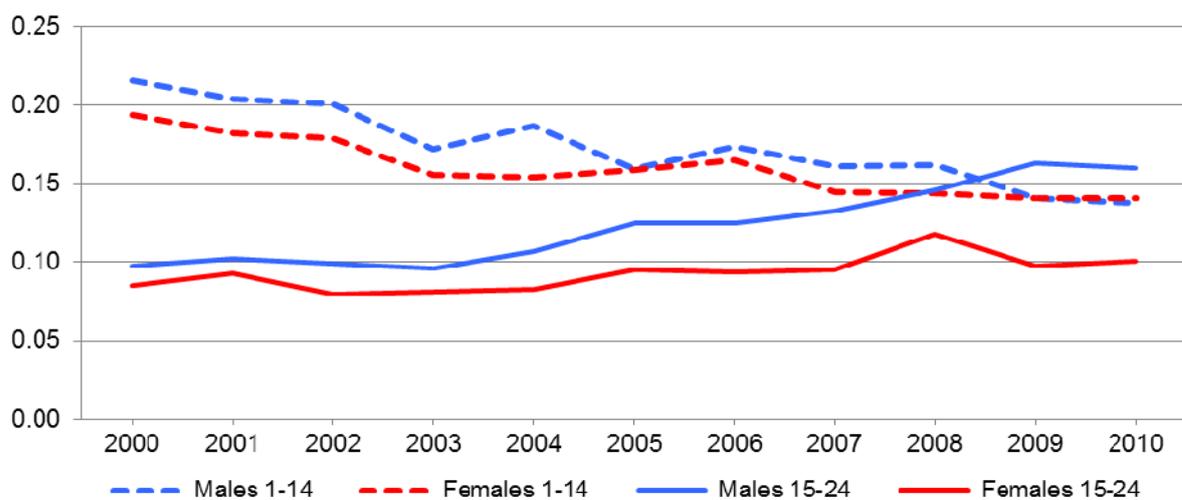
Gap: Highest-Lowest
Deaths per 100,000 population



Ratio*: Highest/(Lowest excluding countries <1 million population)



Gini coefficient for age-standardised death rate



For notes and sources, see Tables 2.4 and 2.5.

**Table 2.5. Highest and lowest standardised death rates per 100 000 population aged 15–24 and measures of inequality in mortality, EU Member States, 2000–10, by sex**

| | Deaths per 100 000 population | | | | | | | | | | | % change 2000– 10 |
|--------------------------------------------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | |
| Males aged 15–24 | | | | | | | | | | | | |
| Highest value | 192 | 203 | 218 | 172 | 167 | 172 | 155 | 170 | 136 | 149 | 129 | |
| Highest country | LT | LT | EE | LT | LT | LT | LT | LT | EE | LT | LT | |
| Lowest value | 47 | 53 | 55 | 47 | 45 | 41 | 41 | 42 | 30 | 36 | 37 | |
| Lowest country | MT | MT | NL | NL | NL | NL | NL | NL | MT | NL | NL | |
| Lowest value country 1 m + (†) | 61 | 55 | 55 | 47 | 45 | 41 | 41 | 42 | 38 | 36 | 37 | |
| Lowest country 1 m + (†) | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | |
| Gap: highest – lowest | 145 | 151 | 163 | 125 | 121 | 131 | 115 | 128 | 106 | 112 | 92 | |
| Ratio: highest/lowest | 4.1 | 3.9 | 4.0 | 3.6 | 3.7 | 4.2 | 3.8 | 4.1 | 4.6 | 4.1 | 3.5 | |
| Ratio*: highest/lowest country 1 m + | 3.2 | 3.7 | 4.0 | 3.6 | 3.7 | 4.2 | 3.8 | 4.1 | 3.6 | 4.1 | 3.5 | |
| Gini coefficient | 0.09 | 0.102 | 0.099 | 0.096 | 0.107 | 0.125 | 0.125 | 0.133 | 0.146 | 0.163 | 0.160 | 63.6 % |
| Females aged 15–24 | | | | | | | | | | | | |
| Highest value | 49 | 54 | 53 | 51 | 55 | 46 | 43 | 42 | 46 | 37 | 39 | |
| Highest country | LT | LT | LV | LV | LV | LV | EE | EE | EE | LT | BG | |
| Lowest value | 18 | 21 | 11 | 16 | 19 | 14 | 11 | 7 | 14 | 7 | 14 | |
| Lowest country | MT | SE | MT | LU | CY | MT | MT | MT | MT | LU | MT | |
| Lowest value country 1 m + (†) | 24 | 21 | 21 | 22 | 20 | 19 | 17 | 19 | 17 | 18 | 14 | |
| Lowest country 1 m + (†) | SE | SE | IT | IT | NL | DK | NL | ES | IT | NL | NL | |
| Gap: highest – lowest | 31 | 33 | 42 | 35 | 36 | 32 | 32 | 35 | 31 | 30 | 25 | |
| Ratio: highest/lowest | 2.8 | 2.6 | 5.0 | 3.2 | 2.9 | 3.3 | 4.0 | 5.9 | 3.2 | 5.3 | 2.7 | |
| Ratio*: highest/lowest country 1 m + | 2.0 | 2.6 | 2.5 | 2.3 | 2.7 | 2.4 | 2.6 | 2.2 | 2.6 | 2.0 | 2.7 | |
| Gini coefficient | 0.08 | 0.093 | 0.080 | 0.081 | 0.083 | 0.095 | 0.094 | 0.095 | 0.118 | 0.098 | 0.101 | 19.4 % |

(†) Cyprus, Malta and Luxembourg – all Member States with fewer than 1 million inhabitants – are excluded.

Missing data are excluded from the highest and lowest values, gaps and ratios but estimates for missing data are included in the Gini calculations. Most of the estimates are based on recent or later trends.

Missing data: Latvia 2000 and 2001; Cyprus and Italy 2010.

Source: Calculated from Eurostat database, [demo_magec](#) (19) and [demo_pjan](#) (18), last accessed 8 July 2012.



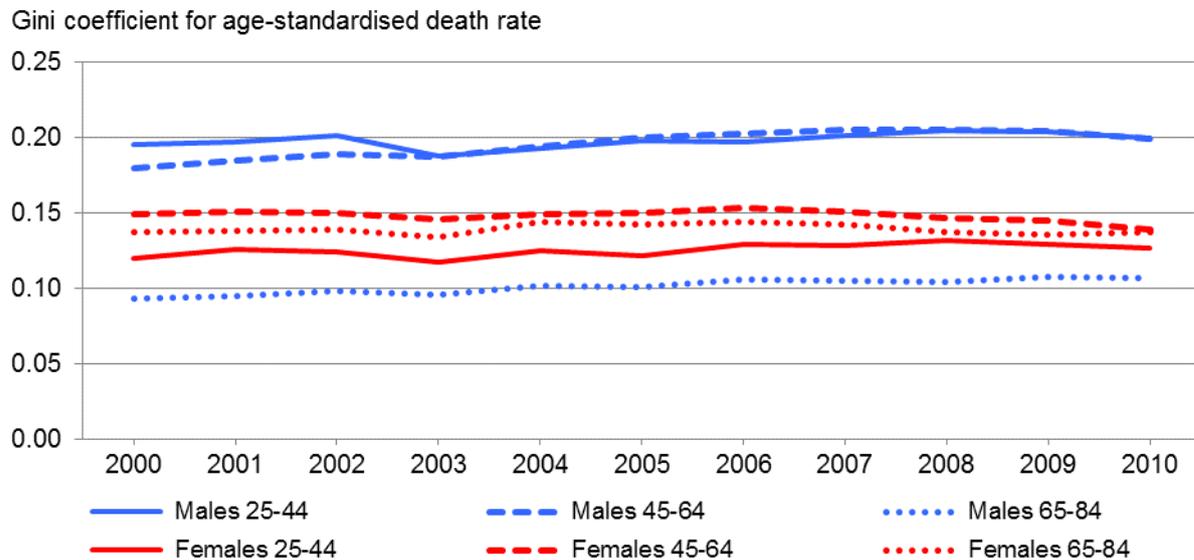
2.3.4. Adults aged 25 and over

In all EU Member States, mortality above age 25 has fallen since 2000. However, the rates of decline varied between Member States and this is reflected in the absolute and relative gaps in inequalities. Among men aged 65–84, the difference in deaths per 100 000 population between the highest and lowest mortality countries — Estonia and Sweden in 2000 and Latvia and France in 2010 — actually increased from 2 990 in 2000 to 3 364 in 2010. Other mortality gaps — for men aged 25–44 and 45–64 and in all three age groups for women — were smaller in 2010 than in 2000 (details are provided in Annex 2). The estimated relative gaps, ratio*s, fluctuated throughout the decade, but in five out of six cases they were higher in 2010 than in 2000. For men aged 25–44, the ratio of the highest death rate to the lowest death rate (in Member States with more than 1 million population) was 5.0 in 2000 and 5.4 in 2010. The corresponding ratio*s for men aged 45–64 were 3.7 and 3.9, and for men aged 65–84 the ratio*s were 1.8 and 2.2. Relative inequalities were lower for women — 2.6 in 2000 and 2.7 in 2010 at ages 25–44 and 45–64, and 2.5 in both 2000 and 2010.

A clearer picture of recent trends in mortality inequalities among adults is provided by the Gini coefficients in Figure 2.8. Throughout the period since 2000, inequalities in mortality rates between EU Member States at ages 25–44 and 45–64 were lower for women than for men. At ages 65–84, however, this indicator of inequalities between Member States was greater for women than for men. For both sexes, inequalities in mortality rates above age 25 changed little in the decade 2000–10 (ranging from a reduction of 7 % among women aged 45–64 to an increase of 14 % among men aged 65–84). Hence, based on the Gini coefficient, there is no evidence of any substantial reduction in inequalities in mortality rates among adults.

One feature of the trends shown in Figure 2.8 is the relatively low level of inequalities in some age groups in 2003 compared with other years. This dip coincides with the heatwave in western Europe when there were at least 45 000 excess deaths in France, Italy, Spain, England and Wales, Belgium, Germany, Portugal and the Netherlands (28). Whilst elderly women comprised a disproportionate number of the excess deaths, it may be that the unusual weather patterns that year contributed in some way to a slight narrowing of differences between these Member States and those with high mortality.

Figure 2.8. Trends in inequalities (Gini coefficients) between EU Member States in mortality at ages 25–44, 45–64 and 65–84, 2000–10, by sex



Missing data: Latvia 2000 and 2001; Cyprus and Italy 2010. Estimates for missing data are included in the Gini calculations. Most of the estimates are based on recent or later trends.

Source: Calculated from Eurostat database, [demo_magec](#) (19) and [demo_pjan](#) (18), last accessed 8 July 2012.

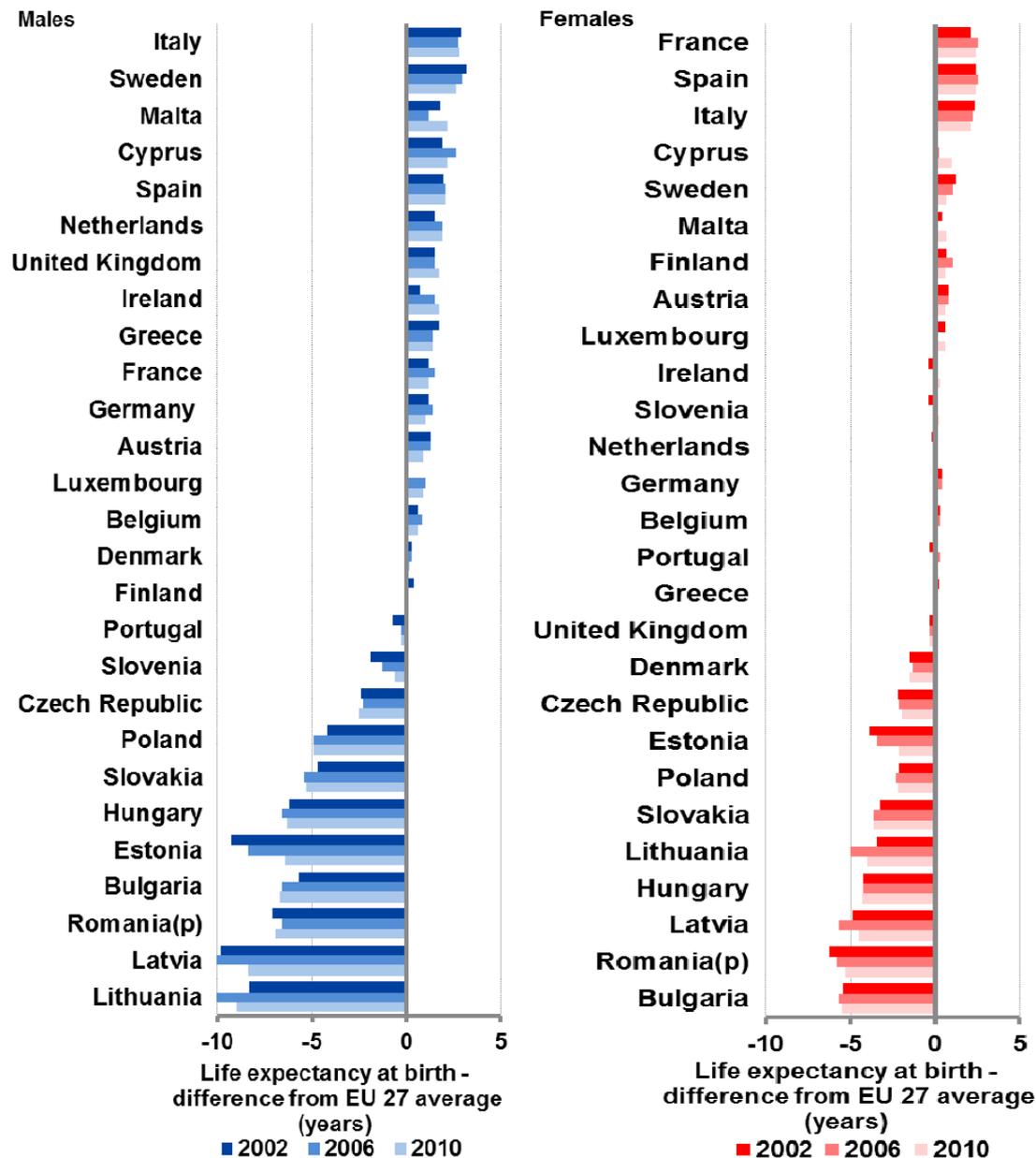
2.3.5. Life expectancy

Life expectancy has increased in all Member States in the EU in the 21st century. In the period from 2002 to 2010, overall life expectancy for males rose from 74.5 to 77.0 years, and for females from 80.9 to 82.9 years (provisional figures for 2010). Figure 2.9 shows how life expectancy over this period differed from the EU average for individual Member States.

For males, life expectancy was highest in Sweden in 2002 and 2006 — around 3 years above the European average — but Italy overtook Sweden in 2010. The three Baltic states had markedly lower male life expectancy than other EU Member States up to 2006, but the gap has since narrowed. In 2002, Latvia had the lowest level — at 64.7 years it was 9.8 years below the EU average — but in 2010 the gap had fallen to 8.4 years. In Estonia the gap fell from 9.3 to 6.4 years below the EU average. In Lithuania, the gap widened from 8.3 years to 9.0 years. All Member states for which male life expectancy was below the EU average in 2002 remained below the average in both 2006 and 2010. Conversely, with the exception of Finland, all those for which life expectancy was above the EU average remained above average. Finland went from 0.4 years above the average in 2002 to 0.1 years below in 2010.

Throughout the period, female life expectancy was higher in Italy, Spain and France than in other Member States — slightly over 2 years above the European average. For females, in 13 Member States life expectancy was within 1 year of the EU average in each of the years 2002, 2006 and 2010. Among females, the lowest levels of life expectancy were around 5 to 6 years below the EU average. In 2010, nine Member States remained 2 or more years below the EU average. This meant that they were at or below the 2002 average for the EU as a whole (80.9 years).

Figure 2.9. Difference between life expectancy at birth in EU countries and the EU average, 2002, 2006 and 2010, by sex



Countries are ranked by sex-specific life expectancy in 2010.

(p) 2010 figures for the EU-27 and Romania are provisional.

Other EU health programme countries — difference from EU-27 average in 2002, 2006, 2010:

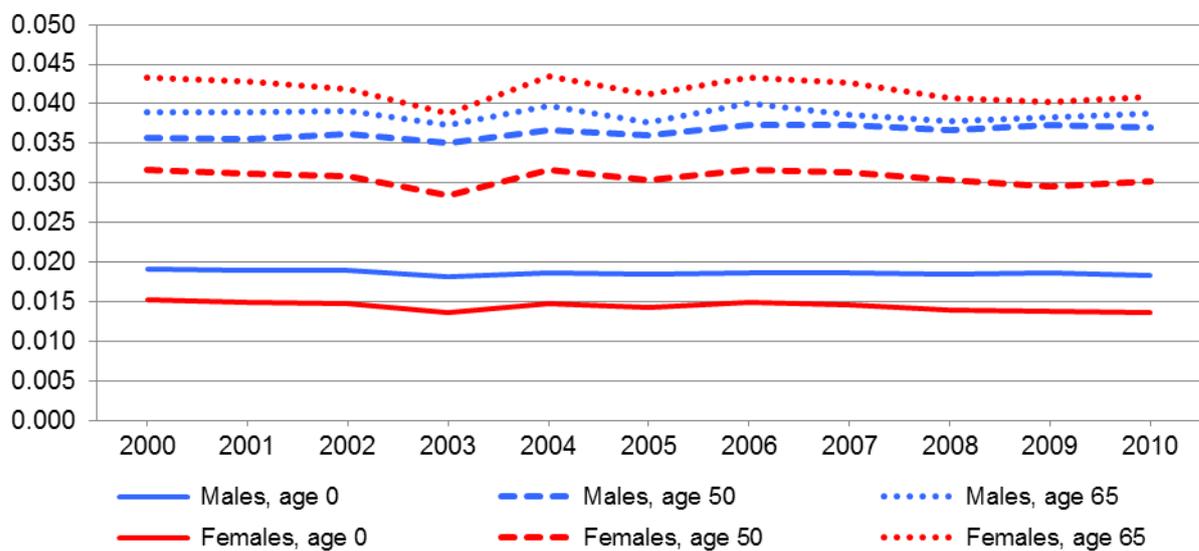
- males: Iceland 4.1, 3.7, 2.8; Norway 1.9, 2.4, 2.0; Liechtenstein 2.6, 3.1, 2.5; Croatia - 3.3, - 3.3, - 3.5;
- females: Iceland 1.6, 0.9, 1.2; Norway 0.7, 0.9, 0.4; Liechtenstein 1.4, 1.1, 1.4; Croatia - 2.6, - 2.7, - 3.0.

Source: Eurostat database, [demo_mlexpec](#) (20), last accessed 3 June 2013.

Gini coefficients for inequalities between EU Member States in life expectancy at birth and at ages 50 and 65 are shown in Figure 2.10. Throughout the decade, inequalities in life expectancy at birth and at age 50 were consistently higher for men than for women, but at age 65 the pattern was reversed. Between 2000 and 2010, inequalities in life expectancy at birth decreased by 10 % for women but only by 3 % for men. This pattern reflected decreases in the mortality of children aged less than 15 that were partly offset for women, and fully offset for men, by increases in inequalities at older ages, especially at ages 15–24.

Figure 2.10. Trends in inequalities (Gini coefficients) between EU Member States in life expectancy at birth, at age 50 and at age 65, 2000–10, by sex

Gini coefficient for life expectancy



Estimates for missing data are included in the Gini calculations. Most of the estimates are based on recent or later trends.

Missing data: Latvia 2000 and 2001; Cyprus and Italy 2010.

Source: Calculated from Eurostat database, [demo_mlexpec](#) (20) and [demo_pjan](#) (18), last accessed 8 July 2012.

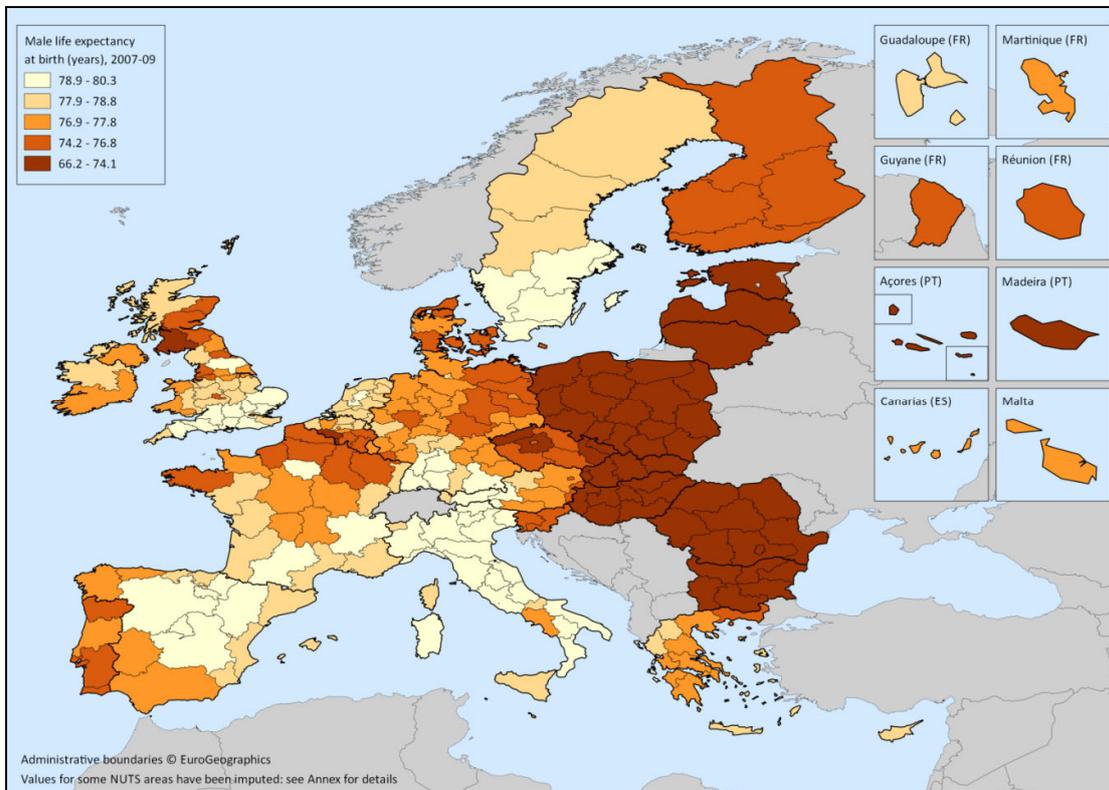
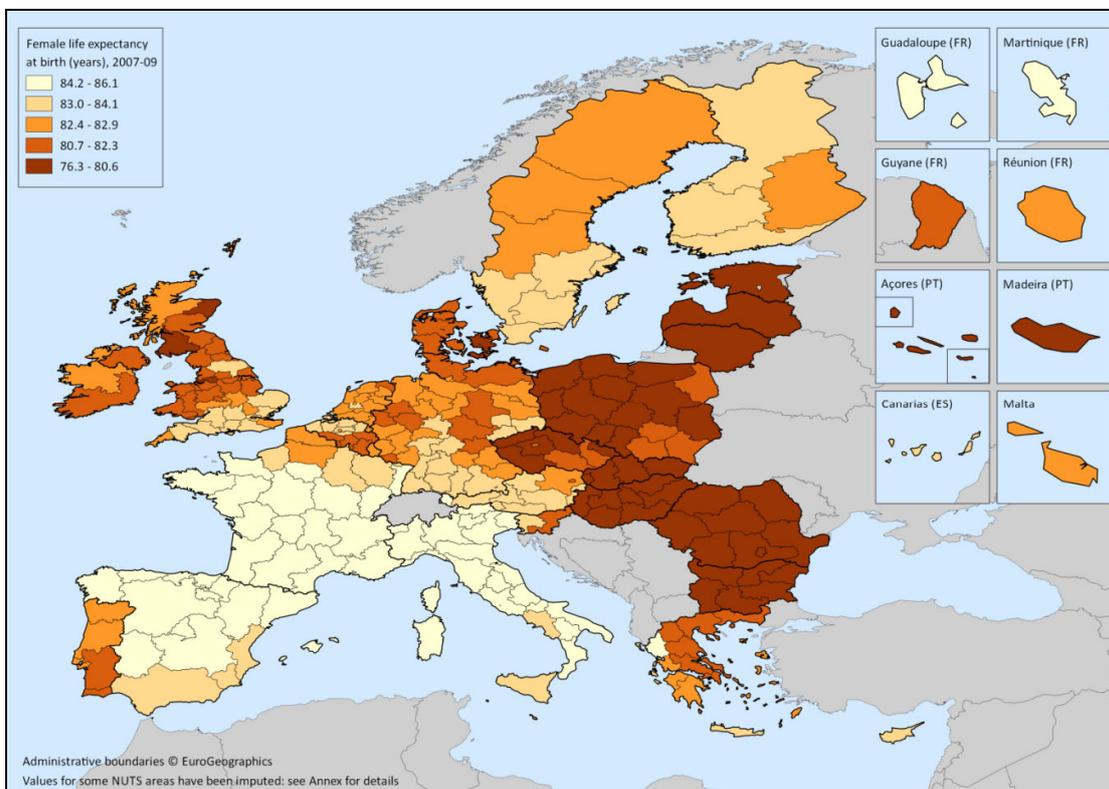
Between the start and the end of the decade, there was limited change in the Gini-based measures of inequalities in life expectancy at age 50 and at age 65. For men, the Gini coefficients increased by 4 % and declined by 0.3 % at age 50 and age 65 respectively. For women, inequalities in life expectancy at age 50 fell by 5 % and inequalities in life expectancy at age 65 fell by 6 %.



2.4. Health inequalities between regions (NUTS 2 areas) in the EU

2.4.1. Life expectancy

Variations between regions in life expectancy at birth are illustrated by the maps showing life expectancy at birth in 2007–09 (Figure 2.11). In 2007–09, male life expectancy at birth in the most advantaged region of the EU was 21 % higher or 14 years longer than in the worst-off region (Table 2.6). The corresponding differences for females are 13 % and 9.9 years, and the Gini coefficients for males and females are 0.022 and 0.019 respectively. The Gini coefficients in Table 2.6 indicate that, in 2007–09, inequalities in life expectancy at age 50 and at age 65 were larger than inequalities in life expectancy at birth. But, in the short period between 2002–04 and 2007–09, the changes in inequalities in life expectancy between all EU regions were negligible — ranging from a reduction of 0.4 % in inequalities in life expectancy at birth for females to an increase of 4.6 % in inequalities in life expectancy at age 50 among men. In all cases, inequalities in life expectancy between regions were larger than those between countries (Table 2.6).

Figure 2.11. Life expectancy at birth in EU NUTS 2 regions, 2007–09**Males****Females**

Source: Eurostat database, demo_r_mlifexp (29), last accessed 4 December 2012.

**Table 2.6. Life expectancy at selected ages and measures of inequality between 268 EU regions and between 27 EU Member States, 2002–04 to 2007–09 by sex**

| | Life expectancy at birth (years) | | | Life expectancy at age 50 (years) | | | Life expectancy at age 65 (years) | | |
|-------------------------|----------------------------------|-----------|---------------------------|-----------------------------------|-----------|---------------------------|-----------------------------------|--------------|---------------------------|
| | 2002-2004 | 2007-2009 | % change 2002-04 to 07-09 | 2002-2004 | 2007-2009 | % change 2002-04 to 07-09 | 2002-2004 | 2007-2009 | % change 2002-04 to 07-09 |
| 268 NUTS regions | | | | | | | | | |
| Males | | | | | | | | | |
| Highest value | 78.9 | 80.2 | | 30.8 | 31.9 | | 18.2 | 19.7 | |
| Highest region | ITE3 | FI20 | | ITE3 | UKK2 | | ES41 | FR10 | |
| Lowest value | 65.4 | 66.2 | | 21.5 | 22.0 | | 12.4 | 13.1 | |
| Lowest region | LV00 | LT00 | | HU31 | LT00 | | HU31 | HU31 RO11 | LV00 |
| Gap: highest – lowest | 13.5 | 14.0 | | 9.4 | 9.9 | | 5.8 | 6.6 | |
| Ratio: highest/lowest | 1.21 | 1.21 | | 1.44 | 1.45 | | 1.47 | 1.51 | |
| Gini coefficient | 0.021 | 0.022 | 1.2% | 0.041 | 0.043 | 4.6% | 0.046 | 0.046 | 0.7% |
| Females | | | | | | | | | |
| Highest value | 84.9 | 86.1 | | 36.2 | 37.3 | | 22.4 | 23.9 | |
| Highest region | ES22 | ES22 | | ES22 | FR10 | | ES22 | FR10 ES41 | |
| Lowest value | 75.2 | 76.3 | | 28.1 | 28.9 | | 15.4 | 16.2 | |
| Lowest region | BG34 | BG34 | | BG32 | RO42 | | BG32 | BG32 | |
| Gap: highest – lowest | 9.7 | 9.9 | | 8.1 | 8.4 | | 7.0 | 7.7 | |
| Ratio: highest/lowest | 1.13 | 1.13 | | 1.29 | 1.29 | | 1.45 | 1.47 | |
| Gini coefficient | 0.016 | 0.016 | - 0.4 % | 0.033 | 0.033 | 1.4% | 0.045 | 0.045 | - 0.3 % |
| EU-27 countries | | | | | | | | | |
| Males | | | | | | | | | |
| Gap: highest – lowest | 12.6 | 13.0 | | 8.4 | 9.0 | | 4.7 | 5.5 | |
| Ratio: highest/lowest | 1.19 | 1.20 | | 1.39 | 1.41 | | 1.37 | 1.42 | |
| Gini coefficient | 0.019 | 0.019 | - 0.2 % | 0.036 | 0.037 | 3.0% | 0.039 | 0.038 | - 1.4 % |
| Females | | | | | | | | | |
| Gap: highest – lowest | 8.3 | 7.9 | | 6.6 | 7.0 | | 5.6 | 6.4 | |
| Ratio: highest/lowest | 1.11 | 1.10 | | 1.23 | 1.24 | | 1.35 | 1.38 | |
| Gini coefficient | 0.014 | 0.014 | - 1.5 % | 0.030 | 0.030 | 0.2% | 0.041 | 0.041 | - 0.4 % |

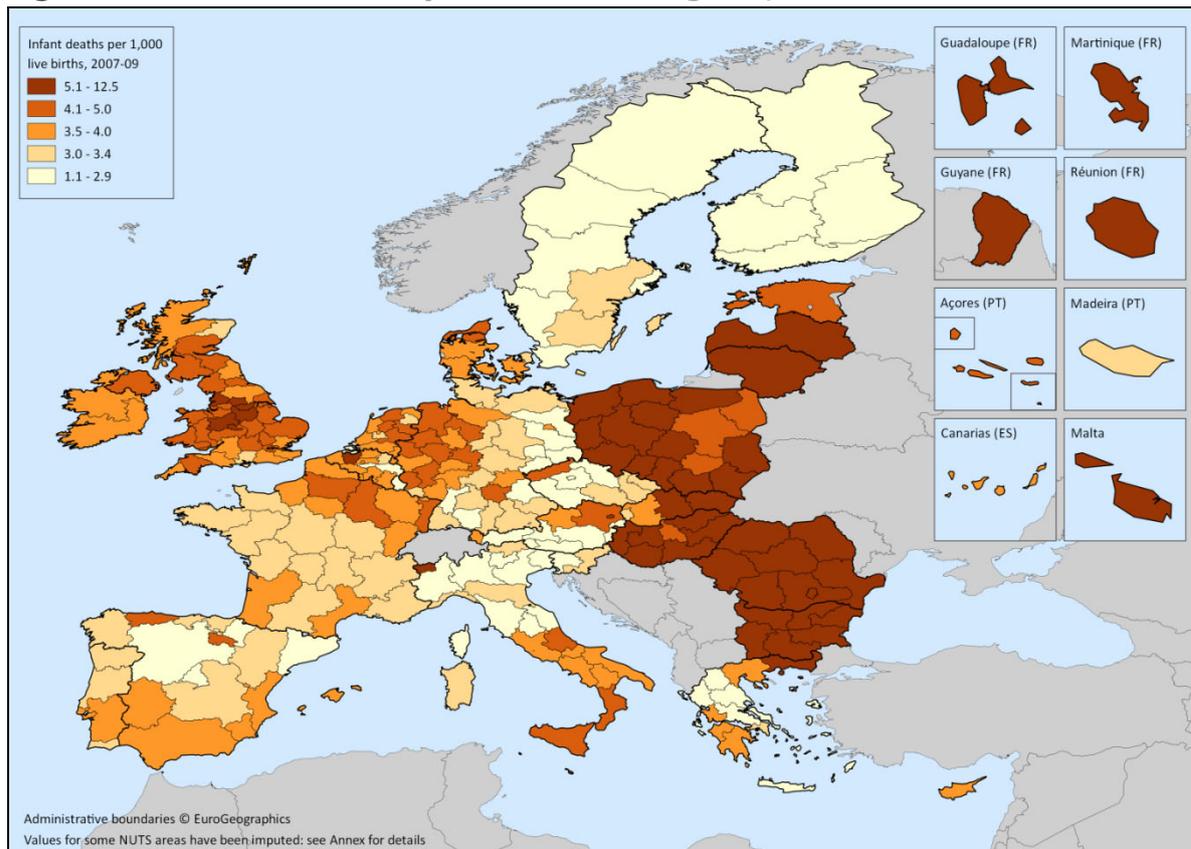
BG32 – Severen tsentralen; BG34 – Yugoiztochen; ES22 – Comunidad Foral de Navarra; ES41 – Castilla y León; FI20 – Åland; FR10 – Île de France; HU31 – Észak-Magyarország ; ITE3 – Marche; LT00 – Lithuania; LV00 – Latvia; RO11 – Nord-Vest; RO42 – Vest; UKK2 – Dorset and Somerset

Sources: Calculated from Eurostat database, [demo_r_mlifexp](#) (29) and [demo_r_d2jan](#) (30), last accessed 4 December 2012; see also sources for Figure 2.10.

2.4.2. Infant mortality

Researchers and policymakers have long been aware of substantial differences in infant deaths between NUTS 2 regions. These inequalities persist and are illustrated by the map showing infant mortality rates in 2007–09 (Figure 2.12). However, despite the fact that infant deaths in small regions are rare events resulting in fluctuating rates, there is strong evidence that regional inequalities in infant mortality have fallen in recent years. In 2002–04, the infant mortality gap between the five highest mortality regions and the five lowest mortality regions was 15.9 infant deaths per 1 000 live births (Table 2.7). By 2007–09, the gap had dropped to 10.3 infant deaths per 1 000 live births. The reduction in inequality in infant mortality between all regions — as indicated by the Gini coefficients — was 11.9 %. This is close to the reduction of 13.1 % for the change in inequalities between Member States from 2002–04 to 2007–09. But infant mortality inequalities between regions remain larger than those between Member States (Table 2.7). (Regional data for 2010 are incomplete, but those available yield a gap of 10.7 deaths per 1 000 live births — the difference between average infant mortality rates of 12.5 in the five highest mortality regions and 1.7 in the five lowest mortality regions.)

Figure 2.12. Infant mortality in EU NUTS 2 regions, 2007–09



Sources: Calculated from Eurostat database, [demo_r_minfind](#) (31) and [demo_r_fagec](#) (32), last accessed 28 June 2012; see also sources for Table 2.3.

**Table 2.7. Infant mortality rates and measures of inequality between 268 EU regions and between 27 EU Member States, 2002–04 to 2007–09**

| | Deaths under 1 year per 1 000 live births | | | | | | % change 2002–04 to 2007–09 |
|---------------------------|-------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-----------------------------------|
| | 2002–04 | 2003–05 | 2004–06 | 2005–07 | 2006–08 | 2007–09 | |
| 268 NUTS regions | | | | | | | |
| Average 5 highest values | 18.5 | 17.7 | 16.3 | 14.5 | 13.2 | 12.0 | |
| 5 Highest regions | RO21 RO22 RO31 BG34 RO41 | RO21 RO31 RO22 RO41 BG34 | RO21 RO41 RO31 RO22 RO11 | RO21 RO41 RO31 RO22 RO11 | RO21 RO22 RO41 RO31 FR93 | BG34 RO21 RO22 FR93 RO41 | |
| Average 5 lowest values | 2.6 | 2.6 | 2.1 | 2.1 | 1.7 | 1.8 | |
| 5 Lowest regions | ITD4 AT21 FI1A ITE1 SE11 | CZ01 SE11 ITD4 FI1A EL43 | FI20 EL21 SE33 BE31 ITC2 | FI20 BE31 EL42 EL21 EL14 | FI20 EL42 EL21 EL14 EL13 | FI20 EL14 EL42 EL22 EL13 | |
| Gap: 5 highest–5 lowest | 15.9 | 15.1 | 14.1 | 12.5 | 11.5 | 10.3 | |
| Ratio: 5 highest/5 lowest | 7.1 | 6.9 | 7.7 | 7.1 | 7.6 | 6.8 | |
| Gini coefficient | 0.234 | 0.235 | 0.230 | 0.223 | 0.214 | 0.206 | -11.9% |
| EU-27 | | | | | | | |
| Gap: highest co–lowest | 13.9 | 13.3 | 12.5 | 11.4 | 10.2 | 9.0 | |
| Ratio*: high/low co 1m+ | 5.5 | 5.6 | 5.5 | 5.3 | 4.8 | 4.6 | |
| Gini coefficient | 0.198 | 0.196 | 0.192 | 0.185 | 0.178 | 0.172 | -13.1% |

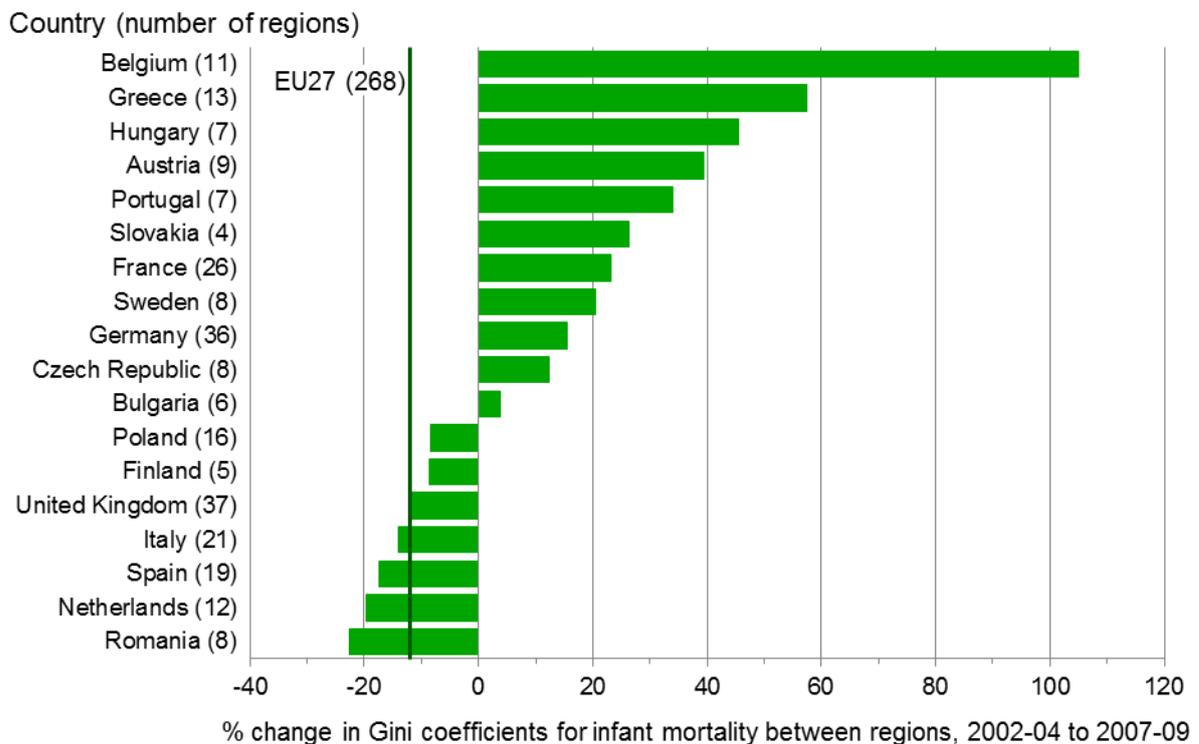
AT21 — Kärnten; BE31 — Prov. Brabant Wallon; BG34 — Yugoiztochen; CZ01 — Praha; EL13 — Dytiki Makedonia; L14 — Thessalia; EL21 — Ipeiros; EL22 — Ionia Nisia; EL42 — Notio Aigaiio; EL43 — Kriti; FI1A — Pohjois-Suomi; FI20 — Åland; FR93 — Guyane; ITC2 — Valle d’Aosta/Vallée d’Aoste; ITD4 — Friuli-Venezia Giulia; ITE1 — Toscana; RO11 — Nord-Vest; RO21 — Nord-Est; RO22 — Sud-Est; RO31 — Sud-Muntenia; RO41 — Sud-Vest Oltenia; SE11 — Stockholm; SE33 — Övre Norrland

Source: Calculated from Eurostat database, [demo_r_minfind](#) (31) and [demo_r_fagec](#) (32), last accessed 28 June 2012.

2.5. Health inequalities between regions within EU Member States

The populations of NUTS 2 regions vary in size from about 28 000 inhabitants in Åland, Finland to almost 12 million in Île de France (Paris), and the small Member States of Cyprus, Latvia, Lithuania, Luxembourg and Malta each constitute a single NUTS 2 region. Because of this variability, it is not appropriate to compare regional inequalities in mortality between EU Member States. It is, however, possible to consider change in inequalities over time within individual Member States. This is done for Member States with at least four NUTS 2 regions using the Gini coefficient, because this measure controls for the variation in regional populations within each country.

