The European health report 2012 | Charting the way to well-being

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Contents

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Abbreviations

CIS	Commonwealth of Independent States (until 2006)
COPD	chronic obstructive pulmonary disease
CSDH	Commission on the Social Determinants of Health
DALY	disability-adjusted life-year
EU	European Union
EU12	the 12 countries belonging to the European Union since May 2004
EU15	the 15 countries belonging to the European Union before 1 May 2004
EUROSTAT	statistical office of the European Union
GDP	gross domestic product
HBSC	Health Behaviour in School-aged Children (study)
IARC	International Agency for Research on Cancer
ICF	International Classification of Functioning, Disability and Health
ISTAT	National Institute of Statistics
MDG	Millennium Development Goal
NCDs	noncommunicable diseases
NUTS	Nomenclature of Units for Territorial Statistics (European Union)
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics (United Kingdom)
OOP	out-of-pocket
PM_{10}	particulate matter with an aerodynamic diameter smaller than 10 microns
PSS	Perceived Stress Scale
RIVM	National Institute for Public Health and the Environment (the Netherlands)
SAGE	(WHO) Study on Global AGEing and Adult Health
SCRC	Standing Committee of the Regional Committee
SMART	specific, measurable, achievable, relevant and timely
SWLS	Satisfaction With Life Scale

TB	tuberculosis
UNICEF	United Nations Children’s Fund
WEMWBS	Warwick-Edinburgh Mental Well-being Scale
WHOQoL	WHO Quality of Life (project)

Abbreviations of country names used in some figures

ALB	Albania
ARM	Armenia
AUT	Austria
AZE	Azerbaijan
BEL	Belgium
BIH	Bosnia and Herzegovina
BLR	Belarus
BUL	Bulgaria
CRO	Croatia
CYP	Cyprus
CZH	Czech Republic
DEN	Denmark
DEU	Germany
EST	Estonia
FIN	Finland
FRA	France
GEO	Georgia
GRE	Greece
HUN	Hungary
ICE	Iceland
IRE	Ireland
ISR	Israel
ITA	Italy
KAZ	Kazakhstan
KGZ	Kyrgyzstan
LTU	Lithuania
LUX	Luxembourg
LVA	Latvia
MAT	Malta
MDA	Republic of Moldova
MKD[a]	The former Yugoslav Republic of Macedonia
MNE	Montenegro
NET	Netherlands
NOR	Norway
POL	Poland
POR	Portugal
ROM	Romania
RUS	Russian Federation
SPA	Spain
SRB	Serbia
SVK	Slovakia
SVN	Slovenia

SWE	Sweden
SWI	Switzerland
TJK	Tajikistan
TKM	Turkmenistan
TUR	Turkey
UKR	Ukraine
UNK	United Kingdom
UZB	Uzbekistan

[a] The International Organization for Standardization (ISO) abbreviation for the former Yugoslav Republic of Macedonia.

Foreword

As part of its mandate to monitor and report on the health of nearly 900 million people in the WHO European Region, the WHO Regional Office for Europe issues this report as its flagship publication, every three years. In the 2009 European health report focused on the role of health systems in contributing to health, approaches to strengthen health systems' functions based on cost-effective interventions and performance assessment, and referred to the 2008 Tallinn Charter: Health Systems for Health and Wealth. The 2012 European health report focuses on supporting and providing the evidence base for the strategic objectives and priorities of Health 2020, the new European policy framework to support action across government and society for health and well-being, endorsed in 2012 by European Member States.

This new European policy is the beginning of a new united fight to save not just the lives of the citizens of today's Europe but also those of generations to come. It targets the main health challenges in the 53 countries in the Region, such as increasing health inequities within and between countries, shrinking public service expenditure due to the financial crisis, and a growing burden of ill health from noncommunicable diseases such as obesity, cancer and heart disease. Its implementation will help to mobilize decision-makers everywhere, within and beyond the boundaries of the health sector. Given that so many factors affect health and that health affects so many areas of human life, progress on public health can only come from whole-of-society and whole-of-government efforts. This is why everyone has a role to play in implementing Health 2020, from prime ministers to civil-society organizations to citizens. It is also why this work requires increasing attention to and understanding of health and well-being, in addition to reducing morbidity and mortality and improving health systems' performance through such means as reaching universal coverage.

The timing of this report thus offers an excellent opportunity to provide policy-makers and public health professionals with the epidemiological evidence base underpinning Health 2020 and to outline the tools and methods to measure progress. The report also provides insight into one of the pivotal aspects of Health 2020: well-being as a marker of progress in health in the Region. Well-being stands at the centre of the WHO Constitution's definition of health: "not merely the absence of disease or infirmity" but "a state of complete physical, mental and social well-being".

This report presents the current epidemiological profile of the Region's 53 Member States and the agreed approach to monitoring progress towards Health 2020, specifically through a small set of agreed European goals (overarching targets) and proposed indicators to be further refined. The *report also identifies important challenges to measuring progress towards Health 2020 and outlines a collaborative agenda to address them, with the WHO Regional Office for Europe as a facilitator and convener, working with European institutions and partnering Member States.*

This report is written for policy-makers in European countries and all public health professionals concerned with the implementation of the new policy. It should also interest academic institutions, nongovernmental organizations and other groups keen to contribute to Health 2020, strengthen solidarity across Europe and reduce inequalities within and across countries in the European Region.

The report describes how the Region's 53 Member States came to agree on the set of overarching targets, which are expressed as European averages. This follows a European tradition first put into practice through the Health for All policy and continued in HEALTH21 two decades later. The report describes in detail the methods and baseline for target setting at the European level, as progress on the overarching targets will be reported at this level. Nevertheless, most actions will occur at the country level, so these details can also inspire countries to set or reset their own targets for health, reflecting their particular circumstances and starting points.

My team at the Regional Office and I are committed to reporting regularly on the progress towards the European goals for health and well-being and on our efforts to overcome measurement challenges. We will conduct annual analyses and mark progress with our first set of milestones in 2015. I am sure that the commitment of all 53 Member States to the implementation of Health 2020 will be a strong catalyst for success in Europe in the years to come.

Zsuzsanna Jakab

WHO Regional Director for Europe

Executive summary

In recent decades, significant improvements in the health of the population of the WHO European Region have led to increases in life expectancy, which has reached over 76 years for both men and women. This is mainly a result of decreases in certain causes of death and advances in tackling the prevalence of risk factors and socioeconomic and living conditions. Nevertheless, these improvements and the conditions that foster them have not been shared equally within and between countries: substantial differences persist and in many instances are increasing. Health inequalities and their determinants occur – and in some cases are widening – in many parts of the Region. Avoidable inequalities that can be addressed by current knowledge are unfair, representing health inequities.

As European populations are rapidly ageing, disease patterns are changing, creating different demands on the health and social sectors. Important demographic and epidemiological changes are occurring at different paces and varying intensity across the Region. Renewed efforts to implement cost-effective, evidence-based interventions and to orient policies to enhance health and well-being are provided under the framework of the Health 2020 strategy *(1)*. This builds on and extends the focus of the European health report 2009 *(2)* on approaches to strengthen health systems' functions based on cost-effective interventions and performance assessment.

The goal of the European health policy, Health 2020, is "to improve the health and well-being of populations, reduce health inequities, and ensure sustainable people-centred health systems" *(1)*. Through an intense process of consultation and the work of several expert groups, Health 2020 has arrived at six goals (overarching targets) for the European Region to achieve by 2020; for each area, indicators will be used to monitor progress. The use of targets builds on previous European efforts, such as those of Health for All and HEALTH21 *(3,4)*. Valuable lessons have been learned from the nearly 30 years of experience in making health policy and setting targets. The process of setting targets and indicators is complex; this report clearly documents the procedures used to date in Health 2020 and outlines the next steps.

A core aspect of Health 2020 is the measurement of population well-being, specifically in the context of health. The WHO definition of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" *(5)* recognizes the pivotal role of well-being, but WHO has neither measured nor reported on well-being. To incorporate well-being in Health 2020 and to quantify a European target and relevant indicators, it is essential to develop a common concept and approach to well-being that allow for valid measurement and yield information that is useful to policy-makers and for programme evaluation.

Researchers, organizations, governments and other entities take a wide range of approaches to describe in detail what areas or domains make up well-being in an intersectoral sense. WHO is working with its partners to address well-being in the context of health, and to connect this with the quantification of the burden of disease and assessment of health systems' performance in the European Region.

Further, this report acknowledges the challenges in measuring progress towards Health 2020, outlining with its partners an agenda to overcome them. Although health information is abundant in the European Region, data relevant to measuring progress are not readily available for all countries. The WHO Regional Office for Europe is supporting countries in enhancing their collection, collation, analysis and reporting of health information, and working with the European Commission and the Organisation for Economic Co-operation and Development (OECD) to establish a single integrated health information system for Europe, covering all 53 Member States.

1. Where we are: health status in Europe and the case for Health 2020

People in Europe are living longer than ever before; we in the WHO European Region are also living healthier lives. Nevertheless, as this chapter outlines, the benefits gained in recent decades are not equally distributed across the Region, or reaped by all parts of Europe or all population groups. In some countries, health and life expectancy have declined, widening the health gap across the Region. This is intolerable in a region of immense wealth and public health traditions, and calls for an urgent implementation of the new European health policy, Health 2020 *(1)*.

The European Region is undergoing important demographic and epidemiological changes that are shaping its future needs for health promotion, disease prevention and care. Nevertheless, such transitions are occurring at varying speed and intensity for different countries and populations, creating new challenges and a mosaic of health situations that requires specific approaches. This evolving context highlights some of the major challenges for health in Europe, which the Health 2020 policy addresses *(1)*. The information provided in this chapter mostly reflects data reported by countries to the WHO Regional Office for Europe (Box 1). It identifies key areas on which the Health 2020 policy is based, highlights patterns that demand attention and provides a baseline for the monitoring of progress towards defined priorities and areas for policy action.

Box 1. Approach to preparing graphs and interpreting data

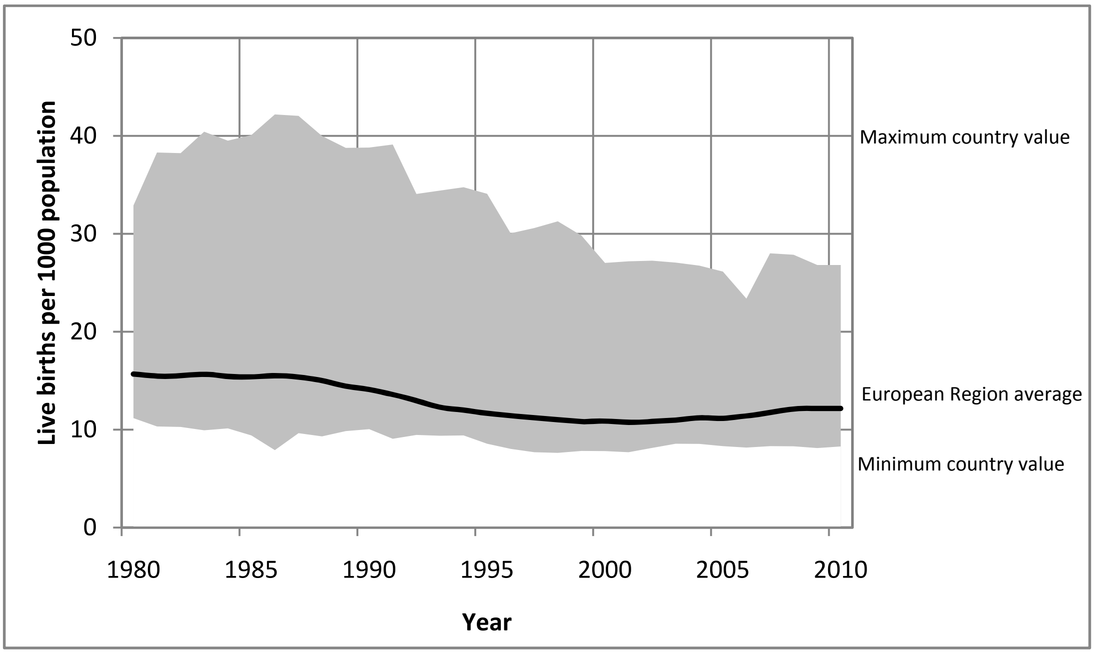
- Data presented in this report are mostly from the European Health for All database *(6)* as reported by countries or other international organizations to the WHO Regional Office for Europe.
- Although the WHO European Region includes 53 countries, the number of countries with data for any given year may vary between indicators, owing to differences in the reporting or availability of data.
- The average value for the European Region for any given indicator represents the population-weighted average of country data. Unlike previous reports, this edition of the European health report does not provide averages for different subregional groupings of countries. Developing a new, meaningful approach to present subregional data that accurately reflect the contemporary context and are useful for monitoring progress towards the Health 2020 policy is one of the measurement and analysis challenges noted in the last section of this report.
- The shaded areas in the graphs show trends, usually between 1980 and 2010, and represent the minimum and maximum country values for a particular indicator for a specific year (see Fig. 1). This means that different countries may represent the minimum or maximum value in different years. Countries in the Region vary in size and, for those with smaller populations, a few cases may determine whether a country has the minimum or maximum value.
- These points partly explain some of the extreme spikes observed in the shaded areas in different graphs. Nevertheless, these spikes may sometimes represent extreme situations: for example, increased mortality (or reduced life expectancy) following a significant natural disaster or man-made catastrophe.

Demographic trends

Population growth and ageing

The population of the 53 countries in the European Region reached nearly 900 million in 2010, an increase of 5% since 1990 *(6)*. Projections from 2010 onwards suggest that the population will not change significantly in the Region as a whole in the coming decades but that it will actually decrease in some countries *(7)*. Several factors contribute to this trend, including lower crude birth rates (Fig. 1) along with fertility rates lower than 1.75 children per woman and relatively stable or slowly increasing crude death rates and migration inflows. A decrease, or negative annual population increase, has already been documented in central and eastern European countries from the early 1990sto the early 2000s.

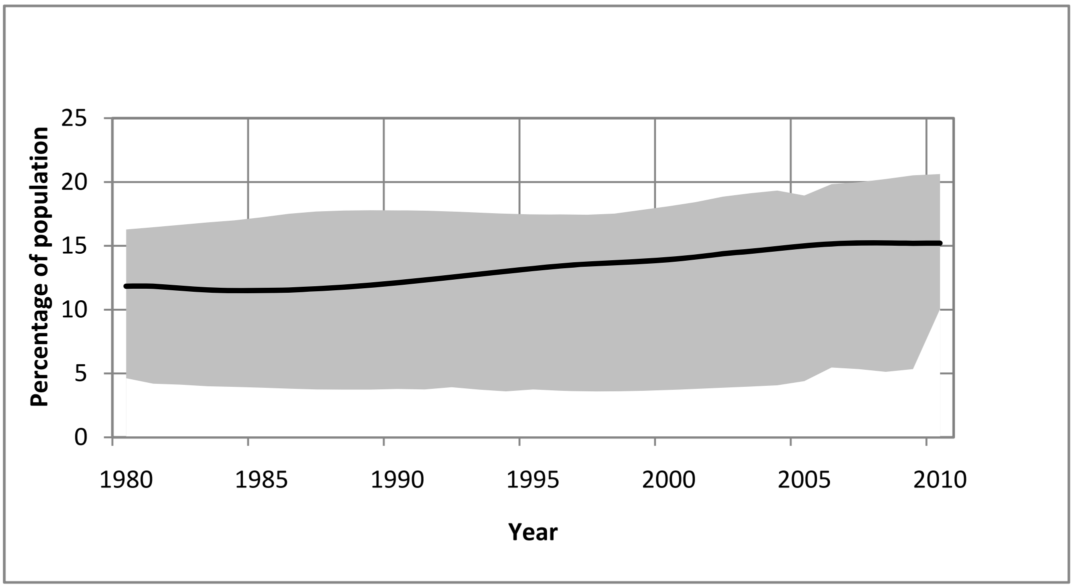
Fig. 1. Crude birth rate in the European Region, 1980–2010



Source: European Health for All database *(6)*.

The population in the European Region is ageing rapidly. By 2010, an estimated 15% of the overall population was aged 65 years and over (Fig. 2). This represents an increase of nearly 30% since 1980; this age group is the fastest growing segment of the population. Countries in the Region show important differences, however, in the proportion of people aged 65 years and over, ranging from more than 20% and increasing to 5% and potentially falling further. Nevertheless, this age group is projected to represent more than 25% of the total population of the European Region by 2050.

Fig. 2. Population aged 65 years and over in the European Region, 1980–2010



Source: European Health for All database *(6)*.

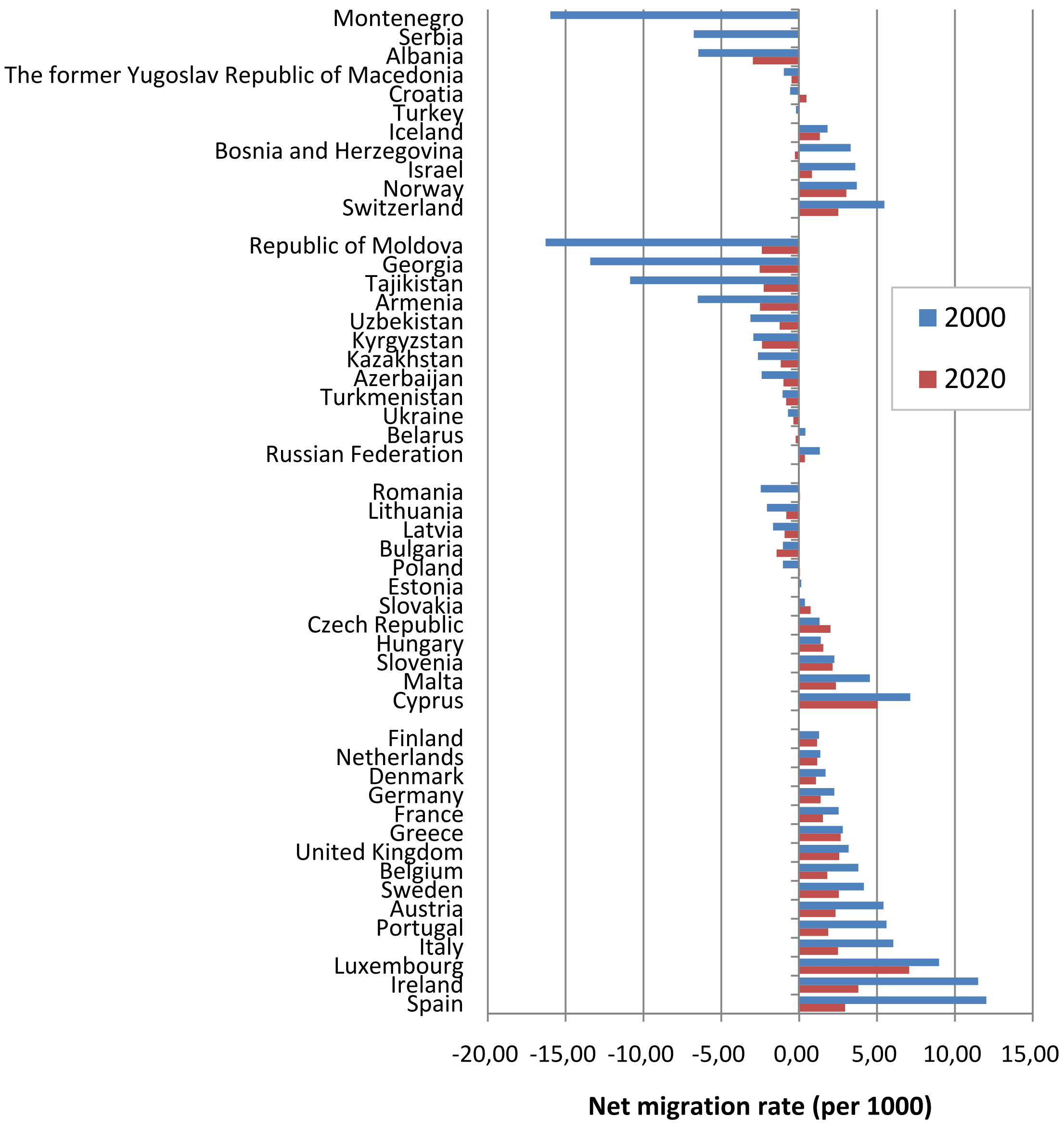
Overall, the ageing of the population is associated with the increased control of communicable diseases early in life, the delayed occurrence of chronic noncommunicable conditions and reduced premature mortality, reflecting improvements in living conditions and health services. Nevertheless, continuing to ensure and strengthen social inclusion, security and welfare – along with a range of health and social services in line with the needs of an ageing population, given this well-documented phenomenon and its expected effects –should be a high priority, requiring adequate resources adapted to the context of each country *(8)*.

Population distribution

Migration is an additional factor influencing the demographic transitions observed in Europe. The main contributing causes are natural and man-made disasters, as well as social, economic and political disruptions. Based on reported data, an estimated 73 million migrants live in the European Region, accounting for nearly 8% of the total population, with women representing 52% of all migrants. Overall, this population inflow reflects a 5 million increase to the Region's population since 2005 and accounts for nearly 70% of the population growth between 2005 and 2010.

Existing net migration estimates and projections to 2020 document and predict dramatic changes and differences across countries in the Region. With a baseline in 2000, Fig. 3 illustrates the projected net migration to 2020 across countries in the European Region.

Fig. 3. Projected net change in migration rates in countries in the European Region, 2000–2020



Source: World Population Prospects 2008, United Nations Population Division *(7)*.

The long-term effects of migration on sustained population growth and structure remain uncertain. Some facts are well documented: migrants are usually younger, less affluent and more likely to become ill, and have less access to health services than the rest of the population. Taking this into account, government policies across different sectors will benefit from coordinated strategies that give special attention to the current and future needs of migrants. Across the European Region, sharing experiences and evidence gained through the implementation and evaluation of strategies in health systems and other social and economic systems should be further encouraged.

The geographical distribution of the population in the Region provides additional insights relevant to health policy. Nearly 70% of the overall population lived in urban settings in 2010; this proportion is expected to exceed 80% by 2045 *(9)*. The proportion of the population in urban areas varies between countries, however, ranging from more than 85% in about 10 countries to less than 50% in 8 countries. Urban and rural populations may differ in their exposure to a wide range of social determinants of health, including access to health and other services (see the section on social determinants and health inequalities below). Similarly, urban centres have diverse social and economic conditions, and countries have different policies addressing, for example, social inclusion or the processes that render some people more vulnerable to illness.

Box 2. Key messages – demographic trends

- While the population of Europe has grown to nearly 900 million inhabitants, decreasing fertility rates across the Region mean that this trend will soon plateau.
- The population is ageing rapidly, with projections estimating that more than 25% of the total population of the European Region will be aged 65 and over by 2050.
- Migration is influencing the demographic transitions observed in Europe.
- The proportion of the population living in urban areas reached nearly 70% in 2010 and is expected to exceed 80% by 2045; as a consequence, people are exposed to different health risks and determinants.

Epidemiological situation and trends

In addition to these demographic changes, the population of the European Region is experiencing important epidemiological changes in mortality, reflecting changing patterns across age and sex groups, and in the causes of disease and disability. The following sections illustrate trends, offer a baseline for Health 2020 and provide information that points to focus areas for promoting health, preventing disease and strengthening health systems across the Region.

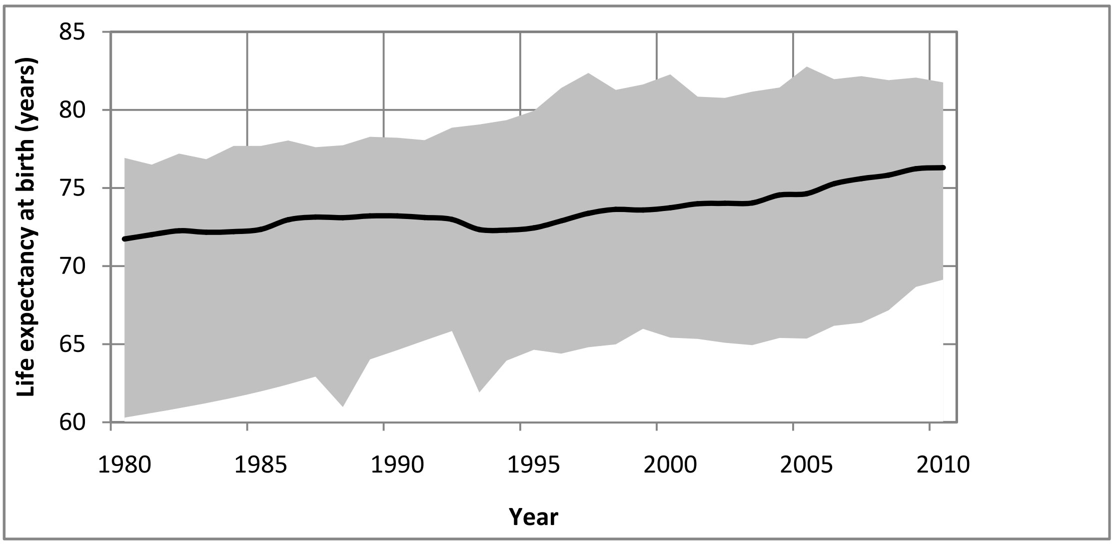
Life expectancy

Life expectancy at birth

Although based on mortality rates, overall life expectancy is a widely used indicator of health. A major success for the European Region is that life expectancy at birth has increased by 5 years since 1980, reaching 76 years in 2010. This translates to an average annual gain of 0.17 years for the period and, except for two dips around 1984 and 1993, a steady upward increase.

Nevertheless, average life expectancy at birth differs across countries, ranging from 82.2 years to 68.7 years, giving a gap of 13.5 years for 2010 (Fig. 4). Over time, three distinct periods can be noted in terms of inequalities. During the 1980s the highest and lowest levels were converging, showing inequalities across countries narrowing. Following the mid-1990s, inequalities slowly widened, coinciding with significant social, political and economic change in the eastern part of the Region. Since 2006, the upper and lower extremes have slowly begun to converge again.

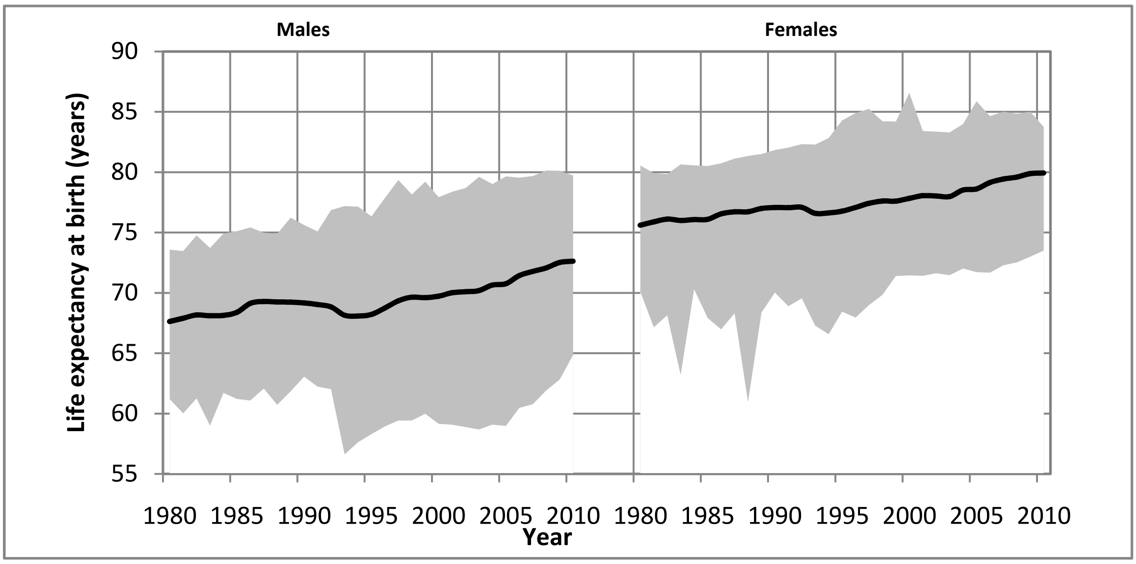
Fig. 4. Life expectancy at birth in the European Region, 1980–2010



Source: European Health for All database *(6)*.

Life expectancy at birth across the European Region also differs between men and women, highlighting a fundamental and persistent inequality in the Region. In 2010, women's life expectancy has reached an average of 80 years, while men are living an average of 72.5 years, giving a gap of 7.5years. Fig. 5 illustrates that, on average, men are lagging behind women in life expectancy by a generation, as in 2010 men had not yet reached the average level women enjoyed in 1980. There are also larger inequalities across countries for male life expectancy, in comparison to female life expectancy, particularly after 1993.

Fig. 5. Male and female life expectancy at birth in the European Region, 1980–2010



Source: European Health for All database *(6)*.

Large inequalities in average life expectancy at birth are also documented across 46 countries reporting data in 2006–2010 (Fig. 6), with 26 countries above and 20 below the average for the

Region. Inequalities are especially prominent when life expectancy is analysed by sex (Fig. 7). On average, the gap between countries is wider for men (17 years) than women (12 years).

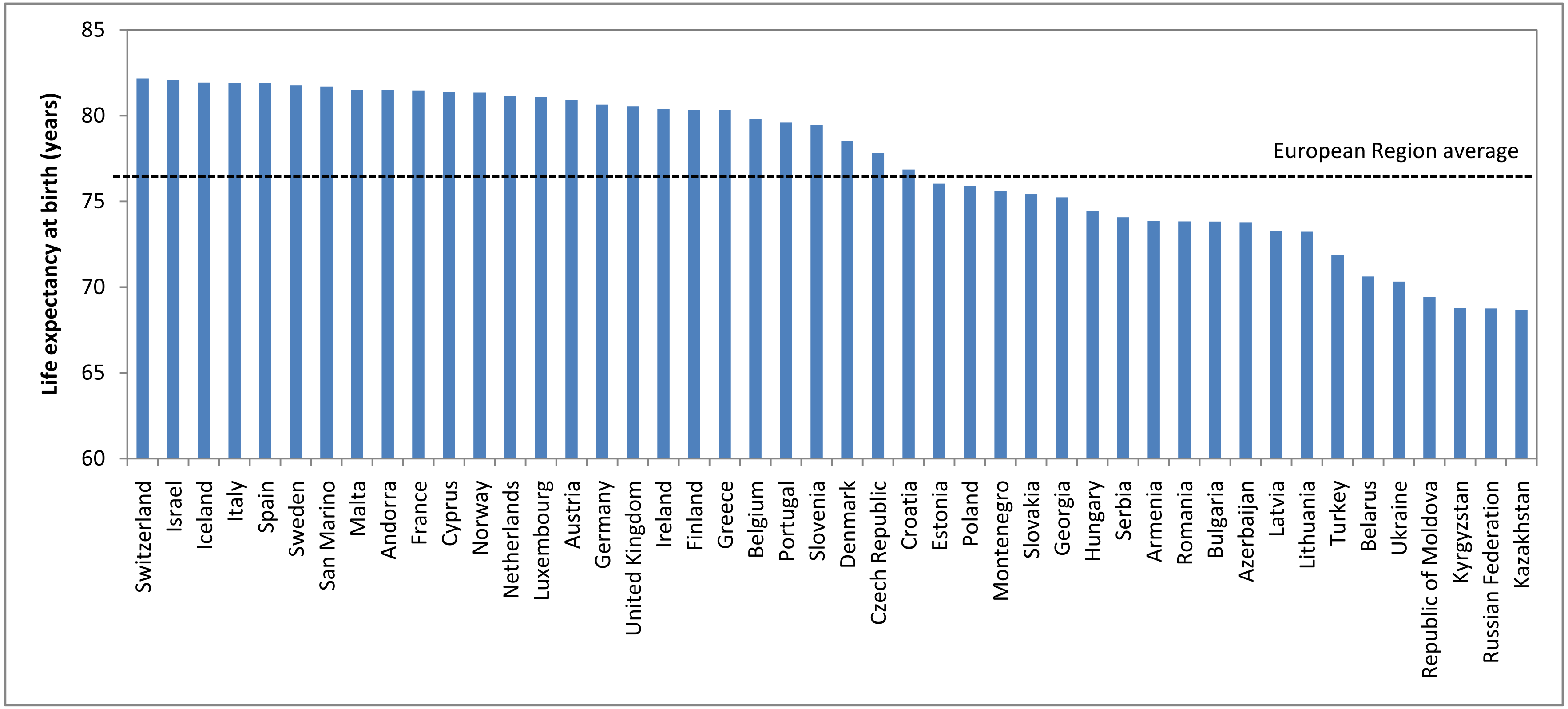
With a few exceptions, inequalities in life expectancy between men and women tend to be widest in countries with lower overall life expectancy levels (for example, below 80 years for women). The smallest within-country differences by sex (4 years or less) are seen in Iceland, Israel, the Netherlands, Sweden and the United Kingdom, while male–female gaps of 10 years or more occur in Belarus, Estonia, Kazakhstan, Lithuania, Montenegro, the Russian Federation and Ukraine. This suggests that, as countries increase their overall life expectancy, they also become more equitable, as the disparities between males and females tend to narrow, potentially challenging the view that there is a static, biological explanation for females having higher life expectancy. Reducing inequalities in life expectancy between men and women requires action on the social determinants of health, including more balanced gender norms, roles and behaviour, which enable men and women equally to obtain the highest standard of health.

Another dimension to compare across countries is the rate of improvement. Fig. 8 documents differences in improvement in life expectancy at birth between 1995 and 2009 in countries. Progress by country in terms of percentage gains during these 14 years varied from less than 1% to more than 10%. The rate of improvement was relatively faster in the eastern and central parts of the European Region than in other areas. Women in France, Italy and Spain gained over 3 years to reach a life expectancy at birth of nearly 85 years: the highest level in the European Region. On average, women in these countries also outlived their countrymen by 5–6 years. In the same period, some countries with lower life expectancy at birth – such as the Czech Republic, Estonia, Hungary, Ireland, Israel, Luxembourg, Poland, Romania, Turkey and the United Kingdom –gained more than 5 years among either men or women. Men in some countries, however, mainly in the eastern part of Europe, lost or had only marginal gains (up to 1.4 years). Nevertheless, even though men have lower absolute levels of life expectancy at birth, they generally had larger proportional gains in 1990–2010 than women.

Life expectancy of older people

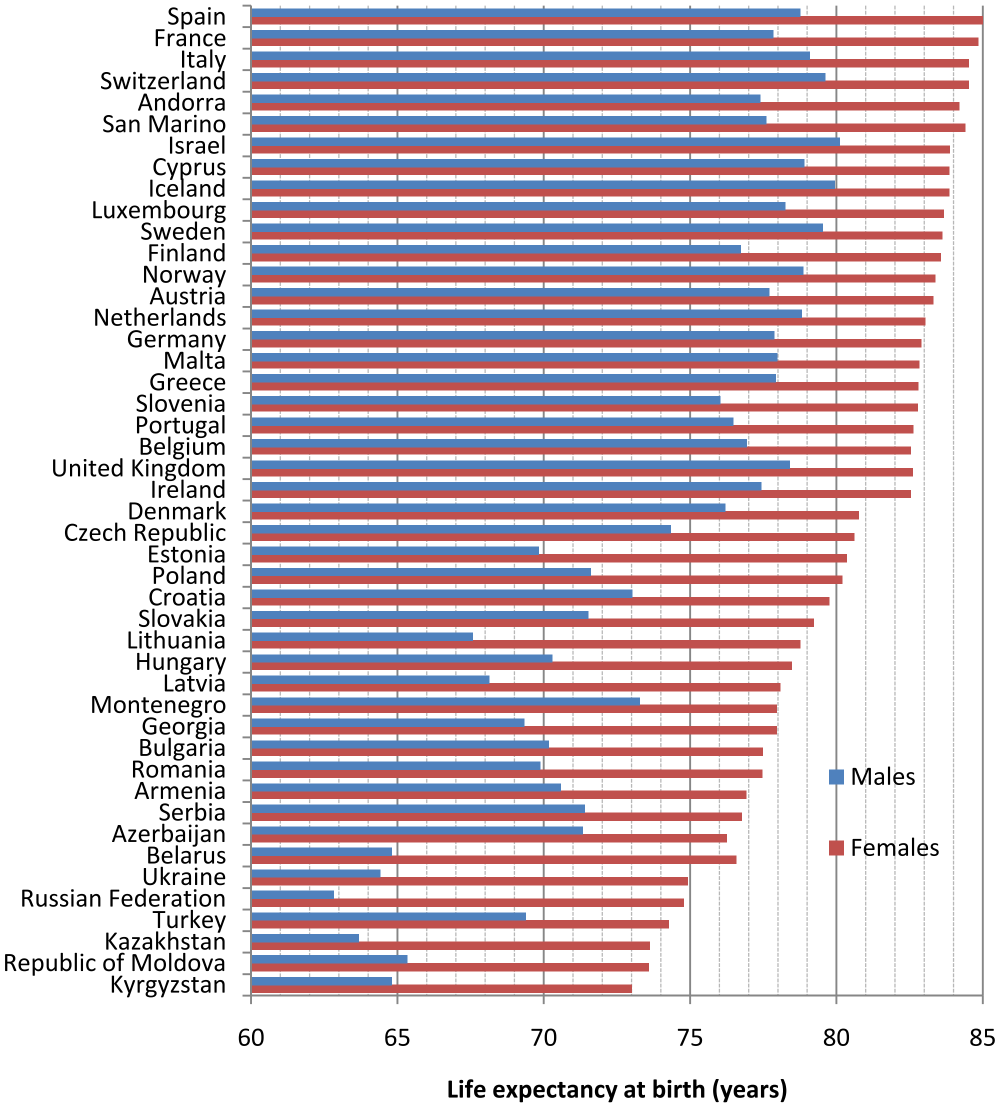
More people in the European Region are living past the age of 65. Life expectancy at 65 is 15.5 years on average (Fig. 9), with older women expected to outlive older men by nearly 4 years. As with life expectancy at birth, on average, men have not reached the life expectancy at 65 in 2010 that women reached in 1980. Large inequalities between men and women also exist within different countries.

Fig. 6. Life expectancy at birth in countries in the European Region, last reported data, 2006–2010



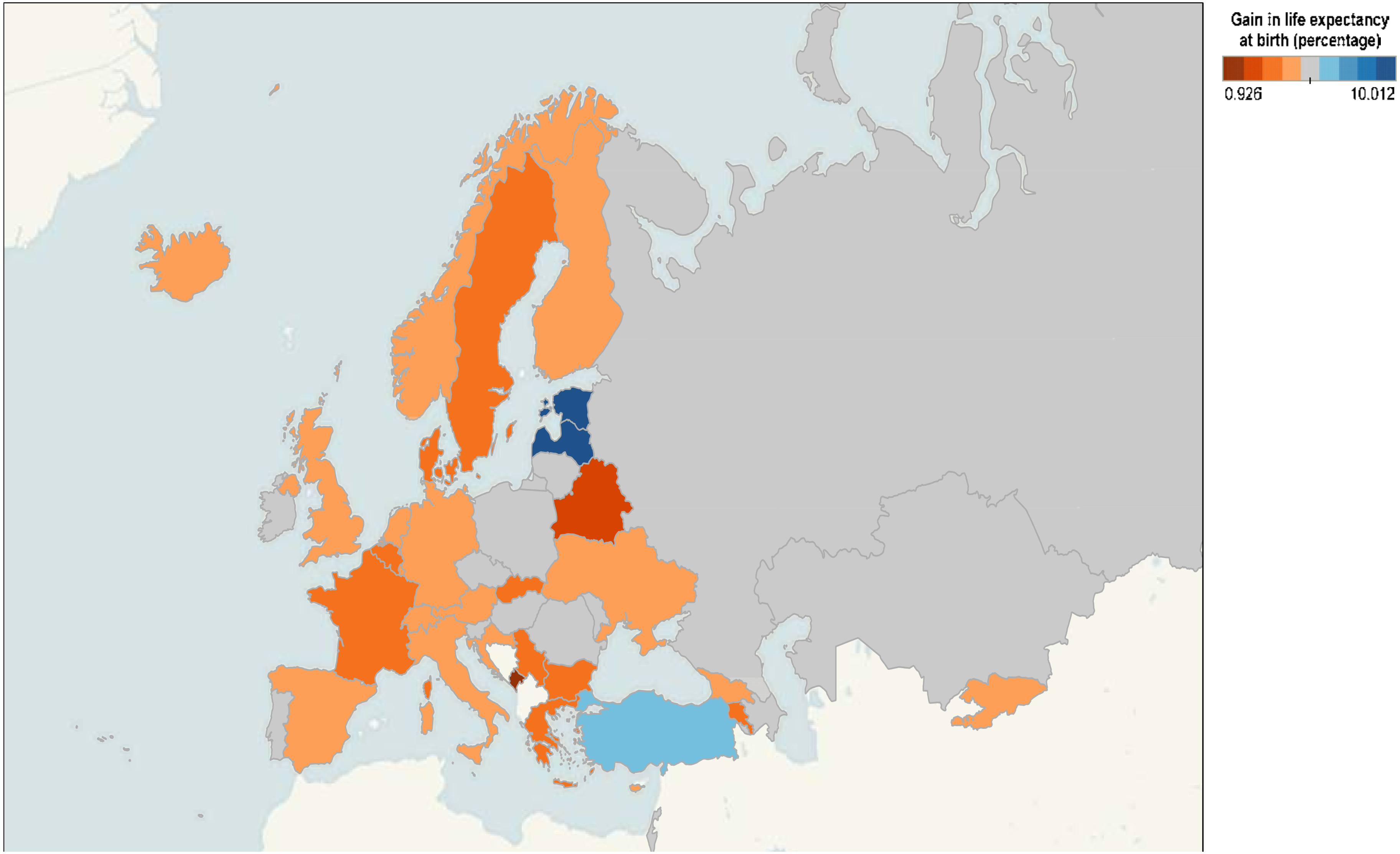
Source: European Health for All database *(6)*.

Fig. 7. Male and female life expectancy at birth in countries in the European Region, last reported data, 2006–2010



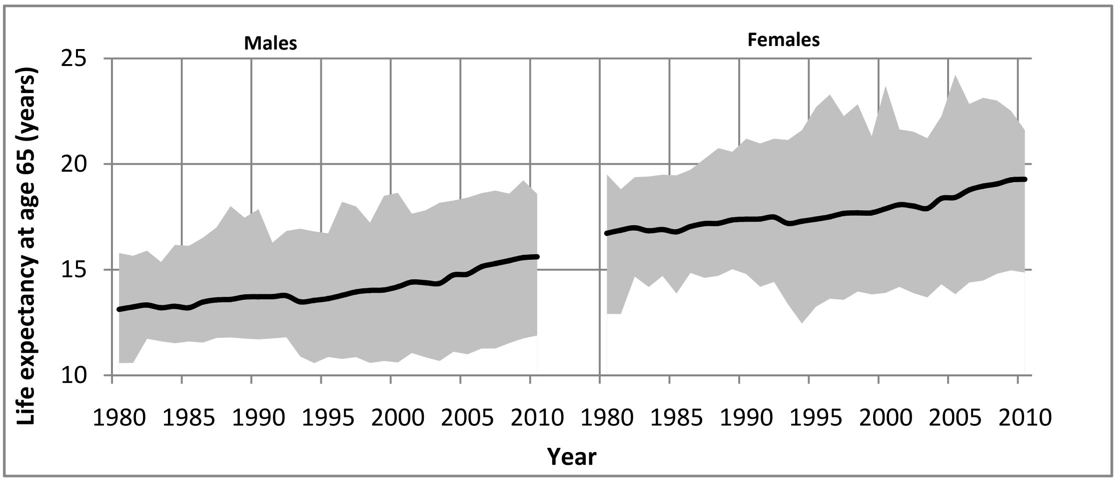
Source: European Health for All database *(6)*.

Fig. 8. Gains in life expectancy at birth in the European Region, 1995–2009



Source: European Health for All database *(6)*.

Fig. 9.Male and female life expectancy at age 65 in the European Region, 1980–2010



Source: European Health for All database *(6)*.