Figure 2.13. Percentage change 2002–04 to 2007–09 in regional (*) inequalities (Gini coefficients) in infant mortality



(*) All regions in the EU and individual Member States with at least four NUTS 2 regions.

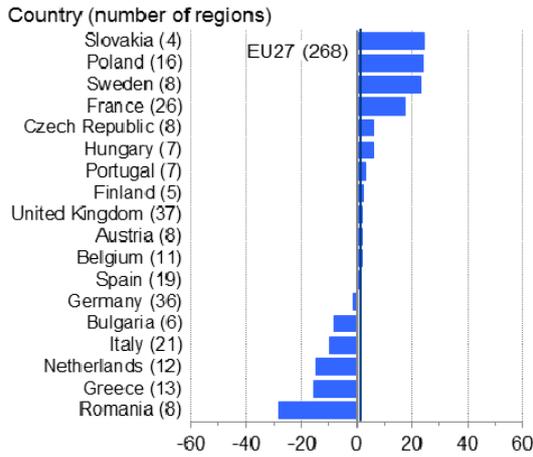
Source: Calculated from Eurostat database, [demo_r_minfind](#) (31) and [demo_r_fagec](#) (32), last accessed 28 June 2012.

The percentage change in infant mortality inequalities — based on Gini coefficients — between regions in 18 EU Member States during the period from 2002–04 to 2007–09 are presented in Figure 2.13. These should be seen against the substantial falls seen in infant mortality rates in most Member States (Table 2.2). The same measures for male and female life expectancy at birth and at ages 50 and 65 are shown in Figure 2.15. In three Member States — Belgium, France and Hungary — regional inequalities increased on all indicators — infant mortality and male and female life expectancy at birth, 50 and 65. In the Czech Republic, Poland, Slovakia and Sweden, inequalities increased for six of these seven indicators. It should be noted, however, that infant mortality and male life expectancy in all regions in Sweden remained relatively favourable when compared with most other regions in the EU (Figures 2.11 and 2.12). Reductions in inequalities were greatest in Spain, the Netherlands and Romania, but levels of infant mortality in Romania remained relatively high (although not as high as at the start of the period) and life expectancy was lower than in most Member States.

Figure 2.14. Percentage change 2002–04 to 2007–09 in regional (*) inequalities (Gini coefficients) in life expectancy at birth, at age 50 and at age 65, by sex

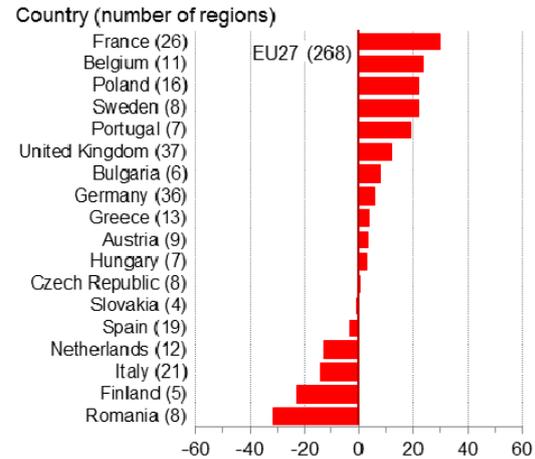
Males

Life expectancy at birth

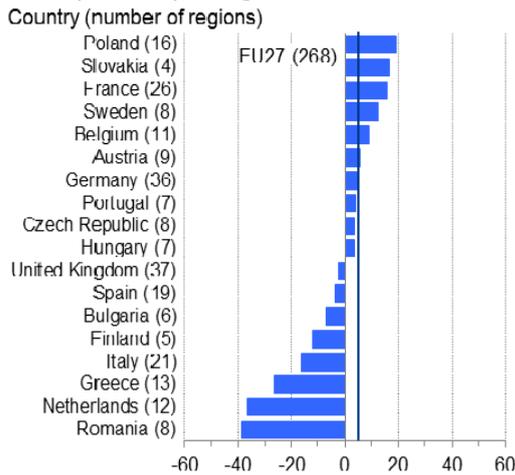


Females

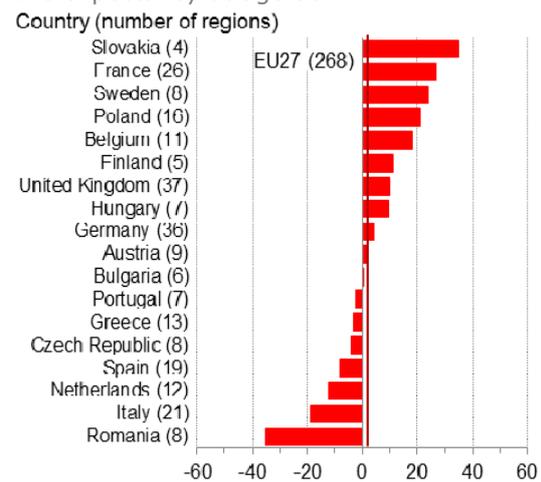
Life expectancy at birth



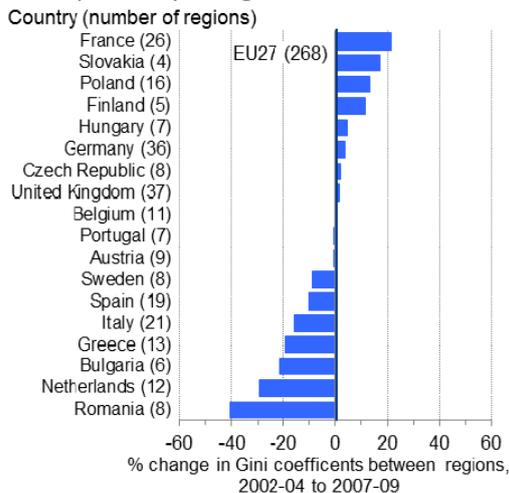
Life expectancy at age 50



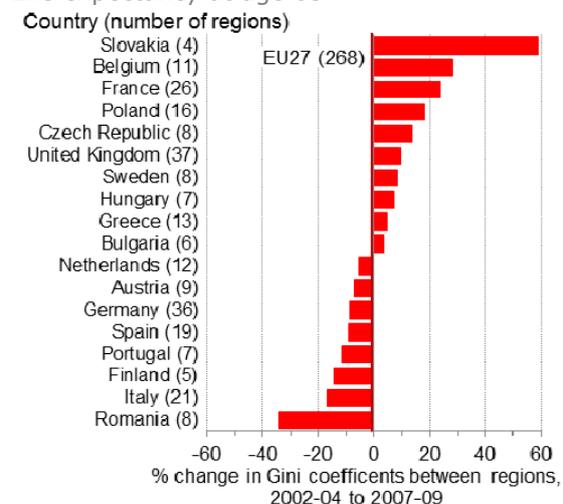
Life expectancy at age 50



Life expectancy at age 65



Life expectancy at age 65

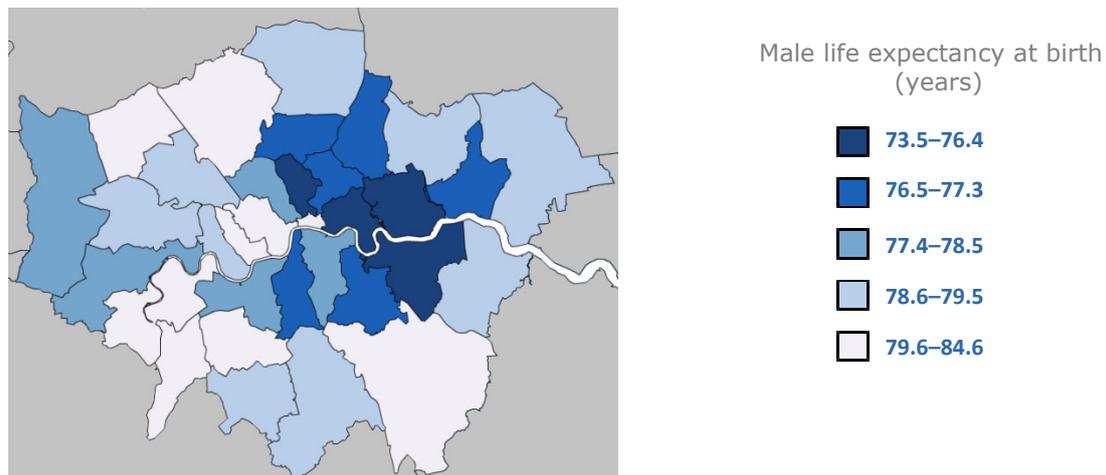


(*) All regions in the EU and individual Member States with at least four NUTS 2 regions.

Source: Calculated from Eurostat database, [demo_r_mlifexp](#) (29) and [demo_r_d2jan](#) (30), last accessed 20 May 2012.

An additional point that merits emphasising is that conditions usually vary within a single NUTS 2 region. This is illustrated by the map showing male life expectancy in London boroughs in the period 2006–10 (Figures 2.15). Although London comprises two NUTS 2 regions — Inner London and Outer London — the map shows clearly that male life expectancy was far from uniform in either the inner or the outer boroughs.

Figure 2.15. Male life expectancy at birth in London boroughs 2006–10



Crown copyright and database rights 2011 Ordnance Survey 100041217.

Source: The network of public health observatories, health inequality indicators for local authorities and primary care organisations, [interactive maps](#) (33).

2.6. Summary

Between 2000 and 2010, inequalities in life expectancy at birth between EU Member States decreased by 10 % for women but only by 3 % for men. This trend resulted from differences in the patterns seen at different ages. There were decreases in infant mortality and the mortality of children aged less than 15, whereas inequalities at older ages, especially at ages 15–24, increased. For women, the increases had a smaller effect on life expectancy than the decreases. For men the effects were of similar magnitude.

Changes in inequalities between countries are summarised in Figure 2.16. The estimated Gini coefficients indicate that inequalities in infant mortality in the EU dropped by 26 % between 2000 and 2010. Moreover, progress was particularly marked in the period 2005–10, when the Gini coefficient fell by 19 %, compared to a smaller reduction of 8 % between 2000 and 2005. There was a year-on-year reduction of the inequality in infant mortality across the whole of the EU.

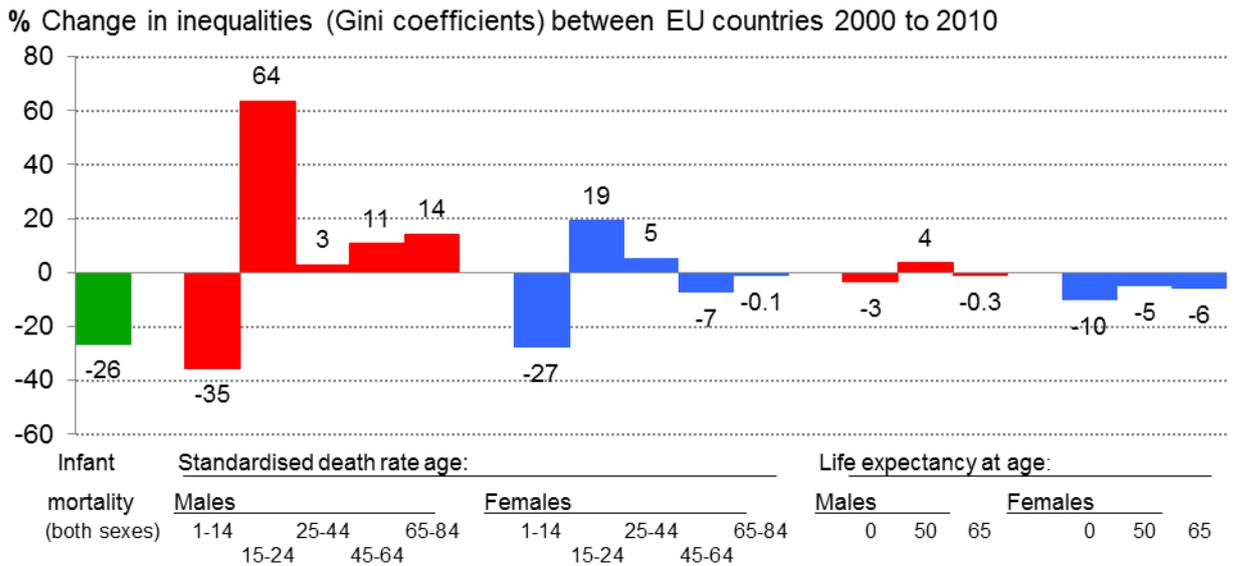
The reduction in inequality in infant mortality between all regions in the EU was measured in this section by comparing Gini coefficients in two 3-year periods, 2002–04 and 2007–09. The reduction between these two periods was 11.9 %. Although this was close to the reduction of 13.1 % for the change in inequalities between Member States between these two periods, levels of inequalities between regions were larger than those between Member States in both periods. Inequalities in mortality at ages

1–14 also fell between 2000 and 2010 — by about 35 % for males and 27 % for females.

Inequalities between Member States for those aged 15–24 increased after 2003. This was because death rates in low-mortality countries continued their downward trend, but death rates in many Member States in which mortality was above average either stalled or increased slightly, particularly for males. Inequalities for men rose more than those for women because this trend was more pronounced in the male populations. Between the start and the end of the decade the Gini coefficients increased by 64 % and 19 % for men and women, respectively.

Between the start and the end of the decade, there was limited change in the Gini-based measures of inequalities in life expectancy at age 50 and at age 65. For men, the Gini coefficients increased by 4 % and declined by 0.3 % at age 50 and age 65 respectively. For women, inequalities in life expectancy at age 50 fell by 5 % and inequalities in life expectancy at age 65 fell by 6 %.

Figure 2.16. Percentage change in inequalities between EU Member States for selected mortality indicators, 2000–10



Sources: See tables and figures for individual indicators.

3. Relationship between social and health inequalities in the EU

3.1. Introduction

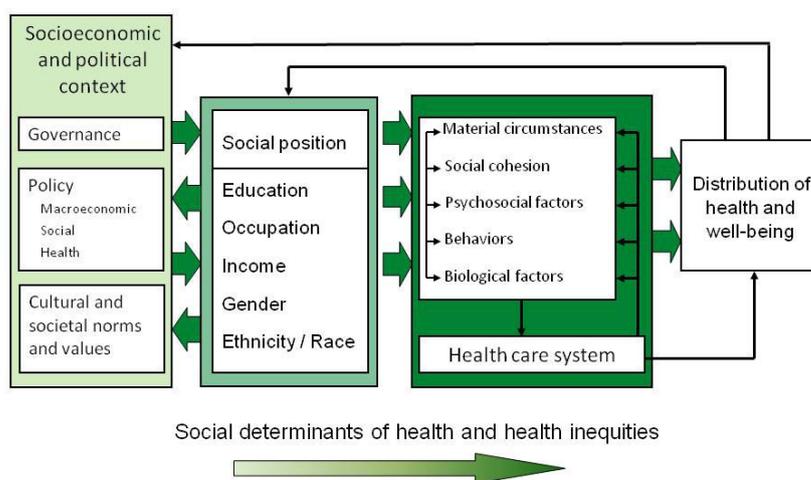
This section presents analyses of the interrelationship between health and its social determinants, both in terms of geographic correlations and the experiences of social groups. The section is organised as follows.

- Brief outline of the conceptual framework used in the analyses.
- The distribution of social determinants of health and health behaviours across the EU.
- The relationship between individual socio-economic characteristics and self-reported health and mortality.
- The relationship between regional socio-economic characteristics and mortality.
- Available evidence at finer geographic levels (neighbourhoods).
- Additional evidence from the recent literature on the relationship between health and its social determinants across the EU.
- Discussion of the relationship between inequalities in social determinants, health behaviours and health outcomes.

3.2. Conceptual framework

The social, economic, political, environmental and cultural factors that shape health are known as the social determinants of health (1). The conceptual framework developed for the WHO CSDH is shown in Figure 3.1. A loose summary of this framework is the 'causes of the causes'.

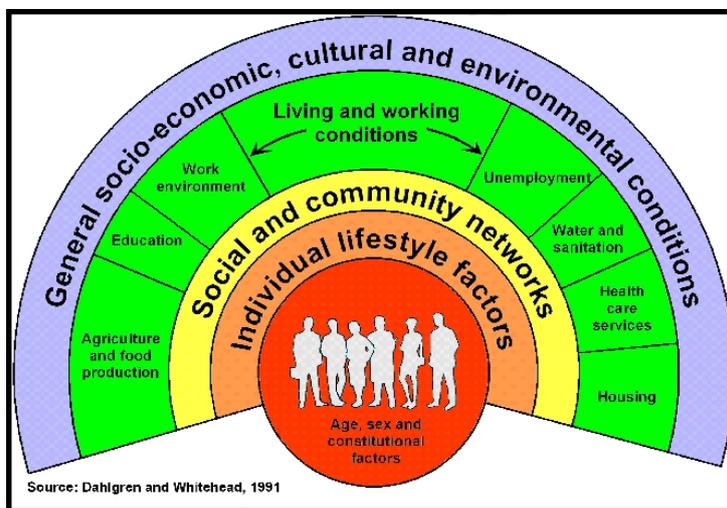
Figure 3.1. CSDH conceptual framework



Source: Commission on Social Determinants of Health (1).

In recent decades, much public health activity has focused on proximate causes of health and health inequalities. In relation to chronic disease, this has meant aspects of lifestyle: smoking, diet, alcohol consumption, physical activity. The CSDH perspective, and that taken in this review, is that the causes of these lifestyle causes of poor health reside in the social environment, broadly conceived. Figure 3.1 illustrates the 'causes of the causes', starting with the nature of socio-economic and political context, which may be influenced by global forces acting outside a particular country: the nature of trade, aid, international agreements and environmental concerns given prominence by climate change. These then influence individual social position and the broader conditions of daily life. The layers of influence on individuals are summarised in Figure 3.2.

Figure 3.2. The layers of influence on health



Source: Dahlgren and Whitehead (34).

Societal-level processes influence exposure to health-damaging (and health-promoting) conditions and vulnerabilities (and resilience). Exposures and vulnerabilities are, in general, unequally distributed in society according to socio-economic position and/or some other marker of social position, such as race/ethnicity or gender.

Underpinning this approach conceptually is the importance of empowerment: material, psychosocial and political. This means having the material requirements for a decent life, having control over one's life and having a political voice and participating in decision-making processes. This approach to empowerment has featured in several recent comparative studies in Europe (35;36).

The WHO CSDH (1) concluded that social inequalities in health arise because of inequalities in the conditions of daily life and the fundamental drivers that give rise to them: inequities in power, money and resources.



3.3. Inequalities in the social determinants of health

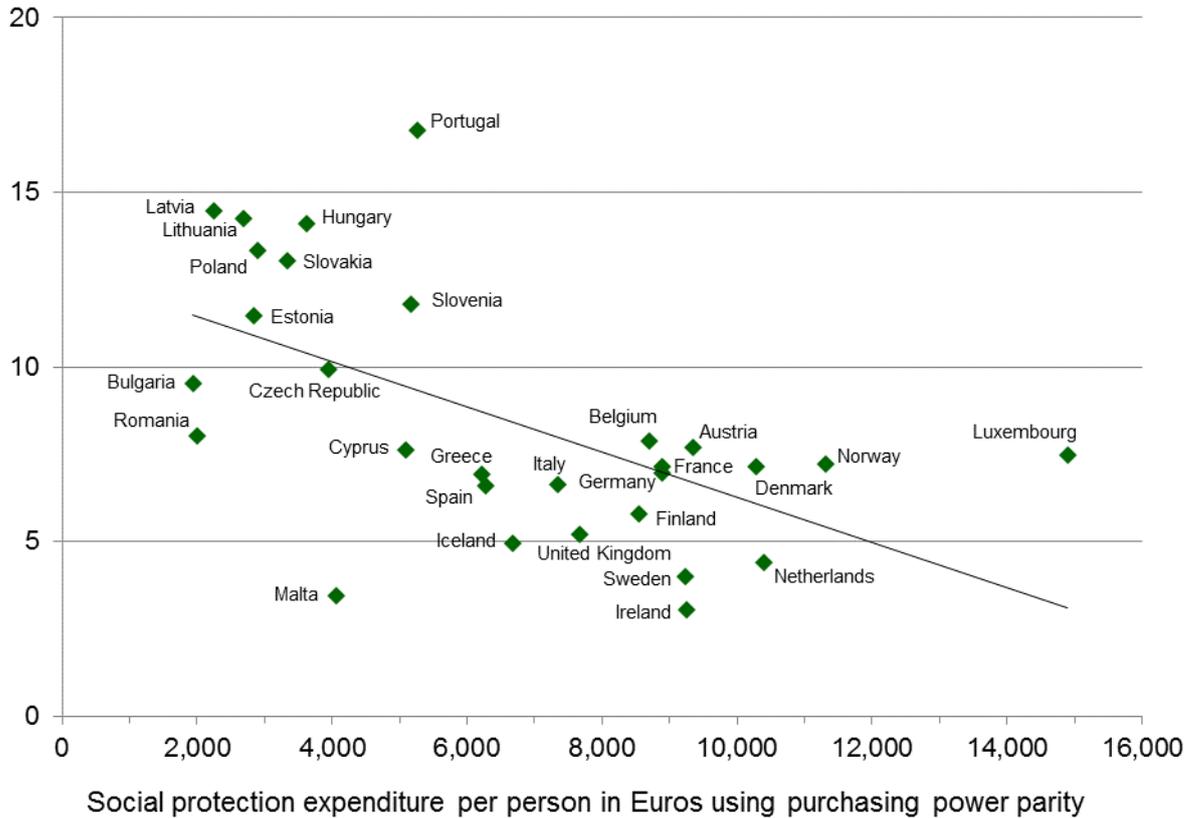
There are wide inequalities across Europe in the social determinants of health. These have recently been reviewed for the WHO European region (16). In this report, a brief summary is provided of how key results from that review can be applied to, and further developed in, the context of the EU and the European health programme countries. This summary is complemented by an analysis of three indicators of socio-economic position (income, material assets and education), which are then considered in a more detailed analysis of the relationship between health and individual social characteristics. To maximise comparability, this analysis is restricted to these indicators as they are held at individual level by Eurostat — which makes extensive efforts to ensure that countries follow its recommended definitions, survey methods and estimation procedures. The two principal sources used in the analysis are EU-SILC microdata and the Eurostat database (mortality, public health and national accounts sections).

3.3.1. Social protection and health

Analysis of EU-SILC 2010 shows a strong association between social protection expenditure per capita and the proportion of the population reporting bad health (Figure 3.3). Those countries with lower social protection tend also to have higher rates of bad or very bad health. An analysis of EU-SILC data by van der Wel et al. (37) showed that spending on welfare has different impacts on groups depending on their educational level. In their analysis, higher levels of welfare spending benefited all groups, but the effect was greatest among those with only primary level education, and least among those with tertiary level.

Figure 3.3. Percentage of the population aged 16 and over reporting bad or very bad health in EU-SILC by social protection expenditure per person in EUR purchasing power parity, 2010

Per cent of population aged 16+ in bad or very bad health



The purchasing power standard (PPS) is an artificial currency unit. Theoretically, one PPS can buy the same amount of goods and services in each country. However, price differences across borders mean that different amounts of national currency units are needed for the same goods and services depending on the country (Eurostat definition).

Sources: Calculated from Eurostat database, [hlth_silc_01](#) (21) and [spr_exp_sum](#) (38), last accessed 21 February 2013.

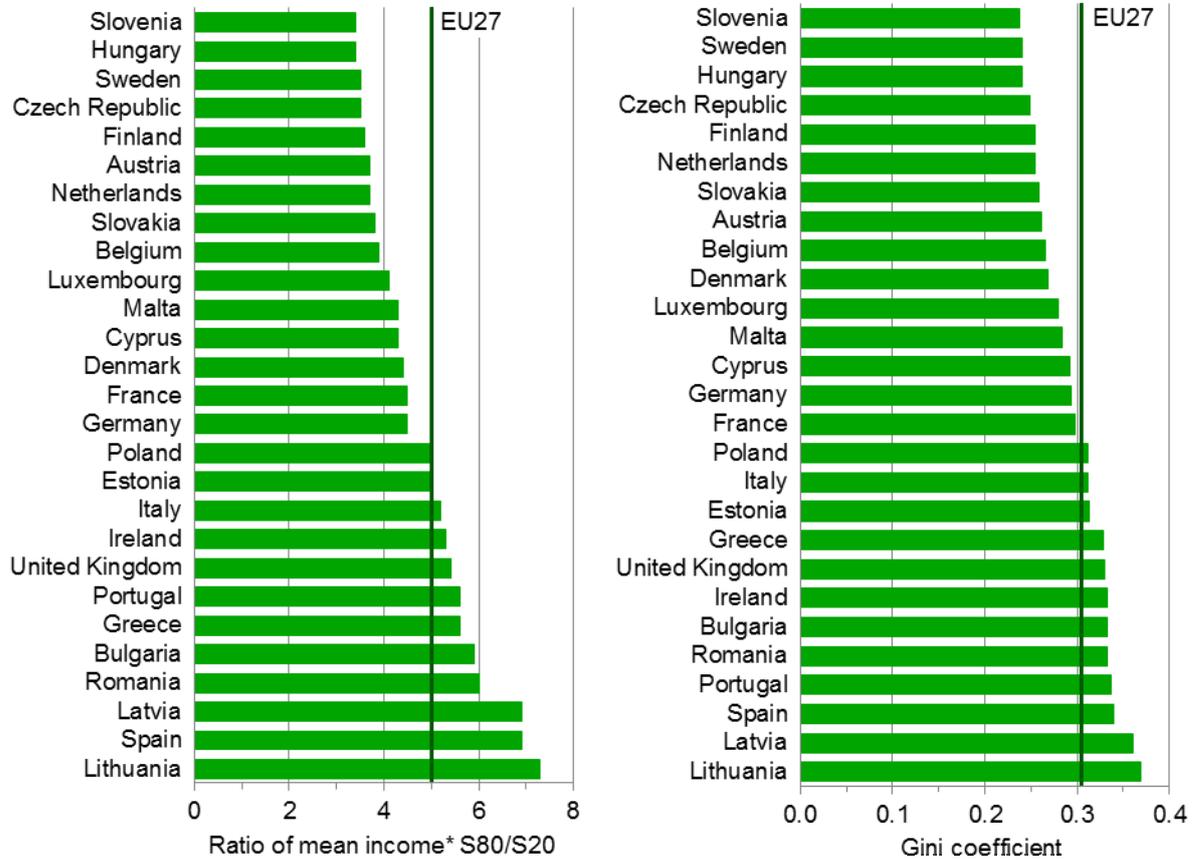
3.3.2. Income

Figure 3.4 shows the variability in income ratios across the EU, comparing the top and bottom 20 % of the income distribution, and also shows the breadth of income distribution using the Gini coefficient, described in Section 2. In both cases, income inequality was least in Hungary, Slovenia and Sweden and greatest in Latvia, Lithuania and Spain.

Figure 3.4. Inequality of income distribution in EU Member States, 2010

(a) Ratio of mean income (*) in top (S80) and bottom (S20) income quintiles

(b) Gini coefficient



(*) Equivalised disposable income (equivalised income is a measure of household income that takes account of the differences in a household's size and composition).

Other countries participating in the EU health programme:

- ratio S80/S20: Iceland (3.6), Norway (3.4), Croatia (5.6);
- Gini coefficient: Iceland (0.26), Norway (0.24), Croatia (0.32).

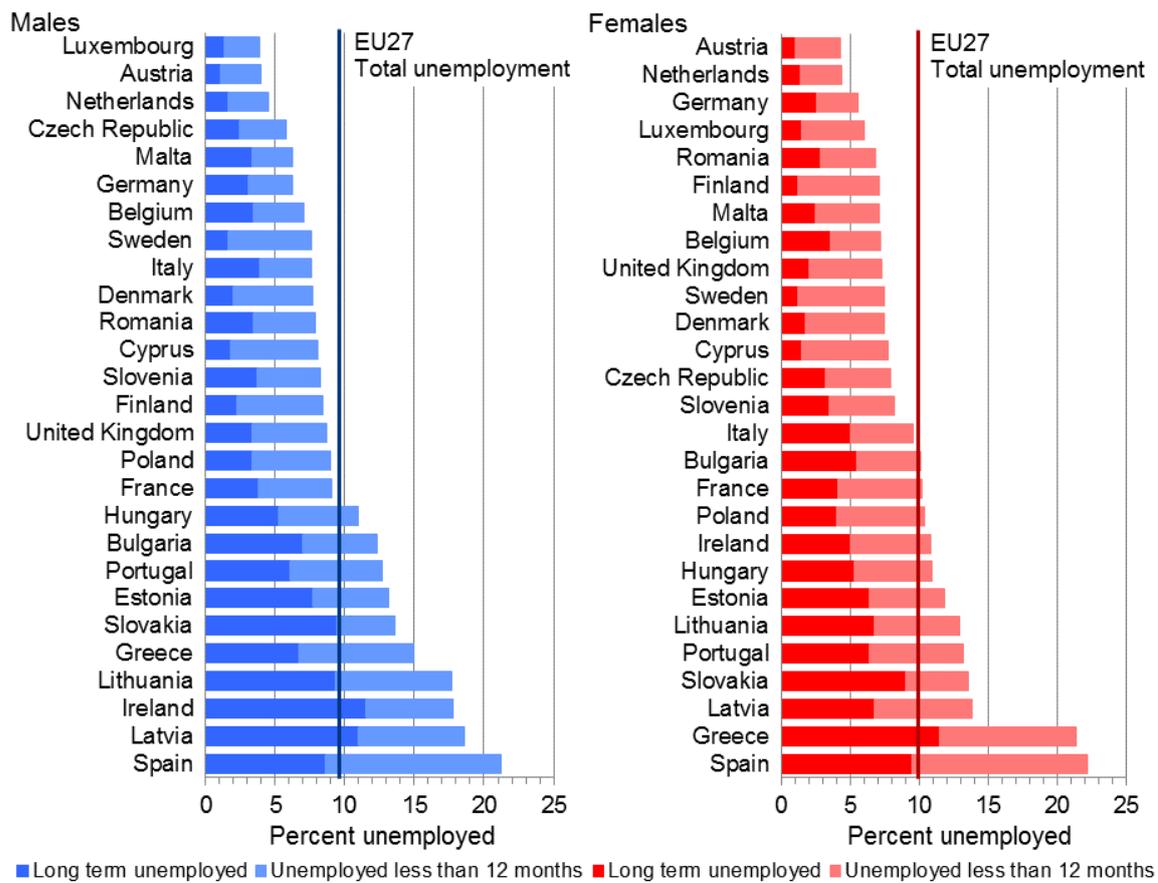
Sources: Eurostat database, [ilc_di11](#) (39) and [ilc_di12](#) (40), last accessed 5 December 2012.

There are also wide inequalities across EU Member States in levels of income and material deprivation. Average disposable income across the EU as a whole was around 14 800 in 2010, as measured by purchasing power standard (details can be found in Annex 2). In Bulgaria and Romania, disposable income was only 4 300 and 6 300 respectively, but in Germany and Austria the respective figures are 18 300 and 19 100.

3.3.3. Unemployment

Unemployment statistics for 2011 illustrate how long-term unemployment rates differ substantially across the EU (Figure 3.5). In Latvia, Ireland, Greece, Spain and Slovakia, over 8 % of the economically active population has been unemployed for more than 12 months. The average across the whole EU was 4.1 %, while Austria, Sweden, Luxembourg and the Netherlands all have long-term unemployment rates of less than 1.5 %.

Figure 3.5. Unemployment rates by duration in EU Member States, 2011, by sex



EU Member States are ranked by sex-specific total unemployment. Other countries participating in the EU health programme — long-term unemployed (unemployed less than 12 months):

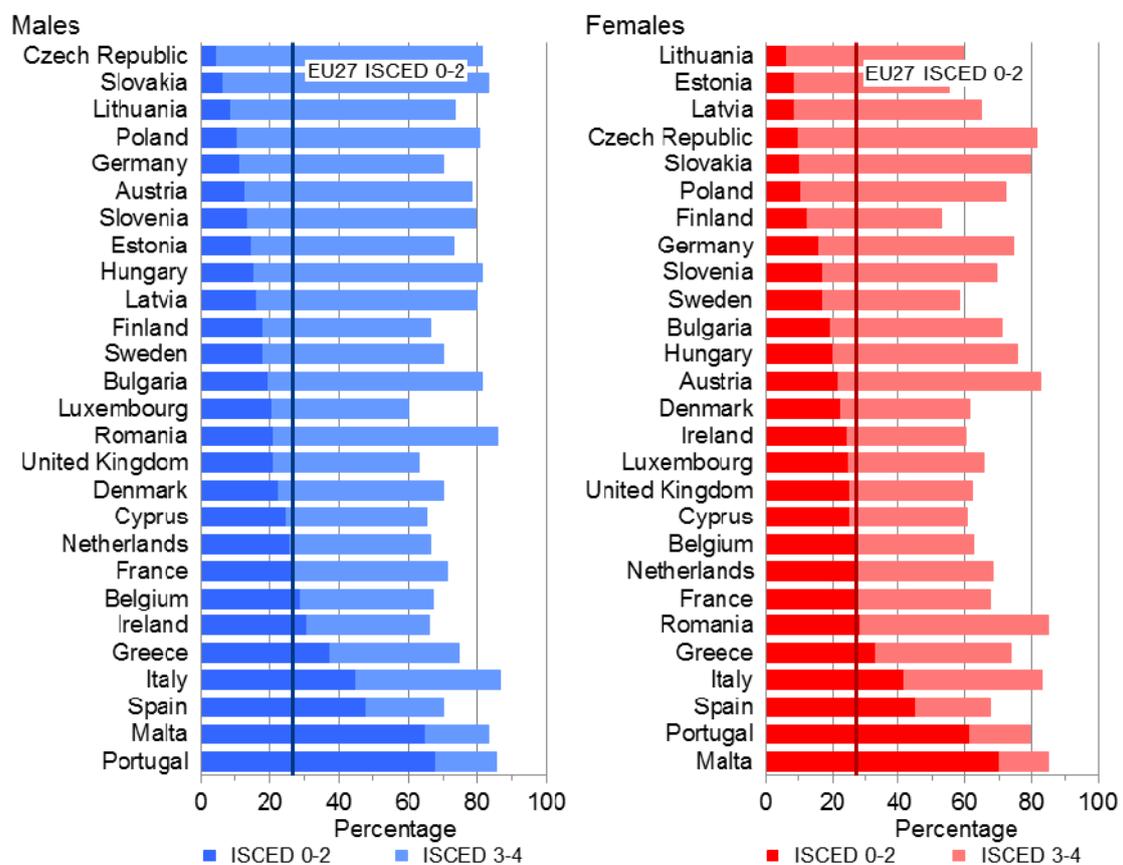
- males: Iceland 1.7 (6.1), Norway 0.9 (2.6), Croatia 8.6 (5.2);
- females: Iceland 1.6 (4.6), Norway 0.7 (2.4), Croatia 8.6 (4.6).

Source: Eurostat database, [une_rt_a](#) (41) and [une_ltu_a](#) (42), last accessed 4 December 2012.

3.3.4. Educational level

Levels of education are coded using the International Standard Classification of Education (ISCED). In order to exclude individuals who have not yet completed their education, the analysis is restricted to the population aged 25 or more. Sizeable variations in basic levels of education exist in Europe (Figure 3.6). The percentage with only lower secondary education or lower varied from over two thirds of both men and women in Malta and Portugal to less than 10 % of men in the Czech Republic and Slovakia.

Figure 3.6. Age-standardised percentage of people aged 25–64 with less than tertiary (university-level) education, EU Member States 2011 by sex



Member States are ranked by sex-specific ISCED (International Standard Classification of Education) level 0–2 (ISCED 0–2 — pre-primary, primary and lower secondary education; ISCED 3–4 — upper secondary and post-secondary non-tertiary education).

Other countries participating in the EU health programme — ISCED 0–2 (ISCED 3–4):

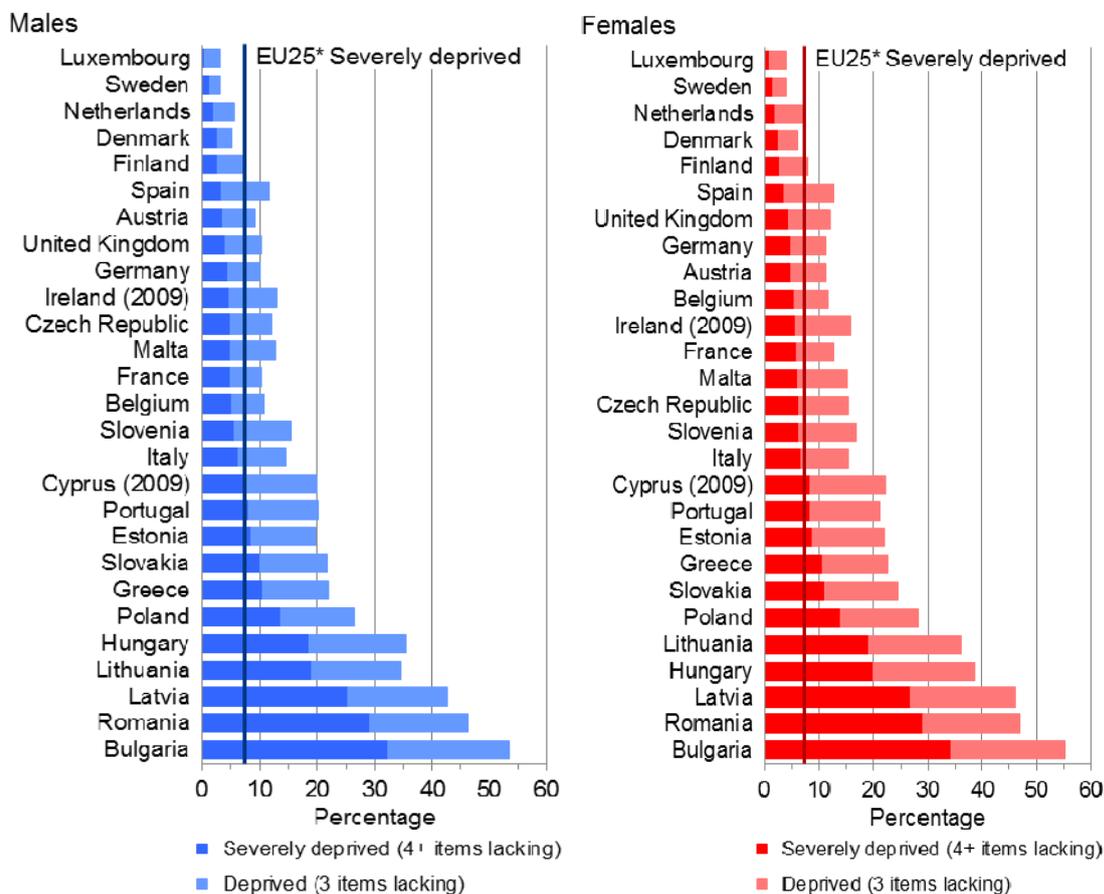
- males: Iceland 27.0 (44.8), Norway 18.9 (47.6), Croatia 16.9 (66.8);
- females: Iceland 31.4 (28.8), Norway 18.5 (39.1), Croatia 23.9 (55.3).

Source: Calculated from Eurostat database, [lfse_05](#) (43) and [lfse_06](#) (44), last accessed 4 December 2012.

3.3.5. Material deprivation

Material deprivation — as gauged by the EC’s indicator of ability to afford nine items — also varies between Member States. These variations are illustrated in Figure 3.7, which also lists the nine items. The proportion of adults who are severely deprived (cannot afford four or more items) ranges from 34 % in Bulgaria and 27 % in Latvia to less than 2 % in five countries (Iceland, Luxembourg, the Netherlands, Norway and Sweden). In addition to the latter countries, fewer than 10 % of adults in Austria and Finland live in households deprived of three or more items. In contrast, deprivation reaches over 30 % in Lithuania and Hungary and over 45 % in Latvia, Romania and Bulgaria.

Figure 3.7. Age-standardised percentage of people aged 25 and over by severity of material deprivation, EU Member States, 2010, by sex



(*) Excludes Cyprus and Ireland.

Member States are ranked by sex-specific severe deprivation.

The household material deprivation indicator used here is that employed by the European Commission. It is constructed from responses to questions on the ability to afford: (i) to pay rent or utility bills; (ii) to keep the home adequately warm; (iii) to face unexpected expenses; (iv) to eat meat, fish or a protein equivalent every second day; (v) a week’s holiday away from home; (vi) a car; (vii) a washing machine; (viii) a colour TV; (ix) a telephone.

Deprived households: cannot afford three or more of the nine items.

Severely deprived households: cannot afford four or more of the nine items.

Other countries participating in the EU health programme — severely deprived (deprived):

- males: Iceland 1.5 (3.6), Norway 1.8 (2.2);
- females: Iceland 1.8 (5.0), Norway 1.8 (3.2).

Sources: Calculated from EU-SILC microdata (45) and Eurostat 2012 (46).



3.3.6. Lifestyles and behaviours

Many health outcomes are influenced by factors related to lifestyle and behaviour. These include cigarette smoking, patterns of alcohol consumption and the relationship between patterns of food consumption and energy expended. These behaviours are influenced by social determinants through factors such as the control that people have over their daily lives (47). In many countries, as these behaviours are established they are initially seen as a luxury and are more common among the more affluent. However, as potential harmful effects are publicised, the social distribution shifts. Behaviour patterns in individual European Member States will to some extent reflect where they have reached in this transition.