Life expectancy may be further broken down to account for the length of life lived in less than full health due to disability and disease at different ages; this is a useful tool for health policy-makers. Although women in the European Region live on average 7.5 years longer than men, the average difference by sex in healthy life-years is estimated to be only 5 years, indicating that women live a smaller proportion of their lives in good health than men *(10)*.

As a consequence of the ageing of a population, additional demands need to be met for necessary health care (particularly long-term care), which requires planning to ensure an adequately trained health workforce. At the same time, healthy older people are a repository of knowledge and a resource for their families and communities, and in the formal or informal workforce. Monitoring the health and well-being of populations at all ages, including those over 65, and throughout life is the subject of Chapter 3.

A scenario threatening the European Region's overall sustained gains in life expectancy may occur if economic or social crises are coupled with reductions in spending on health and other services and safety nets, increases in environmental disasters, increasing rates of harmful behaviour or new and re-emerging infectious diseases with high pathogenic and pandemic potential. To sustain the average gains in life expectancy, continuous efforts are required to decrease mortality, particularly from diseases of the circulatory system, respiratory and infectious diseases, and external causes of injury and poisoning. The following sections describe trends in mortality across the European Region.

Box 3. Key messages – life expectancy

- A major success for the European Region is that life expectancy at birth has increased by 5 years since 1980, reaching 76 years in 2010.
- Average life expectancy at birth differs across countries, ranging from 82.2 years to 68.7 years, giving a gap of 13.5 years for 2010.

- Inequalities in life expectancy between men and women tend to be widest in countries with lower overall life expectancy levels: for example, below 80 years for women.
- In 2010, women reached an average life expectancy of 80 years while men lived an average of 72.5 years, giving a gap of 7.5 years. There are also larger inequalities across countries for male life expectancy in comparison to female life expectancy, particularly after 1993.
- More people in the European Region are living past the age of 65. Life expectancy at 65 is 15.5 years on average.

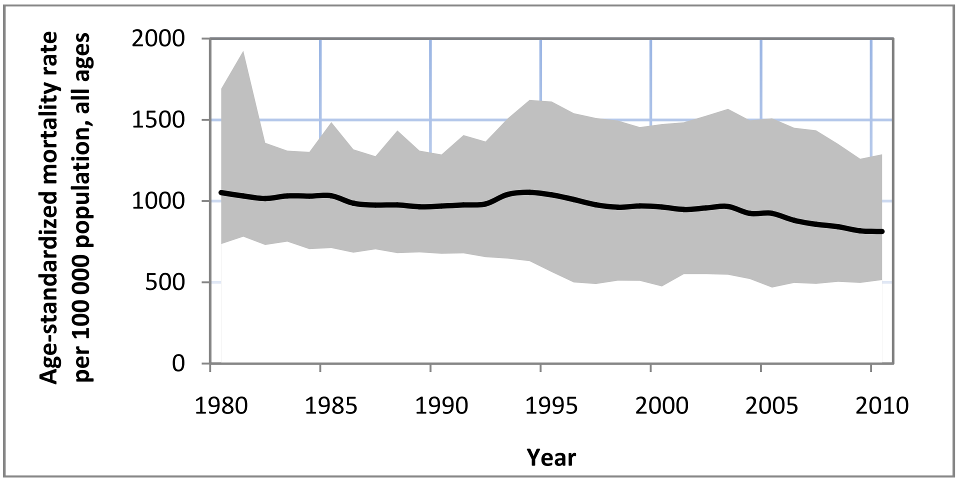
Mortality

Mortality continues to be one of the most robust indicators for monitoring the situation and trends of disease impact in a population. With information on the magnitude, groups affected, and underlying causes and other contributing factors, more specific priorities and policies may be established to address the burden of disease and to identify cost-effective and equity-promoting strategies to decrease mortality and enhance well-being.

Overall mortality

Overall mortality from all causes of death continued to decline in the European Region, reaching an age-standardized rate of 813 deaths per 100 000 population in 2010 (Fig. 10). Nevertheless, variation in the Region has increased since 1993. Country-specific mortality rates range from a high of 1452 to a low of 497 per 100 000, giving a threefold inequality gap in the Region (Fig. 11).

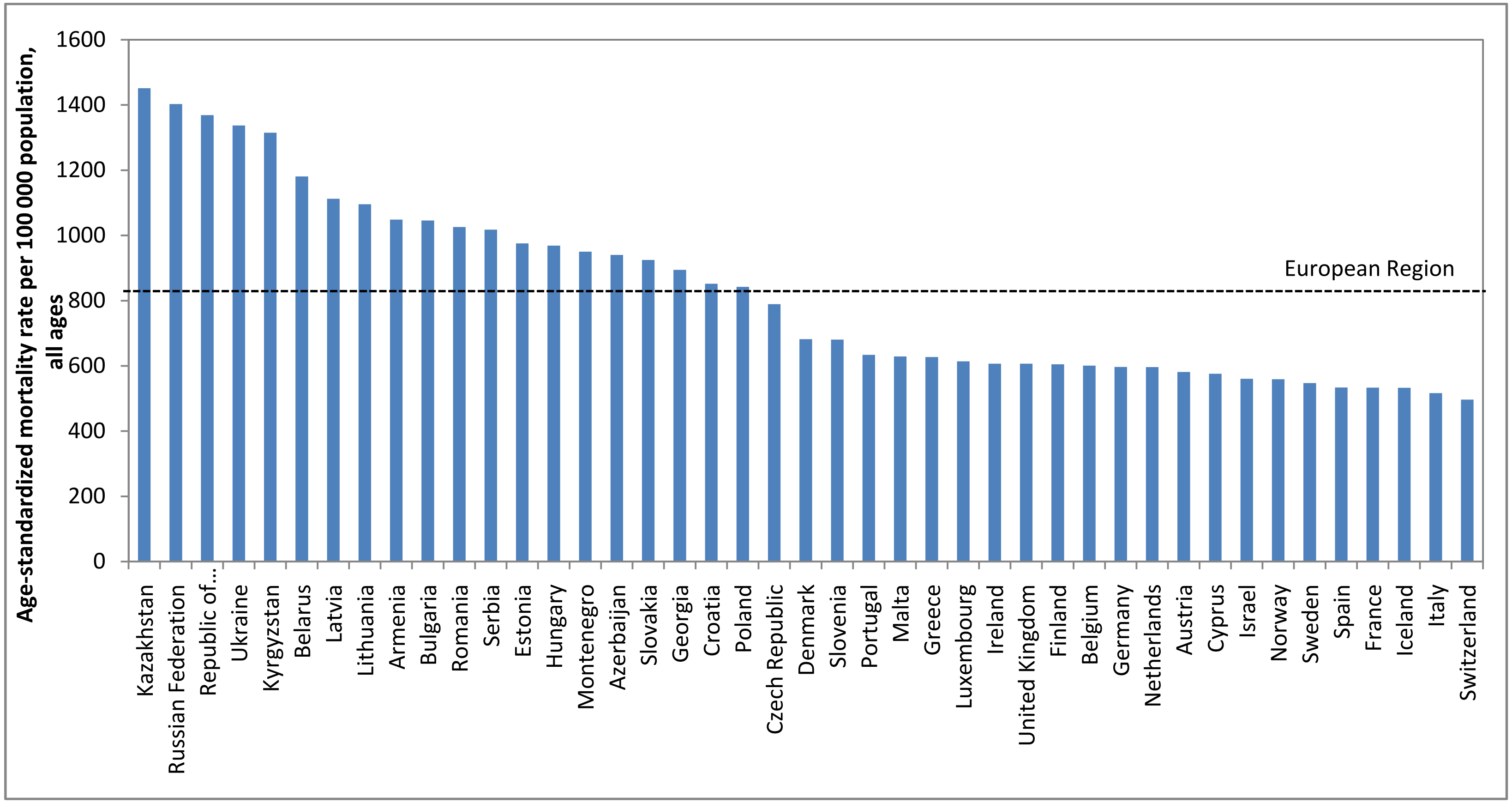
Fig. 10. All-cause mortality rate in the European Region, 1980–2010



Source: European Health for All database *(6).*

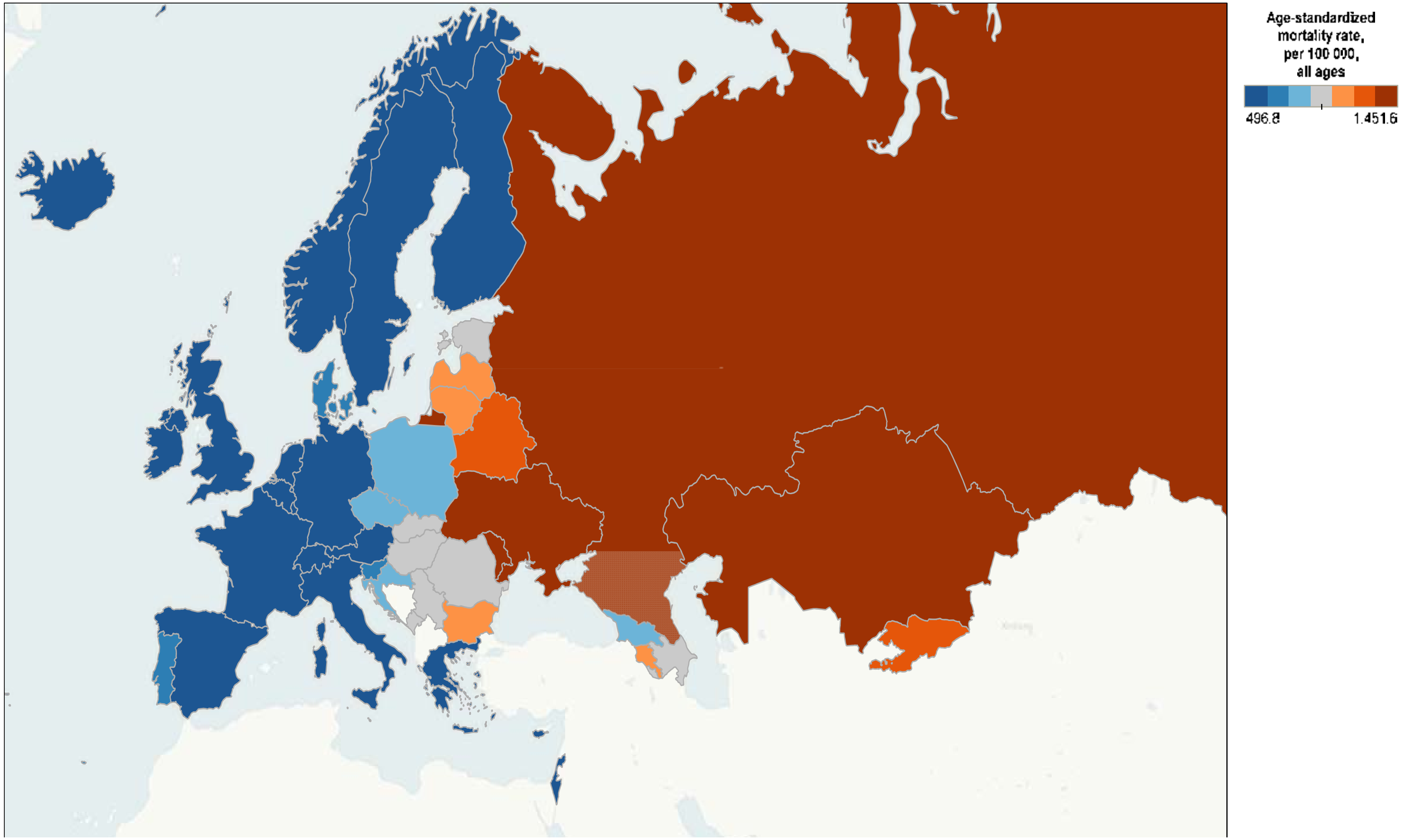
All-cause mortality shows a geographical gradient, with the highest rates in the eastern part of the Region and the lowest towards the western part of the Region (Fig. 12).

Fig. 11. All-cause mortality rates in countries in the European Region, last reported data, 2006–2010



Source: European Health for All database *(6)*.

Fig. 12. All-cause mortality in countries in the European Region, last reported data, 2006–2010

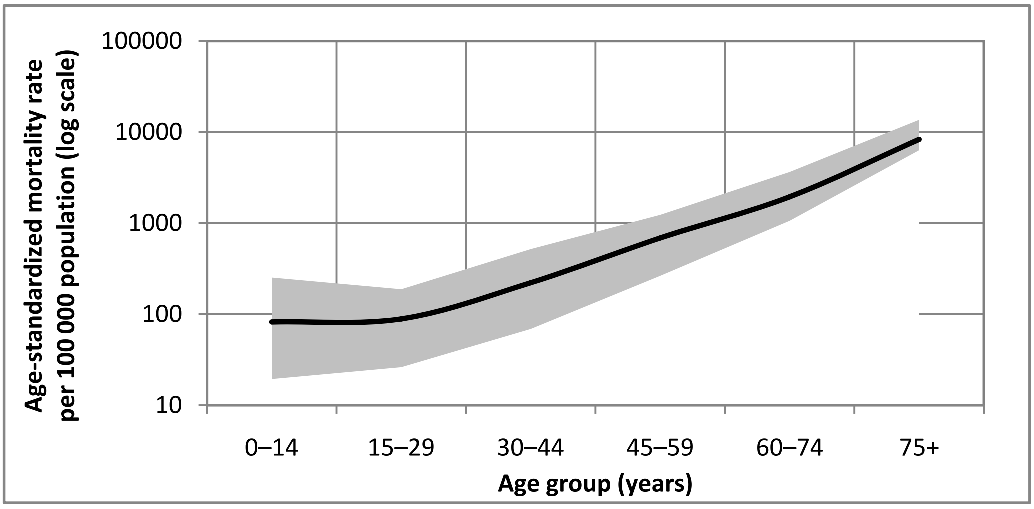


Source: European Health for All database *(6)*.

Effects by age

Mortality patterns by age in the European Region follow a J shape characteristically found in populations with more advanced demographic transitions, who benefit from higher socioeconomic development. Average all-cause mortality rates tend to be low or very low during early years of life up to young adulthood, and then rapidly increase two- to threefold across the Region, continuing to do so into older ages (Fig. 13).

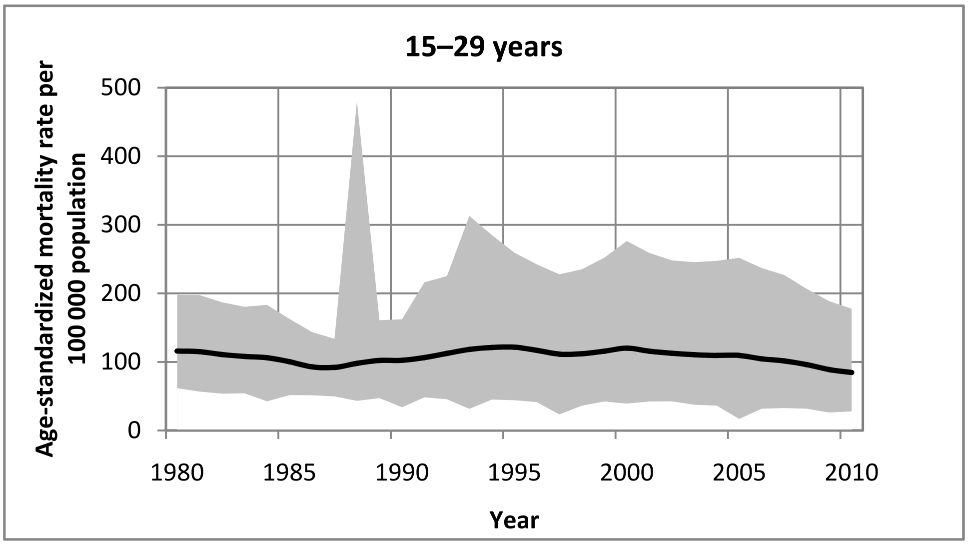
Fig. 13. All-cause mortality rate by age group in the European Region, 2009

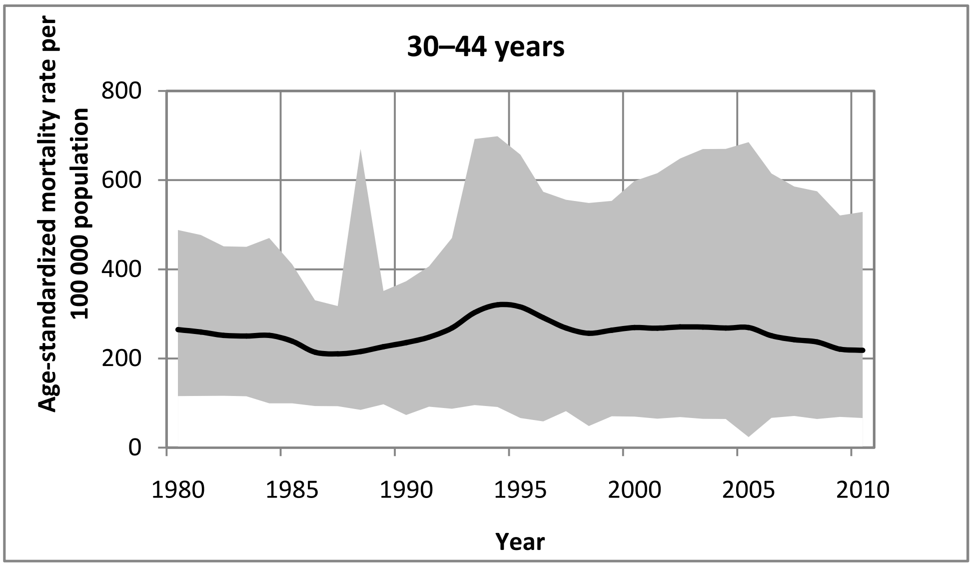


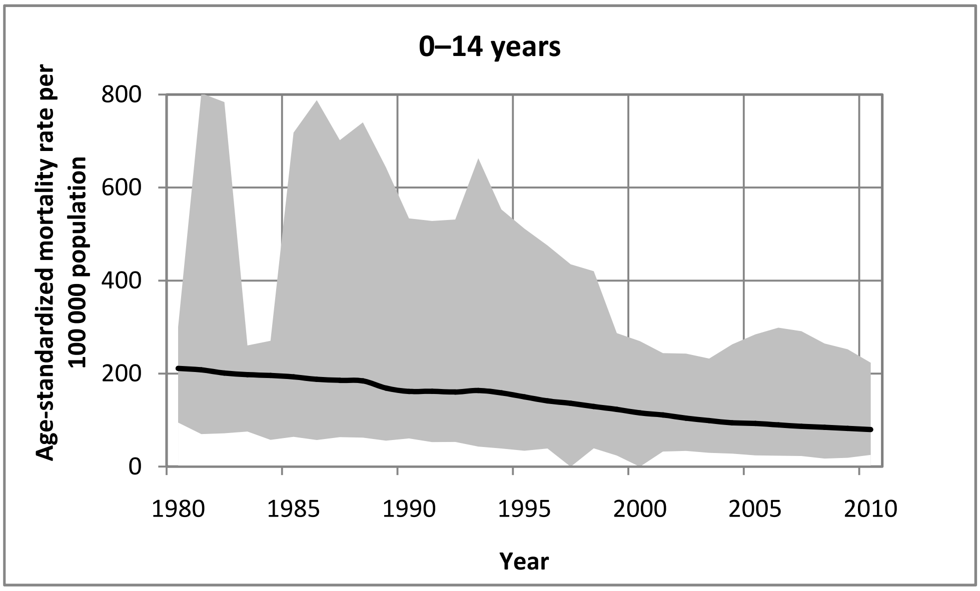
Source: European mortality database *(11)*.

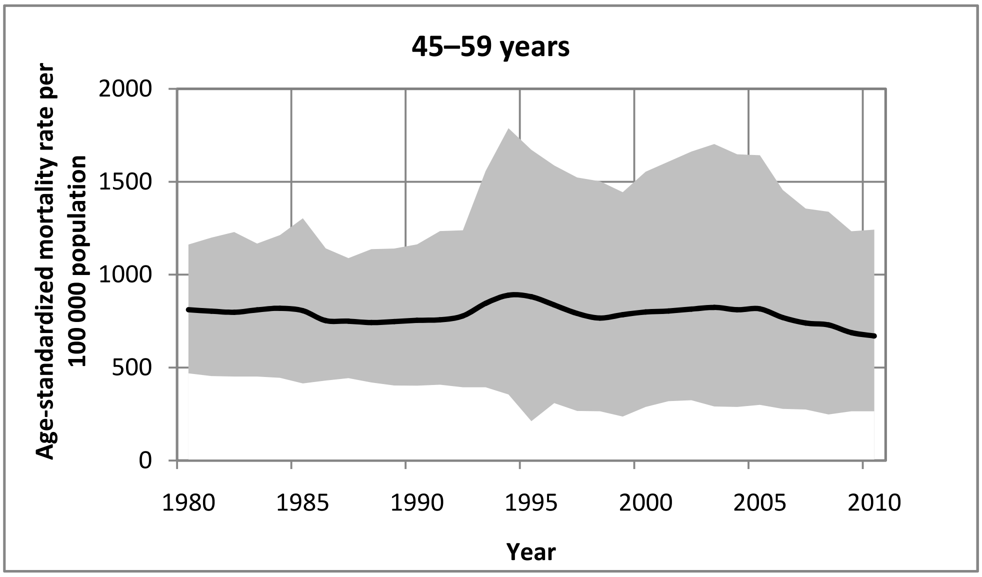
A more detailed look at all-cause mortality by broad age groups between 1980 and 2010 shows that mortality rates decreased steadily, except for the well-documented increase in 1993–1995, most particularly for the group aged 30–59 years (Fig. 14). Variation in mortality rates increases for each broad age group. Country-specific differences range from less than 50% below to more than 70% above the regional average.