3.3.6.1. Smoking

Figure 3.8 shows levels of cigarette smoking among 15-year-olds and among adults in EU Member States. Among male adults, daily smoking varied from about 13 % in Sweden to 46 % in Latvia and, for females, the corresponding lowest and highest figures were 9 % in Romania and 27 % in Ireland. Apart from boys in the United Kingdom, at least 10 % of 15-year-old boys and girls in every EU Member State reported that they smoked every week. In several Member States this figure rises to over 25 %: for both sexes in Austria and Hungary; for boys only in Romania, Latvia and Lithuania; and for girls only in Spain and the Czech Republic (Figure 3.8).

Figure 3.8(a). Percentage of 15-year-old males who smoke weekly and males aged 15 and over who smoke every day, EU Member States, 2010 or latest available

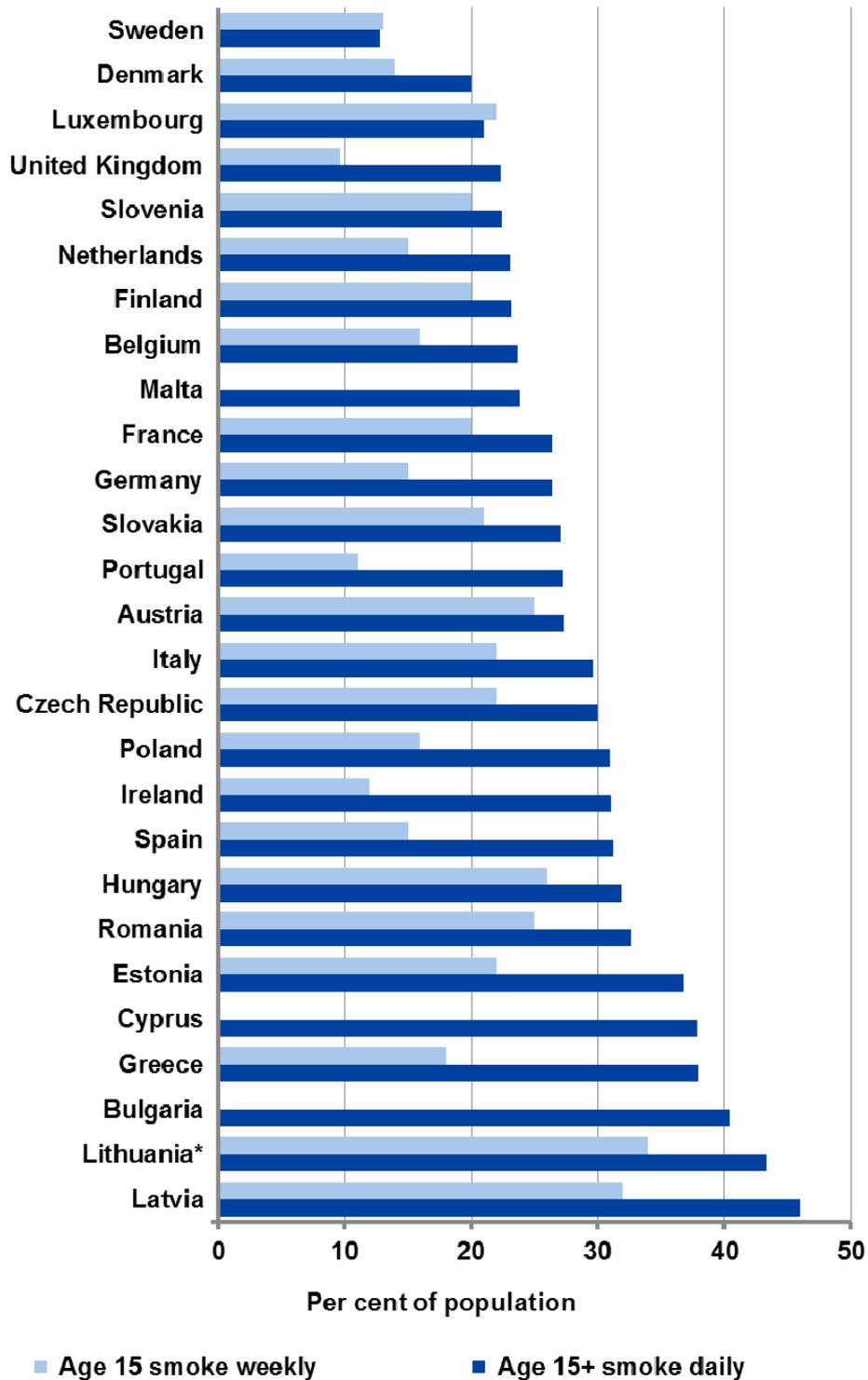
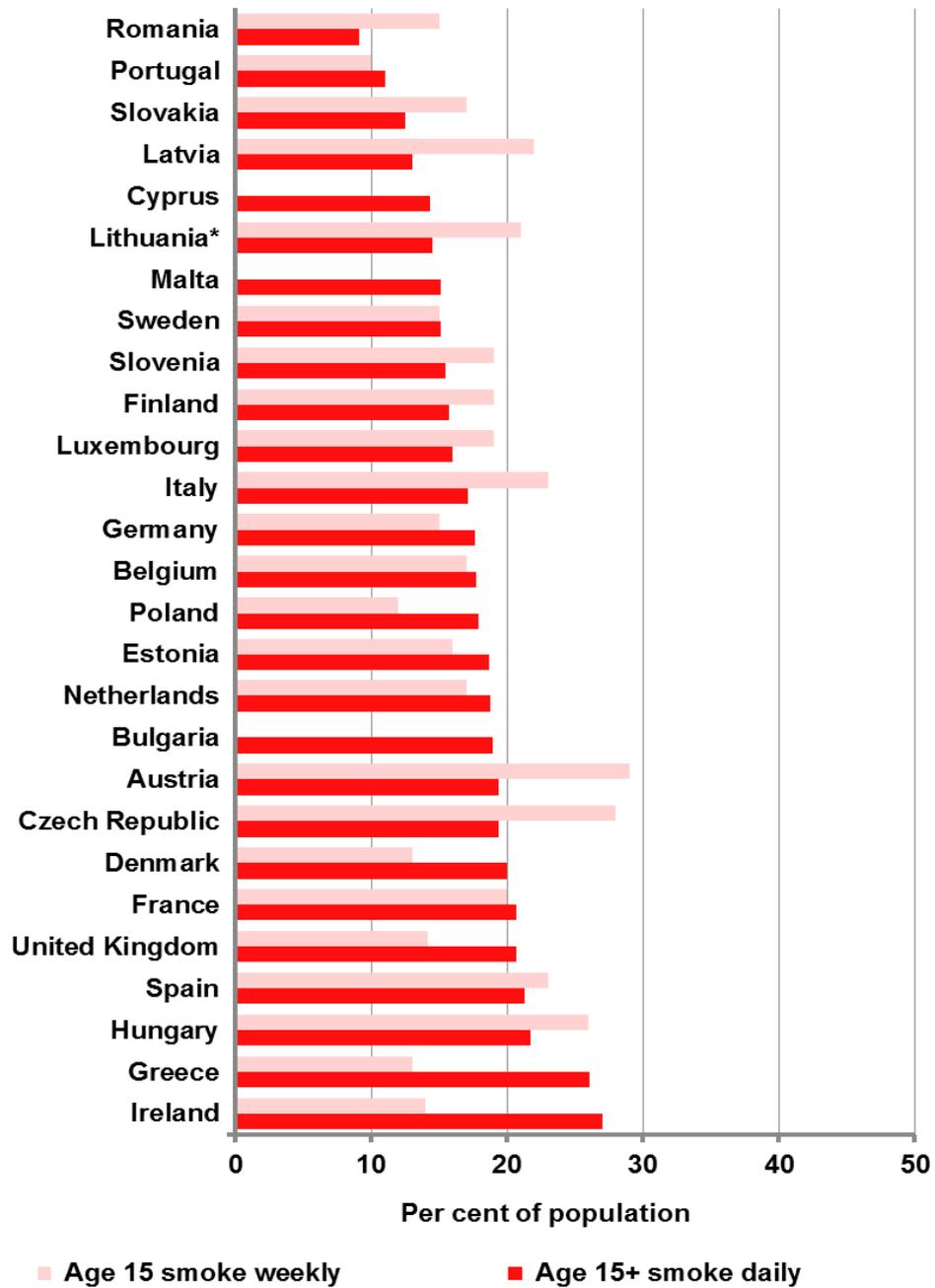


Figure 3.8(b). Percentage of 15-year-old females who smoke weekly and females aged 15 and over who smoke every day, EU Member States, 2010 or latest available



Estimates for the 15 + populations are not age standardised; age-standardised estimates for selected Member States are presented in Annex 2.

(*) Lithuania figures for adults are for ages 20–64 (not age standardised).

Age 15 — all data are for 2009–10.

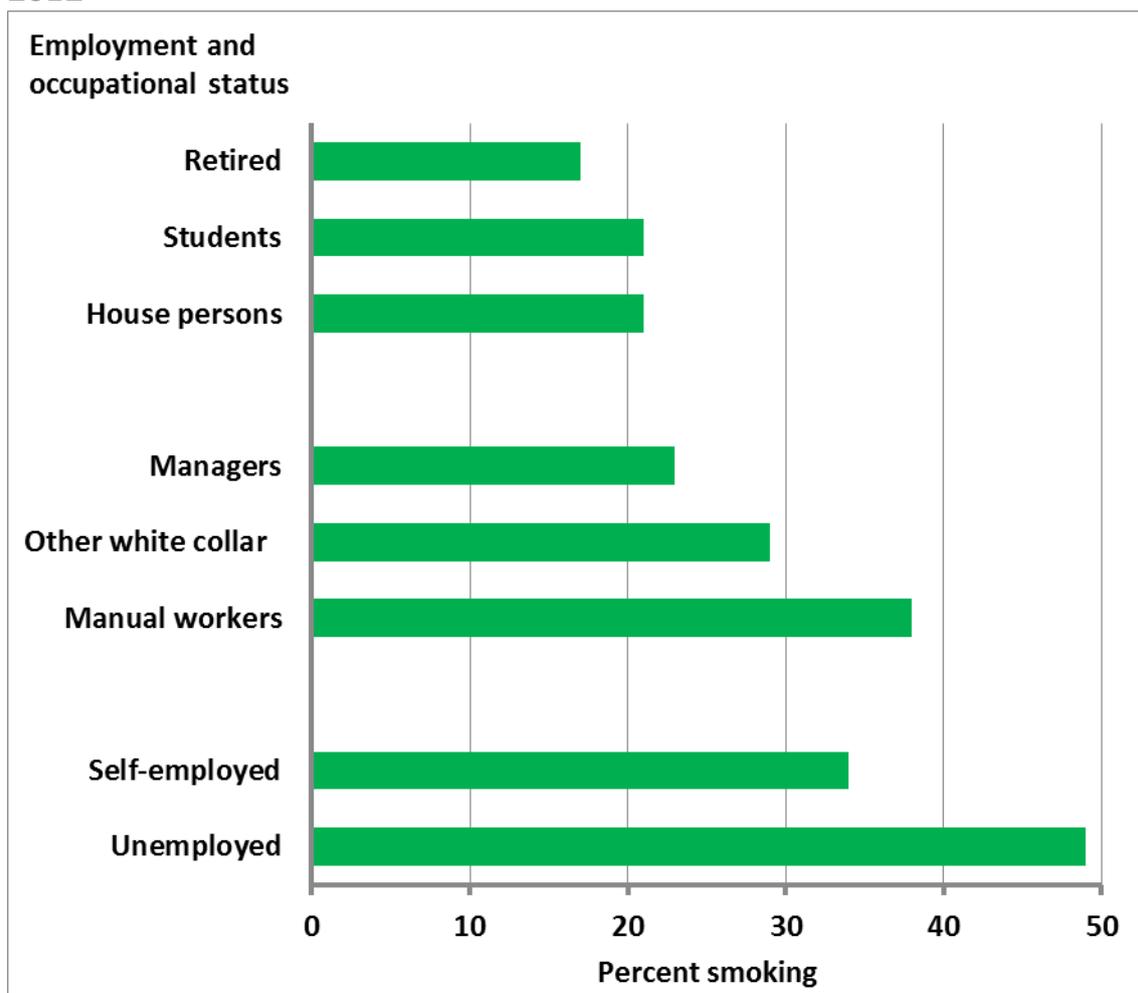
Adults — data are for various years between 2006 and 2010 (see Annex 2 for details).

Source: OECD 2012 (48), Figures 2.1.1 and 2.5.2.

Interpreting current levels of smoking, both in terms of likely future trends and health effects, requires a more detailed understanding of past trends in different age cohorts in each country. The socio-economic profile of smokers differs between the sexes in many countries — often reflecting different stages in the smoking epidemic. Countries with low smoking rates among women often have a higher prevalence among more affluent women. In contrast, in countries in which a large percentage of men smoke, the highest proportions of smokers are often found in those groups that are the most disadvantaged. A number of recent papers have looked at emerging patterns across Europe (49–53). Their results are discussed in Section 3.7.

Figure 3.9 shows the distribution of smoking in the EU by employment and occupational status in 2012. There was a social gradient by occupation among employees, while those who were unemployed had the highest smoking levels, perhaps indicative of levels of stress and loss of control experienced by unemployment.

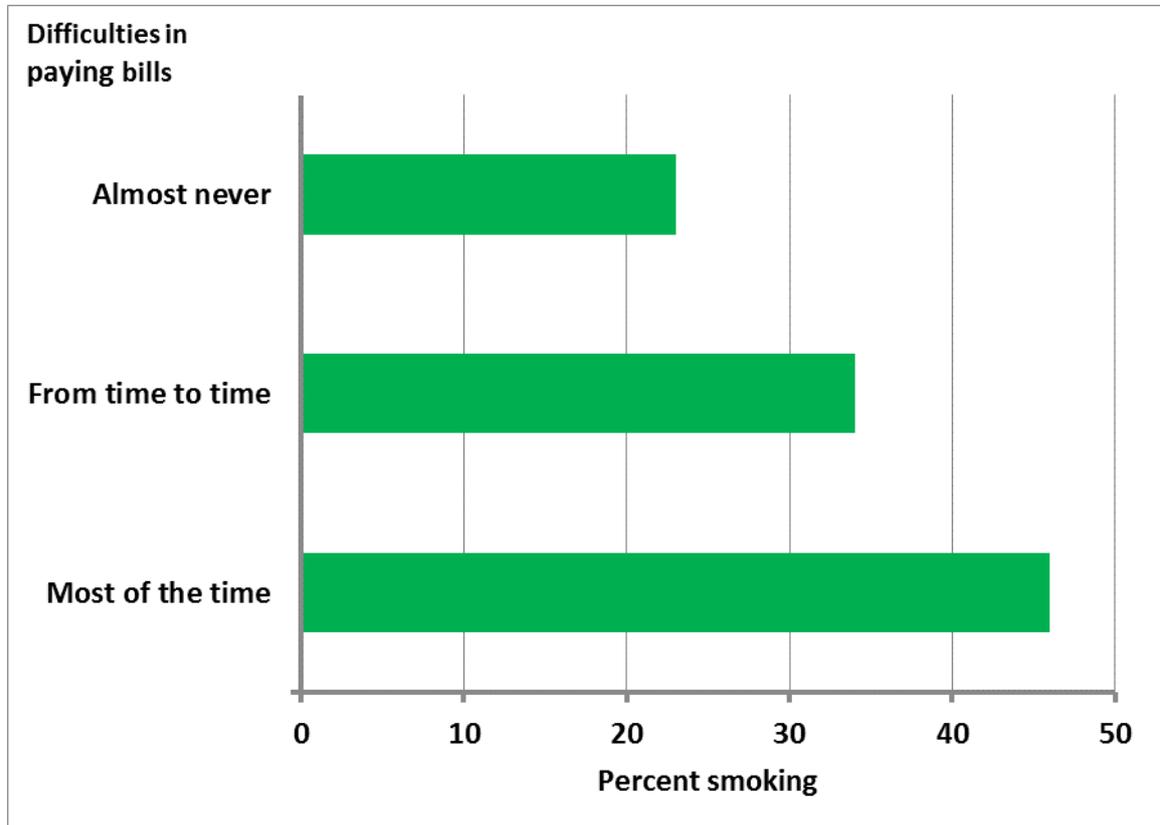
Figure 3.9. Percentage smoking by employment and occupational status, 2012



Source: 'Attitudes of Europeans towards tobacco', *Special Eurobarometer 385*, 2012 (54).

The potential role of levels of stress and loss of control is further illustrated by comparing smoking levels to difficulties in paying bills (Figure 3.10).

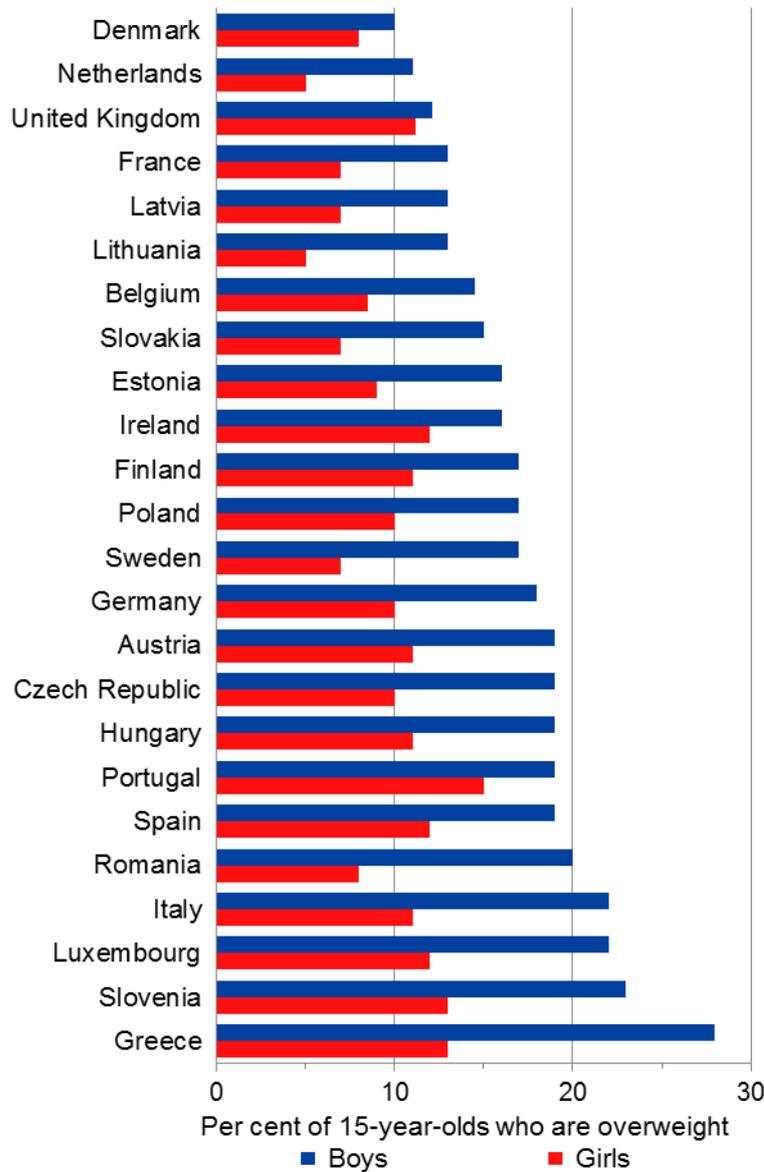
Figure 3.10. Percentage smoking by difficulties experienced in paying bills, 2012



Source: 'Attitudes of Europeans towards tobacco', *Special Eurobarometer 385*, 2012 (54).

Figure 3.11 shows the extent to which 15-year-olds were overweight (including obese) in 2009–10. The percentage of boys who were overweight varied from 10 % in Denmark to 28 % in Greece. In all EU Member States, girls were less likely to be overweight than boys but, other than this, there was no clear relationship between the percentage of boys and girls who were overweight in each Member State. Being overweight was least common among girls in the Netherlands — 5 % — and most common in Portugal — 15 %.

Figure 3.11. Percentage of 15-year-olds who were overweight in 2009–10, EU Member States by sex



Member States are ranked by the percentage of boys who are overweight.

Data are not available for Bulgaria, Cyprus and Malta.

Consistent data for adults are not available; age-standardised percentages of adults who are overweight and obese in selected EU Member States are presented in Annex 2.

Source: OECD (2012)(48), Figures 2.2.1.



3.4. Social differences in individual health

To examine the extent of social differences in individual health across the EU, two analyses are presented in this report. The first is based on the responses to the EU-SILC self-perceived health status questions that enquire about general health and long-standing illnesses (see Annex 1). The second is based on Member States for which mortality data are available by educational level.

3.4.1. Self-perceived health

Questions about general health and long-standing illnesses in EU-SILC represent the outcome of many years of refinement, and cross-country validation of the measures.

To complement the harmonisation of questions, any analysis of self-reported health needs to attempt to adjust for cultural differences in people's propensity to report perceived long-standing illnesses or poor health. This is partly addressed in a multivariate analysis by introducing indicators to control for variation at the national level. It is possible, however, that cultural differences in attitudes to health also exist by socio-economic status within countries. A second limitation of the data source is that it excludes the institutional population of most countries.

The single-year analyses, presented here, are derived from the EU-SILC microdata for 2010, which contains information for 25 EU Member States, Iceland and Norway. Cyprus and Ireland did not submit survey files in time for the 2010 microdata distribution. The brief investigation of time trends covers the 24 EU Member States that provided data in every year from 2007 to 2010, and thus excludes Cyprus, Ireland and Malta. Additional results, including those for all 27 EU Member States derived from EU-SILC 2009, are given in Annex 2.

3.4.2. Socio-economic gradients in self-perceived health

The 2010 results show that whichever indicator of socio-economic status is considered — education, income or material deprivation — reporting of poor or very poor general health and long-standing health problems tends to be infrequent in the most advantaged group and increasingly common as disadvantage worsens. A clearer indication of the gradients for the different groups is provided by the slope index of inequality (SII).

Slope index of inequality (SII)

Like the Gini coefficient, the slope index of inequality takes account of the health status in all population groups in the distribution. The SII, however, also incorporates a third dimension, which is usually a measure of socio-economic position. Thus, the SII provides a summary estimate of the difference between the best and worst off. The estimated slope is given in units of the health outcome being assessed, e.g. years of life expectancy or percentage with a long-standing illness (see Box 3.1).

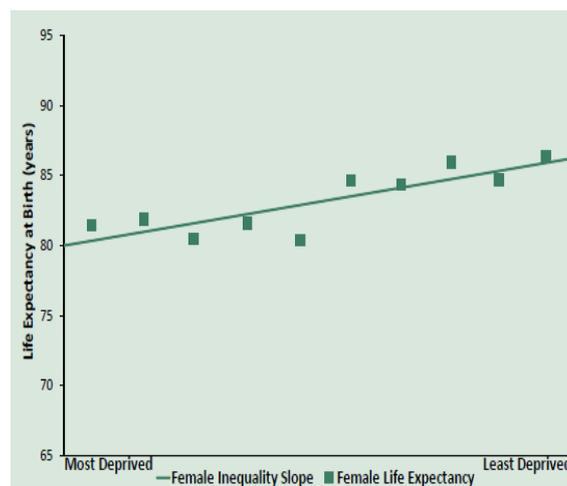
Box 3.1. The slope index of inequality and the relative index of inequality

Slope index of inequality (SII)

The SII is a single score representing the inequality gap between the most deprived and the least deprived in the population. It can be calculated for any measure of deprivation that can be ranked, such as level of education or income.

In the example illustrated, which is a district of London, a composite index of deprivation is used. The population is divided into 10 groups, with the most deprived 10th in the first group, the second most deprived 10th in the second group and so on, with the least deprived 10th in the top group. The health outcome of interest — in this case life expectancy at birth — is then calculated for each of these 10 groups.

The most deprived 10th will usually have a lower life expectancy than the least deprived 10th. So, when the life expectancies of each of these groups are plotted in decreasing order of deprivation, it is likely that there will be an upward slope. A line of best fit is then calculated and added to the graph of the 10 points. The two end-points of this line are estimates of the life expectancy of the most deprived and of the least deprived members of the population and the gap between these life expectancies is the SII in life expectancy. The larger the gap between the most and the least deprived, the bigger the number and the steeper the SII.



Source: English Public Health Observatories, health profiles 2012, Camden (55).

In the example, the estimated life expectancy of the most deprived females — the left end of the fitted line — is 80.0 years, and the life expectancy of the least deprived — the right end of the fitted line — is 86.2 years. The SII for females is the gap between these two figures, which is 6.2 years. The SII for males is larger — 11.6 years (see Camden (55) p. 2).

Relative index of inequality (RII)

The SII is a measure of absolute differences in health status. In some circumstances, such as when looking at trends over time, it may be more useful to consider how the relative position of socio-economic groups has changed. For example, if life expectancy increases for everyone by 10 years, there will be no change in absolute levels of inequality between groups. Because the scale the inequality is measured on has changed however, the relative position of the groups will not be the same. This can be indicated by a relative measure of inequality, such as the RII. The RIIs in this report were calculated by dividing the SII by the average level of health across all groups.

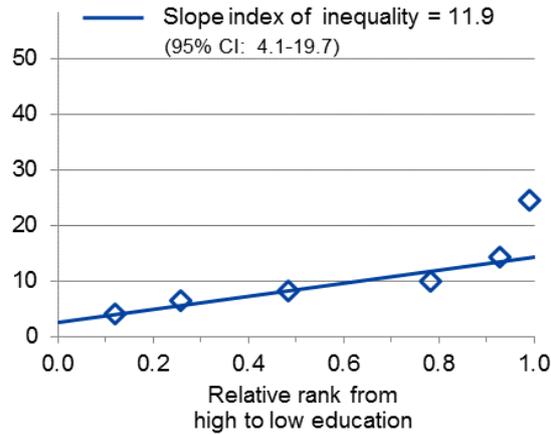
Figure 3.12. Slope indices of inequality for age-standardised percentages of the population aged 25 and over with poor or very poor general health by three indicators of socio-economic status, 25 EU Member States, 2010, by sex

Males

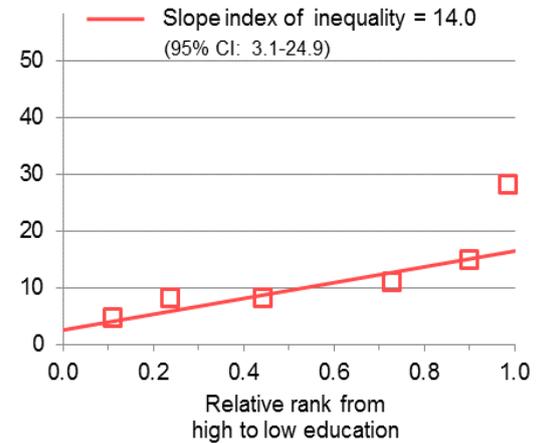
Females

(i) Education

% With poor or very poor general health

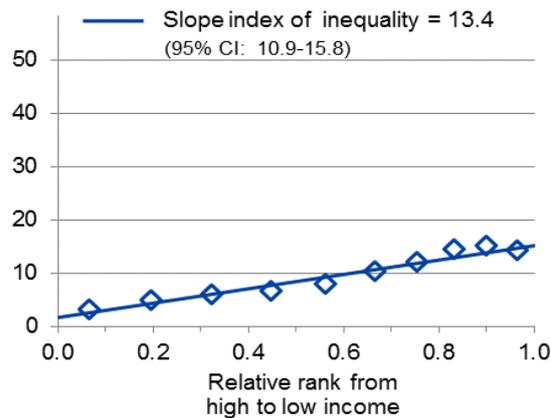


% With poor or very poor general health

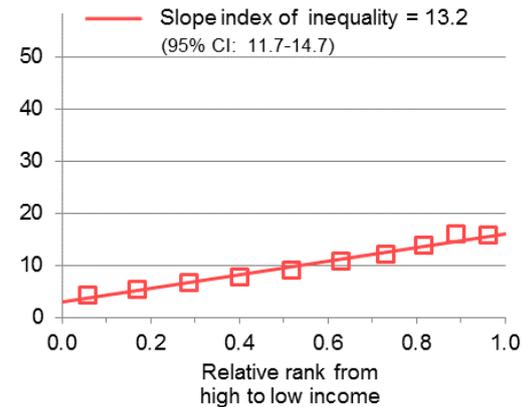


(ii) Income (*)

% With poor or very poor general health

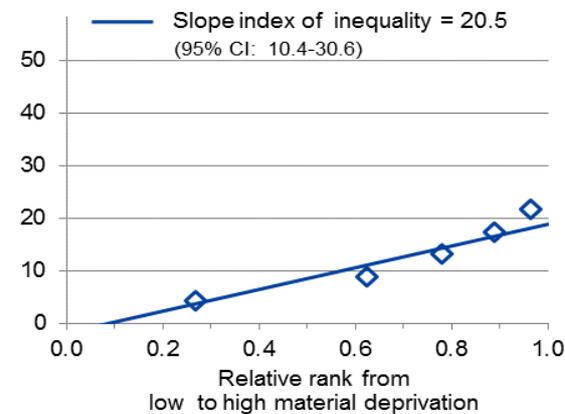


% With poor or very poor general health

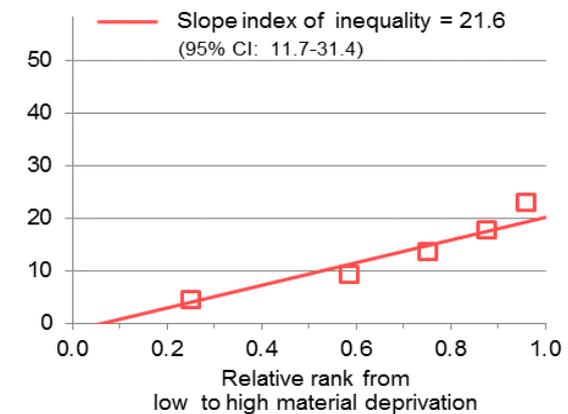


(iii) Material deprivation

% With poor or very poor general health



% With poor or very poor general health



(*) purchasing power standard.

Data points: ◆ — Males □ — Females

CI: confidence interval.

Source: Calculated from EU-SILC microdata (45).

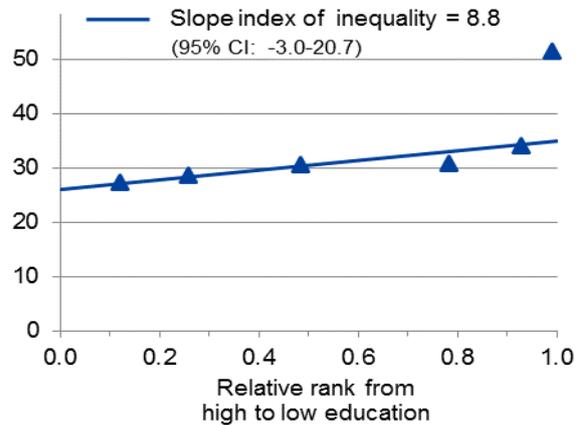
Figure 3.13. Slope indices of inequality for age-standardised percentages of the population aged 25 and over with a long-standing illness and three indicators of socio-economic status, 25 EU Member States, 2010, by sex

Males

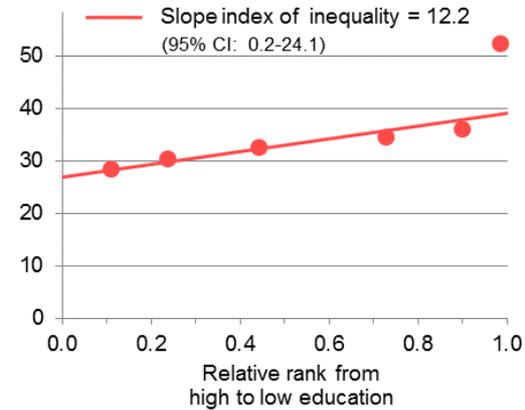
Females

(i) Education

% With a long-standing illness

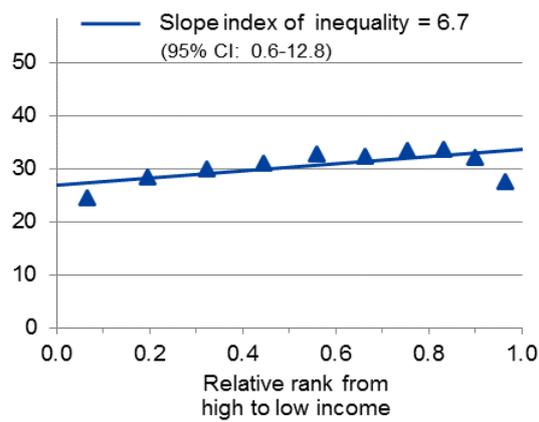


% With a long-standing illness

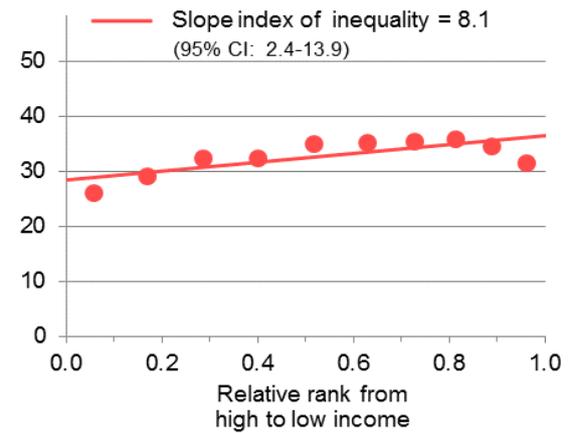


(ii) Income (*)

% With a long-standing illness

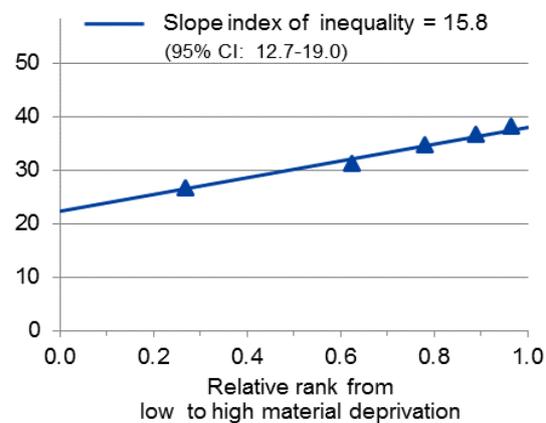


% With a long-standing illness

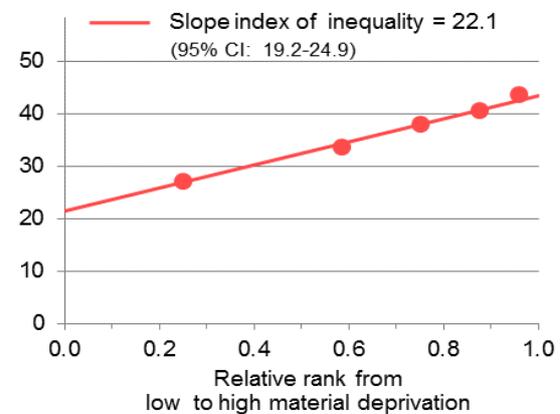


(iii) Material deprivation

% With a long-standing illness



% With a long-standing illness



(*) purchasing power standard

Data points: ▲ — Males ● — Females

CI: confidence interval.

Source: Calculated from EU-SILC microdata (45).



Figures 3.12 and 3.13 show the SII results for poor or very poor general health and long-standing illness, respectively. The steepest gradients, and more linear relationships, are those between material deprivation and adverse health outcomes. For example, the SII for material deprivation and poor or very poor general health for women in the EU indicates that, when measured across the five deprivation groups, the difference in poor or very poor general health associated with material deprivation was 21.6 percentage points. Similarly, amongst EU men, the difference in poor or very poor general health associated with material deprivation was 20.5 percentage points.

The results suggest that education is a less powerful predictor of adverse health outcomes than material deprivation. They also emphasise the poor health of people who had received no education or only pre-primary education (Figures 3.14 and 3.15). The proportion of the population in this group was very small and it is probable that some of the individuals had medical conditions originating in early childhood that affected their school attendance. The differences in poor or very poor general health across the education strata are 11.9 and 14.0 percentage points for men and women respectively. The corresponding figure for long-standing illness for women was 12.2 percentage points, but the equivalent result of 8.8 percentage points for men was not statistically significant.

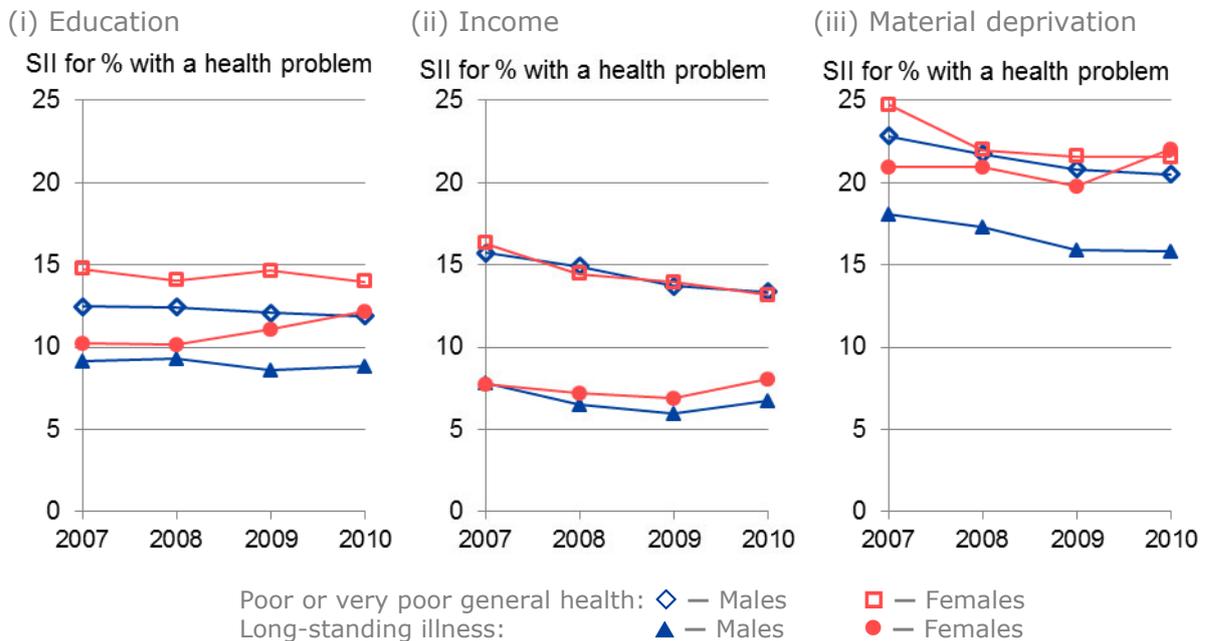
The SII results for income are statistically significant for both health outcomes. The male and female gradients are more similar than those for education and material deprivation — about 13 percentage points for poor or very poor general health and 7–8 percentage points for long-standing illness.

The proportions of people reporting poor or very poor general health are smaller than the proportions who say that they have a long-standing illness or that they are limited in their daily activities (Annex 2). However, the gradients of the SII results for general health are steeper than those for long-standing illness.

The SII results for the EU Member States plus Iceland and Norway are almost identical to those for the EU (Annex 2). This reflects the very small populations of the two non-EU countries and patterns in these countries exert limited effect on the combined results.

The SII results for 24 EU Member States for the 4 years 2007–10 are summarised in Figure 3.14. The results show annual fluctuations that are consistent with estimates derived from small sample surveys. A hint of a positive development is the downward trend in income inequalities in poor or very poor health (SII figures of about 16 in 2007 and about 13 in 2010). Less weight should be attached to the material deprivation results because the EU-SILC material deprivation questions were only fully harmonised in the 2008 survey. Overall, however, there is no robust evidence of either a reduction or an increase in socio-economic inequalities in self-perceived health status during the short time period under consideration.

Figure 3.14. Trends in slope indices of inequality for self-perceived health problems and indicators of socio-economic status by sex, 2007–10



Source: Calculated from EU-SILC microdata (45).

3.4.3. Interrelationship between indicators of deprivation and self-perceived health

It is highly likely that at least part of the explanation for the health disadvantage of people in deprived households is that they have low incomes. Low incomes may themselves be a consequence of limited education. In this kind of situation, the socio-economic explanatory factors are said to be confounded with each other. The extent to which the socio-economic measures exert independent effects or are confounded with each other is assessed using a multivariate analysis.

Multivariate models reveal the effect of education, for example, both before and after controlling or adjusting for other factors. In the multivariate models in Table 3.1, the baseline (1.0) for each of the three indicators of socio-economic status is the most advantaged group, that is people with university-level education (ISCED 5 or 6), people whose net income is in the highest decile of EU incomes or people who live in households that could afford all nine items included in the material deprivation indicator.

Table 3.1. Estimated odds of reporting poor or very poor general health and long-standing illness, by socio-economic characteristics, 25 EU Member States (*), 2010

| Number of socio-economic characteristics adjusted for | Poor or very poor general health | | Long-standing illness | |
|-------------------------------------------------------|----------------------------------|------------|-----------------------|--------------|
| | One | All three | One | All three |
| | Odds ratio | Odds ratio | Odds ratio | Odds ratio |
| Education (ISCED) | | | | |
| Tertiary (5 & 6) — baseline | 1.0 | 1.0 | 1.0 | 1.0 |
| Post-secondary, non-tertiary (4) | 1.4 | 1.1 | 1.1 |] 3 & 4 1.05 |
| Upper secondary (3) | 1.8 | 1.4 | 1.2 | |
| Lower secondary (2) | 2.8 | 1.8 | 1.5 | 1.1 |
| Primary (1) | 3.8 | 2.1 | 1.7 | 1.2 |
| No education or pre-primary (0) | 7.7 | 3.5 | 3.1 | 2.0 |
| Income | | | | |
| Highest decile — baseline | 1.0 | 1.0 | 1.0 | 1.0 |
| 9th decile | 1.5 |] 5-9 1.3 | 1.3 | 1.2 |
| 8th decile | 1.9 | | 1.5 |] 7-8 1.26 |
| 7th decile | 2.1 | | 1.5 | |
| 6th decile | 2.5 |] 1-4 1.4 | 1.8 | 1.32 |
| 5th decile | 3.1 | | 1.8 |] 2-5 1.26 |
| 4th decile | 3.5 | | 2.0 | |
| 3rd decile | 4.3 | 2.2 | 2.2 | |
| 2nd decile | 5.2 | 2.3 | 2.3 | |
| Lowest decile | 6.1 | 2.3 | 2.3 | 1.12 |
| Material deprivation | | | | |
| 0 items — baseline | 1.0 | 1.0 | 1.0 | 1.0 |
| 1 item | 2.1 | 1.8 | 1.5 | 1.4 |
| 2 items | 3.4 | 2.8 | 1.9 | 1.7 |
| 3 items | 4.8 | 3.9 | 2.3 | 2.1 |
| 4 + items | 7.2 | 5.5 | 2.9 | 2.6 |

(*) EU-SILC microdata for Cyprus and Ireland were not available at the time the analysis was conducted.