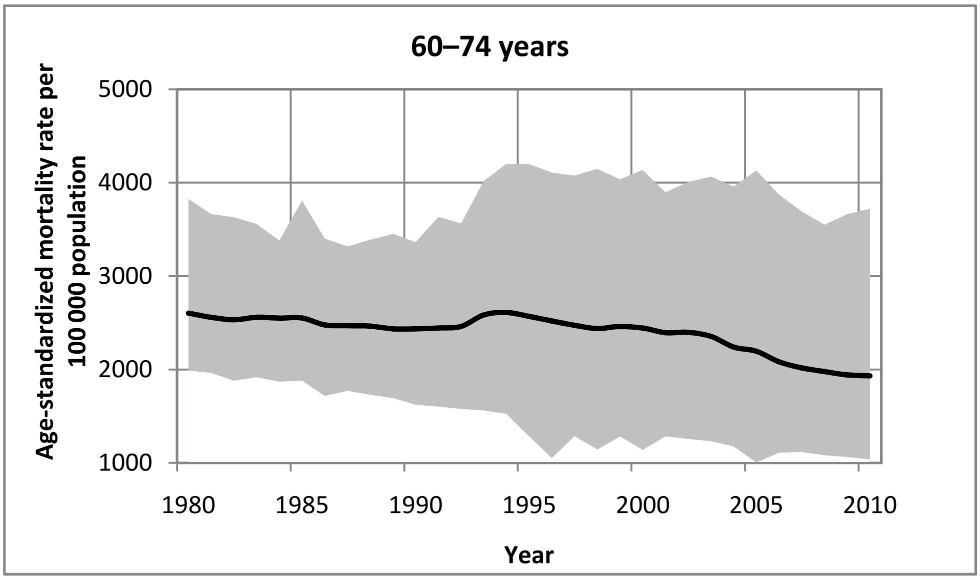
Fig. 14. All-cause mortality rates by broad age group in the European Region, 1980–2010

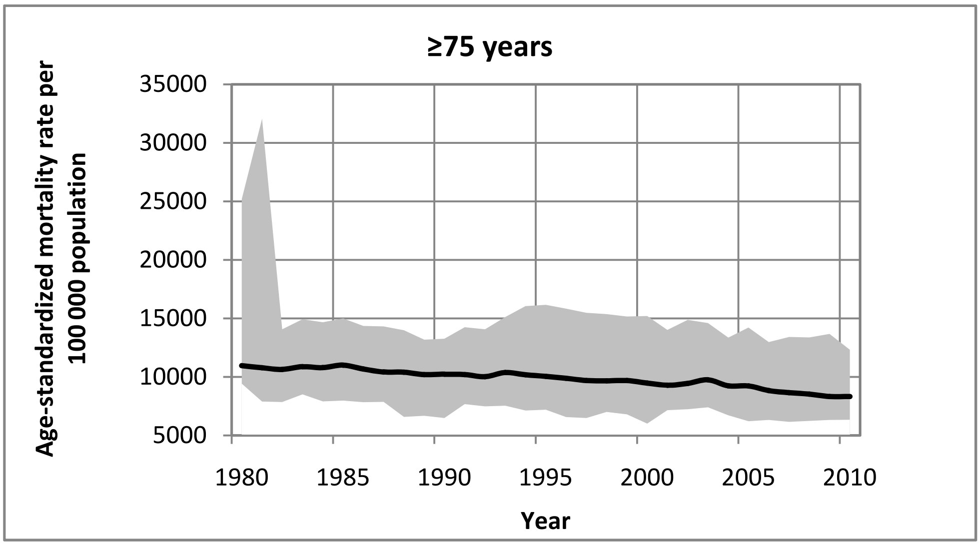












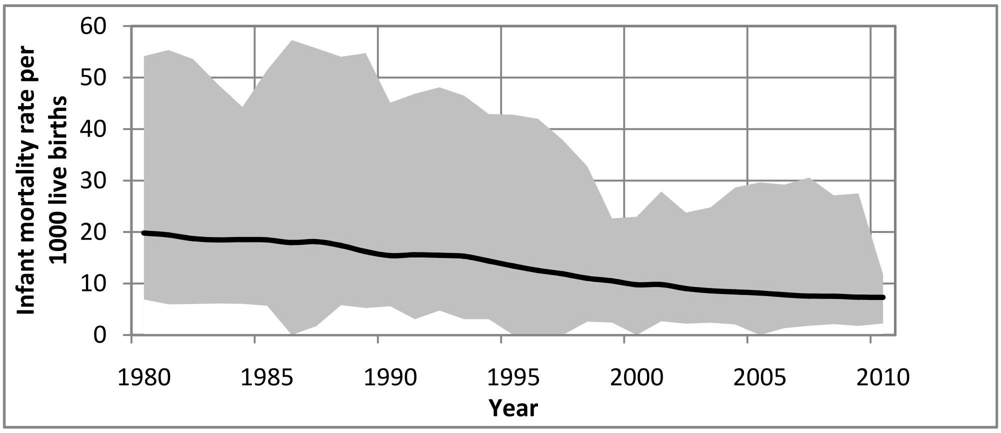
Source: European mortality database *(11)*.

Child and maternal mortality

Indicators of child health, such as infant and child mortality, are often used to monitor health in a population. This is because of the special vulnerability of members of this age group: their sensitivity to overall living conditions and other social determinants of health, including access to health services. Infant and child mortality continues to influence life expectancy in several countries in the European Region. Child health indicators are frequently used to identify targets – such as Millennium Development Goal (MDG) 4 on reducing the mortality rate for children under 5 years by two thirds by 2015 *(12)* – and to measure countries' progress.

Infant mortality rates in the European Region have continued to decline since 1990 and are the lowest in the world (Fig. 15). The average reported infant mortality rate in 2010 (deaths before 1 year of age relative to live births) was 7.3 per 1000: a 53% reduction over three decades. Moreover, variations across countries have declined, particularly since 1997.Yet countries report strikingly different rates, ranging from more than 50% below to more than 60% above the regional average. Data on the probability of a child's dying before the age of 5 years (not shown) reveal a very similar pattern, with countries across the European Region reporting reductions. Most countries in the Region have made important progress towards MDG 4; only a few still have high child mortality levels. The target set seems to be within reach in most European countries.

Fig. 15. Infant mortality rate in the European Region, 1980–2010

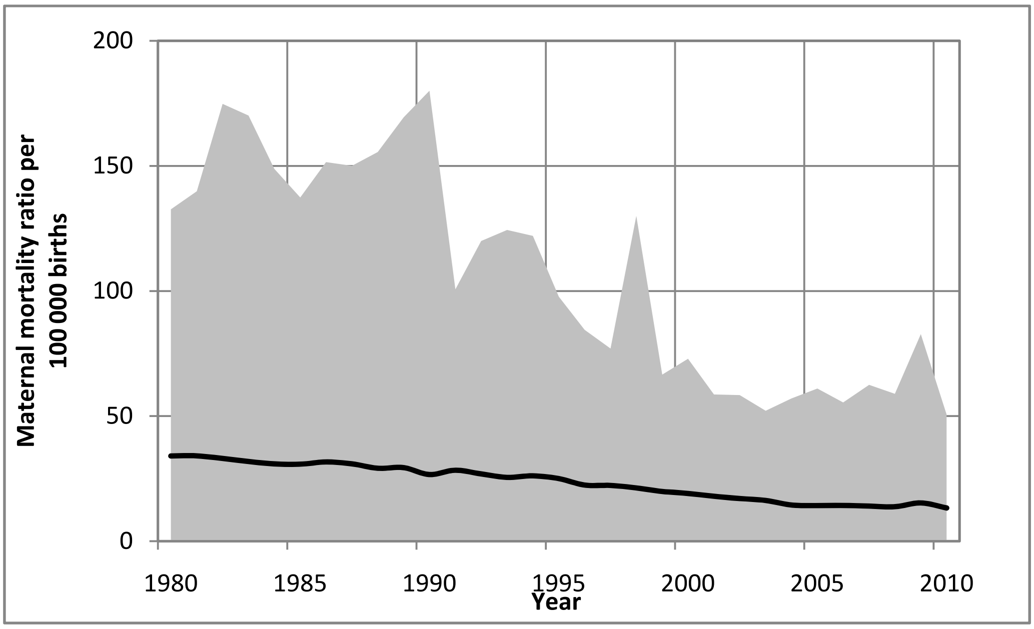


Source: European Health for All database *(6)*.

Maternal mortality is another important indicator of population health, as well as gender equality. The maternal mortality ratio provides information on access to and the quality of health care, as it spans antenatal, delivery and post-natal care. It is also the core outcome indicator for MDG 5 *(13)*, which aims for a three-quarters reduction in maternal mortality by 2015. The European Region's mortality ratio for 2010 was 13.3 maternal deaths per 100 000 live births. Variation is high, ranging from more than 75% above to more than 60% below the regional average (Fig. 16). Since 1990 the average maternal mortality ratio has fallen by 50%, and inequalities have narrowed. A small increase in the eastern part of the Region in 2009could be attributed to increased vulnerability linked to pandemic influenza, which increased hospitalizations and severe respiratory diseases worldwide.

The main causes of maternal death are obstetric haemorrhage, hypertension and infection, much of which can be prevented by basic, evidence-based and cost-effective interventions *(14)*. In addition, the socioeconomic status of women – including their level of education – clearly contributes directly to maternal mortality. This highlights the importance of addressing gender norms and other social determinants of health in policies and interventions, and of taking a human rights-based approach to providing the services needed, including emergency obstetric services without financial burden on households.

Fig. 16. Maternal mortality ratio in the European Region, 1980–2010



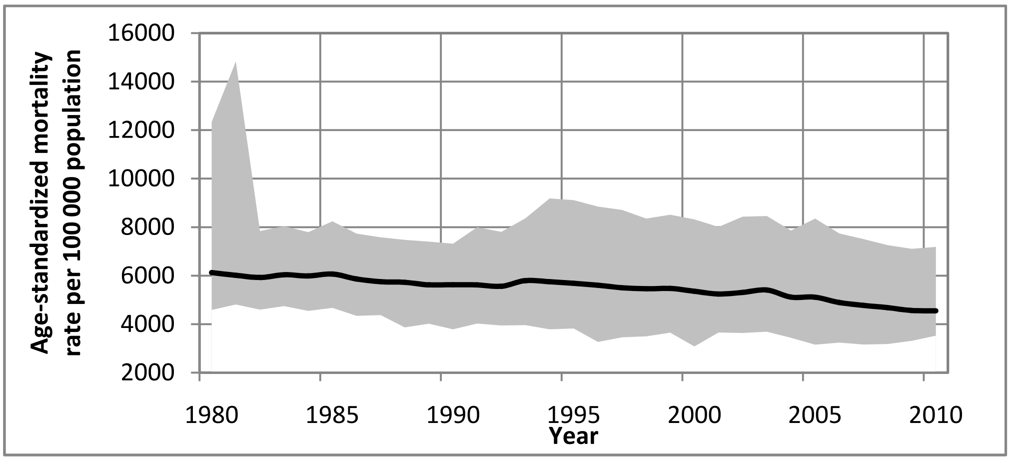
Source: European Health for All database *(6)*.

Older populations

As the European population ages, mortality trends help to anticipate some of the challenges that health and other social systems will face in the future. Trends by broad age groups, such as those aged over 65, provide greater insight into the approach that health systems will need to adjust and respond appropriately to the evolving needs. Moreover, consideration has to be given to the facts that women live longer than men yet also live a greater share of their lives in poorer health, with issues including a higher frequency of multiple diseases occurring simultaneously and higher disability rates *(15)*.

The all-cause mortality rate among people aged 65 years and over is decreasing in the European Region as a whole, reaching its lowest rate, 4549 per 100 000, in 2010: a 25% decrease since 1980 (Fig. 17). The minimum and maximum points indicate significant differences across countries, whose rates ranged from more than 20% below to more than 40% above the regional average. Close monitoring of these trends at the regional and country levels is warranted.

Fig. 17. All-cause mortality rate for people aged 65 years and over in the European Region, 1980–2010



Source European Health for All database *(6)*.

Box 4. Key messages – mortality

- While overall mortality from all causes of death in the European Region continues to decline, mortality trends show large gaps between country groups.
- Mortality by age in the Region follows a pattern in which rates tend to be low or very low during early years of life and young adulthood, after which they increase rapidly.
- Child mortality indicators in the European Region are the lowest in the world, with a rate of 7.9 per 1000 live births. Nevertheless, country rates show striking differences, ranging from 50% below to 60% above the regional average.
- The maternal mortality ratio for the Region was 13.3 deaths per 100 000 live births in 2010, a 50% reduction since 1990. Again, there is much variation across countries.
- All-cause mortality among people aged over 65 has decreased in the European Region, but countries show important differences in levels and patterns. These trends will help to anticipate some of the challenges facing health systems today and in the future.

Causes of death

Using causes of death to disaggregate all-cause mortality data allows their distribution and magnitude in a population to be identified, providing information used for policy and programme formulation. In the European Region, disease patterns are changing and health problems emerging that are associated with its level of demographic and epidemiological change and social and economic circumstances.

Major causes

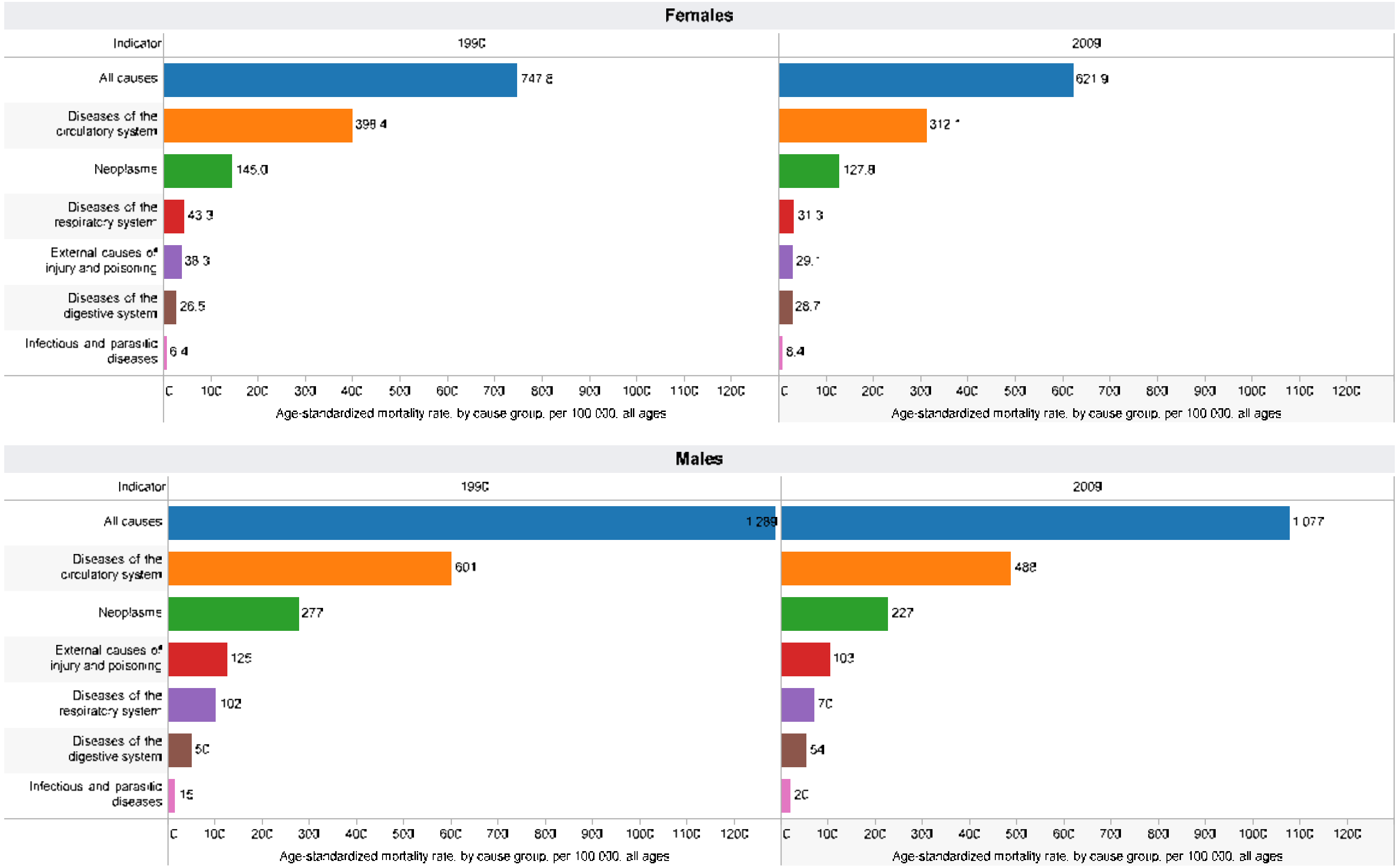
The mortality rate associated with all individual major causes – for both males and females, combining all age groups – decreased in the Region between 1990 and 2009 (Fig. 18). Noncommunicable diseases (NCDs) account for the largest share of mortality: about 80% of deaths in 2009. Among broad groups of causes, diseases of the circulatory system account for nearly 50% of all of deaths, with higher rates among men than women. Proportions in countries ranges from less than 30% to more than 65% of all deaths. Cancer (neoplasm) mortality follows in frequency, accounting for 20% of deaths in the Region, ranging from around 5% to more than 30% in some countries. The third major cause of mortality is external causes of injury and poisoning, representing 8% of all deaths, again with variation across countries.

Age and sex profiles of causes

Mortality profiles by age and sex groups allow the relative importance of causes of death occurring at different stages across the life course to be visualized, and provide input in developing targeted strategies and interventions (Fig. 19). For example, respiratory diseases and external causes account for nearly 60% of all deaths among infants. These diseases subsequently predominate, along with neoplasms, up to just before the age of 15 years, accounting for nearly 75% of all deaths. For people aged 15–39 years, external causes are the main causes of death, particularly among men. Women in this same age group are more likely than men to die from neoplasms. Diseases of the circulatory system and neoplasms play an increasing role during adulthood until older ages, accounting for nearly 80% of deaths.

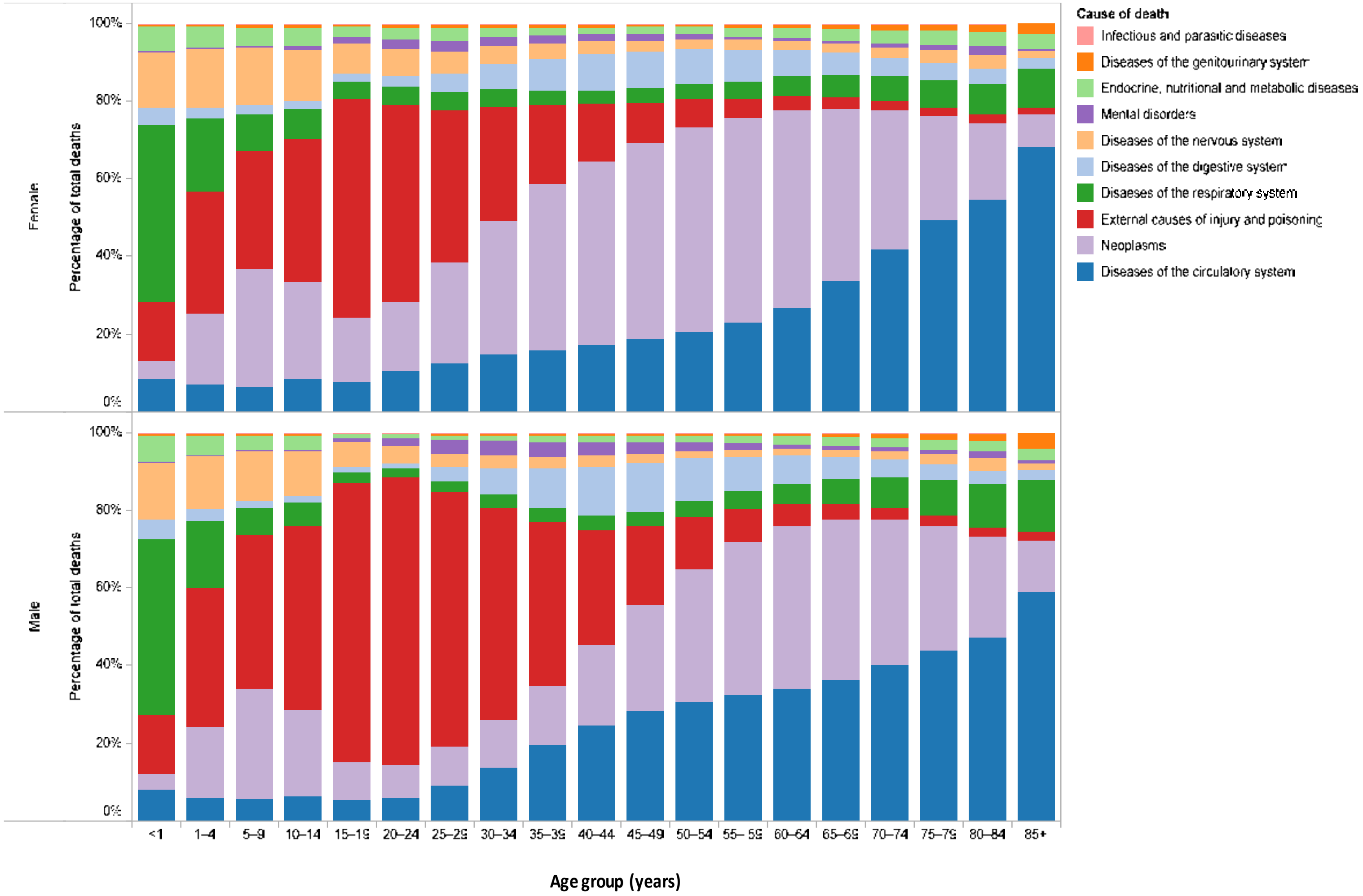
Fig. 20 illustrates the variation and pattern of mortality by the six broad causes of death for each country in the European Region reporting recent data. The next section examines a range of specific causes of mortality across the Region in greater detail.

Fig. 18. Causes of death by main broad group among males and females in the European Region, 1990 and 2009



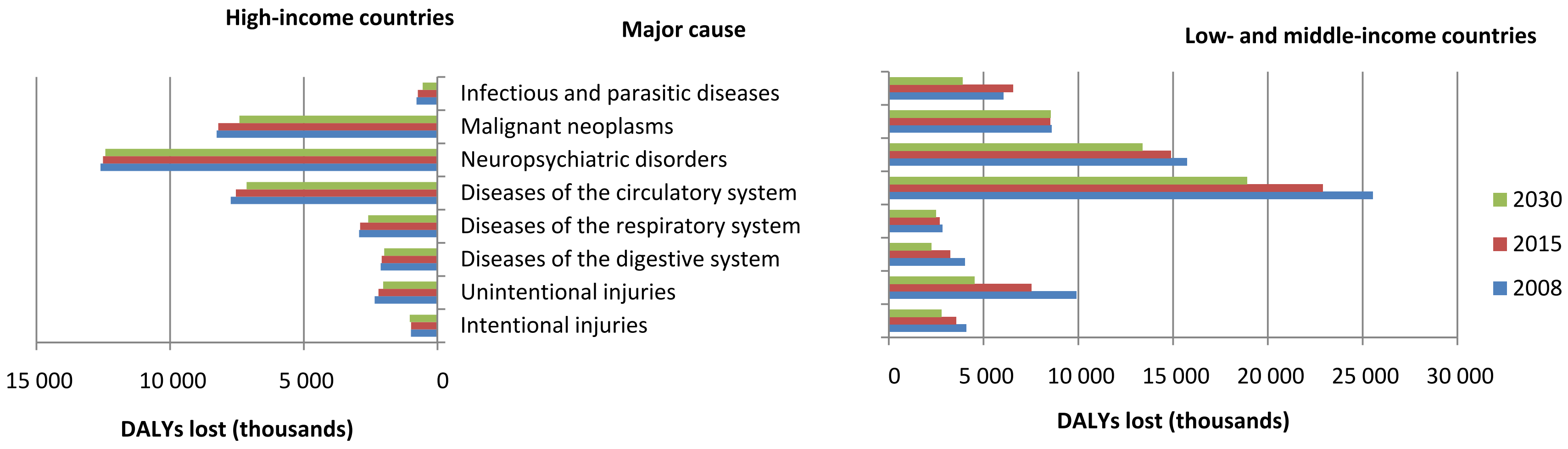
Source: European Health for All database *(6)*.

Fig. 19. Mortality profiles by cause of death, age and sex in the European Region, last reported data, 2006–2010



Source: European detailed mortality database *(16)*.

Fig. 20. Mortality rates by main broad group of causes of death in countries in the European Region, last reported data, 2006–2010



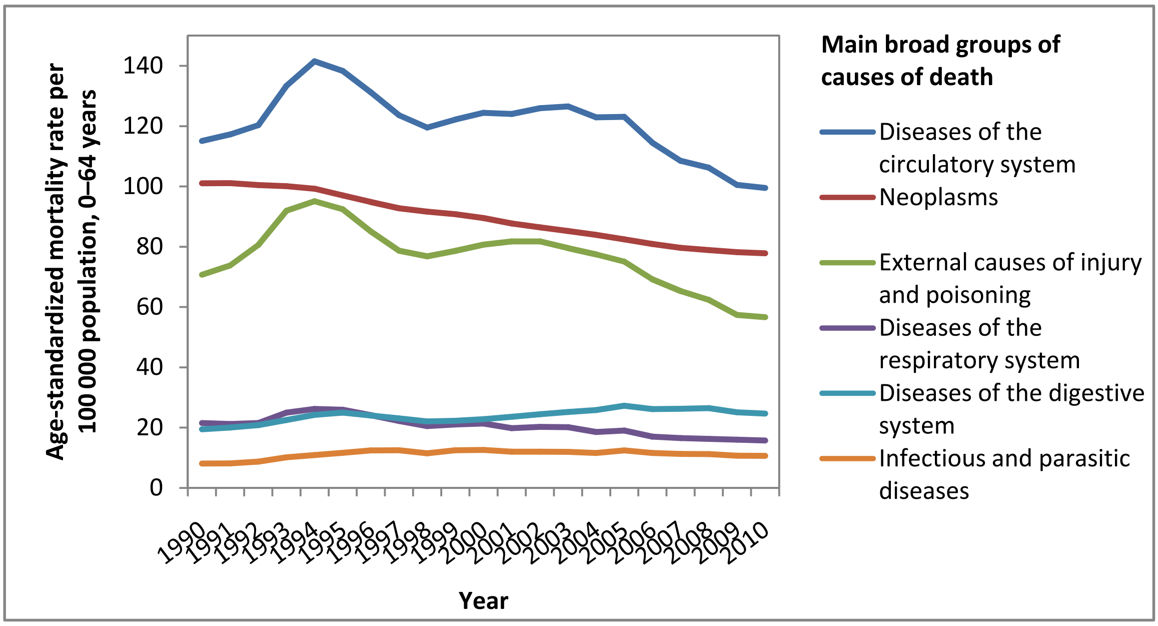
Source: European Health for All database *(6)*.

Specific causes

More than 70% of mortality occurs at ages over 65 years, when people have been ill for several years. Assessment of premature mortality (deaths occurring before the age of 65 years) is informative for developing public health priorities, policies and programmes aiming to delay disease and the onset of disability.

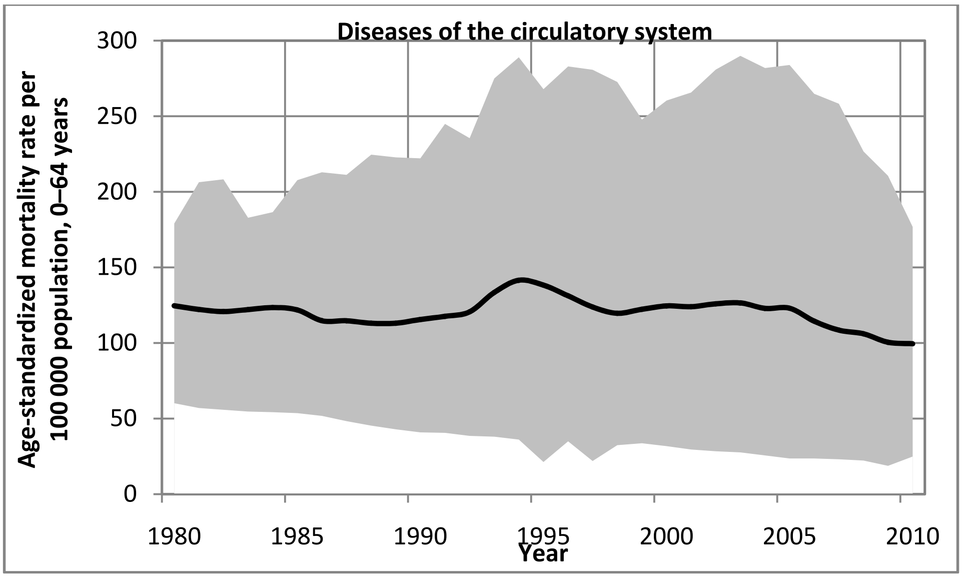
The trends show that diseases of the circulatory system have remained the most important cause of premature death in the European Region, with a rate approaching 100 per 100 000 population in 2010. The highest level in the past 20 years was recorded in 1995, after which there was a 30% decrease (Fig. 21). The cancer rate also decreased by 20% in this period. The largest health gains have been observed in external causes, the rate of which declined by 50%. In contrast, rates of diseases of the digestive system and infectious and parasitic diseases increased by nearly 30%, although these diseases occur less frequently than the others. The variations over time in both diseases of the circulatory system and external causes could well be related to increased stress and economic difficulties experienced in some countries in the Region (Fig. 22).

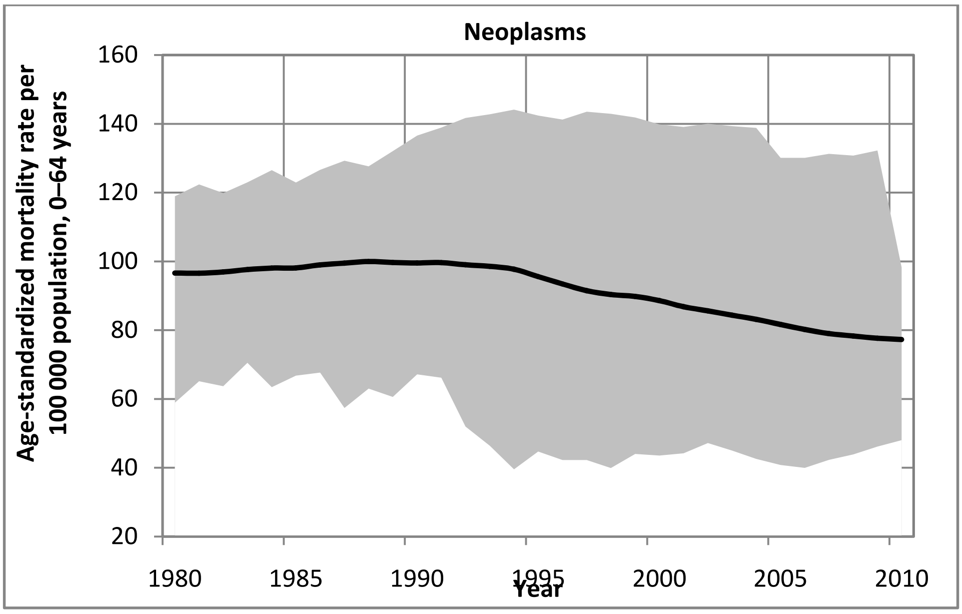
Fig. 21. Trends in premature mortality by main broad group of causes of death in the European Region, 1990–2010

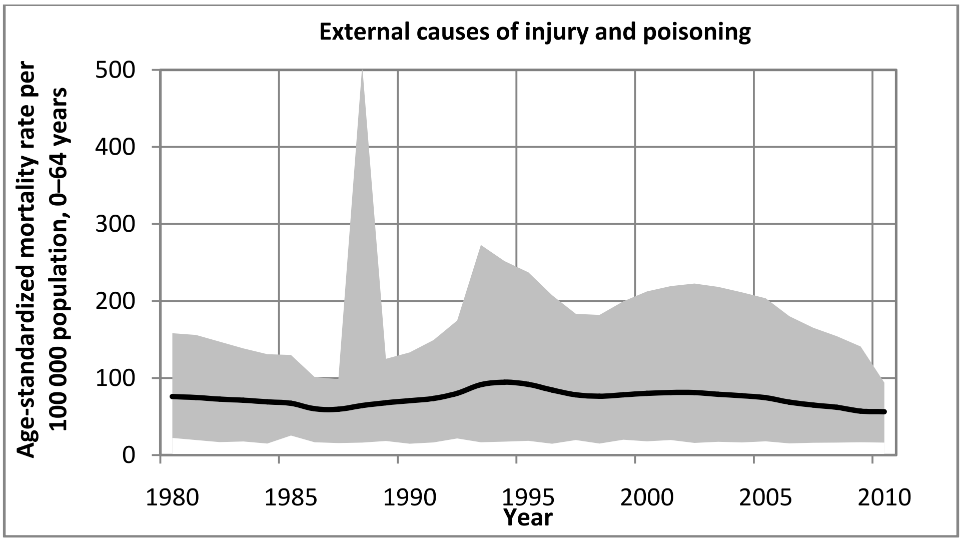


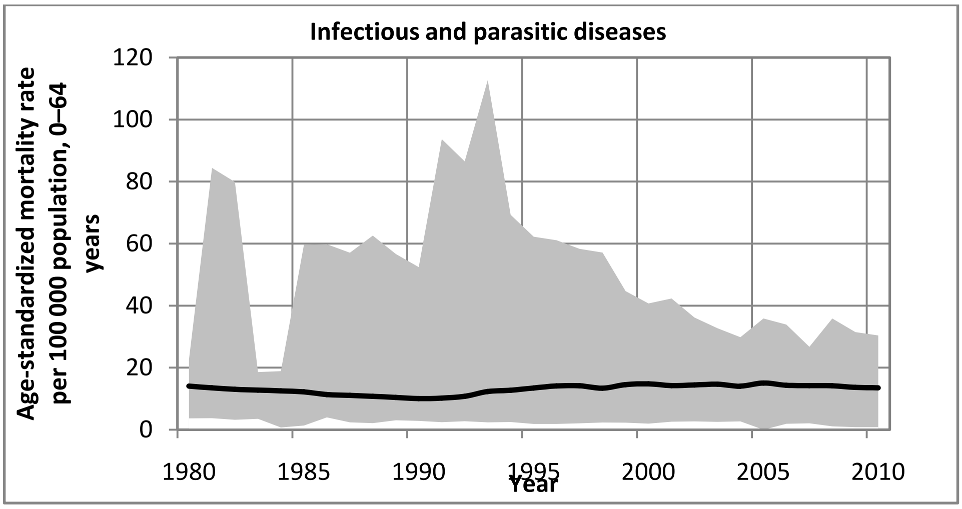
Source: European Health for All database *(6)*.

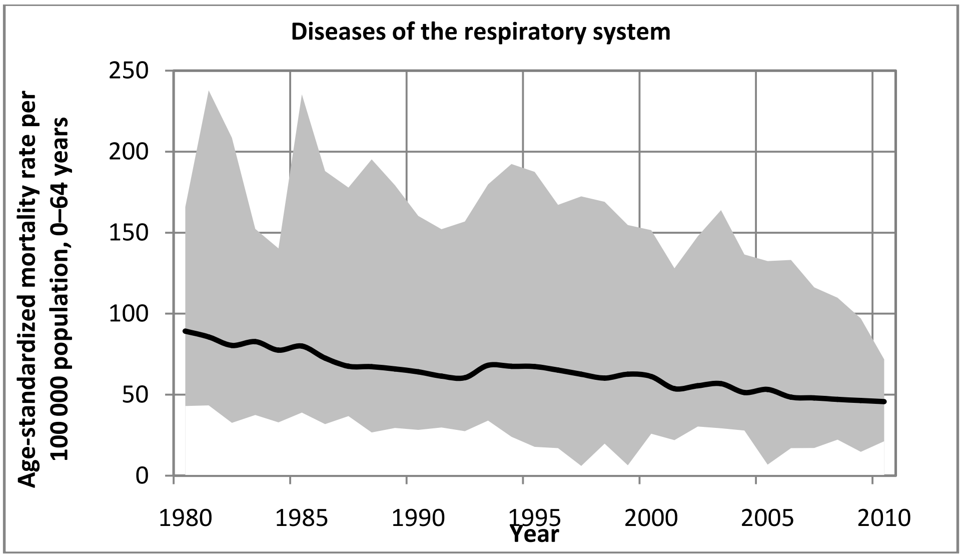
Fig. 22. Premature mortality rates by main broad group of causes of death in the European Region, 1980–2010

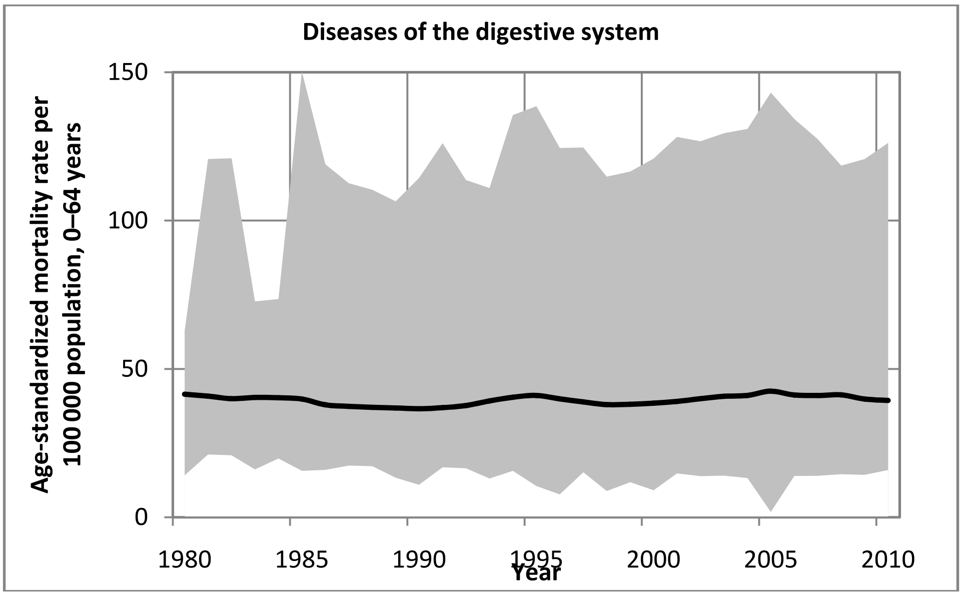












Source: European Health for All database *(6)*.

Premature mortality for the main causes of death has shown decreasing trends over the past 30 years, with the exception of diseases of the digestive system and infectious and parasitic diseases.

Premature mortality from cardiovascular disease varies widely across the Region; that from cancer varies less, and the following sections further discuss these trends.

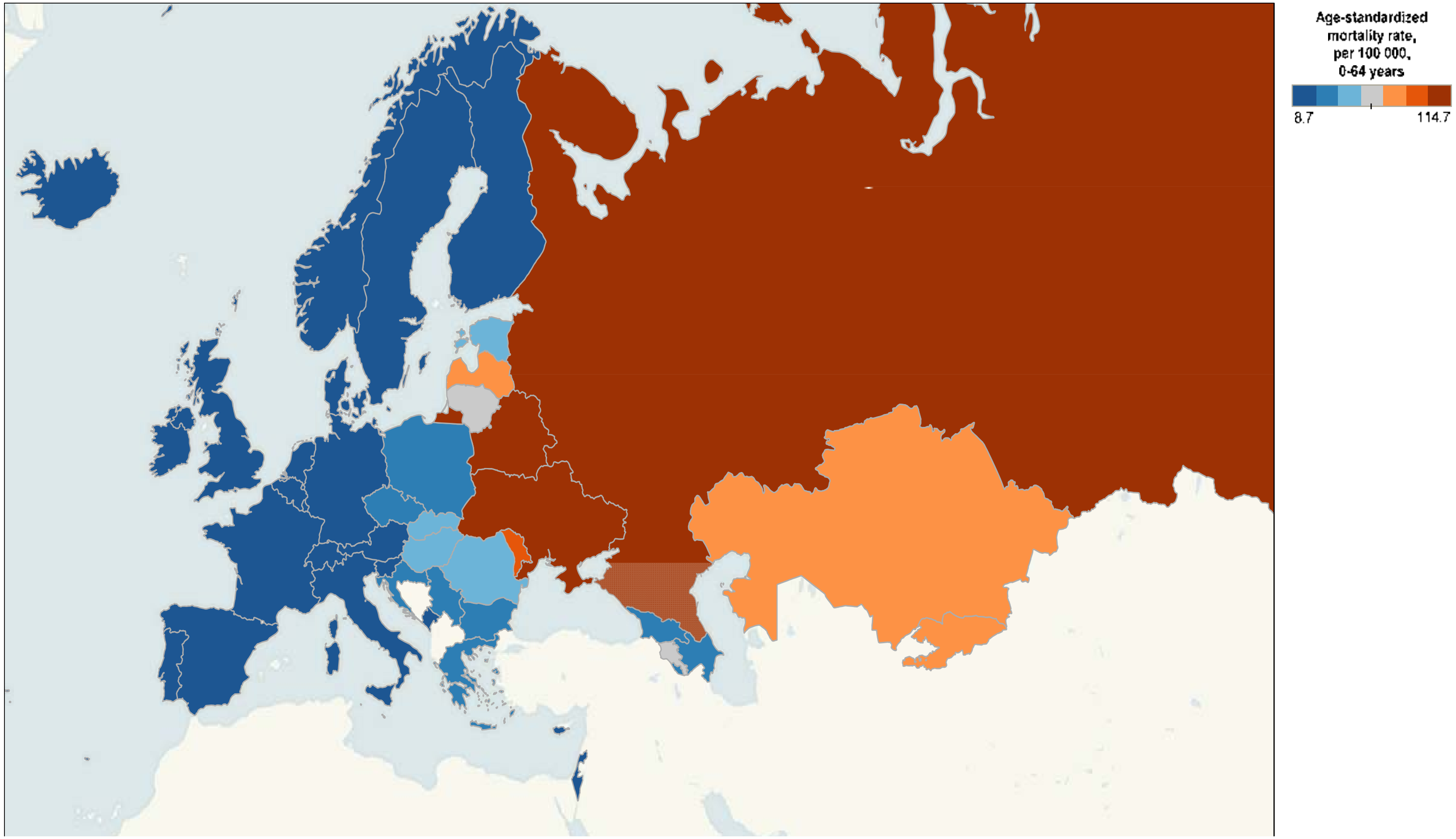
Diseases of the circulatory system

The main diseases of the circulatory system are ischaemic heart and cerebrovascular diseases, which together account for 35% of all deaths in Europe. The most recent data indicate that the mortality rate for diseases of the circulatory system varies widely between countries in the Region (Fig. 23), and by age, sex and the distribution of important determinants. For example, the European regional average rate of premature mortality from ischaemic heart disease is 47.5 per 100 000, but within individual countries the rate can be about five times higher for men than women (Fig. 24). For men, the maximum rates are nearly 13 times the minimum country values.

Although premature mortality from ischaemic heart disease is generally decreasing, in some eastern countries in the Region the rate is decreasing more slowly, stagnating or – worryingly – slightly increasing. Premature mortality from cerebrovascular diseases shows similar patterns and trends in the Region. Evidence indicates that this challenge can be improved by countries' addressing a combination of preventable factors, including high alcohol intake and binge drinking, increasing stress levels and reduced social support.