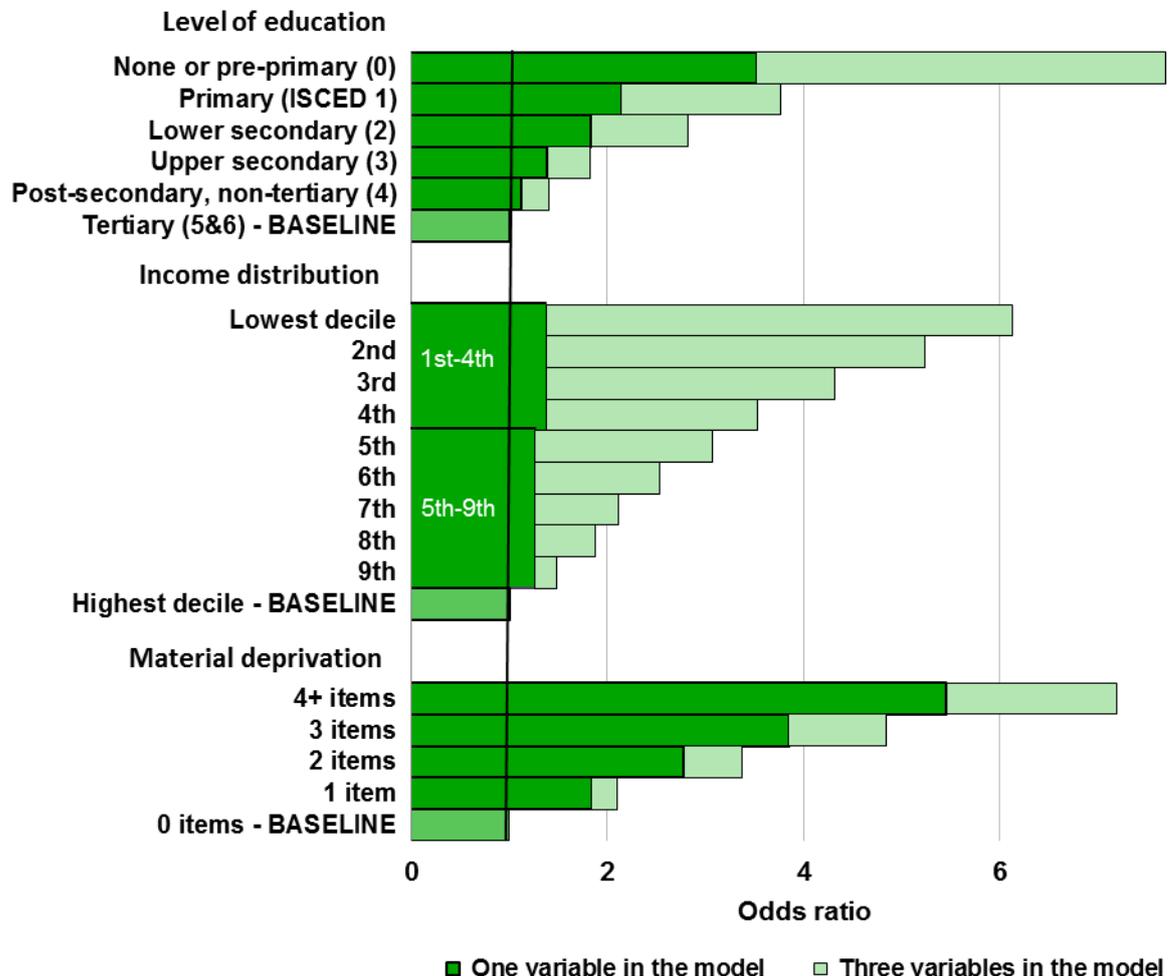
All estimates are adjusted for age, sex and country.

All estimates are significantly different (at the 5 % level) from the adjacent estimate in the same model.

Source: Calculated from EU-SILC microdata (45).

The tendencies of the more disadvantaged groups to report adverse health outcomes are given as odds ratios. Thus, for example, before controlling for other socio-economic factors, the odds of people with only primary education (ISCED 1) describing their general health as poor or very poor are nearly four times (3.8) those of people with university education (fifth and first figures in the first column of Table 3.1 and Figure 3.15). After adjusting for both income and material deprivation, the relative odds of poor general health among people with primary education compared with those with university education are somewhat lower — only 2.1 times higher (Table 3.1 and Figure 3.13).

Figure 3.15. Estimated odds of reporting poor or very poor general health by socio-economic characteristics, 25 EU Member States (*), 2010



(*) EU-SILC microdata for Cyprus and Ireland were not available at the time the analysis was conducted.

Source: Calculated from EU-SILC microdata (45)

A number of conclusions can be drawn from this analysis. When other measures of socio-economic position are not accounted for, poor health outcomes increase as disadvantage — whether measured by education, income or by material deprivation — increases (columns 1 and 3 of Table 3.1). This result is effectively the same as that shown by the SII results.

For each indicator, after adjusting for the two other indicators of socio-economic position, all the elevated risks were diminished. However, the reduction varied by indicator. Material deprivation exerted the largest independent effect. Education also retained an independent effect after controlling for material deprivation and income (odds compared with the university-educated group reduced by up to 50%). However, the small advantage experienced by people with post-secondary, non-tertiary education over people with just secondary education with respect to long-standing illness disappeared after controlling for income and material deprivation.



Education is a key determinant of income and the latter had the least powerful independent effect on health status. In the case of general health, after adjustment for both education and material deprivation, small but significant gradients remained with odds of poor or very poor general health of 1.4 for people in income deciles 1–4 (the lowest incomes) and odds of 1.3 for people in income deciles 5–9.

Women are more likely than men to report that their general health is poor or that they have a long-standing illness (see Annex 2). This is partly attributable to women's lower socio-economic status as their higher odds of ill health relative to men reduce after controlling for the three measures of socio-economic position. This suggests that differences in the general health of men and women are largely accounted for by the socio-economic disadvantages experienced by women.

3.4.4. Socio-economic inequalities in mortality

The first part of this analysis of mortality in EU Member States illustrates these country-level inequalities with a brief description of educational differentials in life expectancy. The value of these statistics for the study of socio-economic inequalities in the region is limited by the fact that such data are only available for 14 EU Member States and Norway.

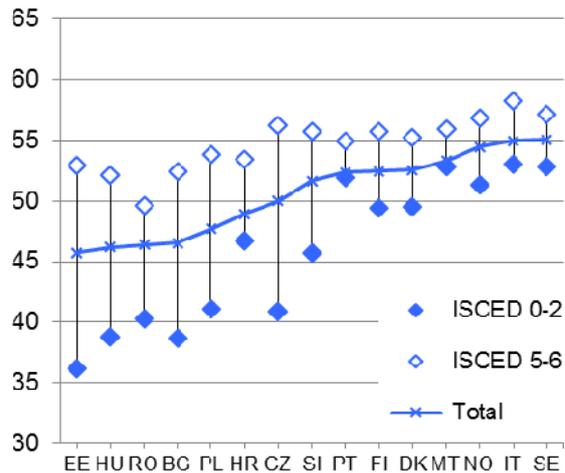
The life-expectancy statistics, disaggregated by level of education, that are available for selected countries in the European health programme region are depicted in Figure 3.16.

Figure 3.16. Life expectancy at ages 25 and 50 by education and sex, 2008–10

(a) Life expectancy at age 25

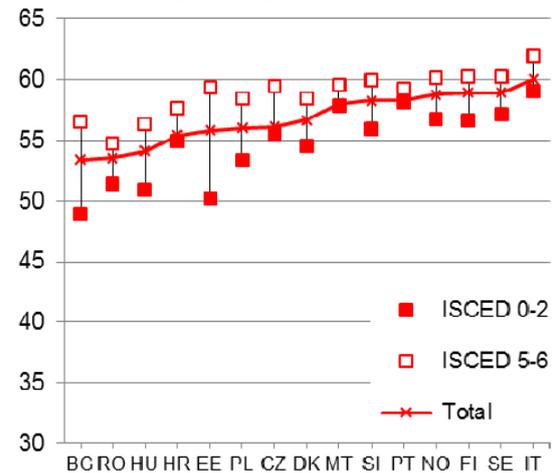
Men

Life expectancy at 25 (years)



Women

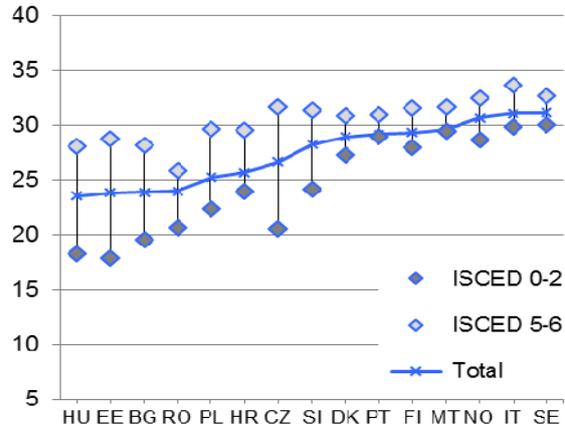
Life expectancy at 25 (years)



(b) Life expectancy at age 50

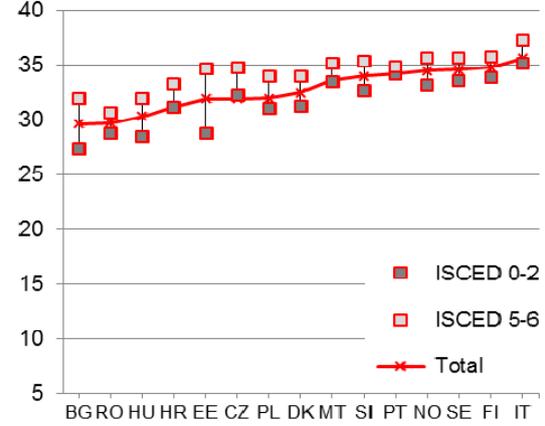
Men

Life expectancy at 50 (years)



Women

Life expectancy at 50 (years)



Countries are ranked by life expectancy at the specified age of the sex-specific total population. ISCED 0–2: pre-primary, primary and lower secondary education. ISCED 4–6: tertiary education.

Romania, 2008–09; Italy, 2008–09; Malta, 2008; Portugal, 2010.

The education distribution of the population in EU Member States almost stabilises by age 25. In particular, a negligible number of individuals obtain their first tertiary qualification after age 24. Caution is needed when making comparisons between Member States because of a lack of consistency in methods used to derive the estimates. Some Member States provided estimates from linked population registers; others supplied life expectancy estimates calculated cross-sectionally using registered deaths combined with the European labour force survey population distributions.

Source: Eurostat database, [demo_mlexpecedu](#) (56), last accessed 27 July 2012.



These data, for 2008–10, reveal that educational gradients in life expectancy exist in all Member States but that they vary by sex, age and the overall level of survival. The steepest social gradients are those for male life expectancy at age 25 in high-mortality countries. For example, life expectancy for men with tertiary education (ISCED 5–6) in Estonia was 17.8 years longer, or 50 % higher, than life expectancy for men who did not complete secondary education (ISCED 0–2); the corresponding figures for Hungary were 13.3 years and 34 %. In contrast, in Malta, Norway, Sweden and Italy, the differences between the same two groups ranged from 3.2 to 5.2 years, which is 6–10 %. Moreover, life expectancy at age 25 for highly educated men in Estonia was the same as life expectancy for poorly educated men in Italy, at 53 years.

At age 50, educational differentials in male life expectancy were larger than the differentials at age 25 in every Member State except Romania. In four Member States — Bulgaria, Czech Republic, Estonia and Hungary — life expectancy for men with tertiary education was at least 43 % higher than that for men with limited education. Only in Sweden and Malta was the differential less than 10 %.

The variation in female life expectancy between Member States was smaller than for males. Similarly, educational gradients for women were less steep. At age 25, the difference between highly educated and poorly educated women ranged from 9.1 years in Estonia and 7.5 years in Bulgaria to 2.9 years in Italy and only 1.7 years in Malta.

At age 50 and over, the gap in life expectancy by level of education was smaller for women: the largest disparities were those of 6 years in Estonia and 4.4 years in Bulgaria (21 % and 16 % respectively), while the gaps between educational groups were 2 years or less in three Member States (Finland, Romania and Malta).

3.5. Socio-economic inequalities in regional mortality

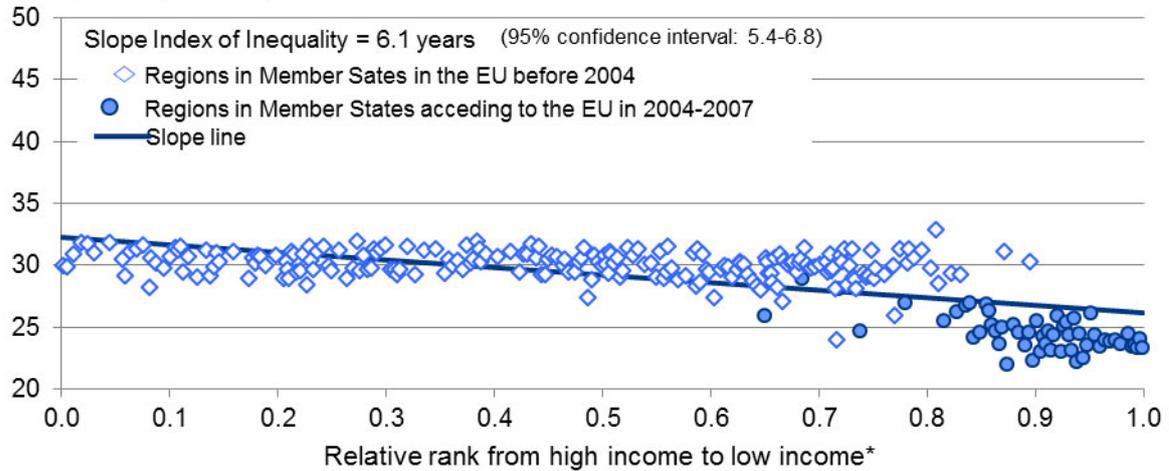
The most accessible statistics that can yield timely estimates of socio-economic inequalities in mortality across the EU are geographically grouped data — that is data for NUTS regions. For socio-economic position, the investigation described here uses Eurostat's regional accounts data for net disposable income per inhabitant (converted using the EU PPS — see Figure 3.3). The mortality measures, extracted for the same NUTS regions, are life expectancy at birth and at age 50, and inequalities are estimated using the SII.

Figure 3.17 shows the gradients in life expectancy at age 50 between areas ranked according to average income per person in 2008, together with the corresponding SII results. The information is presented for men and women for all regions in the EU (with available data), and the figures distinguish between regions in Member States that were in the EU before 2004 and regions in Member States that joined the EU between 2004 and 2007. Additional results, including those for life expectancy at birth and for other measures of inequality, are presented in Table 3.2.

Figure 3.17. Slope indices of inequality for life expectancy at age 50 by net income (*), 2008

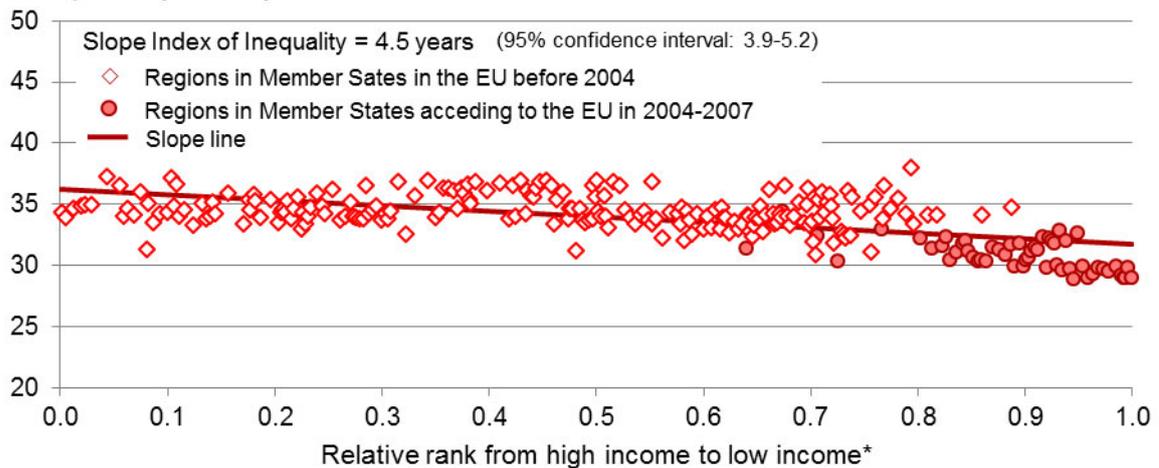
(a) Men

Life expectancy at 50 - years



(b) Women

Life expectancy at 50 - years



(*) Net disposable income, purchasing power standard based on final consumption per inhabitant.

Calculated from Eurostat database, [demo_r_mlifexp](#) (29), [demo_r_d2jan](#) (30) and [nama_r_ehh2inc](#) (57), last accessed 15 July 2012.

The data shown in Figure 3.17 indicate that there was only very limited overlap between average income per person in the two subgroups of regions. Only the populations of Ionia Nisia (Greece), Norte (Portugal) and French Guiana had average incomes in the lowest 20 % of EU average incomes. In contrast, in the Member States that joined the EU in the last 10 years, only three regions had average incomes in the top 70 % of EU average incomes. These were the capital cities of Bratislava and Prague, and Western Slovenia.

In each of the two subgroups of regions, life expectancy at birth and life expectancy at age 50 decreased with deprivation as measured by household income (Table 3.2). The relative indices of inequality suggest that inequalities in life expectancy at age 50 were larger than inequalities in life expectancy at birth. Within each subgroup, the socio-



economic gradients for males and females were very similar and broadly linear but the gradients for newer Member States were consistently larger than those for older Member States. For example, the SII results indicate that there was about a 2-year difference in life expectancy at age 50 between the poorest and the richest regions in Member States that joined the EU relatively recently, compared with a 1-year difference between the poorest and the richest regions in Member States that joined before 2004.

Across the whole of the EU, females in the richest regions could expect to live about 5.4 years longer than females in the most deprived regions, and the corresponding difference in life expectancy at 50 was 4.5 years (Table 3.2 and Figure 3.17). There was little overlap between estimated male life expectancy in the two subgroups of regions (Figure 3.17) and, although the SII is presented, in this case it is less appropriate because the relationship between male life expectancy and income was not linear.

**Table 3.2. Selected measures of inequality for life expectancy at birth and age 50 and net income (*), EU Member States by period of accession, 2008**

| | Men | | | Women | | |
|-----------------------------------------------------------------------|----------|----------------|------------|----------|----------------|------------|
| | Estimate | 95 % limits | confidence | Estimate | 95 % limits | confidence |
| <i>EU-27</i> | | | | | | |
| <i>Life expectancy at birth</i> | | | | | | |
| Slope index of inequality (SII) | 8.3 | 7.4 | 9.3 | 5.4 | 4.6 | 6.1 |
| Relative index of inequality (RII) – compared to average value (%) | 10.9 | 9.7 | 12.1 | 6.5 | 5.6 | 7.4 |
| Gini coefficient (%) | 2.2 | | | 1.6 | | |
| <i>Life expectancy at age 50</i> | | | | | | |
| Slope index of inequality (SII) | 6.1 | 5.4 | 6.8 | 4.5 | 3.9 | 5.2 |
| Relative index of inequality (RII) – compared to average value (%) | 20.9 | 18.4 | 23.4 | 13.3 | 11.3 | 15.2 |
| Gini coefficient (%) | 4.3 | | | 3.3 | | |
| <i>EU Member States joined pre-2004</i> | | | | | | |
| <i>Life expectancy at birth</i> | | | | | | |
| Slope index of inequality (SII) | 1.9 | 1.4 | 2.4 | 1.2 | 0.6 | 1.9 |
| Relative index of inequality (RII) – compared to average value (%) | 2.4 | 1.7 | 3.1 | 1.5 | 0.7 | 2.2 |
| Gini coefficient (%) | 0.9 | | | 0.9 | | |
| <i>Life expectancy at age 50</i> | | | | | | |
| Slope index of inequality (SII) | 1.3 | 0.9 | 1.8 | 1.0 | 0.4 | 1.6 |
| Relative index of inequality (RII) – compared to average value (%) | 4.4 | 2.9 | 5.9 | 2.8 | 1.1 | 4.5 |
| Gini coefficient (%) | 1.9 | | | 2.1 | | |
| <i>EU Member States acceded 2004–07</i> | | | | | | |
| <i>Life expectancy at birth</i> | | | | | | |
| Slope index of inequality (SII) | 3.3 | 1.7 | 5.0 | 3.3 | 2.1 | 4.5 |
| Relative index of inequality (RII) – compared to average value (%) | 4.7 | 2.4 | 7.1 | 4.2 | 2.7 | 5.7 |
| Gini coefficient (%) | 1.5 | | | 1.1 | | |
| <i>Life expectancy at age 50</i> | | | | | | |
| Slope index of inequality (SII) | 2.3 | 1.2 | 3.4 | 2.4 | 1.5 | 3.3 |
| Relative index of inequality (RII) – compared to average value (%) | 9.2 | 4.7 | 13.6 | 7.7 | 4.8 | 10.6 |
| Gini coefficient (%) | 2.9 | | | 2.1 | | |

(*) Net disposable income, purchasing power standard based on final consumption per inhabitant.

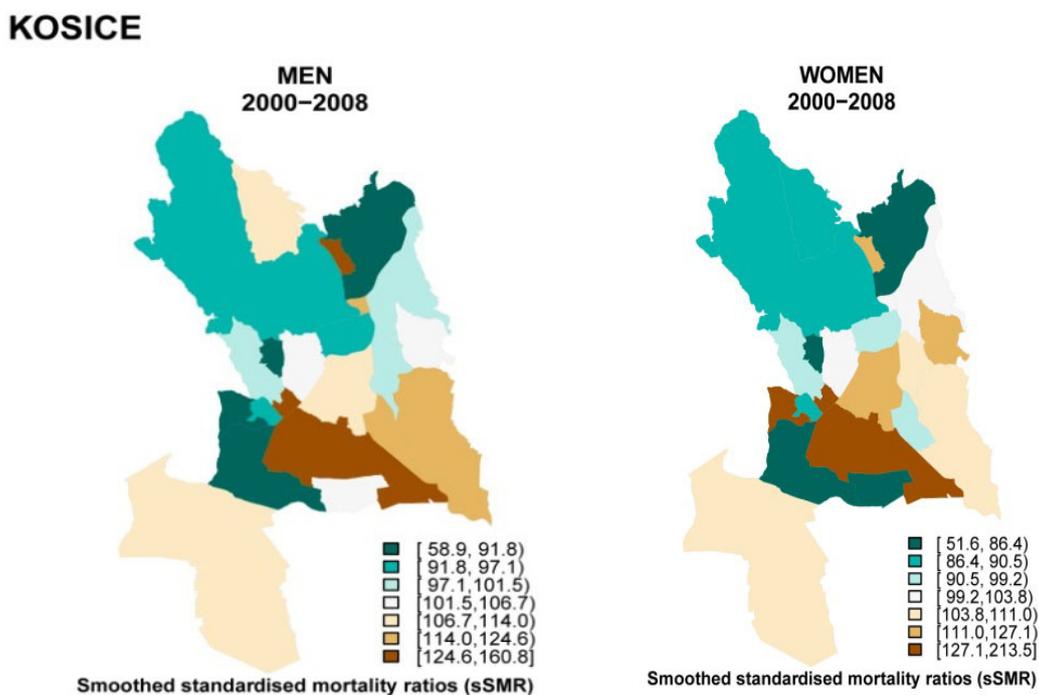
Calculated from Eurostat database, [demo_r_mlifexp](#) (29), [demo_r_d2jan](#) (30) and [nama_r_ehh2inc](#) (57), last accessed 15 July 2012.

3.6. Mortality differences between neighbourhoods

While regional data are available for most EU Member States, the NUTS 2 areas are fairly large and may obscure local variation. In some EU Member States, it is possible to gather data on the health and social characteristics of local neighbourhoods. This provides an indication of the presence of social variation in health. One study, the INEQ-Cities project (58), has done this for a number of European cities. The objectives of the INEQ-Cities project are the description of geographical mortality inequalities and of interventions to tackle them in small areas of European cities. The project began in 2009 and finished in 2012. It describes inequalities in mortality in small areas of the 15 cities or metropolitan areas included in the project: Amsterdam, Barcelona, Bratislava, Brussels, Budapest, Helsinki, Kosice, Lisbon, London, Madrid, Prague, Rotterdam, Stockholm, Turin and Zurich. The majority of cities had mortality data for the years 2000–08 and socio-economic indicators for 2001. The sources of information were mortality registers and census data (59).

Areas with high socio-economic deprivation (measured through percentage of unemployment and manual workers) have a higher excess of mortality in the majority of cities analysed. A limitation of the study is that the size of areas in different cities is not the same due to data availability. However, the social patterning of mortality is reproduced in the majority of cities. The choice of area scale in the cities in this study is not thought to lead to serious underestimation of neighbourhood effects in mortality (60). An example of the distribution of health at local level is shown in Figure 3.18.

Figure 3.18. Mortality of small areas in Kosice, Slovakia



Source: Borrell et al (58).

3.7. Additional studies on the health inequality situation in the EU

To supplement the overview of the health inequality situation in the EU, a brief summary of relevant literature comparing health inequalities in EU Member States is provided in this section. This draws on previous reviews, such as the recent WHO review, and on a systematic review, undertaken as part of this project, of comparative scientific studies of health inequalities in the EU. This comparative study excluded studies of single counties — which are large in number and the most significant of which were identified in the WHO review (so are not reviewed here).

Using the report 'Health inequalities: Europe in profile' (11) as a reference point, the systematic review identified comparative studies describing health inequalities in Europe in 2006–11. In addition, comparable studies of inequalities in health by ethnicity published in the period 2001–11 were also identified, as ethnicity studies were not included in the 2006 report. This aimed to identify studies explicitly identifying Roma, migrants and other racial, ethnic or other minority groups. A full description of the methodology used in the review is provided in Annex 1 and an assessment of the results is provided in Annex 3.

What this section aims to provide is a clear indication of the extent of previous assessments of the scale of health inequalities across the EU, in particular those comparing similarities and differences between Member States. In view of the limited, comparable data available for undertaking, such comparisons are not common.

The literature on policies concerning health inequalities and their reduction is excluded from this section. It is identified in Section 4 and discussed further in Section 5.

3.7.1. *Lifestyles and behaviour*

One of the ways in which social determinants influence health includes the effects that lack of control, stress and reduced capabilities have on health-related behaviours, including smoking, unhealthy diet, physical inactivity, harmful use of alcohol and unsafe sexual behaviour. Where the proportion of people adopting these behaviours differs systematically and consistently in terms of both the level of risk of adverse health outcomes and one or more of the dimensions of social inequality, the behaviour will contribute to inequalities in health outcomes. The extent to which health behaviours are distributed across society varies between EU Member States.

3.7.1.1. *Smoking*

Current smoking levels differ substantially across the EU, as illustrated in Figure 3.8. This reflects wide differences both in the progression of smoking habits (whether the number of smokers are continuing to increase or have started to decrease) and the impact that social determinants, such as those described in previous paragraphs, have on the levels at which numbers of smokers peak. For these reasons, interpreting current levels of smoking, both in terms of likely future trends and health effects, requires a more detailed understanding of past trends in different age cohorts and social groups in each country.



Idris et al. (50) looked at changes over time in the higher prevalence of smoking in urban compared to non-urban areas. Schaap et al. (52) used health interview data from 19 countries to show how economic development and levels of gender empowerment have affected the spread of smoking in very different ways for more and less educated women. The findings of the 2009/10 study of health behaviour in school-aged children indicate that adolescents with low family affluence are particularly vulnerable to taking up smoking (61).

The Eurothine study found an inverse relationship between smoking prevalence and educational level, occupational class and household assets in EU Member States. There were variations by region and age group in the relative importance of educational level versus other indicators of socio-economic position in smoking prevalence reflecting the progress of the smoking epidemic (62).

The 2012 WHO report *Environmental health inequalities in Europe* indicates that passive exposure to smoking affects a larger number of people than active smoking, with a potentially broader social and demographic profile, depending, for example, on the existence and coverage of smoking bans.

3.7.1.2. Alcohol

There is close a relationship between a country's total per capita alcohol consumption and its prevalence of alcohol-related harm and alcohol dependence. Excessive consumption of alcohol damages physical and psychosocial health and contributes to physical injury to self and others. However, accurate estimations of alcohol consumption are notoriously hard to derive, not least because of the tendency to under-report. The health effects of alcohol depend partly on the patterns of alcohol consumption in each country, which is influenced by material and psychosocial factors, by local drinking cultures and by price and availability of alcohol. In particular, the practices of heavy drinking, binge drinking and drinking home-made alcoholic beverages contribute to inequalities in alcohol-related mortality.

Using the Eurothine study, differences in alcohol-related mortality by educational level were evaluated in 13 EU Member States. It was found that socio-economic differences in alcohol-related mortality in men made a substantial contribution to overall variation in mortality (63). Alcohol has been linked with high mortality in Czech Republic, Hungary, Poland and Slovakia (64). Heavy drinking, particularly among men, probably contributed substantially to fluctuations in mortality during the economic transition in these and neighbouring countries (65). Long-term unemployment can also be linked to excessive drinking of alcohol (66).

3.7.1.3. Obesity

Inequalities in mortality, described above, persist among those who have never smoked, but at a much lower level (67). This is partly because of the influence of passive smoking, as indicated above, and partly where obesity has taken over the role of smoking, obesity increases the risk of adverse health outcomes. It is linked to socially patterned lifestyles and behaviours — dietary intake and physical activity — because it reflects an imbalance between energy consumption and energy



expenditure. As levels of obesity have increased across the EU, so the relationship with social determinants of health has become stronger.

Evidence concerning the distribution of obesity across Europe was reviewed by Robertson et al. (68). They found that there has been a marked increase in overweight and obesity in most of the countries studied, with the exceptions being found to the east during severe economic recessions. Otherwise, the rise in obesity affected virtually all population groups, but was generally more severe for those in lower income and lower education groups, and some minority ethnic groups. Where data were available, the gradient in obesity and overweight prevalence between excess bodyweight across the various measures of socio-economic status was clear, and steeper among women and children than among men in most countries.

They concluded that patterns were less clear in countries further to the east, with better-off men and better-off older women showing higher levels of obesity compared with other adults. In some areas there may be a concurrent underweight problem among younger women. Taking Europe as a whole, based on available data they suggest that about 20–25 % of the risk of obesity among men and 40–50 % of the risk among women could be attributed to differences in socio-economic status. In general, the evidence suggests that the difference between socio-economic groups is widening and the gradient is becoming steeper (69;70).

Robertson et al. (68) also noted that countries with higher levels of social inequality, such as inequality in income or the proportion of the population living in relative poverty, tend to have the highest prevalence of obesity in the population, especially among adolescents and among children. Obesity and overweight among children was also associated with the socio-economic status of their parents, especially their mothers (68).

Using Eurothine data, Roskam et al. (71) looked at obesity across a range of countries in the EU in terms of previous educational attainment among men and women separately. They found that the overall prevalence of obesity in the countries covered by Eurothine was 11 %, ranging from 6 % in France to 22 % in England. There were considerable differences internationally in the extent to which male obesity varied within countries. Analysis of the relative index of inequality for obesity by educational level showed that in Latvia and Lithuania educational level was positively correlated with obesity in men: the higher the educational level, the more likely to be obese. In all other cases, educational level and obesity prevalence were negatively correlated. Sweden, the Czech Republic and the Netherlands showed the greatest educational inequalities in obesity among men.

Among women, the overall prevalence of obesity was 11 %, ranging from 5 % in Italy to 23 % in England. Throughout the European countries in the study, obesity was more common among women with low education. Educational inequalities in obesity were least in Latvia, Finland and Norway and greatest in Portugal (71).

Among men in the Baltic states and some other countries in the eastern part of the EU, the relationship was reversed with weak positive associations between education



and overweight and obesity. Educational inequalities in overweight and obesity were greatest among Mediterranean women.

For men, the results by country were correlated with GDP. An increase in GDP per person of EUR 10 000 was associated with a 3 % increase in overweight and obesity for men with low levels of education but a 4 % decrease for men with high levels of education. GDP was not associated with obesity among women (71).

3.7.2. Self-reported health

Inequalities in self-reported health in EU Member States have been compared in a number of papers in recent years. Cooper et al. (72;73) examined socio-economic inequalities (defined by unemployment, education and income) in health (chronic physical or mental health) in 13 EU Member States (Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Netherlands, Austria, Portugal, Finland and United Kingdom) using longitudinal data from the 'European Community household panel' (ECHP) survey. The studies both found that unemployment increased the likelihood of entering bad health, education decreased likelihood of entering bad health and the effects of income on subsequent health were weak and less significant (compared to unemployment and education).

Using the ECHP data from nine EU Member States (Belgium, Denmark, Germany, Ireland, Spain, France, Italy, Netherlands and Portugal), Hernández-Quevedo et al. (74) examined the relative contributions of state dependence, unobserved heterogeneity and socio-economic characteristics (defined by income, education and activity status) on health limitations (chronic physical or mental health). Their longitudinal cohort study was conducted between 1994 and 2001. They found the same effects as Cooper et al. (72;73) for unemployment and education and non-significant effects for income on health. This is not surprising considering that both studies examined data from the ECHP and for very similar time periods. In addition to these findings, the study by Hernández-Quevedo et al. also revealed high levels of health limitations and heterogeneity in the socio-economic gradient across countries.

Using data from the 'Finbalt health monitor' project, Helasoja et al. (75) in 2006 examined self-reported health outcomes (present state of health, chronic diseases and symptoms) according to educational level in four Member States — Estonia, Latvia, Lithuania and Finland — over two time periods. One paper examined what had happened in 1994–04 and another in 1994–2000. Both papers found that the lower-educated had worse health than their better-educated counterparts. In 2010, Gaumé and Wunsch (76) also reported on data for Estonia, Latvia and Lithuania in the earlier period (between 1994 and 1999) using the 'Norbalt living conditions' project. They too found better self-reported health among the better educated. However, at that point in the transition, they also identified higher levels of drinking among the better educated.

Mazzucco and Suhrcke (77) examined socio-economic inequalities, based on education and occupation, in various health outcomes — temporary inability to work, temporary reduction in working, continued reduction in working ability, permanent inability to work. Their study focused on working age populations in 25 EU Member States using



data from the 'European labour force survey' (ELFS) between 1983 and 2004. They found that while health inequalities decreased in many of these Member States, they remained stable in a minority of cases and increased in several others. In terms of the level of inequality, they concluded:

Given the substantial fluctuations we find in health inequality, the answer to this question is not straightforward. Overall, we find high values of inequality in eastern European countries and, even though to a lesser extent, in southern European countries (with the exception of Spain). On average, the lower level of inequality is detected in ... Austria, Belgium and Netherlands.

Lastly, Avendano et al. (78) examined the impact of educational level on changes in health outcomes (general health, chronic diseases and disability) among Europeans aged over 50 years old. This longitudinal cohort study used data from the 'Survey of health, ageing and retirement in Europe' (SHARE) between 2004/05 and 2006/07 in the following 11 countries: Austria, Belgium, Denmark, France, Greece, Germany, Italy, Netherlands, Spain, Sweden and Switzerland. They found that, in this study, lower educational level was associated with poor health, chronic diseases and disability but the association with new events of long-standing illness was less consistent. They also found that higher education was associated health improvement (more transitions from poor to good health), although these associations were only statistically significant for some health outcomes.

3.7.3. Mortality

Mackenbach et al. (79) systematically compared gradients in mortality inequality among men and women according to educational level by using individual information obtained by the Eurothine project from studies in 15 countries participating in the EU health programme, plus Switzerland. The evidence from this project indicates considerable variation across these countries in levels of inequality in mortality, based on the length of education of individuals included in the studies covered. Inequality was greatest in the Czech Republic, Hungary and Poland and in the Baltic states of Lithuania and Estonia, and least in Italy, Spain and Sweden.

The smallest inequalities for men and women were in the Basque Country of Spain and the largest were in the Czech Republic and Lithuania. Those who were less educated had higher rates of death from all causes examined except breast cancer. Smoking, alcohol and obesity inequalities were important contributors to variation between countries. Inequalities in mortality from smoking-related conditions accounted for 22 % of the inequalities in the rate of death for men and 6 % for women. Conditions amenable to medical intervention accounted for 5 % of inequalities. These inequalities were all bigger in the east and smaller in the south. In the Czech Republic, Hungary and Poland, inequalities in access to healthcare were identified. Smoking was also a major explanatory factor. In Italy and Spain, the smoking epidemic is at an earlier stage, therefore a reverse in smoking-related inequalities was observed.

Further analyses conducted by Mackenbach et al. (80) and Menvielle et al. (81) from the Eurothine study confirmed that there are consistent educational inequalities in mortality in Europe according to education level and occupational class, based on census-based mortality studies. In particular, they emphasised the large differences in



mortality rates for the Czech Republic, Hungary and Poland, and for the Baltic states of Estonia and Lithuania. While the magnitude of relative inequalities in mortality was often smaller in the oldest old (aged 75 years and over) than in the younger olds (60–74 years of age), they were still substantial, favouring the higher educated. This has been reported for several European countries, for example in a study of women in Madrid (82). In a Swiss study, educational gradients in further life expectancy were substantial, particularly amongst young-old men, but tended to decrease at older ages (83).

In relation to particular causes of death, the largest contributor to mortality differences by education was cardiovascular diseases in both men and women. Most other causes of death are also related to level of education, with higher mortality associated with lower educational status. One notable exception to consistent gradients for men and women was that highly educated older women were more likely to die from lung cancer. This relates to higher rates of smoking in wealthier women over 65, reflecting large variability between different cohorts in patterns of smoking uptake and cessation.

Stirbu et al. (84) investigated the magnitude of educational inequalities in mortality avoidable by medical care and the contribution of this to the total gradient in mortality in 16 European populations (all of Finland, Sweden, Norway, Denmark, Belgium, Switzerland, Slovenia, Hungary, Czech Republic, Poland, Lithuania and Estonia, as well as areas within Spain and Italy). This study examined data from longitudinal and unlinked repeated cross-sectional studies of men and women aged 30–64 years conducted during 1990 and 2003. Educational inequalities in avoidable mortality were present in all countries and in all types of avoidable death. Large inequalities were found for infectious diseases and conditions that required acute care. Inequalities were larger in the Czech Republic, Hungary and Poland, and smallest in Spain and Italy. Avoidable mortality contributed between 11 % and 24 % of inequalities in partial life expectancy.

Two recent studies have examined mortality data from the Czech Republic, Hungary and Poland, and from the Baltic states of Estonia and Lithuania during the post-communist transition period (85;86). In 2009, Leinsalu et al. (85) reported on the change in educational inequalities in total and cause-specific mortality in Estonia, Lithuania, Hungary and Poland between 1990 and 2000, based on unlinked cross-sectional national datasets of men and women aged 35–64 years. Educational inequalities in total mortality increased in all countries studied. In general, in each country and the two sexes, increases were also seen in inequalities for the specific causes of death studied. External causes and circulatory disease contributed most to the widening absolute gap in total mortality.

In 2006, Shkolnikov et al (86) used Finland as a western European reference to examine changes in educational inequalities in life expectancy during the transition. Data from death certificates and census records were used to compare estimates of mortality by educational group at two time points: the late 1980s and late the 1990s. The transition was generally more favourable for those with greatest educational



resources. Employment promotion policies and social protection could have protected lower groups during the transition.

In a more recent study in 2012, Shkolnikov et al. (87), used historic census-linked mortality data in Finland, Norway and Sweden at the time of the transition in the East to examine changes in absolute and relative mortality differences by education among those over 40 years of age. The study demonstrated substantial increases in relative mortality disparities between educational groups in all these Scandinavian countries. Absolute mortality disparities also increased.

A study by Kohler et al. (88), published in 2008, included data from inside and outside Europe, comparing educational (and also marital status) differentials in all-cause mortality at ages 40–70 in Bulgaria to those in Finland. Longitudinal data were taken from linked census or nationally representative survey data. In men, there was a clear educational gradient in the number of years of life lost due to mortality between the ages of 40 and 70. Absolute levels of mortality were higher in Bulgaria than in Finland for everyone, but especially low educated men. However, as all rates were higher in Bulgaria, this resulted in a smaller inequality ratio between low and high educational groups. In women, the results were similar, but less pronounced. In unmarried men, the low educated had the highest mortality rates, particularly in Bulgaria.