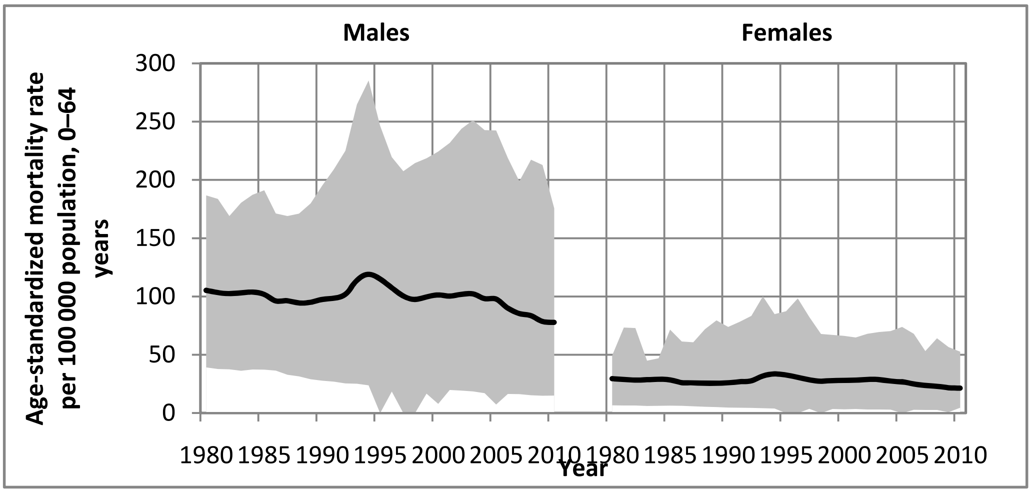
Moreover, a global assessment has documented that almost 50% of the burden of these diseases may be attributed to high blood pressure (≥ 115 mm Hg systolic) *(17)*. Broad social and economic determinants of health, such as economic downturns, exacerbate these risk factors. Coordinated policies and interventions need to consider these factors and address a combination of determinants (such as obesity, high salt intake and physical inactivity) as priorities for improving overall health and well-being and reducing premature mortality from diseases of the circulatory system.

Fig. 23. Premature mortality from ischaemic heart disease in the European Region, last reported data, 2006–2010



Source: European Health for All database *(6)*.

Fig. 24. Premature mortality from ischaemic heart disease among males and females in the European Region, 1980–2010



Source: European Health for All database *(6)*.

Cancer

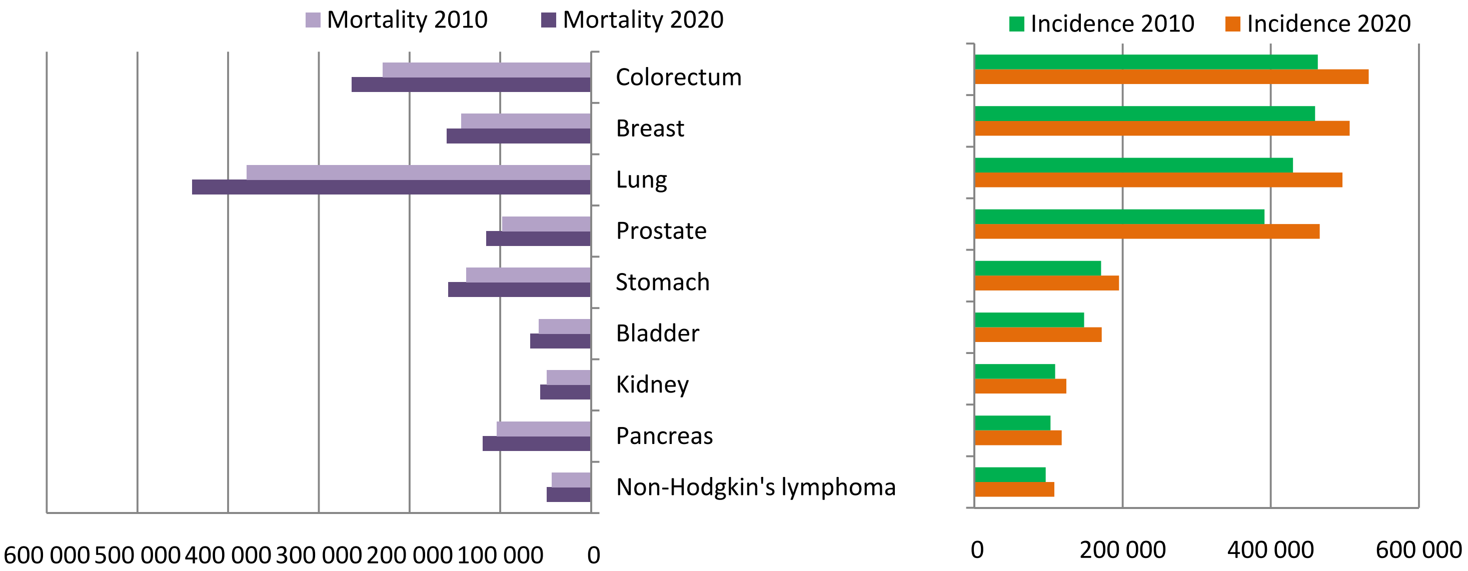
General situation

Cancer is the second leading cause of mortality in countries in the European Region. According to the latest available data, neoplasms account for nearly 20% of all deaths in the Region. The mortality and incidence patterns vary according to the type of cancer, with lung and colon neoplasms having the highest overall mortality (Fig. 25).

Specifically, lung, colon, stomach and prostate neoplasms account for nearly 50% of cancer deaths among men, while breast, lung, stomach, colon, cervical and ovarian neoplasms account for 60% of deaths among women. Reported cancer incidence data are sparser than mortality data, but are needed to calculate case fatality (see below). In 2008, GLOBOCAN *(18)* indicated that around 2.5 million new cancer cases occur every year in Member States of the European Union (EU) – countries representing about 55% of the European Region's total population.

Across the Region, neoplasms with the highest incidence include those of the lung, female breast, colon and prostate, and these rates are expected to increase further by 2020. According to the Health for All database *(6)*, overall cancer incidence in the European Region is 379 cases per 100 000, translating into a 32% increase since the mid-1980s. Incidence has almost doubled in some parts of the Region.

Fig. 25. Mortality from and incidence of cancer by main types in the European Region, 2010 and projected for 2020



Source: European Health for All database and GLOBOCAN *(6,18)*.

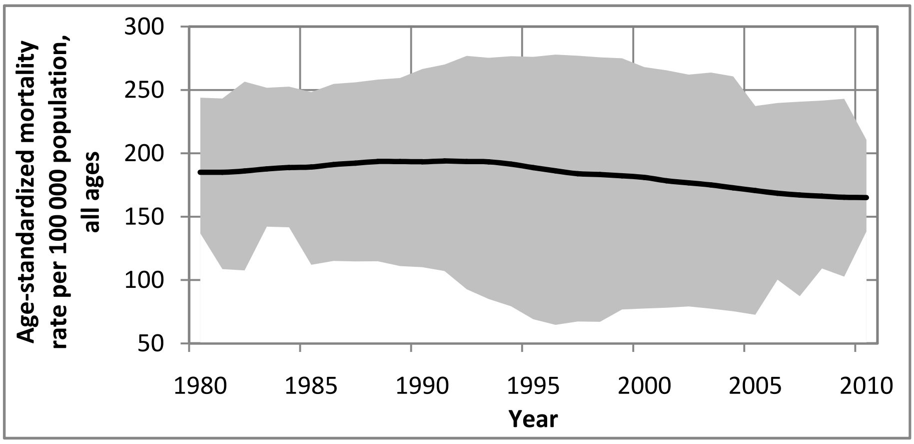
The overall increase in cancer incidence reflects the changing profile of causes of death resulting from the sustained reduction in mortality from diseases of the circulatory system, as well as the gain in life expectancy (see above). People are living longer, and most neoplasms develop over an extended time with a long latency period; this context has contributed to the increasing incidence. Moreover, neoplasms have replaced diseases of the circulatory system as the leading cause of premature death in 28 European countries, primarily in the western part of the Region.

In general, overall cancer mortality in the Region has shown a decreasing trend since the mid-1990s, with a 15% reduction to 2009 (Fig. 26). The regional average is 168 per 100 000, with an encouraging narrowing of inequalities since 2005. In terms of age and sex patterns, cancer mortality rates increase almost exponentially from 30 years of age onwards, and men experience higher rates than women at all ages. The risk for men is 50% greater by the age of 60 years and 100% greater (twice as high) by 65.

Case fatality

Combining mortality and incidence rates provides a crude estimate of case fatality, which is an indicator of survival from cancer after being diagnosed and provides insights into the effectiveness of disease screening, diagnosis and care. For lung cancer, the case fatality rate (mortality rates over incidence) for selected European countries was collectively 86% in 2008. Countries provided fairly consistent high case fatality rates, suggesting that there is no effective treatment or means to delay death after diagnosis with lung cancer. Five-year survival estimates from a recent EUROCARE-4 report *(19)* showed no major changes in low survival rates (below 10%) over a ten-year period, supporting this hypothesis.

Fig. 26. Mortality from cancer in the European Region, 1980–2010



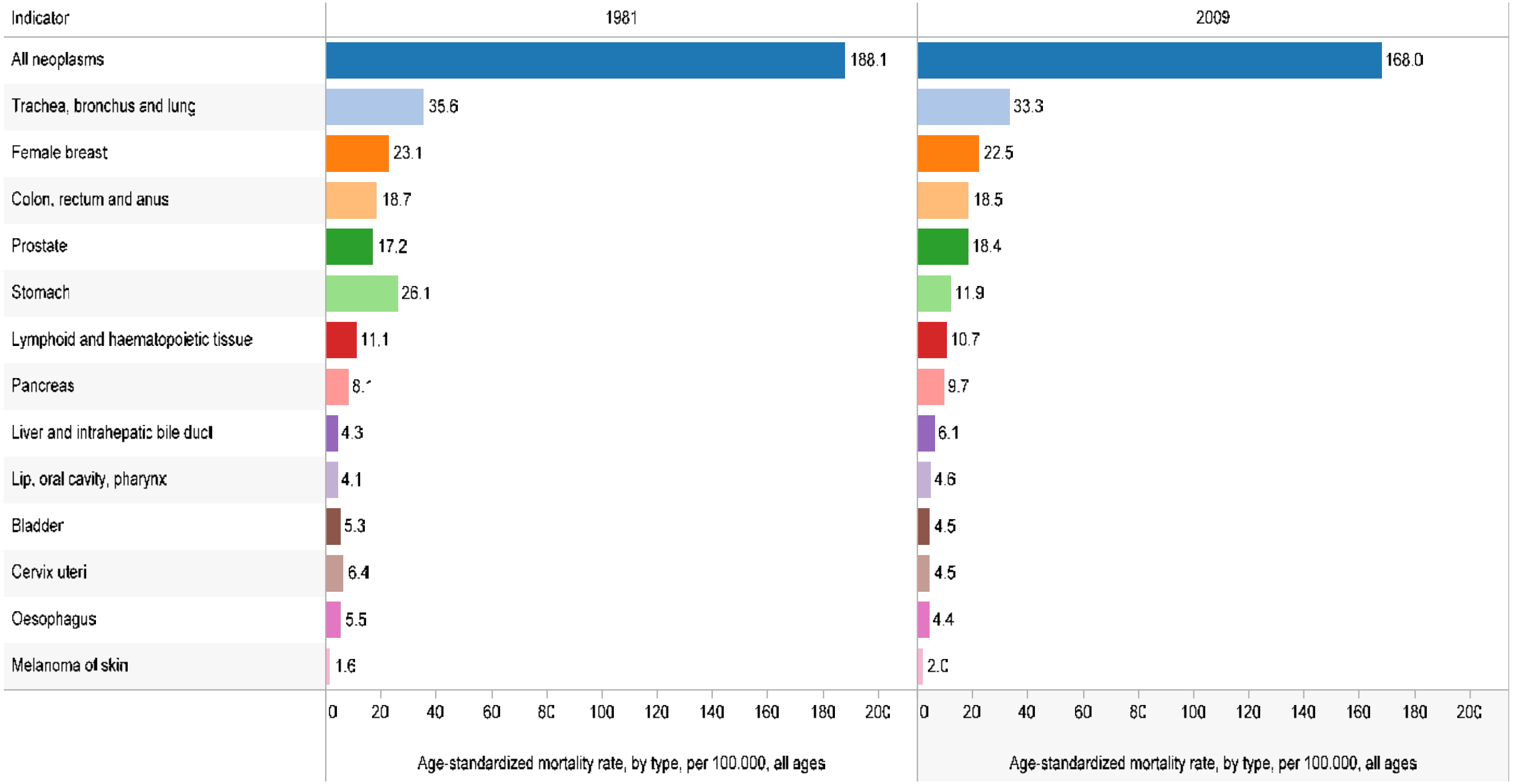
Source: European Health for All database *(6)*.

There is a contrasting picture for female breast cancer, which shows an average case fatality rate of 30%. The EUROCARE-4 study *(19)* indicates that five-year survival is relatively high and increased from 74% to 83% over a ten-year period. In spite of different incidence levels in countries, mortality tends to be similarly low, suggesting the effectiveness of schemes for early diagnosis and treatment of breast cancer.

Main types of cancer

Mortality rates by main types of cancer among women and men indicate that lung cancer (which is highly preventable, as the main cause is tobacco smoking) is responsible for the greatest number of deaths in the European Region, followed by colon and stomach cancers (Fig. 27). The overall mortality rate for lung cancer was 17 per 100 000 in 2009, with variation across the Region. Proportionally, lung cancer is 2–3 times more frequent than colon cancer. Among females, breast cancer is responsible for the greatest number of deaths, with average mortality rates of 14 per 100 000, followed by cervical and ovarian cancers. Breast cancer rates appear relatively uniform across the Region.

Fig. 27. Mortality from main types of cancer in the European Region, 1981 and 2009

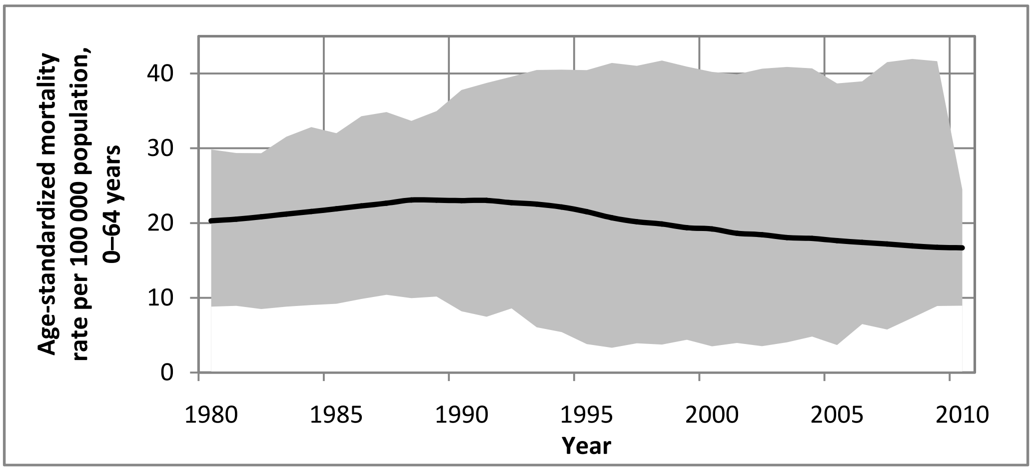


Source: European mortality database *(11)*.

Types of cancer affecting men and women

The trend for average premature mortality (deaths occurring before the age of 65 years) from lung cancer in the Region has two distinct periods: an increase in 1980–1990 and subsequently a gradual decrease. Nevertheless, variation is substantial, as some countries experienced rates twice the regional average until recently (Fig. 28).

Fig. 28. Premature mortality from lung cancer in the European Region, 1980–2010

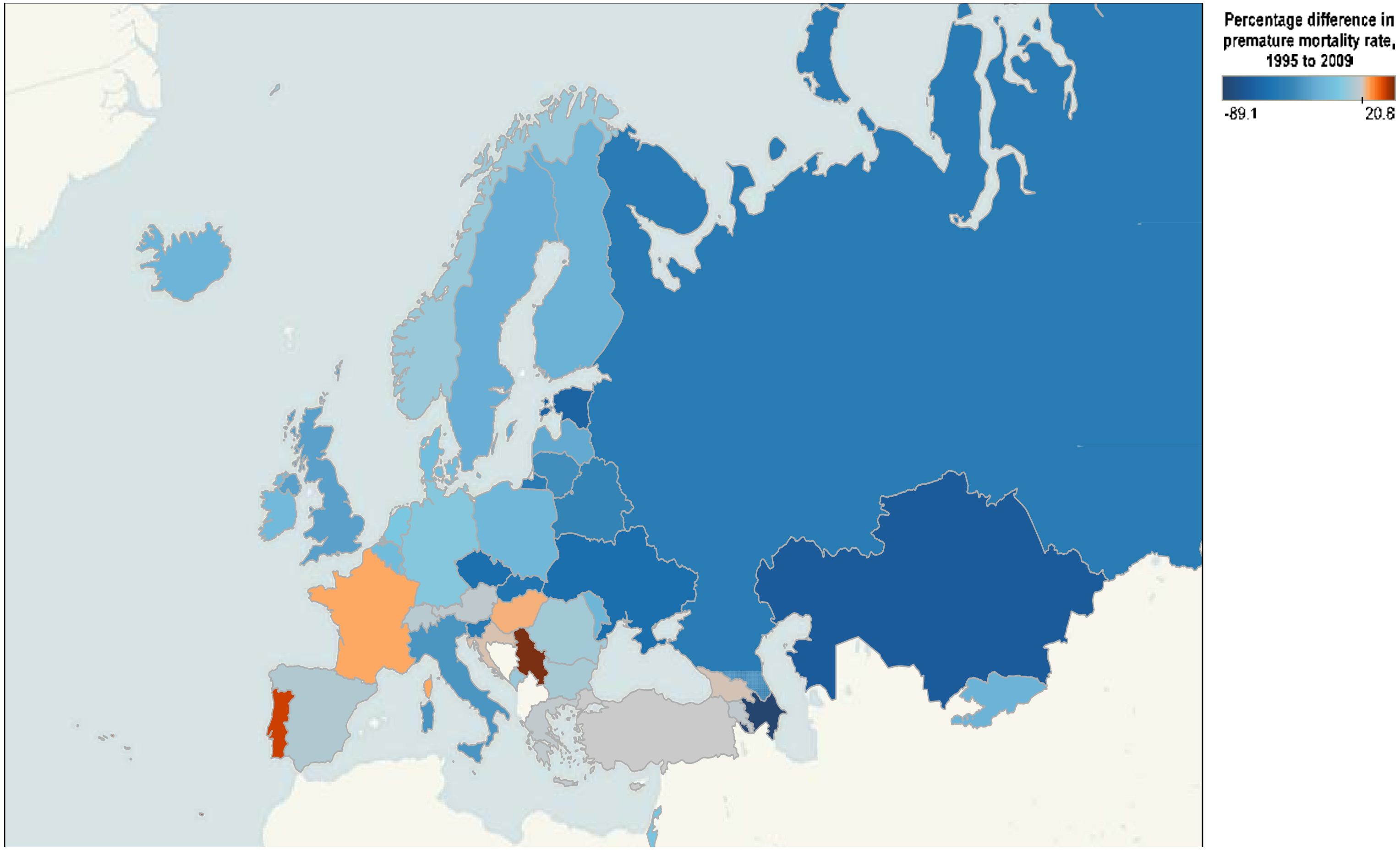


Source: European Health for All database *(6)*.

Moreover, countries reported substantial decreases between 1995 and 2009, particularly in the eastern part of the Region (Fig. 29), although rates continue to increase in some. On average, rates are decreasing for men but stagnating or increasing for women. Nevertheless, overall premature deaths from lung cancer remain more than twice as high for men in the Region (Fig. 30).

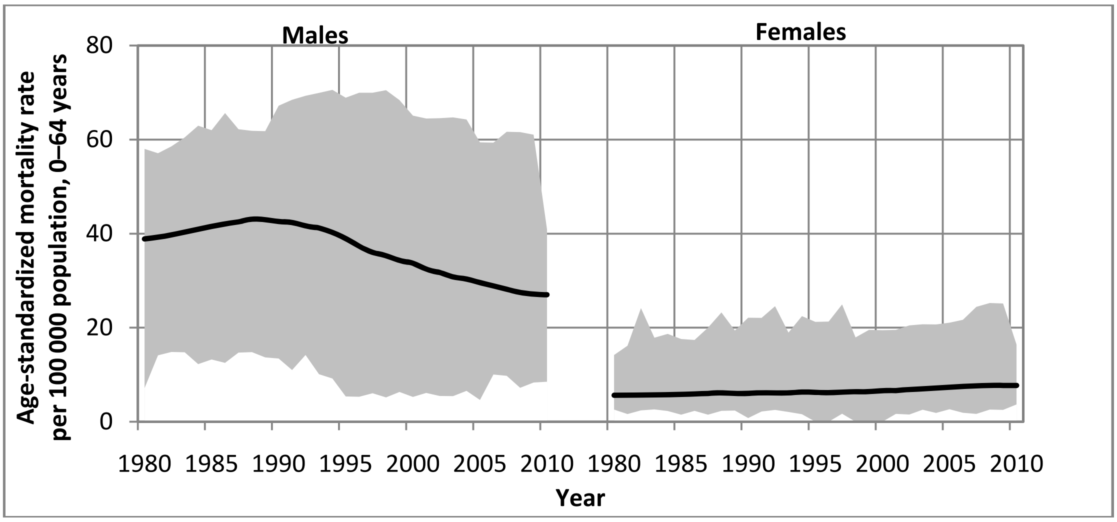
At the country level, mapping premature mortality from lung cancer across the Region shows that the highest rates are found in central Europe (Fig. 31), where rates are over 25 per 100 000. Higher rates are also associated with higher prevalence of tobacco smoking, which in turn is determined and shaped by the affordability of tobacco products, limited restrictions on advertising (among other marketing strategies) and other national policies that do not consider public health priorities.

Fig. 29. Changes in premature mortality from lung cancer in the European Region, 1995–2009



Source: European Health for All database *(6)*.

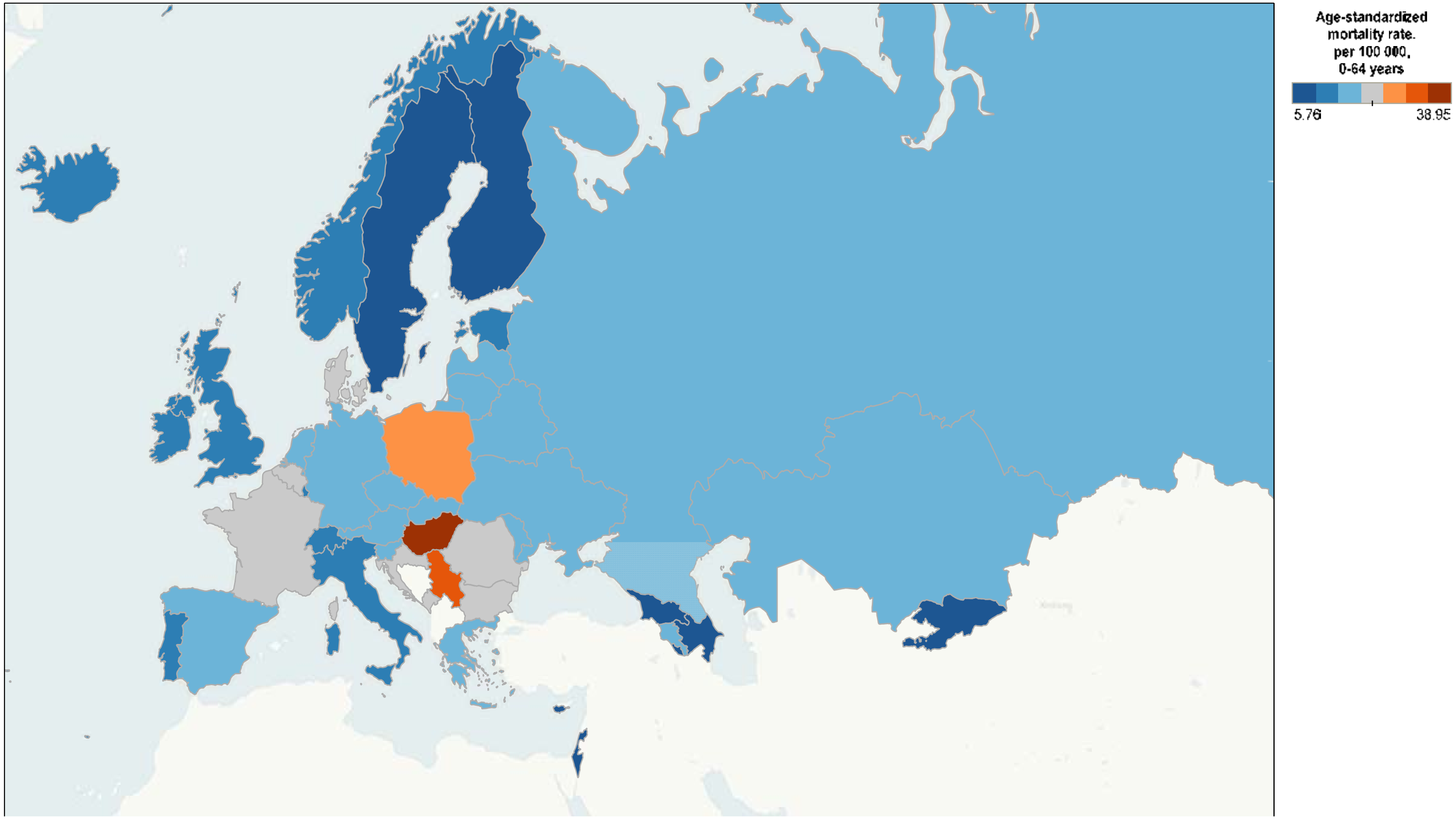
Fig. 30. Premature mortality from lung cancer among males and females in the European Region, 1980–2010



Source: European Health for All database *(6)*.

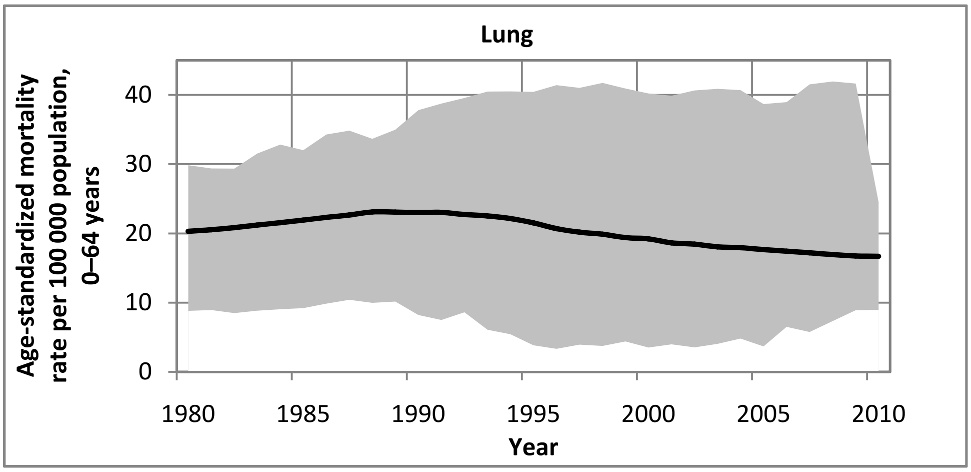
Other, less prevalent but important forms of cancer include those of the stomach, colon and liver. In comparison to lung cancer levels and trends, these types of cancer present more diverse patterns and greater inequality across the Region (Fig. 32). Second to lung cancer, premature mortality from colon cancer declined marginally from its highest levels in the early 1990s to 7 per 100 000 in 2010; the decrease is an example of the reversal of an increasing trend during the 1980s with measurable improvements. The contributory factors include the effects of screening, earlier diagnosis and more effective treatment schemes. Ensuring that the benefits of these practices are available across the European Region is one priority in the fight against premature mortality.

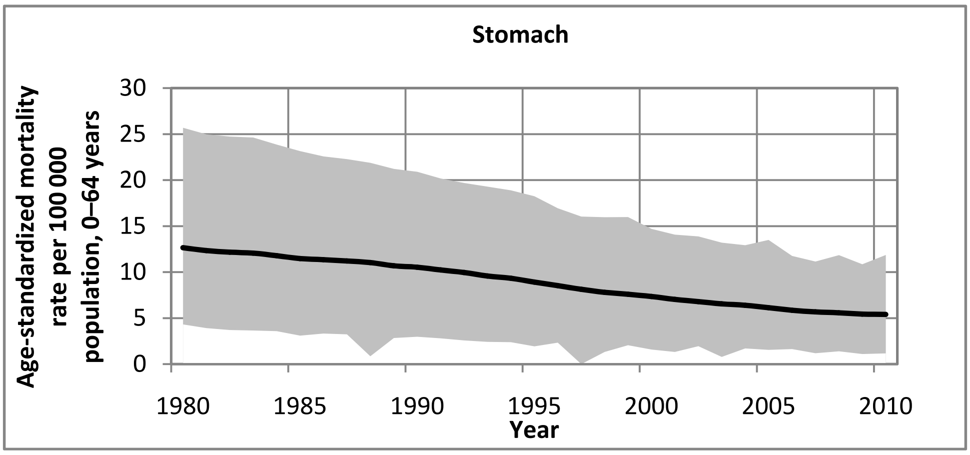
Fig. 31. Premature mortality from lung cancer in the European Region, last reported data, 2006–2010

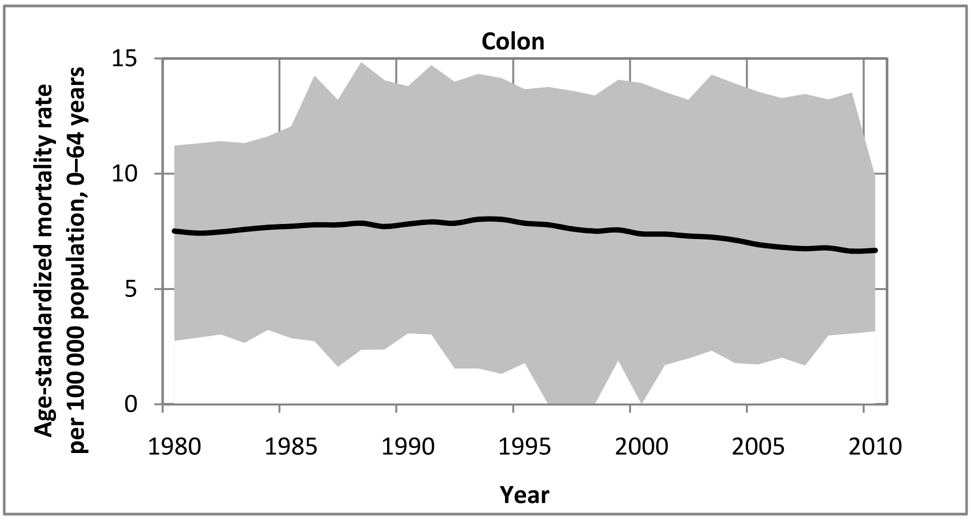


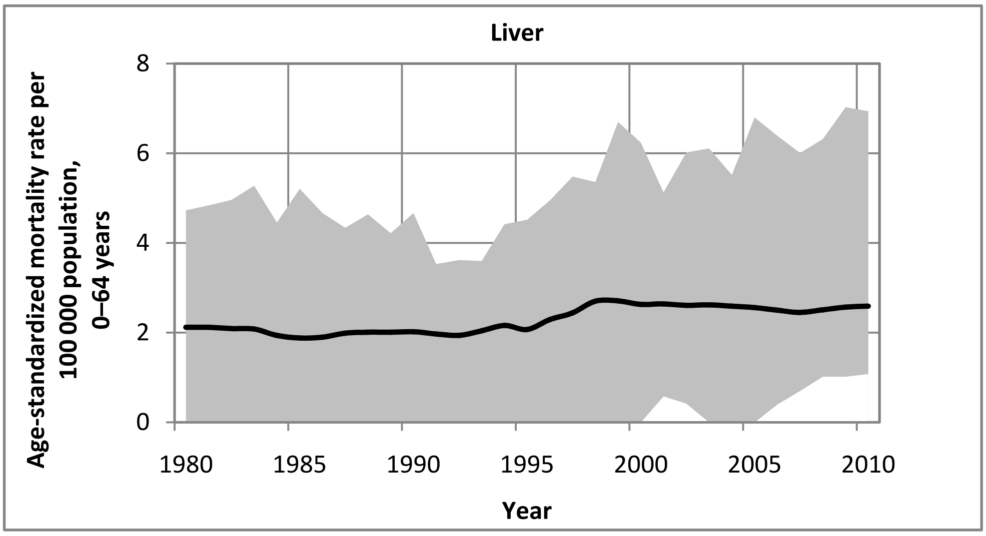
Source: European Health for All database *(6)*.

Fig. 32. Premature mortality from lung, stomach, colon and liver cancer in the European Region, 1980–2010









Source: European mortality database *(11)*.

Turning to the overall pattern of stomach cancer, since 1980 the Region has had steady and sustained reductions of nearly 60%, resulting in a premature mortality rate of 5 per 100 000 in 2009. Progress may be attributed to the reduced consumption of some carcinogenic products (such as nitrates) and the discovery and treatment of *Helicobacter pylori*, a pathogen that facilitates carcinogenesis. Despite variation, countries in the eastern part of the Region have made significant progress and are converging towards rates found in the central and western parts.

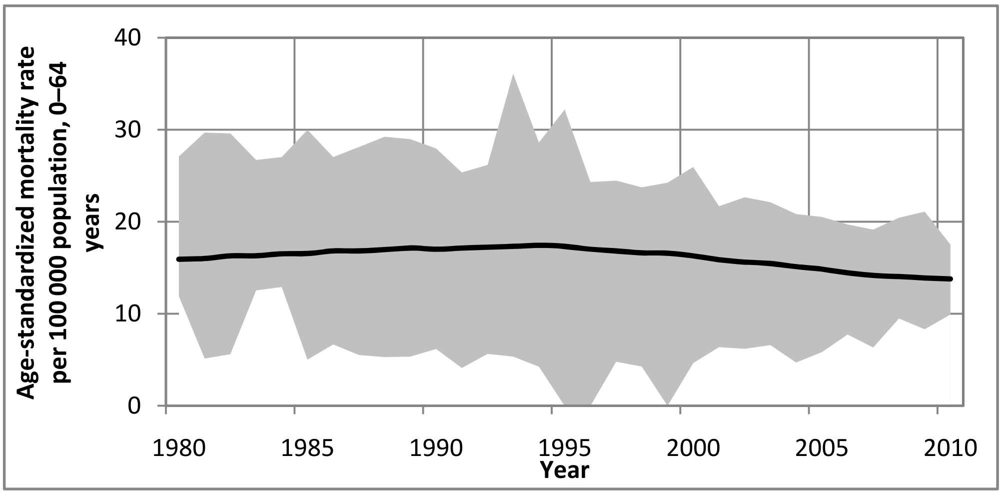
Liver cancer, however, shows a different pattern. Although the absolute level is lower, premature mortality is increasing – particularly since 1995 – reaching an overall rate of 3 per 100 000 for the European Region, with country-level trends beginning to move towards convergence. Verifying whether this is an effect change due to diagnosis or classification codes will require additional assessments of associated conditions and risk factors, such as the patterns of chronic liver disease and alcohol consumption.

Types of cancer affecting women

Breast cancer is responsible for the highest cancer mortality rate among women, with relatively uniform rates across the Region. This remains the case, although overall premature mortality rates in the Region have decreased to a level of 14 per 100 000, an important reduction of 21% since the peak in around 1995 (Fig. 33).

According to the latest reported data, mortality trends are converging, though some additional effort must be made in the eastern part of the Region to align with the others. Innovations in medical technology (including diagnosis, treatment and surgical procedures), combined with greater access to these innovations, have led to reduced mortality in spite of high incidence: that is, lower case fatality rates. As with colon and stomach cancers, this represents an important success for the health sector and for wider public health actions, including those of many nongovernmental organizations.

Fig. 33. Premature mortality from breast cancer among females in the European Region, 1980–2010

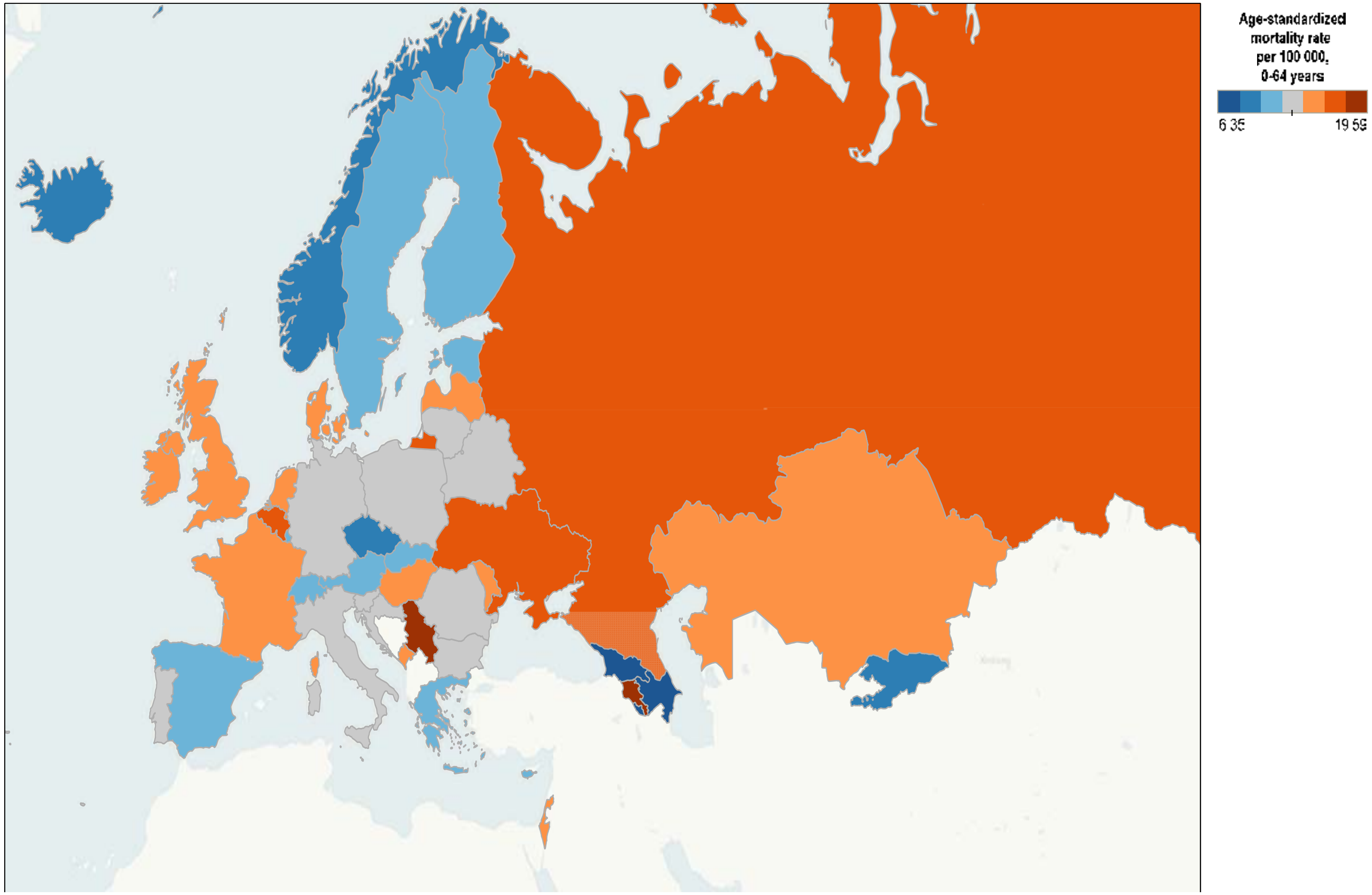


Source: European Health for All database *(6)*.

The distribution of premature breast cancer mortality rates at the country level shows a different pattern from other diseases (Fig. 34), with lower rates in the southern and northern parts of Europe, possibly associated with some cultural and genetic factors. The gap between the highest (20 per 100 000) and lowest (6 per 100 000) country mortality rates represents a threefold difference in the risk of women dying from breast cancer.

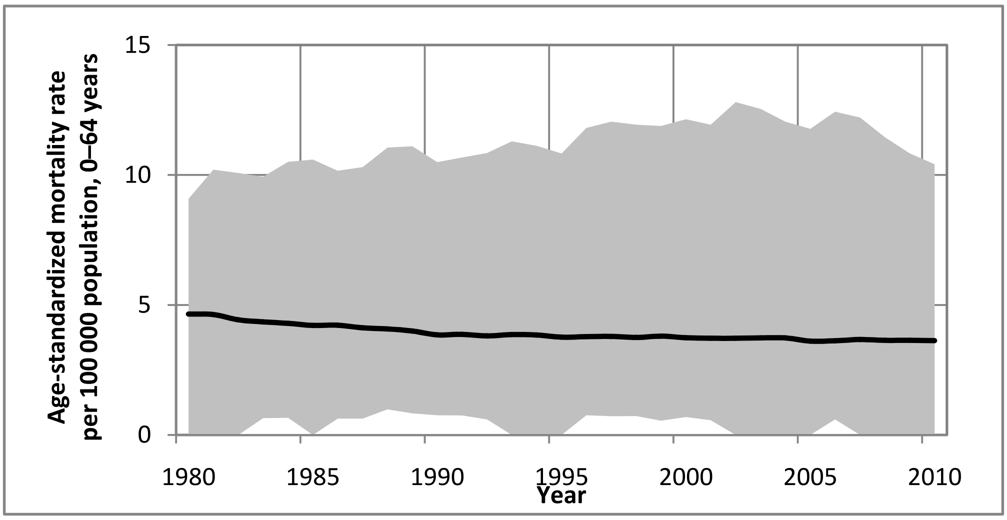
Tackling cervical cancer – an important component of women’s health programmes in the Region – is an unfinished item on the health agenda. Knowledge and health technology to screen for, diagnose and treat this form of cancer are affordable and potentially available today, yet cervical cancer continues to occur and kill. This context is associated with a range of social determinants of health, including inequalities in access to health services, that lead to inequities in health outcomes. Nevertheless, universal policies addressing cervical cancer have shown an impact in countries: premature mortality trends at the regional level indicate that some level of control has been achieved. The most recent data show an average age-standardized mortality rate of 4 per 100 000 (Fig. 35). Nevertheless, wide variation exists, indicating that continual sharing of best practices across the Region, as well as adaptation for implementation to different contexts, is warranted.

Fig. 34. Premature mortality from breast cancer among females in the European Region, last reported data, 2006–2010



Source: European Health for All database *(6)*.

Fig. 35. Premature mortality from cervical cancer among females in the European Region, 1980–2010



Source: European Health for All database *(6)*.

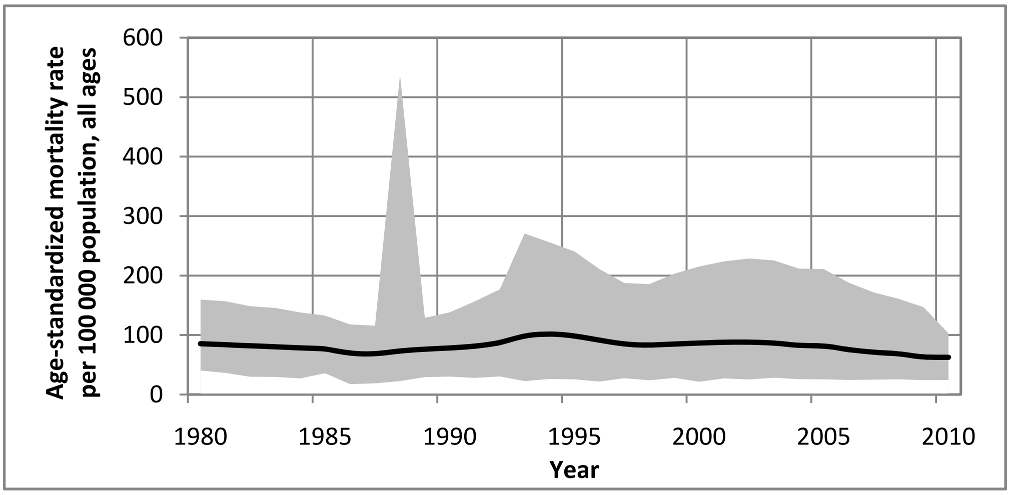
External causes of injury and poisoning

Overall situation

External causes of injury and poisoning are also important causes of mortality in the European Region, responsible for 9% of all deaths. They comprise a constellation of causes, including transport and motor vehicle accidents, falls, suicides and homicides. By definition, deaths from these causes are all premature and avoidable. Some argue against the use of the word “accidents”; for example, most transport crashes reflect a lack of policies or their implementation. In contrast to other causes of premature mortality previously described, examining the specific causes by all ages (across the life course) is vital. Moreover, mortality-related indicators are useful in providing information on environmental safety and security conditions, as well as the levels and trends of some harmful behaviour in the population. As indicated above (see Fig. 19), mortality rates for external causes are higher among men than women, and disproportionately concentrated during the most economically productive stage of life.