3.7.4. Early-life morbidity and mortality

Four comparative papers were identified that examined socio-economic inequalities (defined by educational attainment) in early-life morbidity and mortality. All described a general increase in educational attainment, alongside an increase in maternal age and a reduction in teenage pregnancy, however each paper focused on a different outcome measure.

In a paper published in 2008, Arntzen et al. (89) examined the impact of maternal education on neonatal, postnatal and infant mortality in four countries. Although neonatal and post-neonatal mortality rates declined, infants born to mothers with low education generally had the largest mortality risk. When the absolute and relative measures of neonatal mortality were examined, measures showed similar trends, although with some differences between countries and time periods. The authors found a persistent inverse association between maternal educational level and relative risk of neonatal deaths; adjusting for maternal age and parity did not generally change these estimates.

In 2009, Peterson et al. (90) examined the impact of educational attainment on the risk of preterm births in Denmark, Finland, Norway and Sweden. Their findings demonstrated that mothers with less than 10 years of education had a higher risk of both outcomes in all four countries when compared with mothers with more than 12 years' education. Mortensen et al. (91) used NorCHASE data to examine the impact of maternal and paternal education on birth weight outcomes in a paper published in 2008. The study found a clear association between mother's education and infant birth weight (after adjusting for gestational age and parental characteristics). When a slope index of inequality was calculated, it differed substantially between countries, with the steepest index in Denmark, followed by Norway, Sweden and Finland. Father's

education was also independently associated with birth weight for gestational age, at about half of the effect of the mother's education. In 2009, Mortensen et al. (92) published an investigation comparing income-related inequality to the evidence on education-related inequality in small-for-gestational age (SGA) and preterm birth in Denmark and Finland between 1987 and 2003. In both countries education-related inequalities were larger than income-related inequalities, with higher inequalities in Denmark than in Finland. In both countries, income- and education-related inequalities in preterm birth decreased over time. Overall, only small income- and education-related inequalities in SGA and preterm births were observed in the period 1987 to 2003, despite macroeconomic shocks affecting both countries during this time.

3.7.5. Cause-specific mortality and morbidity

3.7.5.1. Cancer

Leufkens et al. (93), in a study using the EPIC database, reported that a low educational level correlated with a low risk of colorectal cancer, which was most pronounced in southern Europe and in women, and no associations with educational status were reported in other parts of Europe. The link between colorectal cancer and the Mediterranean diet was postulated as an explanation for these findings.

Menvielle et al. (94) undertook a study across 12 European populations in 10 countries in an attempt to establish the link between educational attainment (as a proxy for socio-economic status) and cancer. Linkage was carried out between cancer registries and data from the population census. The study was skewed towards the Nordic countries. The main findings were that rates of cancer were lower in women. Total cancer rates in men were generally higher in men with lower educational levels. In females, the gradient was much narrower than men (and was not seen in Spanish regions, Slovenia or Finland). Higher-educated groups had lower rates of colorectal, liver cancer, cervix and stomach cancers, whereas the gradient was reversed for breast cancer in all populations studied except Turin, France and Switzerland. There was an evident north-south gradient for lung cancer. There was no relationship between education and cancer for leukaemia, Hodgkin's, prostate and pancreatic cancer.

Leclerc et al. (95) used a similar population and methodology to focus on the role of lung cancer. Higher overall mortality in men with lowest education (mainly due to lung cancer) was reported. In women, socio-economic differences were smaller, but higher rates were found in women of higher levels of education for breast, lung and colorectal cancers. The main weakness of this study was the absence of controlling for confounders, especially smoking, which could account for many of the differences identified.

In a Eurothine study undertaken by Van Der Heijden et al. (96), inequalities in lung cancer were examined in 16 European populations, covering 14 European countries (12 EU Member States). Socio-economic inequalities in lung cancer continued to exist across Europe, especially in Hungary and the Czech Republic. In women, the largest socio-economic differences were seen in Finland, Sweden, Norway and Denmark. In Spain and Italy, inequalities in lung cancer mortality and smoking are much smaller,



with an inverse relationship in Spain. The authors suggest that the change in patterns in lung cancer in these southern populations may occur as smoking habits change (especially in the higher-educated groups).

Boeckel et al. (97), using the EPIC database, examined the relationship between pancreatic cancer and socio-economic differences, and found no association between this cancer and social class.

Strand et al. (98) used a similar methodology to other studies, based on linking census and cancer registration data, to examine the inverse relationship between breast cancer and socio-economic status. Age-adjusted mortality rates in those with low education were lower than those in the higher groups, except in Finland, Barcelona and France. The largest educational inequalities were seen in Madrid and Austria. The authors concluded that there remains a clear positive association between breast cancer and higher education in most of the 11 populations in the study. The relationship was less marked in younger than in older women. The study casts doubts on findings from earlier studies from France and Finland, suggesting narrowing and disappearing disparities in mortality from breast cancer.

Using similar methodologies to her earlier studies, Menvielle et al. (99) used part of the EPIC database to examine the relationship between socio-economic differences in the population and mortality from alcohol-related cancers. This was a smaller study than some of the others, only involving seven countries (five from the EU). The authors concluded that alcohol use substantially influences socio-economic inequalities in male cancer mortality in France, Spain and Switzerland, but not in Nordic countries or in Belgium. There was a lack of correlation between inequalities found for lung and UADT cancers (upper aero-digestive tract: oral cavity, pharynx, larynx and oesophagus) suggesting that although smoking is a major risk factor for such cancers, large inequalities were due to other factors — most likely alcohol. Using data from centres recording occupational history, Menvielle et al. (100) examined the extent to which occupational exposures may explain the socio-economic inequalities in lung cancer after adjusting for smoking and dietary factors.

The study's authors concluded that the proportion of men employed in 'high-risk' industries was higher in men with primary education or less. They found a clear association between the number of jobs involving exposure to asbestos and lung cancer. In men born before 1941, large inequalities were reduced when adjusting for smoking and alcohol. In all men, occupational exposure explained part of the higher lung cancer difference found in men with vocational secondary education, and especially with primary education or less (both pre- and post-1941). After adjustment for occupational exposures, lung cancer remained statistically elevated for men with vocational secondary education or less. In younger men, the highest risk of lung cancer was found with men with 'other secondary education'. Occupational exposures explained about 14 % of educational inequalities in male lung cancer that remained after adjustment for smoking and diet.

In conclusion, the authors stated that the impact of occupational exposure on educational inequalities in lung cancer exists but was modest. Public and occupational



health policies to reduce exposure to carcinogens would help to reduce inequalities in the cancer field, but tobacco remains a key element of any control strategy.

To separate out the contribution made by smoking and educational inequalities to the lung cancer burden, Menvielle et al. (53) undertook a further analysis of the EPIC database. Analyses were conducted for three groups of countries that the authors labelled as northern Europe (comprising Denmark, Norway, the Netherlands, Sweden and the United Kingdom), southern Europe (comprising Greece, Italy and Spain) and Germany. This grouping was based on previous work focusing on the smoking epidemic and socio-economic inequalities in smoking.

They found a higher proportion of current smokers and a lower proportion of never smokers among men and women with the lowest level of education in all groups of countries, except among women from the southern European group. Among men from all groups of countries and among women in the northern European group, crude lung cancer risk was higher among lower-educated participants. However, the magnitude of inequalities was substantially lower among men in the southern European group than in the northern group and Germany. Among women in the southern group of countries, higher lung cancer risks were found among higher-educated women. Overall, smoking explained slightly more than half the excess risk of lung cancer found among subjects with lower education. They concluded that public health policies are needed that would reduce smoking in lower-educated groups.

Ezerdam et al. (101) reported the findings from an investigation of educational inequalities in cancer mortality in Estonia, Lithuania and Poland compared with those in Finland and Sweden. Among men, they found inequalities in total cancer mortality according to level of education in all these countries. However, the magnitude of inequalities, as expressed by the slope index, was largest in Poland, followed by Lithuania, Estonia and Finland, and smallest in Sweden. Significant inequalities were observed in cancers of the upper respiratory and digestive tracts, lung and stomach cancer in all countries, with inequalities in lung cancer explaining a substantial part of the educational inequalities in all countries. Among women, educational inequalities in total cancer mortality were observed in Poland, Lithuania, Sweden and Finland — although they were much smaller than those among men — but not in Estonia. Educational inequalities in lung cancer mortality were particularly large in Finland and Sweden. In all countries, cervix cancer mortality rates were much higher in lower-educated women, whilst there was an inverse gradient for breast cancer.

3.7.5.2. Diabetes and cardiovascular disease

Avendano et al. (102) examined socio-economic inequalities, defined by education level, in ischaemic heart disease (IHD). This longitudinal study was conducted during the 1990s and collected census-linked national mortality data to examine the education level of patients with IHD. The study covered women aged 30 years and over who died from IHD across 10 populations. Data from Austria, Belgium, Denmark, Finland and Norway covered the entire national population, with Spanish data from Madrid and Barcelona only, Italian data from Turin only, Swiss data from the German-speaking population only and data from England and Wales covering a 1 % representative population sample. For the analyses, low-level education was compared



to middle and high levels combined. The findings demonstrated that IHD mortality was higher in those with a lower educational level than those with a higher level. Among men and younger women, socio-economic disparities in IHD mortality were larger in the Nordic countries and England and Wales; of moderate size in Belgium, Switzerland and Austria; and smaller in the remaining populations in southern Europe (Madrid, Barcelona and Turin). Indeed, no socio-economic disparities in IHD mortality existed among elderly men in the southern European populations. For elderly women this gradient between north and south was smaller.

Espelt et al. (103) examined inequalities defined by education level in diabetes mellitus across Europe. This study used cross-sectional data from health surveys collected in or around 2000 to examine morbidity, with longitudinal mortality register data from the period 1990–2003. The study examined diabetes morbidity in men and women aged 30–64 years and diabetes-related deaths in men and women aged 30–74 years. Morbidity data were collected from national health surveys in seven countries the authors grouped as 'western European' in the analysis (Belgium, Denmark, Finland, Italy, Norway, Spain and Sweden) and three grouped as 'eastern European' (Czech Republic, Estonia and Lithuania). Mortality register information was obtained from eight 'western European' sites (Belgium, Denmark, Finland, Norway, Sweden, Switzerland, Barcelona and Turin) and five 'eastern European' sites (Czech Republic, Estonia, Lithuania, Poland and Slovenia).

The study found inequalities in diabetes morbidity and mortality in all countries. Inequalities in mortality were larger for mortality than morbidity, particularly among men. They were more pronounced for the 'western European' group in terms of morbidity, whereas relative inequalities in mortality were greater in the 'eastern European' group.

A study by Geyer et al. (104) examined the impact of education, income and occupational position on diabetes prevalence, myocardial infarction (MI) morbidity and mortality, and all-cause mortality. The study utilised diabetes and MI prevalence, and all-cause mortality data from statutory health insurance data covering the Mettmann district in Germany, for all men and women aged 25–65 in 1987–96, and MI and all-cause mortality data from Swedish cause of death registry data linked to the national census for all men and women aged 25–64 in 1980–95. The study showed that German incidence and Swedish mortality from myocardial infarction were affected by all three indicators, even when the effect of the other two dimensions was taken into account. For all-cause mortality for both countries, the highest gross and net effects were obtained for income, with those at the highest risk being in the lowest income quintile.

All three papers described above examined educational inequalities, with the papers by Avendano and Espelt examining a large number of countries across Europe. The findings from these two large studies demonstrate the existence of health inequalities in terms of education status for both IHD and diabetes.



3.7.5.3. Suicide

Two papers by Innamorati et al. (105;106) examined the effect of EU suicide rates between 1980 and 2006 in young women (15–29 years) and the elderly (65 + years). Both studies used data from the European mortality and health-for-all databases, examining data by EU Member States before 2004 — ‘early members’ (Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland, Sweden, United Kingdom) and ‘new EU members’ that acceded between 2004 and 2007 (Bulgaria, Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia, Slovakia, Romania). The study in the elderly population demonstrated that, although suicide rates within this age group were declining, gender and national inequalities remained, with significantly higher rates in new Member States and a slower rate of decline across both new and early Member States for men compared to women.

This study also demonstrated that macro-socio-economic indices were strongly associated with age-adjusted suicide rates within this population, with the exception of unemployment. The study in young people examined the effect of social stress (determined by literacy, unemployment, homicide and assault) and alcohol consumption on suicide rates among young men and women. As with the findings in the elderly population, patterns of suicide rates varied across time between newer and earlier Member States. Although suicide rates have declined since 1980, the rate of decline was slower for men than women, and rates of suicide remain higher in new compared to early Member States. Social stress predicated suicide rates in men, and alcohol was significantly associated with suicide rates, but after controlling for social stress it only predicted suicide rates in females.

Other papers utilised data on male suicides from national death registries, alongside the French census and Spanish eight provinces study, to examine suicide rates by occupational categories in two age groups — 25–44 and 44–64 years (107;108). Whilst suicide rates in both countries increased over time, higher rates were observed in agricultural workers for both age groups, time periods and nations (except for Spain 1980–82, where the highest rates were observed in manual workers). However, the magnitude of risk was higher in Spain than France.

All the above papers demonstrated that suicide rates are influenced by socio-economic status, with possible inequalities existing between men and women, and higher rates amongst people of lower socio-economic status.

3.8. Other EU-wide studies currently being undertaken

Two studies currently underway are designed to shed light on actions to be taken. The INEQ-Cities project, described in Section 3.6, examined interventions to tackle health inequalities in cities. There was evidence of an increase, from 43 in 1995 to 183 in 2010. These numbers represent around 10 % of publications on interventions to tackle health inequalities and around 3 % of all publications on health inequalities; percentages that were similar over the years.

The INEQ-Cities project also conducted a qualitative study in the different cities included with the objective of describing the perceptions, knowledge and beliefs of public policymakers on social inequalities in health and policies to reduce them. The information was collected through in-depth interviews. The analysis of this information is in the early stages, but suggests that the majority of policymakers know the importance of social inequalities in health in their cities. However, they also reveal great differences in the causal pathways highlighted, ranging from behavioural to structural. This has implications for the actions they take in their cities.

The Euro-GBD-SE project (109) aims to assess to what extent socio-economic inequalities in health (measured by education attainment level) in each country are potentially modifiable, and which entry-points provide the best choice for making a substantial impact on the magnitude of health inequalities.

They have studied the impact on inequalities in mortality of four different types of risk factors, for which reasonably comparable data were available from a majority of countries. The first group is a set of behavioural (or classical) risk factors: smoking, overweight, physical inactivity and diabetes mellitus. The second group consists of one psychosocial risk factor: lack of social participation (participation in voluntary organisations). The third type of risk factor is one material factor: low income. The fourth type is occupational (non-physical) risk factors: economic activity status and occupational class (manual versus non-manual).

The study identifies the fact that the potential for reduction is not the same in all countries because the magnitude of inequalities in risk factors varies substantially across countries and because the distribution of socio-economic determinants also varies across countries. Nonetheless, they have demonstrated that the preventable fraction of deaths from all causes is substantial (more than 20 %) in all European populations, except among women in the southern populations in Spain and Italy. The largest potential is observed in the east (Hungary, Estonia and Lithuania), particularly among Hungarian men, where more than 50 % of all deaths appear to be avoidable (110).



3.9. Summary of evidence that has become available since 2006 on the relationship between social and health inequalities in the EU

In 2008, the WHO CSDH (1) concluded that social inequalities in health arise because of inequalities in the conditions of daily life and the fundamental drivers that give rise to them. The range of interacting factors that shape health and well-being include: material circumstances, the social environment, psychosocial factors, behaviours and biological factors. In turn, these factors are influenced by social position, itself shaped by education, occupation, income, gender, ethnicity and race. All these influences are affected by the socio-political and cultural and social context in which they sit (111).

A loose summary of this is the 'causes of the causes' of poor health. In recent decades much public health activity has focused on proximate causes of ill health. In relation to chronic disease this has meant aspects of lifestyle: smoking, diet, alcohol consumption, physical activity.

The CSDH perspective is that a very important contribution to the causes of these lifestyle causes of poor health resides in the broader social and political context. These causes start with the societies in which individuals, families and communities are located as they grow and develop. These societal-level factors and the macro processes operating on them influence the exposure of men, women and children to health-damaging and health-promoting conditions through the life course — from pregnancy and early years development, through educational experiences, relationship to the labour market and income levels during normal working ages and into later years. The influences that operate at each stage of the life course can either change the odds of being exposed to harmful or beneficial experiences, the level of exposure or help people beat the odds when exposed (111).

The political and historical situation in a country, its policies and practices, the cultural and social norms of a society and its government, at every level, set the context in which the social determinants operate and hence are potentially amenable to change. They vary across countries and societies. If correctly channelled, changes in policies, practices and norms can lead to reductions in health inequalities and improvements in health for all in a country, as well as greater community cohesion and well-being. If not, they can lead to widening inequalities and worse health and well-being. A social determinants framework provides an essential underpinning to considering policies aimed at taking action on these major causes of health inequalities within and between countries in Section 4.

When this review examined life expectancy in regions within EU Member States in relation to income levels, a difference of about 2 years in life expectancy at age 50 was identified between the poorest and the richest regions for Member States that joined the EU relatively recently, and a 1-year difference for Member States that joined the EU before 2004. Levels of self-reported health were correlated with levels of social protection.

A number of other key socio-economic determinants also varied across EU Member States, such as the Gini coefficient of income distribution and unemployment levels. Of



particular concern for health is the variation in long-term unemployment, the proportion with education levels at lower secondary level or below and those suffering material deprivation. Variability between Member States was also identified in lifestyles and behaviours such as the proportions smoking, overweight or obese.

To examine the extent of social differences in individual health across the EU, two analyses were presented in this section. The first was based on the responses to the EU-SILC self-perceived health status questions that enquire about general health and long-standing illnesses (see Annex 1); the second on EU Member States for which mortality data are available by educational level.

The 2010 results show that whichever indicator of socio-economic status is considered – education, income or material deprivation – reporting of poor or very poor general health and long-standing health problems tends to be infrequent in the most advantaged group and increasingly common as disadvantage worsens. The steepest gradients and more linear relationships were those between material deprivation and adverse health outcomes.

The analysis of mortality in 2008–09 by educational level indicated that education gradients in life expectancy existed in all EU Member States, but that they vary by sex, age and the overall level of survival. The steepest social gradients were those for male life expectancy at age 25 in Estonia, Czech Republic, Hungary, Bulgaria and Poland – countries with some of the highest levels of mortality in the EU.

The evidence synthesis of longitudinal cross-national studies also confirms Mackenbach's (11) earlier 2006 report; it shows that, 5 years on, health inequalities are still found in all EU Member States. Indeed, the reviewed studies which compared changes over time found increases in health inequalities, particularly in Member States such as Estonia, Lithuania, Poland and Hungary in the east of Europe (85), but also in Nordic Member States (87).

This is in keeping with individual country studies, which have also highlighted widening – or at least not reducing – health inequalities. For example, Strand et al. (112) found evidence of increasing inequalities in Norway, as did Tarkiainen et al. (113) in Finland, and evidence from England suggests very little change in the magnitude of inequalities there despite concerted policy action in the 2000s (67). It is also evident, both in the analyses undertaken in this review and in the other comparative studies identified, that large inequalities remain between EU Member States, with differences between new and early EU Member States and between groups of countries in southern Europe, western Europe and the Baltic states. Health inequalities are largest in the east of Europe.

Action on health inequalities must therefore remain a public health priority for the EU. This review has identified the clear existence of health inequalities by educational status for total mortality, cancer, ischaemic heart disease, general morbidity, diabetes and suicide.



For example, in terms of cancer, public and occupational health policies to reduce exposure to carcinogens at work and in the environment will help to reduce inequalities, but tobacco, alcohol and the causes of behavioural inequalities remain key elements of any strategy. Cancer survival is improving overall in most EU Member States, but not universally in all socio-economic groups. In many instances, lower socio-economic groups are improving more slowly, or not at all. The impact of tobacco remains significant; smoking patterns are changing and are likely to change further in Europe, particularly to the south where the changes in patterns of smoking and lung cancer is likely to further exacerbate inequalities. The newer Member States by and large demonstrate greater inequalities and have not yet benefited from comprehensive prevention policies in relation to smoking, alcohol consumption and screening programmes.

However, it is less clear which countries have the smallest inequalities or why. So, for example, while the Eurothine (79) study found that populations in Spain and Italy to the south of Europe had the smallest inequalities and that this was largely due to the socio-economic distribution of cardiovascular risk factors, the study data for these countries were only obtained from relatively prosperous subregions and cities rather than from the whole country, and there are signs of a transition in the socio-economic patterns of behaviour (e.g. among younger men in the south of Europe).

Most comparative studies identified in this review only examined education as the key indicator of socio-economic inequality. Educational level is often considered to be the more robust indicator of socio-economic status as it is more fixed and less changeable than income, and less conceptually complicated and therefore easier to measure than occupational class. However, the analysis of EU-SILC in this section suggested that, in analysing cross-sectional data on self-perceived health, current material deprivation is a stronger indicator. Similarly, cross-sectional studies using data from the 'European social survey' (ESS) have found that the magnitude of health inequalities varies depending on the indicator of socio-economic status used. So, for example, a study of inequalities in self-reported morbidity using the ESS found different cross-national results for income inequalities in health (114) than for educational ones (115). Of course, findings from cross-sectional analyses may not translate to prospective analyses of morbidity or mortality. This suggests that further investigation of this issue is warranted.

There are also a number of other issues in using education as the sole indicator of social position. There are different ways of measuring education — for example by comparing those with average years of education to those with one standard deviation below the national average (115), or the difference between those with no education or only primary education compared to those with tertiary education (116). There are also more general issues in terms of making cross-national comparisons of health inequalities, as it is not clear whether the bottom groups are the same in each country and whether their composition changes over time (112;114;115;117). For example, the relative value of a higher degree may be greater in those parts of Europe where a relatively small proportion of the population have access to tertiary education than where a higher proportion of the population have access. For these reasons, studies may not therefore be comparing like with like across different EU Member States.



The studies reviewed in this report also tend to privilege the use of relative over absolute measures of health inequalities. This is an important issue as, in those Scandinavian countries which have substantially improved the health of all, the high level of health of the middle classes has meant that relative social inequalities remain (118). There is also emerging evidence to suggest that amongst the most vulnerable social groups – the old, the sick and children – there are smaller socio-economic inequalities in the Scandinavian welfare states (37;78;119). However, this was not evident in the longitudinal studies reviewed here, as they almost exclusively focused on the working-age populations of Europe (with some Scandinavian studies of infant health). The reviewed studies also tended to focus on the health gap rather than the social gradient, an issue in common with the wider international health-inequalities evidence base (120).

Although inequalities in health by ethnicity – including Roma – were included in the criteria for inclusion, very few comparative papers were identified that examined the impact of ethnicity. A recent review of living conditions of Roma populations has recently been completed by the European Foundation for the Improvement of Living and Working Conditions (121). They focused on three problems that the Roma face in the field of housing and the potential for these to adversely affect health: lack of access to improved forms of sanitation (such as an indoor toilet, bath or shower); the high rate of overcrowding, especially after relocations through forced evictions; and the segregation of most Roma living in cities. The report noted that overcrowding appears to be most severe in Slovakia and is associated with a variety of health problems and the risk of accidents. While they noted that segregation can be a coping strategy that uses communal ties and networks to fill a void in the provision of essential services, it increases vulnerability to exclusion from healthcare services, employment, education and contact with the rest of society. The quality of housing in these segregated areas also tends to be very poor. Analysis of Roma living in substandard housing showed that they had an increased risk of poor self-reported health, mental illness, domestic accidents and drug-related problems. The report concluded that:

... more research is needed to uncover the links between housing and health conditions of the Roma Data on health inequalities for Roma and itinerant groups do exist, but are often fragmentary and lacking in information on specific health issues.

The report identified two recent comparative studies in Europe (122;123) There have also been single-country studies in the United Kingdom (124–128), Hungary (129;130), Italy (131) and Spain (132). The first of the comparative studies, undertaken by the Fundacion Secretariado Gitano (122;123), presented data from a survey of Roma carried out between 2006 and 2009 in Bulgaria, the Czech Republic, Greece, Spain, Portugal, Romania and Slovakia. It concluded that Roma are:

... particularly vulnerable to the effects that social conditions have on health. Housing conditions, the type of employment that a portion of the Roma population engages in and the greater difficulties faced in achieving a suitable level of education are just some of the factors accounting for the precarious health situation characterising Europe's Roma community.



These findings and the lack of good data suggests a strong need for more comparative longitudinal research across the EU in this area. Similarly, there was a dearth of longitudinal cross-national studies examining gender differences. Although many of the reviewed studies had both men and women in their study populations, they did not tend to compare outcomes by gender, nor did they stratify their socio-economic analysis by gender. Indeed, even cross-sectional comparative analyses which examine health inequalities intersectionally, in terms of both gender and socio-economic status, are extremely rare (133).

This evidence synthesis also demonstrates the abundance of data available in Member States. However given the variation in methodologies and data used, it is clear that there remains a lack of high-quality internationally comparable longitudinal data on health inequalities in Europe. There is, however, a sizeable evidence base of cross-sectional comparative studies on health inequalities that use pan-European data sets, such as the ESS (e.g. Eikemo et al. (114;115)) or EU-SILC (e.g. van der Wel et al. (37)). The EU has funded the longitudinal Eurothine database (Mackenbach et al. (79)), but this remains an exception and, as stated in the conclusions to the Mackenbach report (11), there still remains a national and international priority to strengthen data collection systems in order to continue to monitor health inequalities and identify examples of good practice in terms of tackling these inequalities. The studies identified in Section 3.8 may provide a further pointer to what can be obtained from available sources and areas that require further strengthening.

4. Policy response to health inequalities

4.1. Introduction

This section comprises the following.

- A description of EU-level actions on health inequalities prior to and following the Commission's communication 'Solidarity in health: reducing health inequalities in the EU' (2), particularly focusing on the post-2009 communication strategy. This is based on an assessment by HAPI of policy responses to health inequalities at EU level. Full details of the responses are in Annex 2.
- A report on the situation in individual EU Member States. This is based on a country-by-country assessment of policy responses to health inequalities at national and, where possible, regional and local levels. Full details of the responses are in Annex 3.

Commentary on the policy responses at EU, national, regional and local levels is provided in Section 5.

4.2. EU-level actions on health inequalities

The purpose of this section is to provide an overview of policy responses to health inequalities at the EU level, to summarise information about each response in an accessible format and, based on this, to highlight issues related to the responses, including dimensions of inequalities addressed, funding streams, progress and gaps. In doing so, the review is designed to inform and support the development of the commentary and recommendations section of the overall report on health inequalities in the EU.

For the purpose of this review a 'policy response' was defined as:

A discrete activity designed to contribute to reducing inequalities in health or the social determinants of health.

At the EU level there are a very large number of policy initiatives that are concerned with achieving change in the social determinants of health. To ensure the review was sufficiently focused, it was necessary to define what constituted a policy response to 'health inequalities'. The primary definition used was that a policy response to health inequalities recognises and seeks to reduce inequalities in social determinants of health or health outcomes, rather than seeking to achieve a general improvement. For this reason each policy response was analysed to identify which dimension of health inequalities was addressed. In addition, a small number of overarching strategic EU-level initiatives were included which do not explicitly refer to inequalities because of their significance.

A literature review of grey and published literature was undertaken to identify policy responses to include in the review, to scope the typology and to design the template for the analysis and documentation of responses.

The literature was identified in the following ways.

- Internet search engines and databases (Europa, Google, WHO) using keywords: health inequalities, health inequities, EU, Europe, social determinants of health.
- Advice from DG Health and Consumers.

'EU level' was defined as:

Instigated by or funded by the European Parliament, the Council of the EU or the Commission, or a European agency with funding from the European budget and covering two or more Member States.

For this reason, this section excludes projects in a single EU Member State, even where these projects are funded by the EU. Such projects are covered in Section 4.3, based on a review of national and sub-national policy responses.

4.2.1. Typology of responses

Based on the literature review, a typology was developed to categorise policy responses according to the kind of activity they involved (Table 4.1).

Table 4.1. Typology of responses

| Typology | Definition |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Communication | A document produced by the EC to indicate strategic intentions. |
| Policy | A statement of overall priorities in a particular area of EU competence normally agreed in a strategy document. |
| Action | A structured activity of support and/or funding for actions at EU, Member State and sub-national level that support EU policy. |
| Monitoring/evaluation | Activities to collect and analyse data and/or to assess how initiatives are working. |
| Committee/expert steering group | Group of professionals convened to meet on a regular basis to discuss particular issues. |
| Funding stream | Sum of money made available for grants to carry out a defined work programme. |
| Research | Activities to increase understanding and knowledge. |

4.2.2. Interviews

Semi-structured interviews were carried out by telephone with individuals identified as having useful insights into EU-level policy responses to health inequalities. The list of interviewees was developed based on advice from DG Health and Consumers and supplemented by HAPI's existing contacts of professionals working at the EU level on health and health inequalities. The purpose of the telephone interviews was twofold; firstly, to ensure identification and inclusion in the review of any policy responses that had been missed at the literature review stage; secondly, to get practical and up-to-date information on progress with policy responses.

The semi-structured interviews were based on five broad questions, with more detailed discussion on individuals' particular area of expertise. The broad questions were as follows.

1. Could you provide us with a short summary of the particular policy responses or actions to address health inequalities that your own directorate or policy area has developed at EU level? We are looking at inequalities in the social determinants of health, as well as health outcomes.
2. Which of these do you consider to be progressing particularly well and why?
3. Which of these do you consider not to be progressing so well and why?
4. Are there any gaps in policies and related actions to address health inequalities at the EU level in your view?
5. Is there anyone else you would suggest we talk to about this work?

4.2.3. Analysis and documentation of responses

Using the information from the literature review, a template was designed to analyse and document the key relevant features of each identified policy response. This template was then tested to ensure it was replicable and accessible. The template includes the following 14 domains:

- title,
- lead organisation/DG,
- type of activity,
- brief description,
- dimension of health inequality or inequity addressed,
- timescale,
- geographical scope,
- aims and/or objectives,
- summary of expected outcomes,
- summary of progress to date,
- funding (source and amount),
- other partners,
- key linkages and reference/Internet address (including date accessed).

Each policy response was then analysed and documented using these domains. Policy responses were grouped according to the lead organisation.

4.2.4. Emerging issues from the review of EU policy responses

4.2.4.1. The evolution of the EU's role in health inequalities: 2000–09

During this period, health emerged as an important policy area for the EU. In 2004 the Commission published the document 'Enabling good health for all — A reflection process for a new EU health strategy' (134). This document stated that:

The time has come for health to be put at the centre of EU policymaking.

However, while it identified health inequalities as an issue, it did not directly address action on health inequalities in its recommendations. Instead it recognised health as a driver for economic growth, and therefore the importance of prevention and the need to address key health challenges, such as: ageing-related conditions; high levels of lifestyle-related diseases, linked for example with obesity or tobacco consumption; a resurgence of serious communicable diseases, such as TB or HIV/AIDS; and the threat of new diseases such as SARS.

As indicated in Section 1.2, the Lisbon strategy in 2000 stressed the importance of poverty reduction and elimination of social exclusion in the EU (7). Since then, social and economic inequalities, including health inequalities, have become increasingly recognised as a significant policy issue in the EU. The sequence of key actions and EC documents to address health inequalities in the decade following the Lisbon strategy was described in Section 1.2. In summary these were the following.

- *The health status of the European Union – Narrowing the health gap*, published in 2003. This report highlighted areas of action for Member States and at EU level to narrow health inequalities (8).
- 'Follow-up to the high-level reflection process on patient mobility and healthcare developments in the European Union' (9). This document, issued by the High-Level Group on Health Services and Medical Care in 2004, included improving information and knowledge about health systems – to provide a better basis for identifying best practice and ensuring universal access to high quality services, but did not include health inequalities.
- Health was identified as an issue in the EU sustainable development strategy (10), which also recognised the link between poverty and ill health.
- As part of the UK Presidency of the Council, two major reports on health inequalities were commissioned – 'Health inequalities: Europe in profile' (11) and 'Health inequalities: a challenge for Europe' (12).
- In 2007, the Commission developed the agenda in the White Paper 'Together for health: a strategic approach for the EU 2008–13' (13). This stated that reducing inequalities in health must be a core value of future EU-level activities on health and tasked the Commission with developing actions to take this forward.
- The European Council underlined this commitment in the Presidency conclusions of 2008, which stressed:
... the importance of closing the gap in health and in life expectancy between and within Member States and stresses the importance of prevention activities in the field of major chronic non-communicable diseases (14).
- The renewed social agenda in 2008 also restated the fundamental social objectives of Europe being a strong commitment to harmonious, cohesive and inclusive societies respecting fundamental rights in healthy social market economies (15).

4.2.4.2. *The 2009 Commission communication on health inequalities*

A major milestone in the evolution of EU-level action on health inequalities was the publication by the Commission in 2009 of a major communication on health inequalities, 'Solidarity in health: reducing health inequalities in the EU' (2). This communication outlined the extent of the challenge: while the average level of health in the EU has continued to improve over the last decades, differences in health between people living in different parts of the EU and between the most advantaged and most disadvantaged sections of the population have remained substantial and in some instances increased. For example, between EU Member States a five-fold difference exists in deaths of babies under 1 year of age, along with a 14-year gap in life expectancy at birth for men and an 8-year gap for women. As indicated in Section 2, large disparities in health are also found between regions.



The communication identified several key areas for action to strengthen existing action to reduce health inequalities, including:

- distributing health equitably as part of the overall social and economic development;
- improving the data and knowledge base and mechanisms for measuring, monitoring evaluation and reporting;
- improving the exchange of information and coordination of policies between levels of government and across departments, and creating more effective partnerships with stakeholders;
- meeting the needs of vulnerable groups; and
- evaluating the effectiveness of EU policies in tackling health inequalities, directly or indirectly.

The communication also identified a number of specific actions for the EU level. These actions and progress to date with achieving these is described below. The communication stated that a first progress report would be produced in 2012. The communication was widely discussed and supported within the institutions and committees of the EU.

The European Parliament held a debate and adopted a resolution on 8 March 2011 on reducing health inequalities in the EU (135). The resolution notes the wide and growing disparities in physical and mental health which exist between and within EU Member States, which are the results of a host of economic, environmental and lifestyle-related factors, as well as access to healthcare. It expresses its concern that these inequalities could be made worse by the financial crisis and the combination of poverty and other forms of vulnerability, such as childhood or old age, disability or a minority background, and notes that ill health can lead to poverty and/or social exclusion. It welcomes the key suggestions made by the Commission in 'Solidarity in health: reducing health inequalities in the EU' (2) and calls for additional actions by the Commission and Member States. For example it asks for consideration of a Council recommendation on integrated national strategies to address health inequalities.

In June 2010, the Council of Ministers adopted conclusions on 'Equity and health in all policies: solidarity in health' (136). The Council expressed its concern:

At the wide and persistent differences in health status between EU Member States across all the social gradient; that vulnerable and socially excluded groups such as the unemployed or those on low incomes, the homeless, people with mental health problems, people with disabilities and people from some migrant or ethnic minority backgrounds such as Roma population experience particularly poor average levels of health.

It noted that reasons for poor health may include, apart from structural conditions (socio-economic and political context, governance, macroeconomic, social and health policy, and cultural and societal norms and values), less-favourable levels of income, education, housing and economic well-being than the mainstream population, as well as social discrimination, related stigmatisation and uneven access to health and other services.



The Council supported implementation of the health inequalities communication and highlighted a number of issues of importance, including the need to:

- assess the health impact of policies among different social groups;
- enhance public health capacities;
- consider how policies aimed at equity in health might contribute to sustainable economic development.

In December 2011, the Council adopted the conclusions on closing the health gap within the EU through concerted action on unhealthy lifestyle behaviours (137). In these conclusions, the Council recognises that the size of the health gaps within the EU is inconsistent with EU core values such as solidarity, equity and universality. The conclusions support the Commission's strategy on health inequalities 'Solidarity in health: reducing health inequalities in the EU' (2), as well as its ongoing action on diet, alcohol, physical activity, tobacco, information, indicators and networking. The conclusions call for Member States to implement the Council recommendation on smoke free environments and call on the Commission and Member States to promote tobacco control in accordance with the WHO Framework Convention on Tobacco Control and its guidelines, and consider its strengthening. In addition, there are calls for the reformulation of food to reduce total fat content, saturated fats, trans fats, salt, sugars and/or energy value; and the implementation of the WHO recommendations on the marketing of foods and non-alcoholic beverages to children and adults.

The Social Protection Committee, in its opinion on the Commission's communication (138), highlighted the key importance of the social gradient in health inequalities and emphasised the need to address the needs of vulnerable groups. It identified the need for further follow up work in the following areas.

1. Definition of a restricted number of indicators and improvement of data collection, in close connection with the Social Protection Committee and its Indicators Subgroup.
2. Special actions for vulnerable groups and specific age groups, in close connection with other existing initiatives dedicated to these groups.
3. Peer reviews and exchange of best practices, in cooperation with the Committee of the Regions and with Member States, based on the experience of the most advanced countries, while considering the actual transferability of practices with care.
4. Progress funding in support of innovative action on health inequalities.

4.2.4.3. How EU policy responses seek to impact on health inequalities

Policy responses at the EU level included in this review seek to impact on health inequalities through different mechanisms.

Firstly, there are a considerable number of policy responses that explicitly recognise the potential to impact on health inequalities through action on one or more of the social determinants of health. Examples include the European employment strategy, the common agricultural policy (CAP) and the sixth environment action programme.



Secondly, there are policy responses concerned with population groups that are particularly at risk of experiencing poorer health than the general population. Examples include the EU framework for national Roma integration strategies and several initiatives on migrant inclusion and health.

Thirdly, there are EU-level initiatives which are concerned with lifestyles that can both contribute to and result from health inequalities, for example: the strategy for Europe on nutrition, overweight and obesity issues; the tobacco products directive; the Council recommendations on smoke-free environments; and the EU strategy to support Member States in reducing alcohol-related harm.

In view of the significance of tobacco control as a lifestyle factor in relation to its health inequalities, it is worth outlining in more detail the EU and Member States' joint actions on tobacco control in particular. A central pillar of tobacco control is EU legislation on tobacco products and on tobacco advertising. These laws balance internal market objectives with the need to ensure a high level of public health protection across the EU. The Commission is in charge of overseeing the implementation of these laws and proposing necessary revisions. The proposal to revise the tobacco product directive in line with market, scientific and international developments was adopted by the Commission on 19 December 2012 (139).

For other areas of tobacco control, such as prevention, cessation and smoke-free environments, responsibility for providing the appropriate rules and structures lies with the individual Member States. In these areas, the EU's role is to support, complement and coordinate national efforts. The EU has made the following recommendations to Member States.

- Council recommendation on smoking prevention (140), which encourages Member States to control all forms of tobacco promotion and sales to minors, as well as to improve awareness and health education.
- Council recommendation on smoke-free environments (141), which calls on Member States to adopt and implement laws to protect citizens from exposure to tobacco smoke in enclosed public places, workplaces and public transport. It also calls for the enhancement of smoke-free laws with supporting measures to protect children, encourages smokers to quit and recommends that pictorial warnings be displayed on cigarette packages. There is also an EU wide campaign, 'Ex-smokers are unstoppable', which aims to contribute to the Commission's long-term objective of a smoke-free Europe. None of these measures expressly target lower socio-economic status groups or those who are socially excluded. The actions are therefore identified as plausibly impacting to contribute to a reduction in health inequalities, as tobacco use generally follows a social gradient.

Fourthly, there are a number of EU-level policy initiatives concerned with improving outcomes for people with particular health conditions or diseases that contribute to health inequalities. These include the 'European pact for mental health and well-being' and 'Action against cancer: the European partnership'.



Finally, Europe 2020 provides an overarching framework for other EU policies and actions, as well as targets for Member States. Europe 2020, agreed in 2010, seeks to develop a smart, sustainable and inclusive economy (142). The strategy includes five targets, one of which is at least 20 million fewer people in or at risk of poverty and social exclusion. Europe 2020 explicitly recognises the need to reduce health inequalities in order to achieve the objective of 'inclusive growth'. The inclusion of health inequalities in the Europe 2020 strategy, therefore, provides an additional mechanism to support the inclusion of health inequalities as a cross-cutting theme in EU policymaking.

4.2.4.4. Policy responses to health inequalities funded by the EU

In addition to policy responses undertaken by the EU, initiatives in health inequalities have been funded in response to calls for external projects. The range and scope of policy responses identified is very broad.

Many of these responses were concerned with improving baseline data and developing indicators for action on health inequalities. For example, through the work of the joint action on European Community health indicators and monitoring, promoting the European Community health indicators (ECHI) shortlist — the core set of public health indicators selected by different criteria including health inequalities; in addition, some indicators were identified as relevant for policy on health inequalities; and 'EURO-Peristat 2 — a comprehensive health information and knowledge system for evaluating and monitoring perinatal health in Europe'. Other projects seek to contribute to or articulate the evidence base for action to reduce health inequalities (for example, 'HealthPROelderly: evidence-based guidelines on health promotion for older people' — social determinants, inequality and sustainability). Some are to do with improving competencies and capacity at the Member State-level for action (for example, 'Determine: an EU Consortium for Action on the Socio-Economic Determinants of Health'). Other projects seek to increase the accessibility and appropriateness of services for vulnerable groups (for example, the 'Healthcare in NowHereland: improving services for undocumented migrants in the EU' project). Some projects are concerned with improving prevention, care and treatment services (for example, 'Correlation II — European network social inclusion and health'). Other projects are seeking to improve the effectiveness of broader EU-level actions in tackling health inequalities (for example, Euroregio III: 'Health investments in Structural Funds 2000–06 — learning lessons to inform regions in the 2007–13 period').

The scope of some of the policy responses is focused on specific determinants of health (for example, 'Networking workplace health in Europe'). The scope of others is defined as particular vulnerable groups (for example, 'Working with communities to reduce health inequalities: protecting children and young people from tobacco'). There are also responses focused on specific behaviours (for example, 'To empower the Community in response to alcohol threats' (ECAT)).

4.2.4.5. Funding for health inequality policy responses at the EU level

There is no single dedicated funding stream for health inequalities at the EU level. Instead, funding for EU-level responses to health inequalities has come from a number of sources. The 'Health' theme under the seventh framework programme for research



(FP7) has made available over EUR 6 billion in funding over the period 2007–13. Priority is being given to the following activities:

- biotechnology, generic tools and technologies for human health — producing knowledge that will be applied in the area of health and medicine;
- translating research for human health — making sure that basic discoveries have practical benefits and improve the quality of life;
- optimising the delivery of healthcare to European citizens.

Responses to health inequalities have been funded under the third of these activities and included in this review.

The budget directly related to health inequalities in FP7 has, however, been moderately limited, given the scale of the challenge and the size of the overall research budget. There have been two specific FP7 research calls for health inequalities: firstly, in the 2007 and 2008 work programme (Health — 2007 — 3.3-2: Interventions addressing the gradient of health inequalities) (143;144); and secondly, in the 2011 work programme (Health — 2011 — 3.3-1: Developing methodologies to reduce inequities in the determinants of health, and Health — 2011 — 3.4-2: Building sustainable capacity for research for health and its social determinants in low- and middle-income countries) (145).

However, a substantial body of research work on health inequalities has been funded through FP7 which should contribute to building a body of knowledge for evidence-based action. In addition, the research budget has funded three projects which will directly build regional research capacity in action on the social determinants of health in low- and middle-income countries arising from the 2011 call (Arcade RSDH, SDH-NET and Intrec). Table 4.2 summarises the projects funded by DG Research and Innovation (entered on the Cordis website) which are currently active and have health inequalities or equity in the title or clearly identified in the project description. Table 4.3 provides a comparable list of completed projects.

Prior to FP7, research into health inequalities and health equity took place under FP6 and FP5, most notably with the series of Ecuity projects (146), focusing on equity in the finance and delivery of healthcare (Ecuity I), health equity and the role of economic factors (Ecuity II) and health equity in relation to ageing (146). Amongst notable projects funded by DG Health and Consumers with an explicit focus on health inequalities were the Eurothine project (79) (completed 2007), which aimed to facilitate mutual learning by collecting and analysing information from different European countries to help policymakers at the European and national level to develop rational strategies for tackling socio-economic inequalities in health (147), and the subsequent EURO-GBD-SE project (109).

It would be helpful if the information on all these projects relating to health inequalities were grouped together in a single health inequalities-related portal. It would also be a useful exercise to bring together in one place all the evidence from European Union-funded projects which focused on tackling socio-economic status and excluded group inequalities in the social determinants of health, whether or not the intended outcome relates to health. It may also be worth exploring using the scientific



reference group of the 'Equity action' project to help to identify future areas of research which would help to build the evidence base for effective action on health inequalities through action on the social determinants of health.

Table 4.2. Current DG Research and Innovation FP7 projects with health inequalities or equity in the title or clearly identified in the project description

| Project acronym | Project title | EC financing (EUR) | Dates |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------|
| Sophie | Evaluating the impact of structural policies on health inequalities and their social determinants and fostering change. | 2 535 757 | 1.11.2011 to 31.10.2015 |
| Demetriq | Developing methodologies to reduce inequalities in the determinants of health. | 3 000 000 | 1.1.2012 to 31.12.2014 |
| Drivers | Drivers: Addressing the strategic determinants to reduce health inequality via (1) early childhood development, (2) realising fair employment and (3) social protection. | 2 799 593 | 1.1.2012 to 31.12.2014 |
| Devhealth | Understanding health approaches across the life-course: an integrated developmental approach. (Support for a research group to produce an integrated developmental approach to health that studies the origins and the evolution of health inequalities over the life course and across generations, and the role played by cognition, personality, genes and environments.) | 2 505 222 | 1.5.2011 to 30.4.2016 |
| Phybehi | Physical built environments and health inequalities. | 1 399 570 | 1.10.2011 to 30.9.2016 |
| Transendanc | Transport and social exclusion: new directions and national comparisons. (Identifying research which has sought to make the role of transport in enhancing or undermining social equity, inclusion and cohesion, health, well-being and quality of life more explicit and transparent.) | 88 200 | 1.2.2012 to 31.1.2015 |
| Conopp | Contexts of opportunity: explaining cross-national variation in the links between childhood disadvantage, young adult demographic behaviour and later-life outcomes. (This proposal examines this issue by studying the relationships between the experience of childhood social disadvantage, demographic decision-making during young adulthood and later-life economic, social and health outcomes from a comparative perspective.) | 1 545 000 | 1.6.2013 to 31.5.2018 |
| Lifestyle- and disease-specific research | | | |



| | | | |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------|
| SILNE | Tackling socio-economic inequalities in smoking: learning from natural experiments by time-trend analyses and cross-national comparisons. | 1 795 000 | 1.1.2012 to 31.12.2014 |
| Alcohol Lifecourse | Alcohol consumption across the life-course: determinants and consequences. (To describe age-related trajectories of drinking in different settings and to determine the extent to which individual and social contextual factors, including socio-economic position, social networks and life events influence drinking pattern trajectories). | 1 032 815 | 1.1.2013 to 31.12.2016 |
| Hivdis | Impact of socio-economical inequalities in the progression of HIV infection at individual and contextual level in Europe. | 159 365 | 30.6.2012 to 29.6.2014 |
| Rescap-MED | NCDs and their social determinants in Mediterranean partner countries: building sustainable research capacity for effective policy intervention. (Strengthening capacity in a set of disciplines most relevant to improving public health and reducing health inequalities.) | 1 986 255 | 1.1.2012 to 31.12.2014 |
| Developing social determinants of health research capacity in low- and middle-income countries | | | |
| Mascot | Multilateral association for studying health inequalities and enhancing north-south and south-south cooperation. | 1 999 895 | 1.10.2011 to 31.3.2014 |
| Arcade RSDH | Asian regional capacity development for research on social determinants of health. | 1 996 595 | 1.12.2011 to 30.11.2015 |
| SDH-NET | Building sustainable research capacity for health and its social determinants in low- and middle-income countries. | 2 000 000 | 1.10.2011 to 30.9.2015 |
| Intrec | In-depth training and research centres of excellence. (Intrec collaboration action is envisioned to address health inequities in LMICs of Africa and Asia by developing sustainable capacity for research for health and its social determinants, and by facilitating translation of research findings into policy and practice in both regions). | 1 997 402 | 1.1.2012 to 30.6.2015 |
| Other examples of research outside of Europe with a focus on health inequalities | | | |
| HEFPA | Health equity and financial protection in Asia. | 2 885 767 | 1.6.2009 to 30.11.2013 |
| Inthec | Health education and community integration: evidence-based strategies to increase equity, integration and effectiveness of reproductive health services for poor communities in sub-Saharan Africa. | 2 750 000 | 1.3.2010 to 28.2.2014 |

Source: Cordis (148).

Table 4.3. Completed projects funded by DG Research and Innovation, with health inequalities or equity in the title or clearly identified in the project description

| Project acronym | Project title | EC financing (EUR) | Dates |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|
| Project reference: MR4*0050 | Distributive effects of cost containment in healthcare. (The project's aim was to generate evidence on the comparative performance — in terms of equity — of different healthcare financing and delivery systems.) | Not available | 1.4.1988 to 31.12.1990 |
| Project reference: MR4*0185 | Socio-economic factors in health and healthcare. (To stimulate comparative European research actions to monitor socio-economic factors of health and healthcare.) | Not available | 1.8.1989 to 31.12.1992 |
| Project reference: BMH4983352 | Economic determinants of the distribution of health and healthcare in Europe. | Not available | 1.4.1998 to 31.3.2002 |
| Ecuity III | The dynamics of income, health and inequality over the life cycle. | 450 040 | 1.1.2003 to 31.12.2005 |
| Gradient | Tackling the gradient: applying public health policies to effectively reduce health inequalities amongst families and children. | 1 881 257 | 1.4.2009 to 31.3.2012 |
| GINI | Growing inequalities' impacts. (The project focused on inequalities in income/wealth and education and their social/political/cultural impacts.) | 2 699 795 | 1.2.2010 to 31.7.2013 |
| Chicos | Developing a child cohort research strategy for Europe. (Chicos is structured along key child-health outcome themes (perinatal outcomes, asthma, obesity, cognitive and behavioural development, injuries, infections, childhood cancer) and key determinant themes (social inequalities, nutrition and exercise, lifestyle exposures, environmental toxin exposures, genetic factors and biobanks, multiple risk factors).) | 1 490 124 | 1.1.2010 to 28.2.2013 |

Source: Cordis (148).

The EU health programme (2008–13) includes reducing health inequalities within one of its three objectives. The health programme has funded several important activities in relation to generating information and knowledge on health inequalities, supporting policy development, developing good practice in specific areas — such as for vulnerable groups — and has supported a 'joint action' co-funded by 15 EU Member States and Norway to support policy development by Member States and regions to



improve stakeholder engagement and the development and exchange of scientific information on health inequalities. The joint action began in January 2011 and will run for 3 years.

Progress (the EU programme for employment and social solidarity 2007–13) included a specific call for proposals in 2010 to take forward the actions outlined in the Commission's communication on health inequalities, specifically by providing support to national or regional authorities in participating Progress countries to strengthen policies to address health inequalities. Countries eligible to participate comprise EU Members, candidate and potential candidate countries and Iceland, Liechtenstein and Norway.

Progress has also included calls for other activities which have the potential to impact on health inequalities, for example the recent call 'Innovative policies to support healthy, active and dignified ageing and raise the effectiveness and efficiency of spending on social, health and long-term care services and benefits' (146). Some policy responses funded in this way have been included in this review but it is too early to report on their progress.

The European Integration Fund for non-EU migrants has a budget of EUR 825 million for 2007–13. It supports EU Member States and civil society in enhancing their capacity to develop, implement, monitor and evaluate integration strategies, policies and measures, as well as their exchanges of information and best practices, and cooperation on integration issues. Of the total, 7 % is aimed at supporting projects addressing aspects of integration, including access to healthcare, and could potentially impact on health inequalities between non-EU migrants and the general population. While no projects which explicitly aim to reduce health inequalities between non-EU migrants and the population in general have been identified which were financed by this fund, integration strategies insofar as they increase access to education, employment, social services and social protection are likely to contribute significantly to the overall health status of the non-EU migrants over the life-course. In addition, the focus on migrant health through the work of the Portuguese Presidency of the EU is likely to have increased attention with regard to migrant health in Member States.

The EU cohesion policy (ECP) provides financial support to Member States in addressing regional imbalances. For 2007–13, the ECP focuses on three main objectives, as follows.

1. Convergence: the aim is to reduce regional disparities in Europe by helping those regions whose per capita gross domestic product (GDP) is less than 75 % of that of the EU to catch up with the ones which are better off.
2. Regional competitiveness and employment: the aim is to create jobs by promoting competitiveness and making the regions concerned more attractive to businesses and investors.
3. European territorial cooperation: the aim is to encourage cooperation across borders — be it between Member States or regions — that would not happen without help from the cohesion policy.



Actions undertaken to promote social capital, improve employment opportunities and increase social cohesion impact on the social determinants of health and consequently have the potential to reduce inequalities in health. Furthermore, health has been defined as one of the areas for support through the European Regional Development Fund (ERDF) and European Social Fund (ESF). Health promotion, disease prevention, transfer of knowledge, training and availability of highly skilled staff and infrastructure in convergence regions are some of the topical areas qualifying for support. The guidelines note that there are:

... major differences in health status and healthcare between EU regions ... [thus] it is important for cohesion ... to contribute to healthcare facilities. Community-based health improvement and preventive actions have an important role to play in reducing inequalities.

Specific actions funded by the ECP are outside the scope of this EU-level review, as in general they are concerned with projects at a national or regional level. They may emerge from the national- and regional-level review.

Two key points have emerged in the consideration of the 2014–20 ESF and ERDF programmes. Firstly, definitions of socially excluded groups are drawn up at national level, which may have implications for the definition and therefore funding of some socially excluded groups where the exclusionary processes are not recognised by national governments or where the data have not been collected to enable identification of exclusion. Secondly, in relation to the ERDF there is a concern that although funds are targeted towards the more deprived regions, within those regions it may be that they are not further targeted to the more deprived parts of those regions. The Commission is developing poverty mapping at subregional level and inviting Member States to use it in considering ERDF allocations. It would be helpful if a review took place of ERDF spending, mapping against micro-regions, to ascertain the extent to which poorer regions receive greater funding, or not.

The CAP is not a social policy, but it has elements that may contribute to the reduction of health inequalities, such as ensuring a fair standard of living for farmers, the availability of food supplies and reasonable consumer prices. The CAP supports the school milk scheme and the school fruit scheme. These schemes have the potential to impact on health inequalities, although the health impacts have not been assessed. The CAP also includes a programme of distributing free food to deprived groups. This has been assessed as having improved food security amongst some vulnerable groups. However, its health impacts have not been evaluated. In addition, the EU rural development policy supports investment in and development of social and healthcare services, technology and infrastructure in rural areas as well as training and information actions on health and social subjects.



4.3. Country-level policies

This section comprises an assessment of policy responses to health inequalities at national and, where possible, regional and local levels. It is based on work to compile a comprehensive overview of policies relating to health inequalities across the European countries studied, including interviews with key experts in each country. For the sake of brevity, in this section, the term 'policy' refers to all strategies, programmes, plans, policies and legislation which were identified by the review. Country profiles were developed to provide a basis for an analysis of policies, strategies and actions being taken to tackle health inequalities in the EU Member States and in countries which are part of the EU health programme.

4.3.1. Approach taken

The methodology used to do this is described in detail in Annex 1. In summary, a template was developed to frame the different policy responses for each country. A literature review and Internet search was carried out to collect as much information as possible about policy responses to health inequalities at national, regional and local levels. The following information formed the basis of the country profiles:

- strategies and other policy responses (e.g. national action plans) to address health inequalities and social exclusion, implemented from the year 2005 onwards;
- other key documents and resources (e.g. scientific reports/own initiative reports of committees) that were published since 2005;
- monitoring and evaluations in place that assess the effectiveness and efficiency of the implemented policy responses;
- an overview of key actors in Member States responsible for and involved in activities and initiatives undertaken as a response to addressing health inequalities.

Initial sources of information included the 'Closing the Gap' (149) and 'Determine' (150) projects, as well as other Commission co-funded projects on health inequalities and related topics, updates from the EU Expert Group on Health Inequalities, the WHO Regional Office for Europe and the Commission's national action plans (NAPs) on social inclusion, as well as other documents specified by the Commission.

Draft country profiles were drawn up which functioned as the basis for an online call for information. Using the country profiles as a starting point, experts from different countries highlighted additional reports and proposals, and provided comments and details to help finalise the country profiles. After the call for information, a wider range of stakeholders were contacted in a call for validation to assess whether any essential information was still missing from the draft country profiles. Stakeholders approached included those on a database of around 5 000 people working directly or indirectly on health inequalities issues, ministries of health (and social affairs) in all EU Member States and attendees of the Spanish Presidency Conference on Health Inequalities.



Based on the country profiles, a template was then developed for use in interviews with key experts (listed in Annex 1) from different countries — at least one in each EU health programme country — starting with members of the EU Expert Group on Health Inequalities and Social Determinants. In addition, national public health institutes were asked for a recommendation. Profiles of respondents who provided information to the calls were checked to see whether they worked within the national government. The experts involved are listed in Annex 6.

The aim of the interviews was to identify gaps and difficulties in implementing policies, though information was also sought on successes and improvements in the implementation of a policy response to health inequalities.

Country-by-country reports were produced using information collected during the document analysis and Internet searches, the feedback obtained during the call for information and call for validation and the interviews with the country experts. These reports provide an overview of policies in each of the countries participating in the EU health programme. It highlights the extent of existing plans and the strengths and challenges in addressing health inequalities.

A total of 274 policy responses were identified. A two-stage evaluation scheme was initiated, with the overall aim of gaining an objective insight into the level of response to health inequalities in the European countries participating in the EU health programme.

4.3.2. First-stage policy evaluation

The first stage involved setting up a database of the information collected, fact checking and updating information, eliminating erroneous entries (Annex 3) and reviewing each policy according to strict (and as far as possible objective) evaluation criteria (see Annex 4).

These criteria involved assessing whether a policy specifically focused on health inequalities, whether it was a 'standard health policy' led by the health sector or some other kind of policy. Evaluation examined whether there were specific aims to reduce health inequalities, or whether a policy implied a reduction of health inequalities although it did not explicitly refer to them. Other evaluated criteria included analysis of the sector(s) leading the policy, sectors involved in its implementation, its territorial range (e.g. local, regional, national) and whether there was monitoring and evaluation built in.

Overall, the aim of this first stage of evaluation was to make an initial assessment of whether a policy had explicit or implicit aims to reduce health inequalities and to delineate them by policy category. These policy categories stated: (1) whether the policy focused specifically and primarily on health inequalities; and, if not, (2) whether the policy was led by the health sector and dealt with health-related issues or some other kind of policy (Table 4.4).

Table 4.4. Policy categories

| Categorisation | Explanation |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| National HI policy | A national policy focused on health inequalities. |
| Regional HI policy | A regional policy focused on health inequalities. |
| Standard health policy (SHP) | A policy led by the health sector dealing with health-related issues. May have significant HI-reduction elements, but policy or strategy is not specifically formulated to reduce HIs. |
| Other | Some other policy type led by another sector. May have significant HI-reduction elements, for example acting on the social determinants of health, but policy or strategy is not specifically formulated to reduce HIs. |

4.3.3. Second-stage policy evaluation

The first stage of policy evaluation provided an overview of the data collected, but also of the data that were lacking and needed to be followed up. Although a first step had been made in understanding policy responses to health inequalities in European countries participating in the EU health programme, the findings were preliminary and it was clear that the policies identified needed to be examined in more detail.

For this reason, the second stage of policy evaluation involved going through individual policies and attempting to fill the identified gaps in information already collected. Whole documents were reviewed making frequent use of free translation services to examine texts that were in many different languages, and in doing so we tried to ensure that different terminology (e.g. 'health inequalities', 'disparities in population health', 'health problems that are relatively higher in lower socio-economic groups', etc.) was treated as equally as possible in order to avoid linguistic (or translation) bias.

This level of analysis made it possible to classify each policy according to policy type (Table 4.5).

Table 4.5. Policy types

| Categorisation | Explanation |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Explicit national HI response | A national policy formulated with the express purpose of responding to health inequalities; has explicit aims to reduce health inequalities through action on a broad range of the social determinants of health or by incorporating the issue into the mainstream of other policy areas. |
| Explicit regional HI response | A regional (or city) policy formulated with the express purpose of responding to health inequalities; has explicit aims to reduce health inequalities through action on a broad range of the social determinants of health or by incorporating the issue into the mainstream of other policy areas. |
| Standard health policy — explicit | A policy led by the health sector focusing on health-related issues other than health inequalities; has explicit and significant health inequality reduction aims and may take targeted and/or universal action(s) on the social determinants of health. |
| Other policy — explicit | A policy generally led by a non-health sector focusing on issues other than health inequalities; has explicit and significant health inequality reduction aims and may take targeted and/or universal action(s) on the social determinants of health. |
| Standard health policy — implicit | A policy led by the health sector focusing on health-related issues other than health inequalities; has no significant aims to reduce health inequalities but may take action on the social determinants of health in such a way as to reduce them. |
| Other policy — implicit | A policy generally led by a non-health sector focusing on issues other than health inequalities; has no significant aims to reduce health inequalities but may take action on the social determinants of health in such a way as to reduce them. |
| Standard health policy — not an HI response | A policy led by the health sector focusing on health-related issues other than health inequalities; has no health inequality reduction aims and does not take action on the social determinants of health in a way likely to help to reduce them. |
| Other policy — not an HI response | A policy generally led by a non-health sector focusing on issues other than health inequalities; has no health inequality reduction aims and does not take action on the social determinants of health in a way likely to help to reduce them. |

These policy types were developed to describe whether policies identified were explicit, implicit or not responses to health inequalities and their level of implementation (regional or national). Examples of the different policy types are illustrated in Table 4.6.

Table 4.6. Examples of policies reviewed by policy type

| Policy type | Example policy | Brief description |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Explicit national response | HI Kansallinen terveysterojen kaventamisen toimintaohjelma (National action plan to reduce health inequalities) (Finland) (151) | A health inequality reduction plan with actions to include health inequality reduction aims into the mainstream of other policy areas, strengthening the knowledge base of the issue, improving cross-sectoral cooperation and advancing use of health impact assessments. More details of this example are given in case study 4.1. Other examples of explicit national responses are given in case studies 4.2 (Denmark) and 4.3 (Norway). |
| Explicit regional response | HI Fairer health outcomes for all (UK, Wales) (152) | A policy aiming to reduce health inequalities by targeted and universal actions in areas including early child development, access to health services, health literacy and teenage pregnancy. Particular emphasis is placed on promoting the HiAP approach to tackling the social determinants of health. Within the UK, there are also explicit responses by the other administrations. For example, the response in Scotland is summarised in case study 4.4. |
| Standard health policy – explicit | Rahvastiku Tervise Arengukava 2009–20 (National health plan 2009–20) (Estonia) (153;154) | An example of the health sector leading a cross-departmental initiative with the incorporation of ‘traditional’ social affairs concerns about social cohesion, the living environment, equal opportunities and workplace health and safety within the scope of health (see case study 4.5). It places strong emphasis on tackling the social determinants of health through action on early child development, employment conditions, diet and nutrition, and physical activity. Other examples of countries where standard health policies include an explicit emphasis on health inequalities are given in case studies 4.6 (Latvia) and 4.7 (Finland). |
| Other policy – explicit | Strategie der Bundesregierung zur Förderung der Kindergesundheit (Strategy of the federal government on the promotion of children’s health) (Germany) (155) | Children’s health policy with explicit reference to health inequalities. Strong cross-sectoral approach with targeting of measures at disadvantaged people. Emphasises health promotion, access to health services, child poverty and other social determinants of health (see case study 4.8). Another example of an explicit health inequality policy, concerning sport in the Netherlands, is given in case study 4.9. |



| | | |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard health policy – implicit | National prevention and control of tuberculosis (Bulgaria) (156;157) | Policy aiming to prevent and control tuberculosis through improvement of health information systems, e-health, medical equipment and hospital care. Implicit focus on health inequalities through measures targeted at poorer and disadvantaged communities. |
| Other policy – implicit | Plan de Acción Integral para las Personas con Discapacidad en Andalucía (Action plan for people with disabilities in Andalusia) (Spain) (158) | Regional cross-sectoral disability law, with emphasis on tackling some of the social determinants of health, including social exclusion and employability of disabled people. Other examples of policies with implicit reference to health inequalities are given in case studies 4.10 (the Estonian national reform programme) and 4.11 (Roma policies in Hungary). |
| Standard health policy – not an HI response | The administration of medicines in schools (UK, Scotland) (159) | A policy aiming to ensure that the appropriate arrangements are put in place for the administration of medicines in schools. |
| Other policy – not an HI response | III national plan against domestic violence (Portugal) (160) | A development strategy for the island of Gozo, covering issues such as tourism, energy efficiency, culture, research and development, and environmental sustainability. |



Case study 4.1. Kansallinen terveyserojen kaventamisen toimintaohjelma 2008–11 (National action plan to reduce health inequalities 2008–11)

Country: Finland

Type: Explicit national HI response

Dates: 2008–11

Link:

http://www.stm.fi/julkaisut/julkaisu-sarja/nayta/-/_julkaisu/1063837
(Finnish/English)

The national action plan to reduce health inequalities outlines proposals for strategic policy definitions and the most important measures to reduce socio-economic health inequalities in Finland.

A separate action plan was deemed necessary because inequalities persist despite the efforts undertaken through health and social policies. Narrowing health gaps has been the objective of Finnish health policy since the 1980s. This objective has not been achieved, however, and the inequalities have actually increased. The role of the action plan is also to ensure that the involved actors take account of the impacts their actions have on different population groups.

The national action plan to reduce health inequalities is closely linked with the government's health promotion policy programme. The action plan will also for its part implement the aim of the national 'Health 2015' programme to reduce mortality differences by a fifth by 2015.

The action plan concentrates on action in the following three priority areas.

- Social policy measures: improving income security and education, and decreasing unemployment and poor housing.
- Strengthening the prerequisites for healthy lifestyles: promoting the healthy behaviour of the whole population, with special attention to disadvantaged groups where unhealthy behaviour is more common.
- Improving the availability and good quality of social and healthcare services for everyone.

To pursue these goals and monitor the attainment of them, reliable knowledge base and effective communication is required. This necessitates the following.

- Development of a follow-up system for health inequalities.
- Strengthening knowledge about the scope of and trends in health inequalities.
- Advancing education and communication about health inequalities and their reduction.



Case study 4.2. Ulighed i sundhed – Årsager og Indsatser (Health inequalities – determinants and policies (report))

Country: Denmark

Type: Explicit national HI response

Dates: 2011 onwards

Links:

http://www.sst.dk/publ/Publ2011/SURA/Ulighed_i_sundhed/UlighedSundhedAarsagerIndsatser.pdf (Danish)

<http://www.sst.dk/publ/Publ2010/CFF/Sundhed/AgendaSundhedPaaTværs.pdf> (*Health as a cross-cutting issue*, Danish)

<http://www.sst.dk/publ/Publ2012/03mar/SocialUlighedSundhedKommuner.pdf> (materials for municipalities can be found here, Danish).

<http://www.sst.dk/Sundhed%20og%20forebyggelse/Social%20ulighed%20i%20sundhed/VideoUlighedISundhed.aspx> (video, Danish)

http://ec.europa.eu/health/social_determinants/docs/denmark_rd01_en.pdf (English)

This report was prepared as a direct response to the WHO CSDH. Its overriding purpose is to explain why health inequalities are increasing in Denmark despite universal healthcare coverage and relatively low levels of inequality, and to suggest measures that can be taken to reverse this trend. The Danish National Health and Medicines Authority has also published *Sundhed på tværs* ('Health as a cross-cutting issue'), which explores arguments for integrating health in sectors other than health and identifying possible obstacles for this integration. This was supplemented by a review of the legislation of other sectors than health.

The report highlights the following factors as contributing to a widening of health inequalities in Denmark:

- efforts to combat the social determinants of health turning into individualised actions on behavioural factors;
- while the problem has been formulated in terms of a social gradient of health, actions have generally been directed towards less socially vulnerable groups;
- universal services have generally been exploited more by 'resourceful groups';
- despite calls for resources to be directed at health promotion/disease prevention, acute treatment receives a progressively larger portion of the health budget;
- too many initiatives have taken the form of individual time-limited projects in disadvantaged areas rather than influencing other areas which affect health;
- lack of political buy-in and cooperation with health-related initiatives;
- selected indicators of health equity (reduced inequalities in infant mortality and life expectancy) take many years to become evident and monitoring of determinants by social groups is necessary;
- most interventions to reduce health inequalities lacked evidence of efficacy.

With a view to ending this trend, the report suggests actions across the life-course of individuals in three main areas: early child development and schooling, socio-economic status, and healthcare provision and access to services. Actions include:

- reducing social inequalities in children's early cognitive, linguistic, emotional and social development and reducing early school leaving;
- reducing social segregation and increasing social participation in civic life;
- reducing income inequality and reducing the poverty of families with children;
- reducing long-term unemployment, particularly amongst early school leavers and those with mental health issues;
- reducing exposure to airborne pollution;
- taking action to reduce risks at work and improving workplace health and



safety;

- reducing tobacco and alcohol consumption, increasing levels of physical activity and promoting healthy diets;
- promoting independent living and providing dental and homecare visits for the elderly, focusing in particular on those with lower levels of education;
- ensuring that access to healthcare services is equal across the social gradient, through outreach efforts to disadvantaged groups, more geographically equitable distribution of specialist health services and monitoring of healthcare-service usage by socio-economic group;
- improving access to different kinds of employment, introducing flexibility to enable people to stay in (or return to) the labour market during (and after) periods of illness.



Case study 4.3. Nasjonal strategi for å utjevne sosiale helseforskjeller (National strategy to reduce social inequalities in health)

Country: Norway

Type: Explicit national HI response

Dates: 2007 onwards

Links:

http://www.regjeringen.no/pages/1975150/PDFS/STM200620070020000EN_PDFS.pdf (English)

<http://www.regjeringen.no/pages/1936477/PDFS/STM200620070020000DDDPDFS.pdf> (Norwegian)

<http://helsedirektoratet.no/publikasjoner/folkehelsepolitisk-rapport-2011/Publikasjoner/folkehelsepolitisk-rapport-2011.pdf> (2011 progress report, Norwegian)

The Norwegian strategy to reduce social inequalities in health was launched in 2007. It is a broad, long-term strategy to reduce social inequalities in health by levelling up the health of those with the worst health.

It includes actions in the following key areas.

- Income — ensuring that taxes and social benefits promote fairer income distribution in society.
- Children — ensuring that all children have equal opportunities regardless of their parents' financial situation, education, ethnic identity and geographical identity.
- Employment and working life — investments to promote a more inclusive labour market and steps to ensure a healthier working environment for all.
- Diet, physical activity, smoking and other health-related behaviours — priority to policy instruments that influence cost and availability of healthy behaviours.
- Health services — investigation is taking place on the question of whether Norwegian health services are helping to level out health inequalities or if they are reinforcing them.
- Preventing social exclusion of marginalised groups — measures to promote inclusion in the workplace, inclusion at school and adapted health and social services.

It also includes considerations about promoting health in all sectors, and a review and reporting system for monitoring progress; cross-sectoral tools such as health impact assessments; and more systematic policy planning in the municipalities.

Progress reports on the strategy are published annually. The 2011 report showed progress in several areas, including income distribution, kindergarten coverage and inclusion, and health behaviours among adolescents.



Case study 4.4. Equally well – Scotland's framework on health inequalities

Country: United Kingdom, Scotland

Type: Explicit regional HI response

Dates: 2008 onwards

Links:

<http://www.scotland.gov.uk/Publications/2008/06/25104032/0> (*Equally well*)

<http://www.scotland.gov.uk/Publications/2009/01/13095148/0> (*The early years framework*)

<http://www.scotland.gov.uk/Publications/2008/11/20103815/0> (*Achieving our potential – A framework to tackle poverty and income inequality in Scotland*)

<http://www.scotland.gov.uk/Publications/2010/06/22170625/0> (*Equally well review 2010*)

http://www.audit-scotland.gov.uk/docs/health/2012/nr_121213_health_inequalities.pdf (*Health inequalities in Scotland*, Auditor General for Scotland and the Accounts Commission, 2012).

In 2007, the Scottish government established a Ministerial Task Force for Health Inequalities to identify and prioritise actions to reduce the most significant and widening health inequalities.

The task force published its report, *Equally well*, in 2008, and this considered the evidence for health inequalities in Scotland and identified a range of priorities where action was most needed to tackle health inequalities. This included:

- early childhood development;
- tackling poverty and income inequality;
- improving the physical environment and transport;
- access to health and social care services.

The report also included recommendations for the Scottish government, NHS boards, councils and other public sector bodies. Separate reports were published outlining in more detail action to be taken in early childhood development and poverty and income inequality.

The Task Force published a review of Equally Well In 2010 which examined progress since the publication of Equally Well And made more recommendations for addressing health inequalities. In December 2012 a report was published by the Auditor General, giving recommendations to different bodies, including one for the Scottish government to introduce national indicators to specifically monitor progress in reducing health inequalities and report on progress.



Case study 4.5. Estonian national health plan

Country: Estonia

Type: Standard health policy – explicit

Dates: 2009–20

Link:

http://www.sm.ee/fileadmin/meedia/Dokumendid/ASO/RTA/National_Health_Plan_2009_2020.pdf

The Estonian national health plan (NHP) 2009–20 is a good example of a whole-of-government approach to improving health, and the health sector leading a cross-departmental initiative, placing ‘traditional’ social affairs concerns about social cohesion into the mainstream, the living environment, equal opportunities and workplace health and safety into health. Ten ministries report their activities to the steering committee of the NHP and to the government each year.

The NHP’s main objective is to increase life expectancy (by over 7 years for males and over 5 years for females) and healthy life expectancy, and strategic objective 1 of the NHP is to improve social cohesion and reduce inequalities in health. Actions include measures to reduce poverty, unemployment, deprivation, gender inequality and discrimination, as well as capacity-building for health promotion in communities, municipalities, educational and social services and the private sector.

Case study 4.6. Sabiedrības Veselības pamatnostādnes (Public health guidelines)

Country: Latvia

Type: Standard health policy – explicit

Dates: 2009–20

Link:

[http://phoebe.vm.gov.lv/misc_db/web.nsf/626e6035eadbb4cd85256499006b15a6/a6b75e1a6c38b637dc22573d800293aaa/\\$FILE/POamatnostadnes_eng_pdf.pdf](http://phoebe.vm.gov.lv/misc_db/web.nsf/626e6035eadbb4cd85256499006b15a6/a6b75e1a6c38b637dc22573d800293aaa/$FILE/POamatnostadnes_eng_pdf.pdf)
(English)

The strategy forms part of the overall strategic development plan for Latvia and connects to strategies in sectors such as employment, home affairs, education, transport, environment and agriculture. Specific actions are planned on disease prevention, lifestyles, chronic diseases, healthcare governance and medical care.

The strategy aims to help Latvia increase its life expectancy at birth from 91 % of EU average in 2008 to 95 % of EU average by 2017.



Case study 4.7. Terveys 2015 – kansanterveysohjelma (Health 2015 public health programme)

Country: Finland

Type: Standard health policy – explicit

Dates: 2001–15

Links: http://www.stm.fi/c/document_library/get_file?folderId=42733&name=DLFE-6214.pdf (Finnish)

http://www.stm.fi/c/document_library/get_file?folderId=42733&name=DLFE-6215.pdf (brochure, Finnish)

Health 2015 is a long-term health policy programme whose purpose is to improve health to allow people to lead longer active lives and to reduce inequalities in health between different population groups.

Implementation is based on the principle of health in all policies and derives from the 'Health for all' programme of the WHO. As such, it seeks to promote health and well-being not only in healthcare but in all areas of society. The programme is implemented by various stakeholders, including municipalities, private businesses and NGOs.

The programme includes the following objectives.

- To increase children's welfare and address issues related to insecurity.
- To reduce smoking among young people aged 16–18 years by 15 %.
- To reduce the incidence of drug-related addiction and reduce health problems associated with it.
- Reduce accident and violent deaths by a third compared to levels in the late 1990s.
- To support measures that help people stay in employment and to improve workplace conditions.

Attaining the targets requires the adoption of health as a governing principle in choices made in all areas of local and central government, in the private sector and in the actions of individual citizens. Implementation and monitoring of the programme is coordinated by the Advisory Board for Public Health together with the Ministry of Social Affairs and Health.



Case study 4.8. German policies and initiatives

Country: Germany

Type: Various

Dates: 2001 onwards

Germany has a range of laws and initiatives to tackle health inequalities. These include the following.

- The Social Security Code on Primary Prevention Services. This is financed by statutory sickness funds. The code stipulates the need to improve public health in general and to contribute to reducing socially induced health inequalities.
- A national action plan on integration, which was launched in January 2012 by the chancellor Angela Merkel. This action plan contains clearly defined targets on 11 issues: early development, education and training, labour market, health, culture, sports, civil society, media, integration at local level, people with migrant background and the public service.
- A 'National cooperation network on health promotion among the socially disadvantaged', which has been running since 2001 in order to strengthen the cooperation at national and *Länder* level and with other partners and stakeholders. The aim is to enhance and disseminate good practice in projects and services for health promotion among the socially disadvantaged, to strengthen cooperation among service providers and stakeholders in this field and to improve the quality of services. The network currently consists of 54 partner organisations, the national and *Länder* governments and municipal authorities. It has developed a comprehensive Internet portal, a database on good practices, a municipal partner process and 'Recommendations for action on growing up healthily for all', which are currently being implemented at regional and municipal levels. See <http://www.gesundheitliche-Chancengleichheit.de>
- Strategie der Bundesregierung zur Förderung der Kindergesundheit ('Strategy of the federal government on the promotion of children's health'), which involves various sectors including health, agriculture and rural affairs, and consumer protection, and has a strong focus on disadvantaged groups and action on lifestyle issues and child care. See: http://www.kindersicherheit.de/pdf/2008Strategie_Kindergesundheit.pdf



Case study 4.9. Samen Gezond – Meerjarenprogramma Gezondheid en Sport in de Haagse Krachtwijken 2010–18 (Healthy together: multiannual health and sports strategy for The Hague)

Country: Netherlands

Type: Other policy type (sport) – explicit

Dates: 2010–18 (first phase 2010–14)

Link:

<http://www.gezondgeweten.nl/downloads/MJPdef-16-2.pdf> (Dutch)

This regional strategy aims to reduce health inequalities, particularly in deprived neighbourhoods, through multi-stakeholder actions. The strategy has four main strands, as follows.

- **Healthy sporting life:** to develop an integrated approach to childhood obesity, provide information about diet and lifestyles, strengthen links between schools and health clubs, develop neighbourhood approaches to mental health and ensure accessible sports and leisure services.
- **Environmental health:** to reduce housing-related health problems, improve the design and indoor environments of schools, redesign public spaces to improve safety and reduce pollution, and create obstacle-free routes for pedestrians and cyclists.
- **Accessible health services and care:** improving efficiency and delivery of health services to residents, providing easier access to mental health services and prioritising early interventions on this, improving the health literacy of residents and training local carers to improve their intercultural competences.
- **Breaking the vicious circle between poor health and socio-economic status:** taking action on truancy and school attendance and supporting the social inclusion of those with mental health issues.

A large number of stakeholders are involved in the strategy, including sports clubs, universities, hospitals, health insurance organisations and government departments responsible for sports, housing, communities, integration and health. Actions are monitored on a 3-monthly (quarterly) basis to the programme consortium, and evaluation will concentrate on the processes by which actions have been undertaken and whether set goals have been achieved. The (mostly longer-term) health outcomes of the programme will be monitored through repetition of an established health survey.



Case study 4.10. National reform programme 'Estonia 2020'

Country: Estonia

Type: Other policy type (government programme) – implicit

Dates: 2011-2020

Link:

http://ec.europa.eu/europe2020/pdf/nrp/nrp_estonia_en.pdf (English)

Estonia 2020 describes the priorities and measures to be implemented to raise Estonia's competitiveness, with goals in harmony with the objectives of the Europe 2020 strategy (142).

The strategy sets targets for the year 2020 relating to the following.

- Reducing the share of early leavers from education, i.e. the percentage of young adults (age group 18–24) with (at most) lower secondary education and not in further education or training.
- Increasing the tertiary educational attainment (age group 30–34).
- Reducing the at-risk-of-poverty rate after social transfers.
- Increasing the participation rate in lifelong learning among adults (age group 25–64).
- Reducing the share of adults (age group 25–64) without any professional education or vocational training.
- Reducing the long-term unemployment rate.
- Decreasing the youth unemployment rate (age group 15–24).
- Increasing the labour participation rate (age group 15–64).

Government priority 5 highlights the importance of increasing healthy life expectancy by promoting healthy lifestyles, improving access to recreational facilities, improving workplace health and safety, reducing road-traffic accidents, establishing an occupational accident and disease insurance system and increasing health monitoring and screening programmes to improve early detection of diseases.

Targeting of these measures is not mentioned, nor are health inequalities (in terms of healthy life years by socio-economic group), but taken together with the targets the strategy has potential to impact (positively) on health inequalities in Estonia.



Case study 4.11. Roma health and integration

Country: Hungary

Type: Other policy – implicit

Dates: 2011-

Link:

<http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A7-2011-0043&language=EN> ('Report on the EU strategy on Roma inclusion', English)

Hungary has developed a strategy for Roma integration with a strong focus on health, in line with the objectives of the EU framework for Roma integration. An important basis of the framework was the work done by Livia Járóka, in particular her 'Report on the EU strategy on Roma inclusion', adopted by the European Parliament on 9 March 2011.

Priorities include perinatal and infant healthcare, improving access to healthcare by supporting paediatric services in disadvantaged regions and use of mobile screening stations.

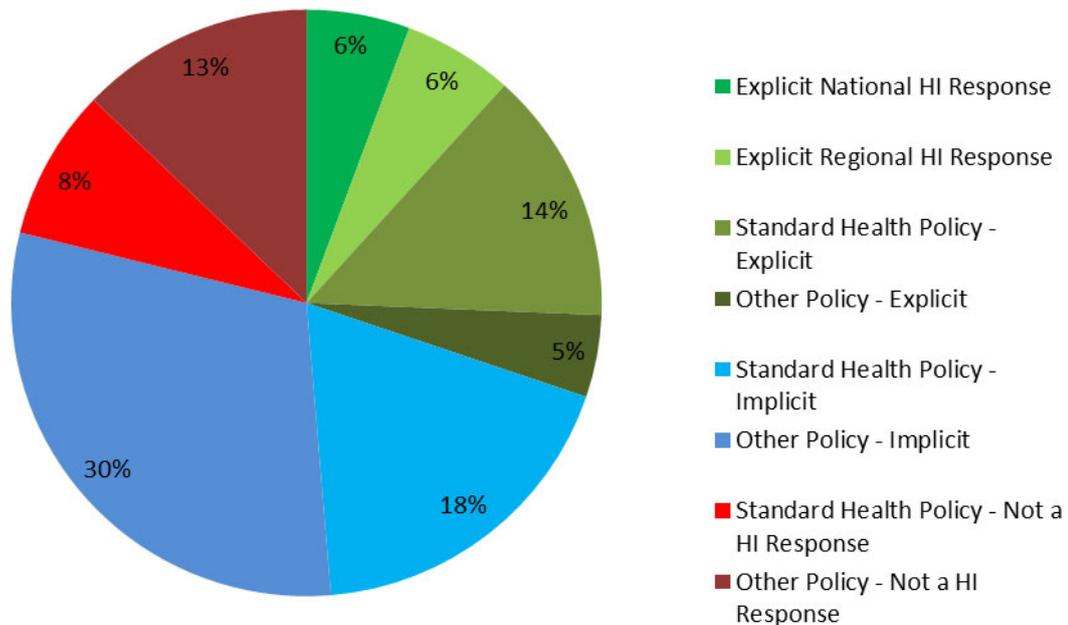
Measures to tackle discrimination include the following.

- Involving qualified Roma in the planning and implementation of healthcare programmes, encouraging employment of Roma specialists and use of Roma health mediators.
- Training programmes for the non-Roma healthcare and social service workforce and involvement of local civil society in the implementation of the health programmes to better respond to Roma health needs and prevent discrimination.
- Increasing interaction and integration in the work of the network of health visitors, municipalities, churches and other organisations providing social care.
- Addressing unhealthy lifestyles such as alcohol and tobacco abuse (in particular during pregnancy).
- Initiatives to prevent mental health problems in children and young people and prevent violence towards Roma women.

4.3.4 Overview of policies identified.

Policies identified and categorised by policy type are listed in Annex 5. Figure 4.1 shows that just 12 % of policies identified (31 out of 265) appear to be either national or regional (including city) responses to health inequalities.

Figure 4.1. Policies by policy type



In addition to these policies with an explicit focus on health inequalities, a further 19 % were policies that included some explicit aims to reduce health inequalities. The majority of these were standard health policies, but 5 % were policies led by sectors other than health. In total, 31 % of policies in the database appear to include explicit references to health inequalities.

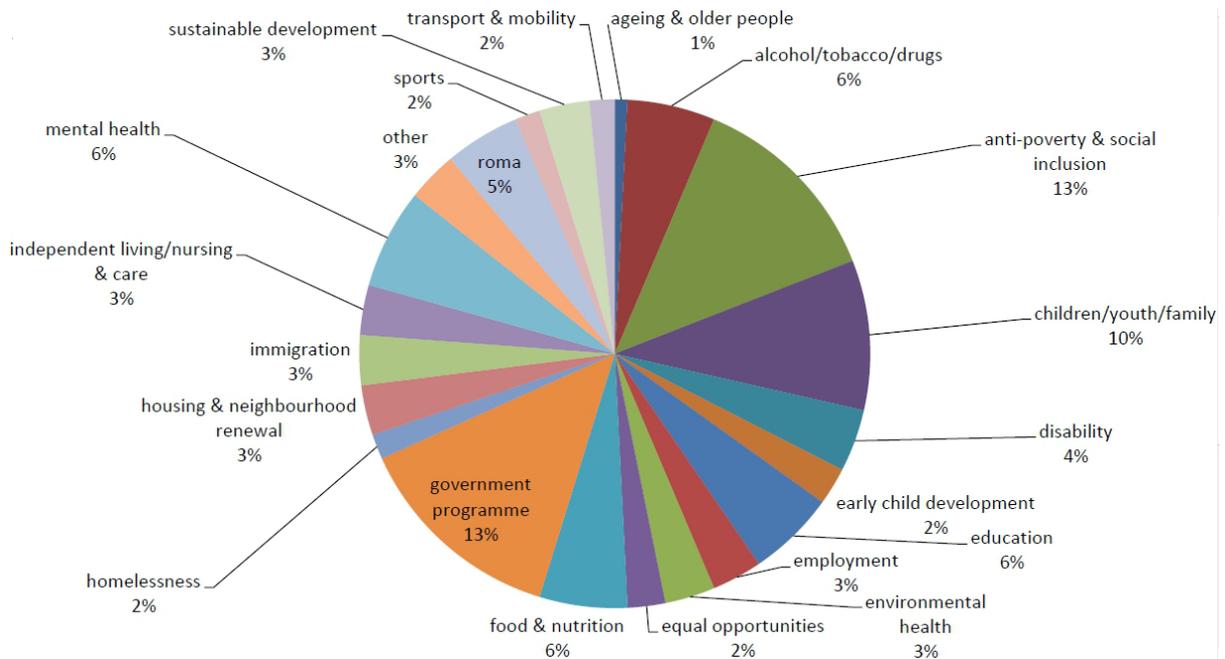
The majority of policies reviewed had no significant aims that explicitly referred to reducing health inequalities, but many included 'implicit' action on the social determinants of health in a way that would plausibly reduce health inequalities. Although a significant number of these were led by the health sector on issues relating directly to health (18 %), a larger number were led by other sectors (30 %).

A small but significant proportion of policies identified (21 %) do not appear to be any kind of response to health inequalities, with no aims to reduce health inequalities and no actions taken on the social determinants of health in such a way as to reduce them. Non-health inequality responses cover quite a large number of policy areas, from quality standards in medical care and medical devices to anti-drug and domestic violence strategies. Although it can legitimately be argued that some of the policies included within this group do indeed contribute (directly or indirectly) to public health gains, the purpose of this study was to determine the policy response to health inequalities rather than to identify all policies that may or may not have a positive effect on health.

4.3.5. Policies on the social determinants of health

Policies generally led by a non-health sector were categorised into a number of 'other categories'. For some it was difficult to select a single, suitable category (e.g. whether a child poverty strategy fitted into 'anti-poverty and social inclusion' or 'children/youth/families') and decisions were made on the basis of where the majority of the policy focus lay. Figure 4.2 gives an overview of these policies.

Figure 4.2. Breakdown of 'other' policy categories



As can be seen, the three largest categories shown in the figure are 'Anti-poverty and social inclusion' (13 %), 'Government programme' (13 %) and 'Children/Youth/Family' (10 %). Government programmes are significant because they include coalition agreements, overarching government frameworks and national reform programmes. Four regional and national government programmes appear to have explicit aims to reduce health inequalities. These are the Walloon region political declaration (2009–2014), the national reform programme 'Estonia 2020', 'Delivering for Scotland' and the Scottish 'Government economic strategy'. This suggests that, at least in some regions and countries, concern about health inequalities has been included in the mainstream of overarching government agendas and programmes. This confirms a tendency towards 'upstream' approaches.

4.3.6. Cross-sectoral working

Many policies specified 'cross-sectoral working' as part of the policy. In order to understand which sectors were involved, the sectors involved in each policy (health inequality policies, standard health policies and other policies) were noted during the evaluation. In certain instances it was necessary to combine ministries into single policy categories, for example 'department of pensions' was classified as 'social affairs', and 'public health' was listed as 'health'.

On this basis, the sectors most frequently identified as being involved were social affairs, education, employment and environment. Specific health inequality policy responses show more of a tendency to involve environment and planning sectors. The data confirm that there is much less cooperation with a range of sectors such as defence, public safety, foreign affairs, energy and tourism. However, they do attest to the inclusion of overarching government programmes in some countries and to the potential for further work with these sectors.

4.3.7. Country clusters

In evaluating the policies it became apparent that there are large differentials between countries in terms of their level of response to health inequalities. Country clusters (Table 4.7) were constructed with policy type as a basis. Particular importance was attached to the existence (or lack thereof) of national-level HI-focus policies, and whether countries' policies explicitly or implicitly responded to health inequalities. In constructing these country clusters, further use was made of the interviews and of expert feedback following a meeting of the Expert Group on Health Inequalities in Luxembourg 19 June 2012.

Table 4.7. Country clusters

| Cluster | Description | Countries |
|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cluster 1 — Relatively positive and active response to health inequalities | Countries in this group have at least one national response to health inequalities (often alongside a number of regional initiatives) or all regions of a country have a regional HI-focus policy. Other supporting policies tend to have explicit aims to reduce health inequalities. | Denmark, Finland, Ireland, Netherlands, Norway, Slovenia, United Kingdom |
| Cluster 2 — Variable response to health inequalities | Countries in this group do not have an explicit national policy on health inequalities, but they have either at least one explicit regional response to health inequalities or a number of other policies with some focus on health inequalities and explicit aims to reduce them. | Belgium, Bulgaria, Croatia, Czech Republic, Estonia, France, Germany, Iceland, Italy, Latvia, Lithuania, Luxembourg, Poland, Portugal, Spain, Sweden |
| Cluster 3 — Relatively undeveloped response to health inequalities | Countries in this group have no specifically focused national or regional policy responses to health inequalities. Policies do not have explicit health inequality reduction targets, though they may imply actions to reduce them through universal or targeted measures acting on the social determinants of health or access to healthcare services. | Austria, Cyprus, Greece, Hungary, Malta, Romania, Slovakia |

In evaluating policies, the main areas of action for each policy were reviewed. Table 4.8 shows the areas of action for policies in country clusters 1 and 3. As can be seen there are some differences between the policy actions of the two country clusters.



Although the previous 2006 review of policy development (12) contained a categorisation of countries into country groups (A, B, C and D), no assumption was made in this analysis that these country groups continued to be a valid and useful way of understanding the current policy situation or made best use of the richer data available. For this reason, the approach taken to evaluating policies and representing the data in a comprehensible manner was inductive – allowing the data to show whether these country groups were still valid and what groupings best represented the newly available data. The overriding objective was to remain objective.

Table 4.8. Percentage of policies in each policy area of action

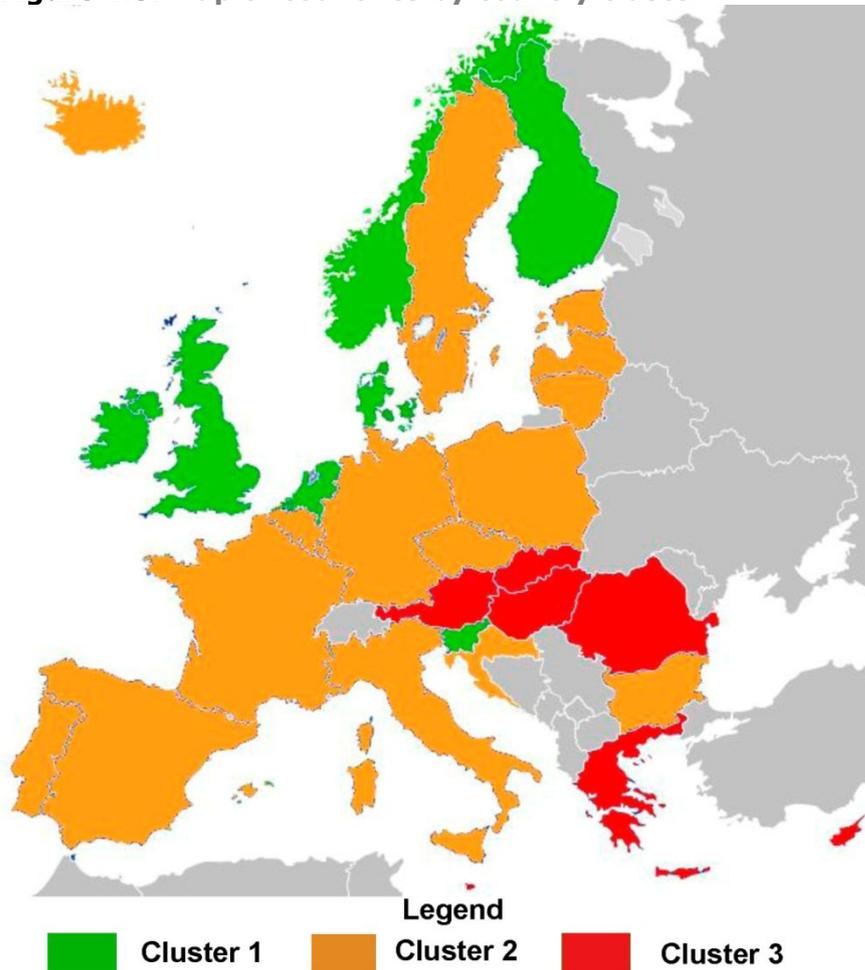
| Country cluster 1: Areas of Action | % | Country cluster 3: Areas of action | % |
|-------------------------------------------|----------|-------------------------------------------|----------|
| Families/Children/Youth | 25 | Health services | 35 |
| Health services | 20 | Health information systems | 30 |
| Tobacco | 19 | Education | 25 |
| Health promotion | 18 | Access to health services | 20 |
| Mental health | 17 | Health promotion | 20 |
| Diet and nutrition | 16 | Mental health | 20 |
| Education | 15 | Families/Children/Youth | 20 |
| Physical activity | 15 | Employment | 20 |
| Poverty and disadvantage | 15 | Cancer | 20 |
| Early child development | 15 | Information and advice | 20 |
| Communities | 14 | Staff development | 20 |
| Access to health services | 14 | Clinical treatment | 20 |
| Environmental sustainability | 14 | Social and health insurance | 20 |
| Vulnerable groups | 14 | Accident prevention | 20 |
| Drugs and alcohol | 13 | Drugs and alcohol | 15 |
| Lifestyles | 13 | Diet and nutrition | 15 |
| Employment | 11 | Gender equality | 15 |

Based on the evaluation of individual policies, it was clear that the data are best represented by a country cluster scheme comprising three types. In very general terms, group A in the 2006 analysis corresponds with cluster 3 in this analysis, group B corresponds with cluster 2, and groups C and D correspond with cluster 1. However, the previous 2006 analysis did not include data from all EU Member States, assessed fewer policies and did not collect evidence on policies in as systematic a way as the current review. As a result, this comparison of the groupings used in the two reports – groups vs. clusters – is provided for illustrative purposes only, as the methodologies and data are not comparable. For the reasons outlined above, the reliability and comprehensiveness of the patterns shown by the country clusters in this report are considered to be more robust.

It should be noted that there are countries within each group which appear to have stronger responses than others, and there is something of a continuum from 'no response at all' to 'very active and positive response'. For example, Denmark, Norway and the United Kingdom appear to have stronger responses than Ireland in group 1, while Spain has a stronger response than Bulgaria in group 2. However, given the

dynamic nature of policymaking across Europe, this country grouping appears to be a sufficiently accurate means of representing our broad findings. A summary of all of the policies in the database, evaluated by type and country, is provided in Annex 5, and findings are represented graphically on a map of Europe in Figure 4.3.

Figure 4.3. Map of countries by country cluster



Country cluster 1: Relatively positive and active response to health inequalities

This cluster of countries adopts a coordinated and systematic approach to tackling health inequalities at national as well as regional and local levels. They appear to consider health inequalities a shared responsibility across government and have explicit strategies and cross-sectoral mechanisms in place to address them. Mechanisms, such as a specific cross-sectoral body (Norway), a specific department dedicated to reducing health inequalities (Scotland) or a multi-sectoral advisory board (Finland) can be found in existence in this cluster.

The focus of policies in this cluster includes an emphasis on social determinants of health as well as on specific areas such as families, children and youth, tobacco, mental health, diet and nutrition, physical activity, and poverty and disadvantage. Suggested improvements to policies in this cluster from the expert interviews included: monitoring, evaluation, putting health-in-all-policy (HiAP) approaches into

the mainstream of policy, increasing the focus of policies on the social gradient and involvement of relevant stakeholders.

| Country cluster 1: Notes and highlights | |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Denmark | <p>Denmark appears to have the most active response to health inequalities out of all of the countries evaluated. Three national health inequality policies were identified:</p> <ul style="list-style-type: none">• <i>Ulighed i Sundhed – arsager og indsatser</i> (http://www.sst.dk/publ/Publ2011/SURA/Ulighed_i_sundhed/UlighedSundhedAarsagerIndsatser.pdf);• <i>Sund hele livet</i> (http://www.sum.dk/Aktuelt/Publikationer/~media/F7BABB17699E42B4A11623E137D73D0C.ashx);• <i>Lighed i sundhed</i> (http://www.sst.dk/publ/Publ2009/CFF/Lighed_sundhed/Lighed_i_Sundhed.pdf). <p>Two regional health inequality policies were also identified:</p> <ul style="list-style-type: none">• 'Vi vil gi' århus et kram. Sundhedspolitik i århus' (http://www.aarhus.dk/~media/Dokumenter/Sundhed-og-Omsorg/PDF/Sundhed-og-sygdom/borgerpjece-2010-web.pdf).• 'At prioritere social ulighed i sundhed: analysestrategi og resultater for københavns kommune' (http://www.ifsv.ku.dk/afdelinger/socialmedicin/dokument/prioritering_rapport.pdf). |
| Slovenia | <p>Slovenia appears to have a stronger policy response to health inequalities than its neighbours. Six policies were identified, including two regional-level health inequality strategies:</p> <ul style="list-style-type: none">• <i>Strategija zmanjševanja neenakosti v zdravju v ljubljanski zdravstveni regiji</i> (http://www.zzv-lj.si/gradiva/StrategijaTISKkonna.pdf/view);• 'Health promotion strategy and action plan for tackling health inequalities in the Pomurje region' (http://ec.europa.eu/health/ph_determinants/socio_economics/documents/slovenia_rd01_en.pdf). <p>Two other policies with explicit aims to reduce health inequalities were also identified:</p> <ul style="list-style-type: none">• 'Investment for health and development in Slovenia: programme MURA' (161) (http://www.eu2008.si/en/News_and_Documents/Fact/March/0310_publicacija.pdf);• 'Healthcare system upgrade by 2020' (162) (http://www.mz.gov.si/fileadmin/mz.gov.si/pageuploads/mz_dokumenti/zakonodaja/Nadgradnja_zdr_sistema_do_2020/HEALTH_SYSTEM_UPGRADE-1.pdf). |



| | |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ireland | <p>Ten policies were identified from Ireland, one of which is a Health Service Executive (HSE) health inequalities framework (2010–12), and three others had explicit aims to reduce health inequalities:</p> <ul style="list-style-type: none"> • <i>National men’s health policy 2008–13 — Working with men in Ireland to achieve optimum health and wellbeing</i> (163), (http://www.dohc.ie/publications/pdf/en_mens_health_policy.pdf?direct=1); • <i>Changing cardiovascular health — National cardiovascular health policy 2010–19</i> (164) (http://www.dohc.ie/publications/pdf/changing_cardiovascular_health.pdf?direct=1); • ‘Breastfeeding in Ireland: A five-year strategic action plan’ (165) (http://www.dohc.ie/publications/pdf/Bfeed_actionplan.pdf?direct=1). <p>The expert interviewed however indicated that cuts to budgets as part of an austerity drive impact negatively on the implementation of these policies, which is an argument to move Ireland to group 2.</p> |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Country cluster 2: Variable response to health inequalities

Countries in this large cluster do have health inequalities on their political agenda, with many making explicit reference to reducing them in their public health plans, and frequent implicit action in a variety of other policies. Policies identified concentrated on health promotion, establishment of health services and tackling the social determinants of health (for example, early child development and lifestyle). For example, France has a range of laws and initiatives to tackle health inequalities (see case study 4.12).

However, the response was rather uncoordinated, with no national-level health inequality strategy. In addition, explicit health inequalities policies appear to have less of a focus on levelling up the gradient in health, and more focus on targeted actions than those of country cluster 1.

Country cluster 2: Notes and highlights

| | |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sweden | <p>Based on the policies identified and reviewed, Sweden appears to have a less active national response to health inequalities than most of its Nordic neighbours except Iceland. By contrast, Denmark, Finland and Norway all have at least one national-level health inequalities policy.</p> <p>Out of five Swedish policies reviewed, one was a city (regional) focus response to health inequalities (see case study 4.13 for details):</p> <ul style="list-style-type: none"> • <i>Public health policy for the Stockholm county council</i> (166) (http://www.folkhalsoguiden.se/upload/folkh%C3%A4lsoarbete/Public%20Health%20Policy.pdf). <p>Another was a public health policy with an implicit focus on health inequalities:</p> <ul style="list-style-type: none"> • ‘Regeringens proposition 2007/08:110 — En förnyad folkhälsopolitik’ (167) (http://www.regeringen.se/content/1/c6/10/09/78/2ee01484.pdf). <p>The three remaining policies were evaluated as not being a direct response to health inequalities.</p> |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



| | |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spain | <p>One Spanish policy was reviewed and classified as a national health inequalities plan:</p> <ul style="list-style-type: none">• 'Estrategia nacional de equidad en salud' (168) (http://www.msc.es/profesionales/saludPublica/prevPromocion/promocion/desigualdadSalud/EquidadSaludyDSS.htm). <p>This should place it in country cluster 1. However, expert feedback indicated that there is a serious gap between policies and implementation which resulted in it being reclassified as cluster 2.</p> |
| Bulgaria | <p>Unlike its neighbours, one reviewed policy from Bulgaria had explicit aims to reduce health inequalities:</p> <ul style="list-style-type: none">• Health strategy concerning people in disadvantaged position, belonging to ethnic minorities (169) (http://www.ncedi.government.bg/en/HealthStrategyENG.htm). <p>This policy had a very strong focus on the social determinants of health.</p> |

Case study 4.12. French policies and initiatives

Country: France

Type: Various

Dates: 2000 onwards

France has a range of laws and initiatives to tackle health inequalities. These include the following.

- 'Ateliers Santé Ville: une démarche locale pour la réduction des inégalités sociales et territoriales de santé' (City health workshops: a local approach to reduce social and territorial health inequalities). This involves city health workshops and local public health projects as a component of urban policy. As such, it aims to bring elected representatives of cities and health policy of the state together, allowing involvement of local groups of residents in the diagnosis and adaptation of projects closer to local needs. Link: http://www.ville.gouv.fr/IMG/pdf/atelier-sante-ville-reperes_cle25cbf4.pdf (French).
- 'Objectifs des Agences Régionales de Santé' (Regional health planning focus on equity). This lays out the overarching needs for France's 26 regions to make their own regional plans so as to ensure health plans are tailored to individual regions' needs with implicit aims to reduce health inequalities. Link: <http://www.ars.sante.fr/Presentation-generale.89790.0.html> (French).
- 'Plan national de l'assurance maladie' (National health insurance's policy to reduce health inequalities). Aims to ensure universal access to healthcare services, concentrating in particular on at-risk groups. Link: <http://www.ameli.fr/l-assurance-maladie/connaitre-l-assurance-maladie/missions-et-organisation/l-assurance-maladie/index.php> (French).
- 'Programme national nutrition santé' ('National programme for nutrition and health') 2011–15. A public health plan that aims to improve the state of health through a better balance of nutrition and physical exercise. One of the first strategic axes of the programme is to put in place specific interventions to reduce inequalities in health related to nutrition. The programme is structured at the national level, and several fixed objectives have already been partially or wholly achieved — these include reduction of the prevalence of overweight in infants, reduction in the consumption of sugar and salt and increased consumption of fruits by adults. Link: http://www.sante.gouv.fr/IMG/pdf/PNNS_2011-2015.pdf (French).



Case study 4.13. Public health policy for Stockholm county

Country: Sweden

Type: Explicit regional HI response

Dates: 2005–14

Link:

<http://www.folkhalsoguiden.se/Rapport.aspx?id=1629> (English)

This public health policy for Stockholm county aims to incorporate health promotion concerns in the mainstream of activities and policies throughout the county council, municipalities, government agencies, the voluntary sector and the business community, with particular reference to health inequalities between different groups and tackling the broad social determinants of health. The county council is one of the county's largest employers, and is responsible for healthcare, public transport and regional planning. As such, it acknowledges that it exerts great influence on public health and its determinants, particularly when working in coordination with the county's municipalities and other actors.

The policy has five main objectives, as follows.

- Good health for all: taking account of health inequalities, particularly in terms of gender, ethnicity and socio-economic status, counteracting social exclusion and segregation, highlighting children's living conditions, concentrating on neighbourhoods with worse health outcomes, monitoring health trends, promoting knowledge on living conditions and health equity and working in coordination with other actors to create health-promoting living conditions and lifestyles.
- A good environment: emphasising health in all aspects of the county's work, reducing accidents and environmental risks, working through contracts and purchasing agreements to create a health-promoting environment in the county, improving data and information on links between the environment and health and emphasising health aspects in all environmental issues.
- Good working conditions: creating a healthy working environment for council, school and care employees, supporting health promotion through contractual and purchasing agreements, and identifying, analysing and raising awareness about links between employment and health.
- A healthy lifestyle: helping individuals to make healthy choices, promoting healthy lifestyles, particularly amongst children and council employees, counteracting harmful habits (such as tobacco, alcohol and drugs), promoting healthy lifestyles through contracts and purchasing agreements, and improving information systems concerning lifestyle and health.
- Good psychological health: improving the resources and resilience of certain groups, reducing isolation and loneliness, taking action to reduce stress, creating public spaces that promote community life and psychological health and improving monitoring of the mental health situation.

The policy calls for these objectives to be included in the mainstream activities and policies of the county council's departments and enterprises.

Country cluster 3: Relatively undeveloped response to health inequalities

This third cluster of countries may acknowledge the existence of health inequalities and the need to take action on them, but has neither managed to translate this concern into explicit national or regional strategies nor explicitly included the issue into the mainstream of other policy areas. The data suggest that countries in this cluster are less likely to monitor or evaluate their existing policies for distributional effects.

The focus of policies in this country cluster appears to be on the establishment of health services, setting up of health information systems, improving the treatment of diseases, regulating clinical treatments, and streamlining national social and health insurance schemes, rather than taking explicit action to reduce health inequalities.

| Country cluster 3: Notes and highlights | |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Austria | Two policies were reviewed from Austria: <ul style="list-style-type: none">• Österreichischer Strukturplan Gesundheit 2010;• 'Qualitätsstrategie für das Österreichische Gesundheitswesen' (170) (http://bmg.gv.at/cms/home/attachments/8/5/2/CH1063/CMS1318493541783/qualitaetsstrategie_englisch.pdf). Neither policy was evaluated as being a response to health inequalities, focusing instead on issues relating to clinical treatment, healthcare governance and general quality of care standards |
| Hungary | One policy was identified from Hungary: <ul style="list-style-type: none">• 'Nemzeti Reform programja ('National reform programme') (171) (http://www.kormany.hu/download/0/c3/30000/Nemzeti%20Reform%20Program.pdf). This was not evaluated as being a response to health inequalities. |
| Greece | Only one Greek policy was found and reviewed ('Public health action plan'), which made implicit reference to health inequalities or tackling them, and Greece was therefore placed within country cluster 3. |

4.3.8. Insights into policy development

This section makes use of expert interviews and policy database, highlighting specific areas of interest, rather than comprehensively documenting all the data collected as part of this exercise.

4.3.8.1. Explaining the variable policy response

Pace and intensity of action

Across the EU, Member States began addressing the issue of health inequalities at different points in time and, where action on this topic was announced, they have proceeded with differing speeds and intensities of action. This reflects both different capacities to work on this area and the fact that governing parties have different overriding political objectives and values. The issue of health inequalities has received inconsistent attention as a result of electoral changes. In many Member States these factors have resulted in the use of targeted approaches to alleviate the position of the most vulnerable, rather than progressive universal policies designed to reduce inequalities across the whole of society.

Financial and economic crisis



The current financial and economic crisis, starting 2008, has resulted in an (ongoing) reduction of attention to the issue in most (but not all) Member States. The most severe impact of the crisis appears to be in Greece. The crisis has led to difficulties implementing existing policies due to budgetary cuts, the restructuring of services, the resetting of priorities and even the cancellation of services that previously aimed to improve the health of vulnerable groups (e.g. immigrants, Roma, drug and alcohol abusers, etc.). There have been reports of problems with the National Organisation for the Provision of Health Services (EOPYY) being unable to meet its obligations towards pharmacists, doctors, nursing staff, hospital suppliers, etc., with the result that distortions in the supply of medicinal care have been observed (172).

In Spain, despite the recent introduction of policies with an explicit concern for health inequalities in Spain, there are concerns that much of this work may be undone by the austerity drive undertaken by the Conservative government (173).

Interviews with experts suggest that Iceland increased its focus on equity and welfare in 2009 after the collapse of the Icelandic banking system. Although the fundamental principle of equity was established prior to 2009, it is only recently that Iceland has started acknowledging the existence of health inequalities and the need to take broad action on the social determinants of health.

New developments

Some countries are currently in the process of developing new national public health strategies or national development plans which will include priorities to explicitly tackle health inequalities.

4.3.8.2. Agenda-setting factors

National, regional and local factors

Countries have different traditions and legacies concerning the principle of equity in health. Domestic factors play a role in contributing to current policy responses. These may include the involvement of different stakeholders (e.g. religious groups, NGOs, different political parties, citizens groups, academics) and the competencies of different levels of government (e.g. local, regional, national).

Transnational factors

International and European initiatives have catalysed action and encouraged countries to take up the issue of health inequalities in their political agendas. These initiatives included the WHO CSDH in 2005–08 (1) and the Commission's communication 'Solidarity in health: reducing health inequalities in the EU' (2).



Examples include the following.

- Policy responses in Denmark, Spain, Slovenia, the United Kingdom and a number of other countries appear to have been influenced by the work of the CSDH.
- WHO activities and the Commission's communication played a part in the development of policies (e.g. the Czech Zdraví 21, Dlouhodobý program pro zlepšování zdravotního stavu obyvatelstva ČR 2002–10. Cíl 2, Spravedlnost ve zdraví).
- EU presidencies can catalyse action on the issue. For example, the Spanish Presidency saw the Council conclusions on equity and health in all policies: solidarity in health (174), the Belgian Presidency saw a conference on reducing health inequalities from a regional perspective take place (175) and the Polish Presidency saw the Council's conclusions on closing health gaps within the EU through concerted action to promote healthy lifestyle behaviours (137).
- The role of the EU joint action on health inequalities (176) is recognised by France, which is seeking international-level collaboration on the issue, and Sweden, which is using it to help develop tools to put the economic arguments in place to tackle health inequalities.
- International support and collaboration has helped introduce the issue of health inequalities into the German political agenda.

4.3.8.3. Data, monitoring and evaluation

Gaps in data and analysis

There is a general lack of data and a limited amount of analysis of existing data on health inequalities. This hampers the progress that can be made in terms of awareness-raising and advocacy, as well as building an evidence base to guide policies.

It is clear that a number of EU Member States have difficulties in measuring and analysing health inequalities because of deficiencies in their health information systems. These include Bulgaria, Ireland, Cyprus, Portugal and Romania. Other Member States have strict data protection laws which conflict with collection of data on health inequalities (for example Austria, Poland). Some Member States appear to have limited capacity to analyse existing data (Czech Republic, Luxembourg, Malta, Slovenia and Austria).

Monitoring and evaluation

Improvements are needed in monitoring policies and evaluating their impacts. This study did not explicitly examine monitoring systems. However, the relative lack of explicit indicators and mechanisms for monitoring progress within many health inequalities policies suggests that monitoring and evaluation systems need to be improved. Ideally, this would show where policies are working in terms of reducing health inequalities. Respondents indicated that capacity-building actions at the EU level could also make a difference.

Monitoring systems are in place in several countries, for example Denmark and the United Kingdom. In Norway, a cross-sectoral body responsible for monitoring and evaluation activities reports to the government on an annual basis and the new



Lithuanian health programme (2011–20) (177) has regular monitoring and evaluation systems in place.

4.3.8.4. The implementation gap

Difficulties implementing policies

Findings from the study suggest that implementing policies is often difficult. Health inequalities prove to be more persistent and multifaceted than is foreseen during policy development. In many countries there is a serious gap between what is planned and what is put into practice. A lack of funding affects implementation, resulting in insufficient scale and intensity of action to make a difference. This may be exacerbated in the immediate future as a result of the current economic crisis. This implementation gap affects the evaluation of outcomes and results in a lack of evidence to demonstrate effective policy responses.

Governance and competencies

The implementation of policies depends on the contributions made by stakeholders at different levels (e.g. local, regional and national). For example, in several countries, including Belgium, Denmark, Germany and the United Kingdom, the main governmental competencies for tackling health inequalities are found at the regional or municipal level. In other countries, such as France, national-level policies establish priorities and frameworks for implementation, while specific plans within these frameworks are created at regional or local level.

Several countries have experienced — or are experiencing — shifts in responsibility for health from national to regional and local level. For example, in Belgium, Bulgaria, Cyprus, Denmark, Finland, the Netherlands, Norway, Poland, Romania, Slovenia and the United Kingdom, responsibilities for health inequalities have moved over the last few years from national to regional or local level. This has the advantage of developing policies according to local needs and knowledge (see case study 4.14), but may have the disadvantage of a lack of coordination with major national policies.

Case study 4.14 Strategija zmanjševanja neenakosti v zdravju (A strategy for tackling health inequalities in Ljubljana)

Country: Slovenia

Type: Explicit regional HI response

Dates: 2010 onwards

Link:

http://www.zzv-lj.si/gradiva/StrategijaTISKkonna.pdf/at_download/file

Focusing across the population, but with special attention to children and young people, the elderly and lower socio-economic groups, this policy aims to take action on the social determinants of health, including the living environment, lifestyle and behaviours, so as to reduce health inequalities in the Ljubljana region.

The strategy has five main objectives, as follows.

- To place health inequalities at the centre of attention of individual communities by incorporating health into other policies and programmes and increasing public awareness of health inequalities.
- To increase the capacity of communities by establishing and improving local support networks, institutions and non-governmental organisations, improving the use of existing community resources for the welfare of its people and developing the skills and capacities of individuals including health workers.
- To reduce health inequalities between municipalities in the region through monitoring and evaluation, promoting healthy lifestyles and supporting early detection of chronic non-communicable diseases.
- To reduce health inequalities in vulnerable groups by supporting the health of children and mothers, promoting healthy and active ageing and targeting measures at other vulnerable groups.
- To aim for a clean and healthy environment by promoting environmental awareness amongst citizens.

Although the policy document states that citizen groups, NGOs, health workers and others need to be active in the strategy, it is not clear how other sectors will be approached and involved. In addition, it is not clear what the budget and performance indicators of this policy are, or how implementation is proceeding.

4.3.9. Progress and developments since 2006

4.3.9.1. General trends

There appears to be an overall increase in the level of explicit policy responses to address health inequalities, though there are countries where the response has intensified and countries where the response has diminished (see Table 4.9).

The involvement of non-health sectors in explicit and implicit policies tackling health inequalities has increased.

There has been an increase in policies which explicitly address the 'social gradient' in health. However, in reality this still needs to be put into practice as most policies still tend to focus on 'vulnerable groups' — such as children, the poor and the disadvantaged, immigrants, Roma, disabled people — or are universal policies without being sensitive to need and consequently risk increasing health inequalities.

Table 4.9. Changes in the intensity of policy responses to health

| Level of policy response | Countries by cluster group |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Intensification of policy response | Cluster 1: Denmark, Finland, Norway, United Kingdom (*) Cluster 2: Estonia, Latvia, Iceland (*), Spain (*) |
| Same level of policy response | Cluster 2: Belgium, France, Germany, Italy, Poland, Sweden Cluster 3: Lithuania (*) |
| Decrease in intensity of the policy response | Cluster 1: Ireland, Netherlands Cluster 2: Czech Republic Cluster 3: Cyprus, Greece, Hungary |

(*) Countries where ongoing changes to policies (mentioned elsewhere within this report) may affect assessment.

Some countries were not included in the analysis performed in 2006 and are therefore omitted from this table (Austria, Bulgaria, Croatia, Luxembourg, Malta, Portugal, Romania, Slovakia and Slovenia).

4.3.9.2. *Developments since 2006*

Comparison with the findings of the 2006 study (12) highlights a number of differences in the development of approaches taken.

- In the 2006 report, Denmark was included among the countries where there was clear documentary evidence of policy commitment to health equity and clear evidence of cross-sectoral cooperation. This policy response has developed, with Denmark now having three national health inequality reduction policies in existence, including a national report on health inequalities, determinants and policies ('Ulighed i sundhed – Årsager og Indsatser' ('Health inequalities – Determinants and policies'), see case study 4.2).
- In the United Kingdom, the separate administrations have developed strong and overarching strategies for tackling health inequalities in the period 2006–12. In England, this included quantitative targets to reduce health inequalities by 10 % by 2010 as measured by infant mortality and life expectancy at birth. It is yet unclear what the impact of the recent health system reforms will have on health inequalities post-2010.
- The general commitment to address health inequalities in Sweden seems to have remained the same, though there is a move away from a broad societal approach towards a targeted approach focusing on inequalities among specific vulnerable groups.
- There are national quantitative targets mentioned in the 2006 report for the Netherlands. However, it seems that national-level interest in the issue has waned, though developments at the regional level are more promising.
- The same national health programme (dating from 1998) for Lithuania was in place for both the 2006 report and this study. However, a new public health strategy is currently in development which will explicitly address health inequalities.



5. Commentary and recommendations

5.1. The health inequality situation

The review confirms significant health inequalities between and within EU Member States. The size of the health inequalities is for the most part similar to that identified in 2006.

The health divide continues to be unacceptably large between countries both in the EU and in the more extensive health programme (178) area, and there are persistently large, and in some cases growing, health inequalities between regions within countries. Furthermore there is evidence from published studies reviewed for this report of an increase in health inequalities between social groups within countries such as Estonia, Lithuania, Hungary and Poland, but also in the Nordic countries.

Between 2000 and 2010, inequalities in life expectancy at birth between EU Member States decreased by 10 % for women but only by 3 % for men. There was, in particular, a reduction in inequalities in infant mortality rates between EU Member States and regions.

In other respects, the analyses undertaken as part of this review of recent levels of mortality in EU regions (NUTS 2) show that overall the health gap between regions has not reduced over the last few years. In fact, for some indicators, such as life expectancy at age 50 years for males, it has increased.

In 2008, the CSDH (1) concluded that social inequalities in health arise because of inequalities in the conditions of daily life and the fundamental drivers that give rise to them: inequities in power, money and resources. They argued that social and economic inequalities underpin the determinants of health: the range of interacting factors that shape health and well-being.

When this review examined life expectancy of regions in relation to income levels, a difference of about 2 years in life expectancy at age 50 was identified between the poorest and the richest regions, for Member States that joined the EU between 2004 and 2007, and a 1-year difference for those that joined before 2004.

A number of other key socio-economic determinants also varied across EU Member States, such as income distribution and unemployment levels. Of particular concern for health is the variation in long-term unemployment, the proportion with education levels at lower secondary level or below and those suffering material deprivation. Variability between Member States was also identified in lifestyles and behaviours such as the proportions smoking, overweight or obese.

The report sets out the relationship between health, income and educational level using data from the EU statistics on living conditions (EU-SILC). Across the EU as a whole, and in nearly all Member States, the self-reported level of health is worse for those with lower income and educational levels. Furthermore, a gradient can be observed in which health is best for those with the highest levels of income and



education and successively worse for those at lower levels. These gradients were evident for all three self-perceived health measures recorded in EU-SILC — general health, long-standing illness and limitations in daily activities — and three social determinants — education, income and material deprivation.

The steepest gradients were those between material deprivation and adverse health outcomes. A multivariate analysis suggested that, for each of these socio-economic indicators, all the elevated risks persist after adjusting for the two other indicators, but are diminished. Material deprivation exerts the largest independent effect, education retains an independent effect and income has the least powerful independent effect.

Women are more likely than men to report that they are unwell or that their imperfect health hampers their daily activities — partly attributable to women's lower socio-economic status. There is considerable variation in reporting self-perceived health between Member States. While cultural differences in reporting are evident, controlling for all three socio-economic indicators described above accounted for a significant part of the differences in reporting that exist between Member States.

Current inequalities in mortality between regions — based on net disposable income per inhabitant — are largely explained by inequalities in non-communicable diseases (NCDs) for both men and women. The most pronounced gradients in the relationship between health and average income at a regional level are for circulatory diseases, in particular those for cerebrovascular disease.

In Member States for which life expectancy data are routinely available by educational level, an analysis undertaken as part of this review suggests that the steepest social gradients are those for male life expectancy at age 25 in the high-mortality countries of the EU. For women aged 25 and men aged 65, inequalities in life expectancy according to level of education are smaller, but the same patterns are evident.

Where longitudinal cross-national studies were identified in the literature review, they pointed to health inequalities in all the EU Member States covered. Where changes over time were available, they pointed to increases in health inequalities in several Member States, in particular in Estonia, Lithuania, Poland and Hungary (85), but also in the Nordic countries (87).

This is in keeping with individual country studies, which have also highlighted widening — or at least not reducing — health inequalities. It is also evident, both in the analyses undertaken in this review and in the other comparative studies identified, that large inequalities remain between EU Member States, with discrepancies between new and early EU Member States, and a north-south gradient in many studies. Health inequalities are largest in countries such as Estonia and Bulgaria to the east of Europe.

Action on health inequalities must therefore remain a public health priority for the EU. This review has identified the clear existence of health inequalities by educational status for total mortality, cancer, ischaemic heart disease, general morbidity, diabetes and suicide. For example, in terms of cancer, public and occupational health policies to



reduce exposure to carcinogens at work and in the environment will help to reduce inequalities, but tobacco, alcohol and the causes of behavioural inequalities remain key elements of any strategy.

5.2. EU-level action

Policy responses at the EU level included in this review seek to impact on health inequalities through different mechanisms, as follows.

- Responses that explicitly recognise the potential to impact on health inequalities through action on one or more of the social determinants of health.
- Responses concerned with particular population groups that are particularly at risk of experiencing poorer health than the general population.
- EU-level initiatives which are concerned with lifestyles that can both contribute to and result from health inequalities
- EU-level policy initiatives concerned with improving outcomes for people with particularly health conditions or diseases that contribute to health inequalities.
- Europe 2020, which seeks to develop a smart, sustainable and inclusive economy and explicitly recognises the need to reduce health inequalities in order to achieve the objective of 'inclusive growth' (142). It includes five targets, one of which is a target on poverty and social exclusion.

It is worth noting that the EU health policy has been active in engaging with a range of policy areas outside of health, including explicitly identifying reducing health inequalities as a goal within the new social investment package (SIP) (179).

In addition to policy responses undertaken by the EU, initiatives in health inequalities have been funded in response to calls for external projects. The range and scope of policy responses identified is very broad. However, there is no single dedicated funding stream for health inequalities at the EU level and, instead, funding for EU-level responses to health inequalities has come from a very broad range of sources.

Based on these broad observations and the more detailed evidence collected in this review, a number of broad conclusions can be drawn about how the EU response to health inequalities fits into the wider EU policy and implementation agenda.

5.2.1. Common strategic frameworks

Within the broad framework of Europe 2020 priorities (142), there is an increasing move towards strategic coherence in many recent and emerging policy responses at the EU level. One way this is being achieved is through the development of common strategic frameworks – principally focused on economic sustainability and the benefits of Europe 2020. Examples include the common strategic framework for EU research and innovation funding and the future common strategic framework for cohesion policy. These are intended to make EU funding more attractive and easy to access for participants and to allow the development of a single entry point with common IT tools. To ensure that health inequalities have a high level of strategic priority, it will be important to ensure that they are addressed in such frameworks.

5.2.2. National and regional divergence



A wide divergence between regions and subregions has been identified in this review. The new European cohesion policy 2014–20, with its use of poverty mapping, will be an important means of enabling better targeting and concentration of effort on micro-regions with poor infrastructure. Access to services, including healthcare, is an important aspect of this infrastructure.

The review has identified substantial variations in awareness, capacity and political commitment amongst Member States in their approaches to health inequalities. This means there is a risk that initiatives are focused in Member States where national and regional activities are better developed than in those Member States where there is less activity.

5.2.3. Points of entry

The Commission can and does articulate its position on health inequalities as a single entity, through for example its communication 'Solidarity in health: reducing health inequalities in the EU' (2) and in answers to questions from Members of the European Parliament. There is, however, a great deal of other activity at the EU level around health and its social determinants, either undertaken or commissioned by EU institutions, or funded by EU monies. This is inevitable given the huge range of policy areas at the EU level. These give rise to different agendas around health and health inequalities within the EU. Some of these are to do with healthcare and healthcare financing. Others are around free movement within the EU and patients' rights. There is also a set of priorities around social protection and, finally, there is the public health agenda. If health inequality reduction is to be taken forward and communicated as a coherent strategy, it is important that the single point of entry approach be strengthened to enable outsiders to view the necessarily diverse activity as work directed towards a common strategic objective.

5.2.4. Measuring the impact of action to address health inequalities

Measuring the impact of action to address health inequalities is challenging for a number of reasons. Firstly, because of the multiplicity of factors that influence health and inequalities in health, it can be difficult if not impossible to attribute change to any one intervention. Secondly, there is usually a significant time lag in activities having impacts because of the nature of the interaction between the determinants of health and health outcomes. Thirdly, many of the methodologies associated with evidencing interventions in the field of human health are not always applicable to interventions that seek to influence the determinants of health and other factors that contribute to health inequalities. Finally, many of the policy responses identified in this review are not concerned with interventions that seek to directly influence the determinants of health. Instead they are seeking to indirectly impact on health inequalities by actions to improve capacity, effectiveness or awareness at the national and regional level. The impacts of these indirect EU-level initiatives are particularly difficult to demonstrate.

5.2.5. Lack of dedicated resources

Despite the availability of EU funding streams identified in this review, several of the progress reports on policy responses examined in this review pointed to the unavailability of appropriate funding for health-related initiatives. There was a dependence on research framework programme (FP) funding for the implementation



of several actions. However, the FP may not be the most suitable source of funding, especially when it comes to activities that require continuous funding over a long period of time. See for example the Commission's staff working document 'Progress report on the implementation of the European environment and health action plan 2004–10' (180).

The EU currently has 12 ongoing research projects for a total amount of EUR 25.6 million on health inequalities. The 2013 FP7 health work programme had no calls directly relating to health inequalities. However, the proposal for a Council decision establishing the specific programme implementing Horizon 2020 (181) makes explicit reference to:

Optimising the efficiency and effectiveness of healthcare provision and reducing inequalities by evidence-based decision-making and dissemination of best practice, and innovative technologies and approaches,

and within states that:

Research on the evolution of health inequalities, of their interplay with other economic and social inequalities and on the effectiveness of policies aiming to reduce them in Europe and beyond will be supported.

More positively, there are opportunities to use Structural Funds and other funds such as the European Agricultural Fund for Rural Development (EAFRD) to address regional health inequalities and, if appropriately framed, socio-economic inequalities in health. Actions assisting Member States to access Structural Funds during the new programme period are to be welcomed, including work carried out through the joint action on health inequalities. The use of these funds, however, requires action not only by the Commission in the framing of the policy but crucially by Member States to actually use these funds to address health inequalities. The national definitions of 'socially excluded groups', and therefore those eligible for European Social Fund funding, may be worth revisiting to ensure that groups are not additionally being excluded from funding intentionally or unintentionally. The introduction of micro-mapping of poverty, and the encouragement of Member States to consider within-region inequalities in allocating funds from the ERDF, is helpful and should be monitored by the Commission and others in terms of use of ERDF funds against economic inequalities.

It is therefore helpful that there are several substantial programmes which can help to address health inequalities if Member States want to use them for this purpose and have the knowledge and capacity. It is, however, complex for Member States to identify and use these pockets of funding. A single dedicated funding stream, as well as more substantial funds in other policy areas, would be helpful, as would further support to Member States to achieve the 'health inequalities gain' through the use of existing funds, and funds available in the new programming period (2014–20).

Resources and capacity to ensure that health inequalities are considered in all relevant policies are limited within the European Commission. It would be helpful if the framing of evaluations, reviews and renewal of policies which impact on health automatically considered not just the health impact but also the differential health impact of policies and their implementation across population groups. To improve action on health



inequalities, it would therefore be useful to strengthen the capacity and resources of the Commission to respond. This should include policies broadly impacting on the underlying social and environmental determinants of health, as well as lifestyles and behaviours.

In this context, it would be helpful to be clear in future work on health inequalities that there are three primary dimensions which the EU is well placed to address through EU-level policy: socio-economic status (as reflected in proxies of education, employment, or income); geographic inequalities, predominantly but not exclusively through Structural Funds; and actions to address health and its social determinants for groups subject to exclusionary processes (e.g. Roma communities, undocumented migrants, etc.). All are important facets of health inequalities and merit careful consideration in all policies which impact on health and its social determinants. Making these dimensions explicit may help to develop the thinking on health inequalities with other policy colleagues in the Commission.

5.2.6. Health inequalities and vulnerable groups

The Commission has recognised the need to measure differences in health between those particularly exposed to vulnerability in the EU, such as migrants and ethnic minorities in vulnerable situations, and the population as a whole. A number of projects at the EU level have sought to improve the quality and analysis of data for specific groups (for example, the 'Health and the Roma community' project funded by the health programme). However, as this review has identified, there are very limited data available to date in the EU to enable robust analyses to be performed (182).

5.2.7. The social gradient in health

There is very strong evidence that inequalities in health follow a social gradient, with the lowest socio-economic groups experiencing the worst health. This is an important dynamic in understanding how best to address health inequalities, as it implies that high-quality pilot projects alone cannot tackle health inequalities. Instead, they require sustained interventions that are included in the mainstream of core service delivery. Furthermore, focusing solely on the most disadvantaged will not reduce health inequalities sufficiently. To reduce the steepness of the social gradient in health, actions must be universal, but with a scale and intensity that is proportionate to the level of disadvantage. The practical implications of this approach, known as 'proportional universalism', are particularly complex where small pockets of deprivation exist surrounded by more prosperous areas, and where many individuals and families experiencing deprivation live outside such pockets.

5.2.8. Improving health overall versus reducing health inequalities

Interventions to improve the health of the population as a whole that do not include targeting of those groups who tend to experience poorer health may actually increase health inequalities. This is because the health of these groups may continue to lag behind, while the health of the population as a whole improves. Some of the policy responses reviewed have explicitly included additional targeting as part of universal policies. However, there remains a tendency to see universal and targeted policies as alternatives, rather than as complimentary components of a proportionate universal approach.



5.2.9. Collaboration with the WHO

In September 2010, the WHO Regional Office for Europe and the Commission established a partnership for health in the WHO European region. Health inequalities were among six areas identified for closer collaboration. This review has identified a number of ways in which the EU and WHO are already collaborating in relation to information, support for those who are vulnerable and the production of policy guidance. The adoption of the new WHO 'Health 2020' policy, which includes a strong focus on health equity, shows the ongoing commitment from that organisation and its member countries, which of course include all EU Member States, towards addressing health inequalities. There is clearly additional potential for collaboration between the Commission and the WHO on this topic. Areas could include more explicit policy guidance for Member States and closer monitoring of health inequalities across the European region. It could also include addressing health inequalities in the EU neighbourhood area, as well as outside the European region as discussed below.

5.2.10. Global action

The Commission, through its development programme with low and middle income countries, and its communication on the EU role in global health, has the opportunity to provide a focus on health inequalities through action on the broader social determinants of health, as well as a focus on universal access to healthcare. The call to develop policy coherence between relevant EU policies with regard to global health gives an opportunity to consider the impacts of all EU policies on health inequalities.

The consideration of the health development goals post-2015, which are likely to be agreed in 2013, provides a further opportunity for the European institutions to consider how the inclusion of an explicit focus of the distribution of health within populations can be taken into account for future health development goals, as well as promoting action on the major determinants of health globally (in particular education, employment and the environment) as a key component of addressing health issues.

5.2.11. Impact of current financial and economic policies

There is strong evidence that economic crises lead to a deterioration in health and well-being for many people because they increase unemployment and poverty. At the same time, there may be short-term health benefits, for example due to decreases in driving contributing to a reduction in accidents, or through changes in consumption of alcohol and tobacco. How governments respond to economic crises can therefore mitigate or exacerbate negative health impacts. Although this review has not explicitly considered EU-level economic and financial policies that seek to address the economic crisis that began in 2007, it is clear these policies will have impacts on health and health inequalities (183). Further attention to understanding the effects of macro- and microeconomic conditions on health should therefore be considered by the EU in its research and health programmes.

5.3. Analysis of country-level responses

The main conclusions to be drawn from the evidence gathered on country-level policy responses are outlined below.

5.3.1. The level of policy response to health inequalities varies across countries and regions. Most European countries participating in the EU health programme do not have systematic approaches, there is a lack of emphasis on levelling up the gradient in health, implementation of existing policies is patchy, while resistance to the term 'inequalities' hampers action.

Specific evidence underpinning this conclusion and issues arising is as follows.

- (i) Although there are good examples of initiatives at national and regional levels, the level of policy response across European countries is highly variable and the majority of countries participating in the EU health programme do not have national-level strategies in place for tackling health inequalities.
- (ii) It is possible to group or 'cluster' countries in terms of how health inequalities are being addressed.
- (iii) The eight countries that do have overarching national health inequality strategies in place also have more proactive (explicit) responses to health inequalities in other policies; this suggests that national-level leadership pays dividends. Countries with overarching health inequality strategies have proportionally greater policy focus on prenatal and maternal care, early child development, neighbourhood and community cohesion, vulnerable groups, housing, poverty and disadvantage, and social inequalities.
- (iv) Most countries make explicit mention of health inequalities in some of their policies but have no overarching national strategy in place. These countries have proportionally greater policy focus on access to health services, gender equality, immigrants and ethnic groups, discrimination and disability.
- (v) By contrast, a small minority of countries have no policies in place to tackle health inequalities. These countries have proportionally greater policy focus on health information systems, social and health insurance, clinical treatment, medication and medical equipment.
- (vi) Clearer terminology when tackling health inequalities across sectors does matter, but does not have to use a strict health branding, as many of the reviewed policies have shown (e.g. social inclusion approaches).
- (vii) There is a clear gap between policymaking and policy implementation, and there is a need to close implementation gaps in all but a small number of exemplary states. Although the gap may be due to administrative issues within a government's term of office, it may also be as a result of changes of government. It is therefore important to build support for tackling health inequalities across political divides. Cross-sectoral strategies, with common goals and broad support from a range of stakeholders or the setting up of cross-government committees facilitating cross-sectoral input of stakeholders from public, private and third sectors, may help.
- (viii) Inequality has a cultural or political association in some states, which may prevent action. In some countries, equity is an overriding value in the constitution, meaning that action is considered to be implicit in all measures and

that action on health inequalities is therefore unnecessary. In other countries, inequalities are considered the preserve of certain political parties, meaning that action only takes place when these political parties are in power. A recent investigation of patterns of attention to health policy found that improvements in population health are more likely to be on the agenda when centre-left parties are dominant in government (184).

- (ix) It may be necessary to adapt terminology and build support among a wider group of stakeholders to overcome such issues.
- (x) The importance of the social gradient in health appears to be poorly understood and acted upon: most policies with explicit aims to reduce health inequalities focus on 'vulnerable groups', such as immigrants, ethnic minorities, early school leavers, people from lower socio-economic groups and unemployed or homeless people. Universal policies almost never have a proportionate levelling-up component, and greater emphasis should be placed on introducing policies which have this component in place. A notable exception to this is the Norwegian national strategy to reduce social inequalities in health (see case study 4.3).

5.3.2. The current financial, economic and social crisis is threatening to undermine existing policies, and may negatively affect health inequalities. Some countries appear to be harder hit than others.

Specific evidence underpinning this conclusion and issues arising is as follows.

- (i) In some Member States, reports from experts contacted suggested a significant scaling back, as a result of the economic crisis, in many of the policy measures that could address health inequalities.
- (ii) Health inequalities appear to be increasing in several EU Member States. Approaches taken by Member States have either been insufficient or have been introduced too recently to have a significant (recordable) effect. In the current economic crisis, these policy responses to health inequalities could be overwhelmed by the impact of related social and economic changes.
- (iii) Certain groups appear to be at particular risk. The current situation concerning youth unemployment, for example, has been called a 'public health emergency'. If a significant proportion of the reviewed policies are being halted or scaled back, then arguments for an emergency review of the effects of fiscal consolidation on health and health inequalities would be merited.
- (iv) Inadequacy of funding may be addressed through skilful reorientation of priorities and funding. It is unrealistic to expect Member States to divert or commit new resources at times of economic difficulty. However, current conditions are an opportunity to present the economic and social evidence in support of an assets-based approach to health equity, in opposition to the social and economic burdens of disease.
- (v) Overall, there appears to have been a widening of differences in the intensity of responses to the issue, possibly fuelled by the effects of the crisis.

5.3.3. The role of the health sector in tackling health inequalities is vital, though it has often failed to incorporate the issue into the mainstream of many of its own core policies. Other sectors are increasingly involved, though wider engagement outside the health sector is still necessary.

Specific evidence underpinning this conclusion and issues arising is as follows.

- (i) There is a clear role for leadership in tackling health inequalities, and the health sector should be well positioned to take this role. However, the data show that just 33 % of health policies (aside from specific health inequality focus policies) have explicit aims to reduce health inequalities. This has to improve, and the health sector should make health equity the core of all its policies.
- (ii) Beyond leadership, there is a clear role for the health sector in facilitation and empowerment rather than coordination, by providing tools and evidence for positive interventions, awareness-raising and monitoring the negative and positive impacts on health equity of different policies and initiatives. It is important that public health jargon does not act as a barrier to this leadership role, and that the health sector makes efforts to understand other sectors' terminologies.
- (iii) Most countries studied reported significant cooperation on policies with sectors other than health, though these are most frequently with the 'usual suspects' (social affairs, employment, education and environment). Action to tackle inequalities in health requires engagement with a wider variety of sectors, such as public safety, energy, tourism, consumer protection, justice, immigration, finance, etc.
- (iv) An increasing proportion of policies aiming to explicitly and implicitly reduce health inequalities are led by sectors other than health. This is a positive development, demonstrating that knowledge about health-in-all-policy approaches (links between the social determinants and health outcomes) are becoming widespread, and should be further cultivated.

5.3.4. Further research and knowledge-building is necessary. Policy monitoring, evaluation, implementation research and impact analysis are crucial next steps.

Specific evidence underpinning this conclusion and issues arising is as follows.

- (i) Lack of data about health inequalities and lack of capacity to analyse existing data is hampering the overall policy response to health inequalities. It is one of the most widely cited barriers to responding to health inequalities. However, in most instances there is sufficient information to act now while improving information on the situation in parallel.
- (ii) Most strategies and policies are still not sufficiently monitored or evaluated. This represents an enormous loss of potential knowledge, preventing the implementation of effective responses to health inequalities and good practices from being identified and disseminated. The EU can play a role in this, by developing equity components of EU health monitoring and by making better use of monitoring tools within wider Commission processes such as the open method of coordination, the EU environmental action programme, outputs from FP7 and Horizon 2020 and from Eurostat and Eurobarometer. Action by Member States is also required, by improving data collection on gender and regional and socio-economic inequalities in health.



- (iii) There appears to be a trend towards decentralisation in health-system governance and the delivery of health services in many Member States. In most, this represents a move from the national level to regional authorities, though in some there appears to be a move towards the local level at the expense of national and regional levels. Given the importance of the health sector in tackling health inequalities, this trend, its impacts and repercussions need to be studied and understood, with the involvement of decision-makers from competent levels of government.
- (iv) Continued development of indicators as part of the 'Beyond GDP' initiative and as part of the healthy life years indicator would facilitate introduction of health inequality reduction targets.
- (v) Targets within the Europe 2020 strategy are not always well understood. Though the data showed some examples where health equity targets have been included within national reform programmes, the Commission should encourage the incorporation of these concerns within the wider mainstream of government policies and programmes.
- (vi) Improved use and understanding of health economics tools and evidence is vital to policy implementation. This includes cost-benefit analysis, cost-opportunity analysis and social equity audits. Existing tools developed by the WHO and EuroHealthNet can be used to evaluate existing and future policies for their gradient friendliness.
- (vii) Reviews of cross-cutting approaches are beginning to take place in several countries, which is welcome and helpful in identifying medium- to long-term planning needs, goals, obstacles and solutions. The Commission could support such processes by facilitating task groups, peer reviews or expertise exchanges between these countries. However, this should not be a barrier to implementing improvements in short-term practices based on existing knowledge, of which there is more than enough to act.

5.3.5. The need for leadership and action at the Commission level to (re)stimulate action and build capacity to tackle health inequalities.

Specific evidence underpinning this conclusion and issues arising is as follows.

- (i) The Commission's communication 'Solidarity in health: reducing health inequalities in the EU' (2) and the CSDH have stimulated work on health inequalities in many Member States. High-level initiatives such as these can successfully stimulate action.
- (ii) Given the differing contexts, expertise, levels of development of health systems and levels of policy responses to health inequalities, a one-size-fits-all approach by the EC/EU is not appropriate, though stakeholders look to the Commission for leadership, guidance and support. Further work by the Commission on providing targeted policy guidance should therefore be encouraged.
- (iii) The EU currently makes additional funding available for poorer countries, and it is for each Member State to decide their priorities in spending EU funding. Within this framework, the Commission should give consideration to mechanisms for providing different levels and types of support to Member States and regions, according to their level of response to health inequalities. For example, Member States with active responses to health inequalities could be supported in monitoring their existing overarching strategies, paying particular attention to



whether the policies in place actually help level up the gradient in health. Member States without overarching national-level health inequality policies and strategies could be supported in governance, policy formulation and implementation, while Member States with the least developed responses to health inequalities could be assisted in developing precursors to policies (e.g. adequate health information systems) and in incorporating health inequalities in an explicit manner into the mainstream of existing or future policies.

- (iv) Although this study has been a start in creating a real baseline of the policy response to health inequalities, there are clear gaps and the situation is constantly unfolding. It would be beneficial to have a continuous, comprehensive and up-to-date picture of the situation. This would help identify specific measures to support Member States and regions in improving responses to health inequalities, enable more accurate monitoring and form the basis of annual or biannual conferences to review progress to date and share good practice. This could build on existing work, including ISARE and ISARE 2, which produced health profiles of regions across the EU (185).
- (v) Sharing good practices through task groups, peer reviews and expert exchanges can help contribute to building capacities to tackle health inequalities. Attention should be paid to which sectors lead the most successful cross-sectoral policies, and how they do so.
- (vi) Given the trends described towards decentralisation and the increasing role of local and regional authorities in tackling health inequalities, the Commission should consider means of including regional-level policymakers in EU discussions and providing support to the regional and local level, possibly through cooperation with bodies such as the EESC and the Committee of the Regions.
- (vii) More effective use of EU spending instruments, such as the ESF and ERDF, would enable a wider range of stakeholders to be involved in tackling health inequalities. While awareness is improving, cross-sectoral cooperation in the use of these funds is limited.
- (viii) The Commission's joint equity action could be of particular significance in terms of understanding how to involve broad stakeholder groups in tackling health inequalities.
- (ix) The EU Expert Group on Social Determinants and Health Inequalities is a useful focal point. However, its effectiveness could be evaluated, in terms of engaging stakeholders across sectors and achieving comprehensive coverage of all Member States and regions.
- (x) Joint Commission work with the WHO (in Europe and globally) and other international organisations, such as the Organisation for Economic Cooperation and Development (OECD), International Labour Organisation (ILO), International Organisation for Migration (IOM), etc., is important. Messages, learning and tools arising from this work should be coordinated, for example within the EU health for growth programme, the social change and innovation programme and Horizon 2020, which will encompass the health, research and social components of the 'Solidarity in health' communication (2) and the WHO 'Health 2020' strategy which is due for adoption, including its public health action plans and investment in health priorities.



5.4. Review of the health divide and the social determinants of health in the WHO European region

This review, which was carried out for the WHO (186), concluded that it is not possible to reduce inequities in health without addressing inequities in the causes of ill health – social divisions, unequal exposure to harm and differential levels of resilience. Countries can utilise ‘health equity in all policies’ as a key commitment to inform further action to reduce health inequality and address the social determinants of health, but new systems of governance and delivery are also required. These need to operate at all levels of governance, involving both the whole of society and the whole of government. In all countries in Europe, it recommended that reduction of health inequities should become one of the principal criteria used to assess health-system performance and the performance of government as a whole.

It recommended that all 53 countries in the WHO European region should establish clear strategies to redress the current patterns and magnitude of health inequities by taking action on the social determinants of health. It is recognised that countries are at very different points in terms of health, health equity and socio-economic development. While this may limit what is feasible in the short term and the timescale for addressing specific issues, it concluded that this should not affect the long-term aspirations of the strategy. Areas covered by a strategy should include the following:

- early child development and education,
- employment and working conditions,
- social protection,
- sustainability and communities,
- prevention and treatment,
- reducing exclusion and vulnerability,
- reducing gender inequity,
- help with shaping European and global policies for health equity,
- measurement and monitoring of health inequalities.

It indicated that action should be taken on a universal basis, but, in recognition of the social gradient in health, that it should be delivered with an intensity that relates to social and health needs (proportionate universalism), underpinned by the recognition of:

- health and its social determinants as basic human rights;
- acceptance of mutual responsibilities between countries and groups within countries;
- the need for equity within and between generations ;
- the role that is played by national and transnational economic, social, political and cultural processes – operating through the life course – in determining social position and leading, to a greater or lesser degree, to exclusion and vulnerability;
- the importance of empowerment and control for both individuals and communities, based on their assets and rights;
- ensuring a minimum standard of healthy living for everyone.

The specific recommendations of the review are listed in Annex 6.



The review identified 'governance for health' systems competent to deliver these strategies as including characteristics that demonstrate the following.

- A high level of political will and commitment to reducing health inequities at international, national and local levels.
- Institutional readiness, involving private, public and NGO sectors, focused on policy development and capacity to deliver.
- Equity (including intergenerational equity) in all policies.
- A rights-based approach to health and its social determinants with structures and systems that require collaboration and action from key stakeholders.
- Transparency in how resources are used and in how decisions are taken, combined with active policies against corruption.
- Accountability mechanisms that are transparent, based on empowerment and involvement of individuals and communities, with metrics in the public domain, showing:
 - the extent of inequities and progress in addressing them;
 - the evaluation of interventions;
 - the equity impact of all policies;
 - the social and economic costs of inequities and the benefits of reducing them for health and for wider societal goals such as cohesion, sustainable development and economic recovery;
 - the extent of assets and resilience in society.
- Appropriate levers and incentives for both health and non-health systems to deliver reductions in health inequities.
- Secure cross-sectoral and partnership working by embedding it in existing management and performance systems and in processes and mechanisms which build ownership and responsibility for shared results at the national and local levels.
- The involvement of communities in development and implementation, drawing on and strengthening capabilities and assets.
- Support for transnational mechanisms that promote health and equity and reduce harmful social conditions (e.g. unemployment).

These recommendations have as much validity within the EU as elsewhere in Europe. They need to be taken forward to reduce inequalities across the EU.

5.5. Recommendations

5.5.1. Recommendations for EU Member States and regions

In proposing specific recommendations for EU Member States and regions, it is important to reiterate that the data and figures in this report show the diverse situations that different EU Member States and regions experience concerning health inequalities. Overall, however, the evidence broadly indicates persistent health inequalities between Member States and a growing body of evidence on the increasing size of inequalities between regions and social groups within Member States. Furthermore, the report shows that there are significant differences in the level of responses to health inequalities by Member States and their regions.

The very different social, political and health situations in Member States and regions can only be tackled through customised policy approaches and actions to address the specific conditions they experience. However, this needs to be done within the broad framework of an understanding of the social determinants of health inequalities, the pathways that lead from social conditions to the more immediate causes of ill health, the assets that can provide resilience in particular contexts, and the entry points for interventions and the governance arrangements required to achieve health equity.

An important prerequisite for tackling health inequalities at national and regional level is a broad understanding that high levels of health inequalities are undermining societal and economic progress. Only clear political will and commitment will effectively tackle them.

The analysis in the review identified clusters of Member States and regions at the lower end of the scale in terms of policy response to health inequalities. They need to pay particular attention to strengthening efforts to tackle health inequalities. Otherwise, the increasing divergence of policy responses in Member States is likely to exacerbate health inequalities within their countries and across the EU. However, the review also identified scope for every Member State to do more in their efforts to tackle health inequalities. Even those with a long history of low levels of health inequalities and high overall life expectancy are seeing this position being eroded. They need to do better. In short, this review endorses the principle of making a proportionate response in these three situations that was set out in the WHO review (16):

Do something, do more, do better.

Because health inequalities are associated with social disadvantage, the first and most urgent recommendation is to develop social protection policies that support in a proportionate manner those who are disadvantaged groups in the Member State or region. This links to the recommendations to Member States included in the SIP (179), such as those concerning child poverty, social inclusion and labour market activation, long-term care, homelessness, and health and social services. The SIP aims to encourage Member States to enable and enhance people's capacities to participate in society and in the labour market. It argues for more efficient and effective use of economic resources in the task to ensure adequate and sustainable social protection,



investing in people's skills and capacities throughout the life course and ensuring that social protection systems respond to people's needs at critical moments during their lives.

This broad approach to tackling health inequalities by Member States requires action in four areas of governance: strategy, implementation, capacity-building and monitoring. The analyses undertaken in this review suggest that some of the key priorities now required for action to govern for health equity are those listed below.

Recommendation 1: Lead on clear and comprehensive strategies to redress the current patterns and magnitude of health inequalities

- (i) Develop national, regional and local action plans for tackling health inequalities in cooperation with all other policy sectors and departments relevant to the social determinants of health. Set up coordinating mechanisms to facilitate this.
- (ii) Foster 'health-in-all-policy' and 'whole-of-government' approaches to tackling the issue, liaise, develop common goals and secure the involvement and commitment at the highest levels across national, regional and local government.
- (iii) Ensure policy coherence across national, regional and local government in reducing health inequalities. This means undertaking health equity impact assessments of policies before implementation, in particular those involving austerity measures.
- (iv) Explicitly link health inequality objectives to existing cross-cutting strategies, where feasible — such as those concerning children and older people, poverty, social exclusion and vulnerability, sustainable development and national, regional and local development plans.
- (v) Ensure buy-in and ownership by involving multiple stakeholders in the design of action plans and strategies, such as community and civil society organisations, NGOs, service providers and businesses.
- (vi) Ensure that targeted measures for the most vulnerable are taken within a universally proportionate approach that is sensitive to all groups across the social gradient, with a priority focus on children, young families and older people.

Recommendation 2: Ensure the coherence and effectiveness of action to reduce health inequalities at all levels of government and across all sectors and stakeholders

- (i) Ensure that coordinated actions are taken, across policy domains and for all social groups, which improve health across the causal pathways that affect health. This requires integrated action on:
 - 'upstream' social determinants, such as early child development, education, employment and working conditions, social protection, housing, transport, environmental factors;
 - 'mid-stream' risk factors, lifestyles and behaviours, such as smoking, alcohol, diet and physical activity;
 - 'downstream' factors such as diagnosis and treatment of ill health.
- (ii) Ensure actions to reduce health inequalities are included in the mainstream of all policies.



- (iii) Ensure actions are large enough in scale, of sufficient intensity and long enough in duration in order to have impact on levels of health inequalities.
- (iv) Recognise and foster promising practices and successful interventions and find ways to scale them up.
- (v) Develop a mix of feasible actions that can be implemented in the short term, as well as more ambitious plans.
- (vi) Strengthen cooperation between social and healthcare services to develop integrated services at the community level, including mental health services. Support additional community-based approaches and participation, including neighbourhood renewal strategies.
- (vii) Provide universal access to safe and high-quality healthcare services, including health promotion and disease prevention services, to tackle chronic diseases in all groups across the social gradient, including migrants, Roma and other ethnic communities.
- (viii) Consider additional actions that engage with a wider variety of sectors, such as on public safety, energy, sustainable development, agriculture, tourism, consumer protection, justice, immigration and finance.

Recommendation 3: Ensure that the capacities exist for coherent and effective implementation of action on health inequalities

- (i) Build workforce capacities in all relevant sectors, particularly social, educational and health services. Increase the capacity of local authorities and communities by establishing local support networks.
- (ii) Allocate adequate capacity (human resources and finances) at all governmental levels to liaise and cooperate with other sectoral policies and invest smartly in specific health inequality measures. Such measures will bring savings in the long term.
- (iii) Ensure sustainable financial mechanisms, particularly during times of budgetary constraint, and reorient priorities for funding. Shift existing resources to more upstream policy measures, to more disadvantaged areas or communities and to those actions with higher returns on investment.
- (iv) Make more use of the EU Cohesion and Structural Funds (2014–20) to address health inequalities, the social determinants of health and integrated community-based services.
- (v) Ensure regional- and local-level implementation of actions is adequately supported.
- (vi) Explore public–private partnerships, paying attention to the short- and long-term costs and benefits and the impact of investment opportunities.

Recommendation 4: Ensure progressive improvement in the availability and use of data needed to identify priorities, plan action, monitor trends and evaluate what actions are most effective

- (i) Undertake regular national and regional review of existing cross-cutting approaches to health inequalities, as is already done in several EU Member States. Include an assessment of current cost-containing measures and their potential short- and long-term impacts on health outcomes across the social gradient.
- (ii) Report regularly and be accountable at all levels of government.



- (iii) Contribute to high-quality internationally comparable longitudinal data on health inequalities in Europe. Improve the availability of health and social determinants data stratified by key indicators of socio-economic status (education, material deprivation, income and employment status); include gender and ethnicity.
- (iv) Strengthen national, regional and local data collection systems and analysis of data on health inequalities and their social determinants. Where appropriate, gap and gradient analyses should be undertaken and assessed.
- (v) Implement regular and appropriate monitoring of trends and evaluation of policies, as well as assessment of differential impacts of actions, taking into account contextual situations. Indicators used should include subjective health and well-being, and lifestyles and behaviours, to measure short-term and intermediate outcomes and indicators of the social determinants of health, such as those based on employment and education.
- (vi) Fund more research into evaluating the effectiveness and cost-effectiveness of policy approaches. Share economic evidence and analyses with other EU Member States and regions.

5.5.2. Recommendations for the Commission

There are a number of policy levers available to the Commission relevant to health and its social determinants. As discussed in Section 5.2, these cover actions that can be taken directly, work that can be commissioned by the Commission or its institutions, the use of specific funds, directives, communications and other mechanisms to influence Member States and the global community. The spectrum of available policies and levers open to the Commission provides an opportunity to influence action on health inequalities and their social determinants either directly or through Member States and regions. The three primary dimensions which the Commission is well placed to address through EU-level policy are socio-economic inequality, geographic inequality and the conditions and health of those subject to exclusionary processes (e.g. Roma communities, undocumented migrants, etc.). Investment in health should not simply be taken to be investment in healthcare, but also should also include investment in these dimensions.

Recommendation 5: Leadership and action should be taken at the Commission level to stimulate action and build capacity to tackle health inequalities.

- (i) Take forward and communicate health inequality reduction as a coherent strategy. For this purpose, the single-point-of-entry approach should be strengthened to enable the necessarily diverse activity to be seen by others as work directed towards a common strategic objective. It would also enable Member States to better identify and use of existing funds, and funds available in the new programming period to achieve 'health inequalities gain'.
- (ii) Encourage and assist Member States to use Structural Funds and other funds, such as the ESF, ERDF and EAFRD to address regional and socio-economic inequalities in health. Revisit the extent to which Member States' definitions of 'socially excluded groups' (and therefore those eligible for ESF funding) are in practise including or excluding the most vulnerable when obtaining funding, either intentionally or unintentionally.



- (iii) Identify reducing health inequalities explicitly as a goal within wider policies and actions, as has been done in SIP. To ensure that health inequalities have a high level of strategic priority, they should be addressed in common strategic frameworks such as those for cohesion policy and research and innovation.
- (iv) Continue support for research on the evolution of health inequalities, on their interplay with other economic and social inequalities and on the effectiveness of policies aiming to reduce them in Europe and beyond.
- (v) Use the Commission's development programme with low- and middle-income countries, and its communications, to provide a focus on global health inequalities through action on the broader social determinants of health (in particular education, employment, the environment and universal high-quality healthcare).



List of annexes

| Annex | Title |
|--------------|---------------------------------------------------------------------------------------------------------------------|
| 1 | Methodologies used in the review |
| 2 | Statistical tables |
| 3 | Literature review — summary of inequality papers |
| 4 | Policy responses by the European Commission |
| 5 | Country profiles |
| 6 | Recommendations of the review of the health divide and the social determinants of health in the WHO European region |

Annexes are available upon request to the contracting authority at the following address: eahc@ec.europa.eu



Glossary

(a) Acronyms and terms used in the report

| Acronym or term | Description |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2009 communication | EC communication on health inequalities, 'Solidarity in health: reducing health inequalities in the EU' |
| CAP | common agricultural policy |
| CoR | EU Committee of the Regions |
| CSDH | Commission on Social Determinants of Health |
| Determine | EU Consortium for Action on Socio-Economic Determinants of Health |
| DG Health and Consumers | Directorate-General for Health and Consumers of the European Commission |
| EAFRD | European Agricultural Fund for Rural Development |
| EC | European Commission (the 'Commission') |
| ECAT | To empower the Community in response to alcohol threats |
| ECHI | European Community health indicators |
| ECHP | European Community household panel survey |
| ECP | EU cohesion policy |
| Ecuity | Projects on equity in the finance and delivery of healthcare (Ecuity I), health equity and the role of economic factors (Ecuity II) and health equity in relation to ageing |
| EESC | European Economic and Social Committee |
| EHP | European health programme — the programme of Community action in the field of health 2008–13 |
| ELFS | European labour force survey |
| EOPYY | Greek National Organisation for the Provision of Health Services |
| EPIC | European prospective investigation into cancer and nutrition |
| ERDF | European Regional Development Fund |



| Acronym or term | Description |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESF | European Social Fund |
| ESS | European Statistical System — a partnership between Eurostat and the national statistical institutes (NSIs) and other national authorities responsible for the development, production and dissemination of European statistics |
| EU | European Union |
| EU environmental action plan | EC-proposed environment action programme for the EU, entitled 'Living well, within the limits of our planet', to guide environment policy up to 2020 |
| EU SDS | EU sustainable development strategy |
| EU-SILC | EU Statistics on Income and Living Conditions |
| Euro-Peristat | Health information and knowledge system for evaluating and monitoring perinatal health in Europe |
| Eurobarometer | EC public opinion surveys |
| EuroGBDSE | EU-funded consortium to assess the potential for the reduction of health inequalities in Europe |
| Europe 2020 | EC strategy for smart, sustainable and inclusive growth |
| European Council | The European Council brings together the Heads of State or Government of EU Member States, the European Council President and the Commission President |
| Euroregion | Evaluation of border regions in the European Union |
| Eurostat | Statistical office of the European Union |
| Eurothine | Project funded by the public health programme of DG Health and Consumers to collect, assess and disseminate evidence for tackling health inequalities in Europe |
| Finbalt | Finbalt health monitor is a collaborative project for monitoring health-related behaviour, practices and lifestyles in Estonia, Latvia, Lithuania and Finland |
| FP7 | EU seventh framework programme for research |
| GDP | gross domestic product |
| Gini coefficient | The Gini coefficient indicates how unevenly health, income or other attributes are distributed |



| Acronym or term | Description |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| HBSC | Health behaviour in school-aged children, WHO survey |
| Health 2020 | WHO European policy framework supporting action across government and society for health and well-being |
| HiAP | health-in-all-policies |
| HIV/AIDS | human immunodeficiency virus/acquired immune deficiency syndrome |
| HLY | healthy life years |
| Horizon 2000 | The financial instrument implementing the innovation union, a Europe 2020 initiative aimed at securing Europe's global competitiveness |
| IHD | ischaemic heart disease |
| ILO | International Labour Organisation |
| INEQ CITIES | EU research project to compile evidence from the cities of Europe on policies to address socio-economic inequalities in mortality |
| IOM | International organisation for migration |
| ISARE | Indicateurs de santé pour les régions de l'Europe |
| ISCED | International Standard Classification of Education |
| Lisbon strategy | EU strategy to strengthen employment, economic reform and social cohesion as part of a knowledge-based economy |
| MI | myocardial infarction |
| NGO | non-governmental organisation |
| NorCHASE | Nordic collaborative project on health and social inequality in early life |
| NUTS 2 | Nomenclature of Territorial Units for Statistics — level 2 (defines 268 areas within the EU) |
| OECD | Organisation for Economic Cooperation and Development |
| OMC | open method of coordination — an intergovernmental means of governance in the European Union, based on the voluntary cooperation of its Member States |



| Acronym or term | Description |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PPP | purchasing power parity |
| PPS | purchasing power standard |
| Progress | The EU Progress programme supports the development and coordination of EU policy on employment, social inclusion and social protection, working conditions, anti-discrimination and gender equality |
| RII | relative index of inequality |
| SARS | severe acute respiratory syndrome |
| SGA | small for gestational age |
| SHARE | Survey of health, ageing and retirement in Europe |
| SII | slope index of inequality |
| SIP | EU social investment package |
| SPC | EC Social Protection Committee |
| TB | tuberculosis |
| UADT | upper-aero digestive tract |
| WHA | World Health Assembly |
| WHO | World Health Organisation |



(b) Country groupings of EU member States and other EHP countries used in the report

Members of the EU and/or the EHP

| | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| EU-27 | The 27 countries that have belonged to the EU since 2007 or earlier |
| EU Member States joined pre-2004 | Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden, United Kingdom |
| EU Member States acceded 2004–07 | Bulgaria, Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia, Slovakia |
| EHP countries | EU Member States (including Croatia), Iceland, Norway |

Country clusters based on response to health inequalities

| | |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cluster 1 | Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia and the United Kingdom |
| Cluster 2 | Belgium, Bulgaria, Croatia, Czech Republic, Estonia, France, Germany, Iceland, Italy, Latvia, Lithuania, Luxembourg, Poland, Portugal, Spain, Sweden |
| Cluster 3 | Austria, Cyprus, Greece, Hungary, Malta, Romania, Slovakia |

Country groupings by location in United Nations subregions

Eastern Europe

| | |
|----------------------------------|---------------------------------------------------------------|
| EU Member States acceded 2004–07 | Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia, |
|----------------------------------|---------------------------------------------------------------|

Northern Europe

| | |
|----------------------------------|---------------------------------------------------|
| EU Member States joined pre-2004 | Denmark, Ireland, Finland, Sweden, United Kingdom |
| EU Member States acceded 2004–07 | Estonia, Latvia, Lithuania |
| Other EHP countries | Iceland, Norway |

***Southern Europe***

EU Member States
joined pre-2004 Greece, Spain, Italy, Portugal

EU Member States
acceded 2004–07 Malta, Slovenia

EU Member State
acceded 2013 (and
in EHP) Croatia

Western Europe

EU Member States
joined pre-2004 Belgium, Germany, France, Luxembourg, Austria, Netherlands

Western Asia

EU Member States
acceded 2004-2007 Cyprus

Other geographic groupings of EU/EHP countries used in the report

Baltic states Estonia, Latvia, Lithuania

Scandinavia Denmark, Norway, Sweden

Nordic states Denmark, Iceland, Finland, Norway, Sweden

**(c) Country codes**

| | |
|----------------|----|
| Austria | AT |
| Belgium | BE |
| Bulgaria | BG |
| Croatia | HR |
| Cyprus | CY |
| Czech Republic | CZ |
| Denmark | DK |
| Estonia | EE |
| Finland | FI |
| France | FR |
| Germany | DE |
| Greece | EL |
| Hungary | HU |
| Iceland | IS |
| Ireland | IE |
| Italy | IT |
| Latvia | LV |
| Liechtenstein | LI |
| Lithuania | LT |
| Luxembourg | LU |
| Malta | MT |
| Netherlands | NL |
| Norway | NO |
| Poland | PL |
| Portugal | PT |
| Romania | RO |
| Slovakia | SK |
| Slovenia | SI |
| Spain | ES |
| Sweden | SE |
| Switzerland | CH |
| United Kingdom | UK |



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