Mortality from all external causes in the European Region reached 63 per 100 000 in 2010, having decreased by 20% since 1990 (Fig. 36). As noted in Box 1, spikes reflect natural disasters or man-made catastrophes. Nevertheless, the most recent data show that significant variation remains at the country level, from less than 25 per 100 000 to more than 180 per 100 000, a sevenfold disparity (Fig. 37). Socioeconomic downturns are important social determinants of the mortality from external causes.

Fig. 36. Mortality from all external causes of death in the European Region, 1980–2010



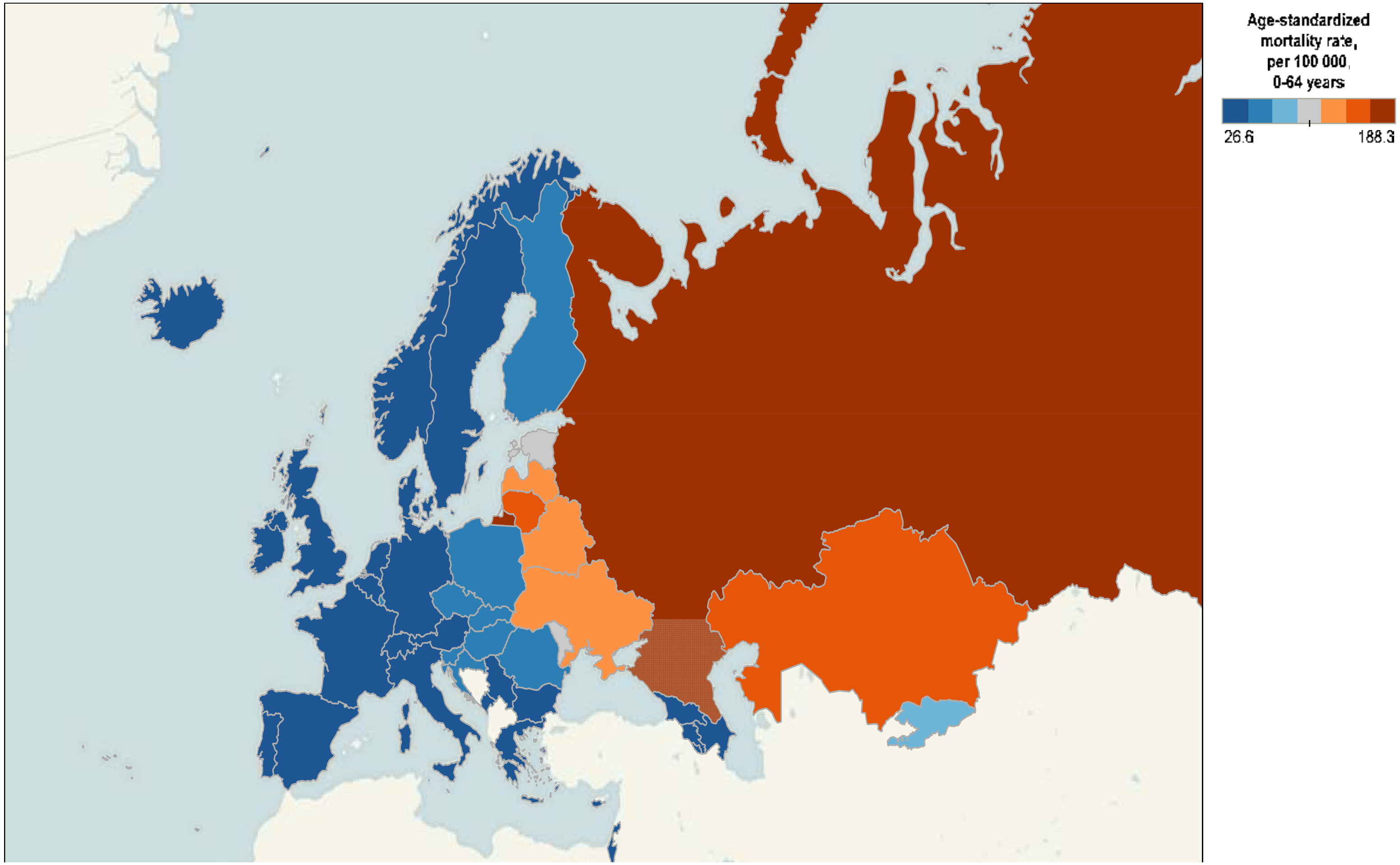
Source: European Health for All database *(6)*.

Main types

In order of frequency, accidents (transport and motor vehicle, poisoning, falls, drowning, and exposure to smoke and fires), suicide and self-harm, and homicide and assault dominate mortality from external causes in the European Region. Reductions were documented between 1980 and 2009 (Fig. 38), but there are significant differences across countries. For example, mortality rates from suicide, drowning, transport accidents and homicide are significantly higher (up to 1.5 times greater) in the eastern part of the Region, whereas falls are on the rise in the western part.

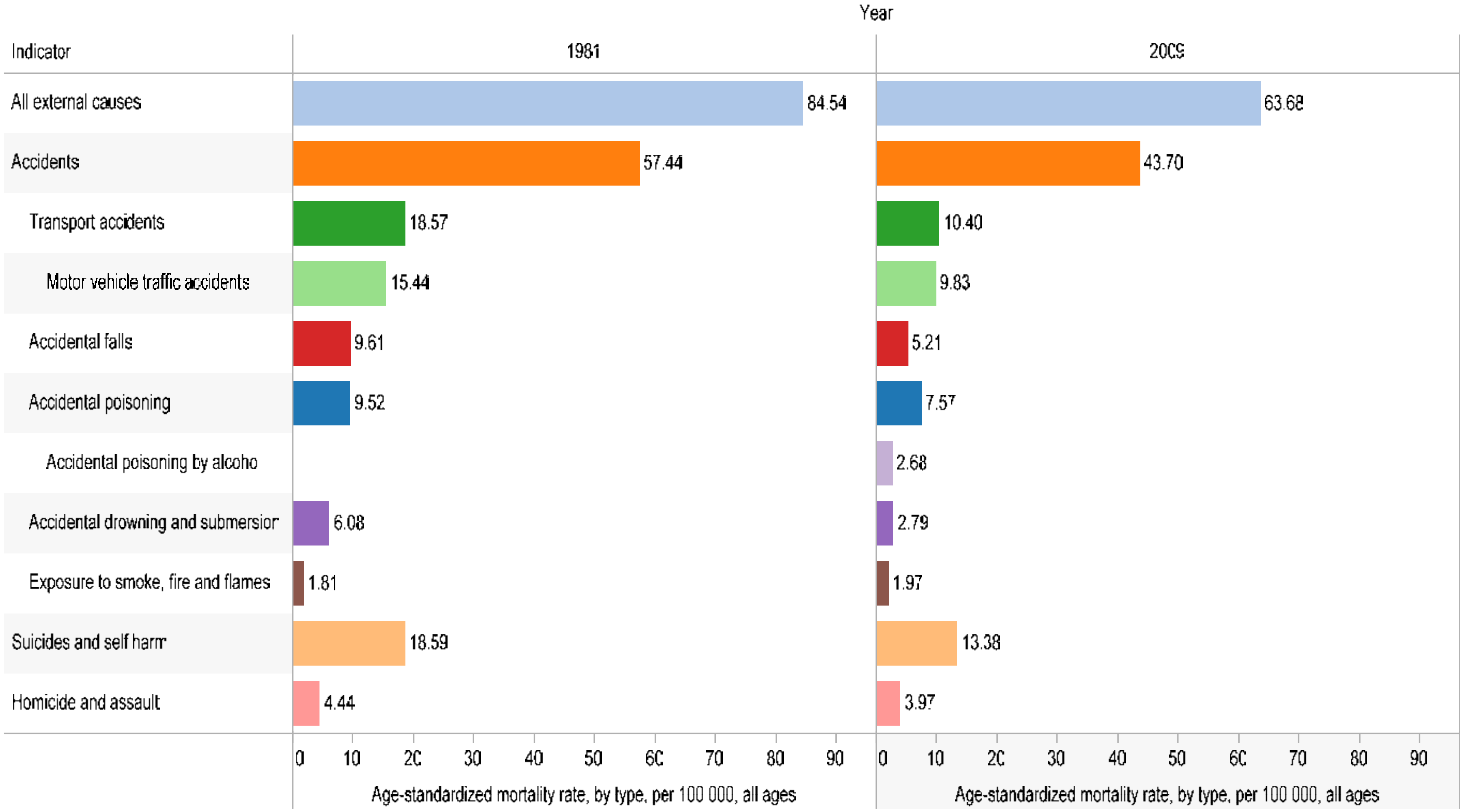
Monitoring mortality trends for the main external causes provides additional useful information on the impact of social determinants of health. For example, suicide rates – one of the only indicators of mental health in the Health for All database – have decreased by 25–40% across Europe. Nevertheless, the rate of reduction has slowed since 2008, with some countries experiencing a reversal. Increasing suicide rates are often the tip of the iceberg, and do not necessarily represent a much broader range of psychological and neuropsychiatric conditions and their overall burden of disease. Moreover, other severe consequences for health are usually associated with economic downturns. This situation merits close monitoring and timely interventions to mitigate the potential psychosocial effects of lower income and unemployment, and processes that exclude different groups or individuals. Chapter 3 discusses approaches to monitoring broader components of health and well-being more fully.

Fig. 37. Mortality from external causes in the European Region, last reported data, 2006–2010



Source: European Health for All database *(6)*.

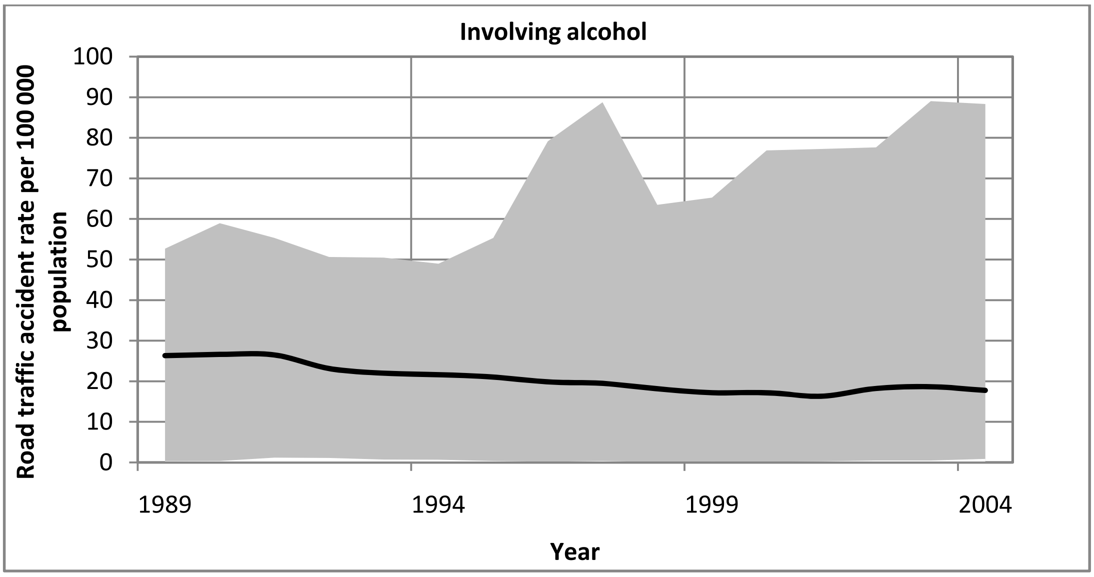
Fig. 38. Mortality from main external causes of death in the European Region, 1981 and 2009

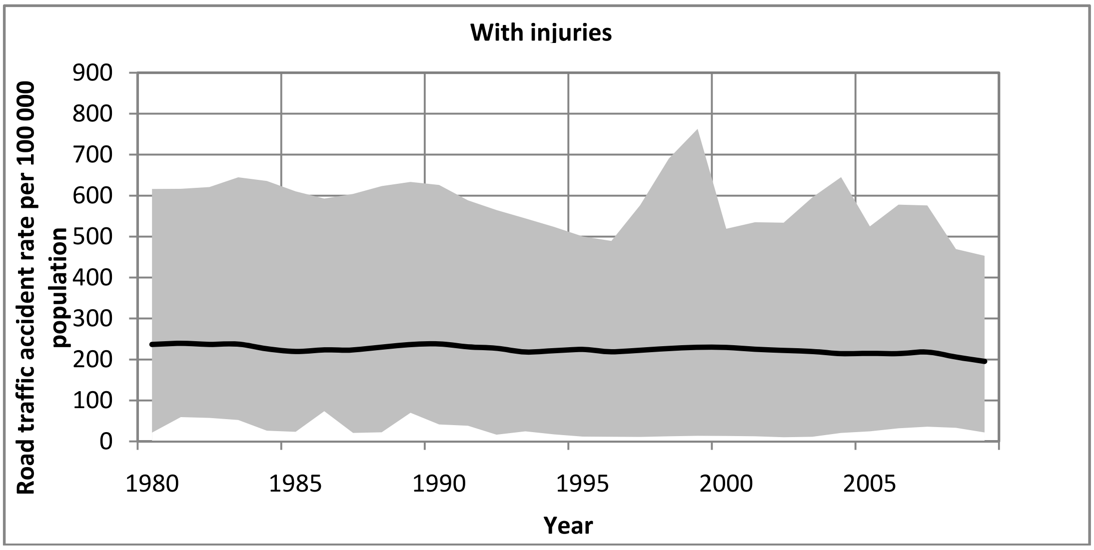


Source: European mortality database *(11)*.

Another important contributor to deaths from external causes is mortality from transport and motor vehicle accidents. Rates from these causes provide information on road safety (including infrastructure conditions), the effectiveness of protective measures and the enforcement of regulations in each country. At the European level, the rates of road traffic accidents with injuries have marginally decreased over the past three decades, and the rates of accidents involving alcohol are decreasing across the entire Region (Fig. 39), despite fluctuations at the country level.

Fig. 39. Rates of road traffic accidents with injuries and involving alcohol in the European Region





Source: European Health for All database, *(6)*.

Overall, the trends in external causes of death call out for specific strategies and more targeted health interventions, including intersectoral or joined-up policies and implementation strategies (for example, from the transport, justice, labour and financial sectors). Best practices can be scaled up within countries and shared between them to tackle deaths from external causes from a European perspective.

Communicable diseases

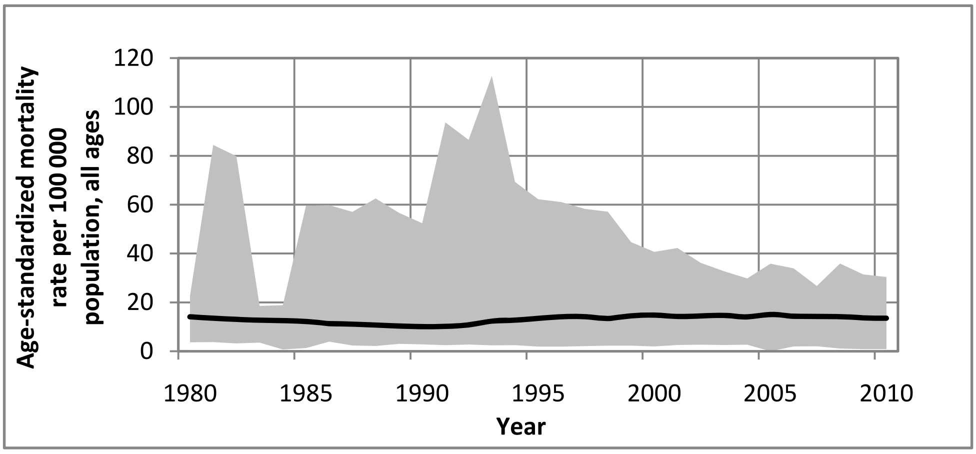
Major aspects

Communicable diseases occur less frequently in the European Region than in other parts of the world. Nevertheless, their unexpected emergence or re-emergence –combined with the fast propagation and epidemic potential of some – contributes to avoidable illness, premature mortality and their potential threat to health. Preparedness for communicable diseases therefore remains high on the health agenda. Additional factors, such as increased population mobility and trade, concomitant infections and increased antimicrobial resistance, further compound their occurrence, spread and threat.

In the European Region, concern currently focuses on tuberculosis, HIV/AIDS, other sexually transmitted diseases and viral hepatitis. Recent outbreaks of poliomyelitis, rubella and measles in different parts of Europe, however, have also re-emphasized the need to sustain or improve public health activities, such as surveillance and prevention of communicable diseases, involving health promotion and immunization.

According to reported data from across the European Region, mortality from all infectious and parasitic diseases slowly increased in the last decade, from 10 per 100 000 in 1990 to 14 per 100 000 in 2010 (Fig. 40), with significant variation: from less than 50% below to more than 50% above the regional average. Further assessment, using information from the European detailed mortality database *(16)*, suggests that in some countries this may be attributed to increased mortality from septicaemia, particularly among older people. In addition, methicillin-resistant *Staphylococcus aureus* may play a role in this situation, although confirmatory studies are needed. Nevertheless, this highlights the increasing importance of antimicrobial resistance as very relevant to the European Region.

Fig. 40. Mortality rate for all infectious and parasitic diseases in the European Region, 1980–2010



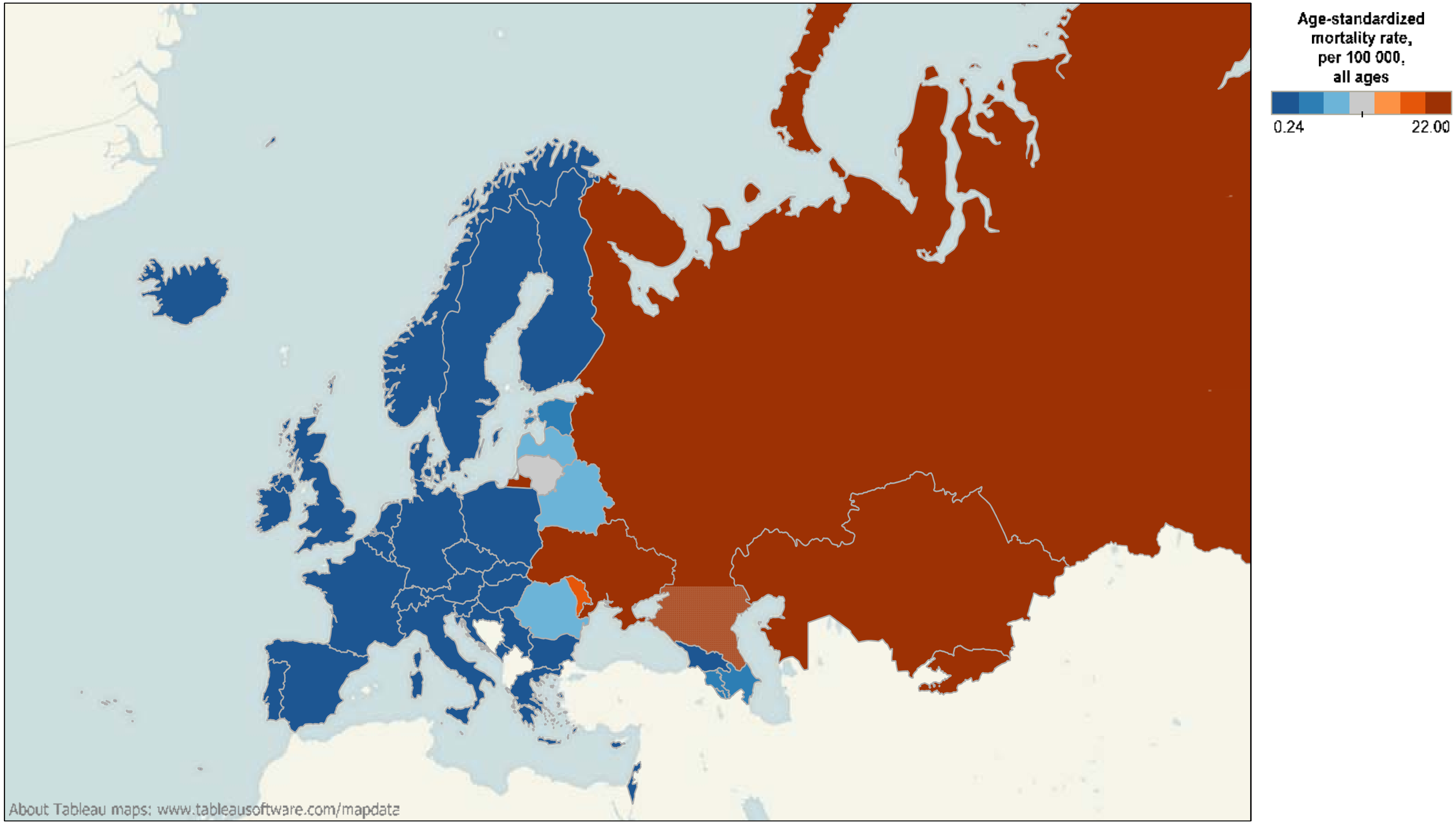
Source: European Health for All database *(6)*.

Tuberculosis

Tuberculosis (TB) is among the most significant infectious and parasitic diseases, representing over 40% of mortality within this group of causes in the European Region. Following increases in the 1990s, mortality rates for TB decreased by 30%, reaching a rate of 6 per 100 000 in 2010. Nevertheless, there is significant variation across the Region (Fig. 41). In the eastern part of the Region, after 10 years without change, an encouraging decreasing trend has recently been documented. TB incidence rates indicate that the risk of transmission has also decreased since 2000, to 35 new cases per 100 000 (Fig. 42).

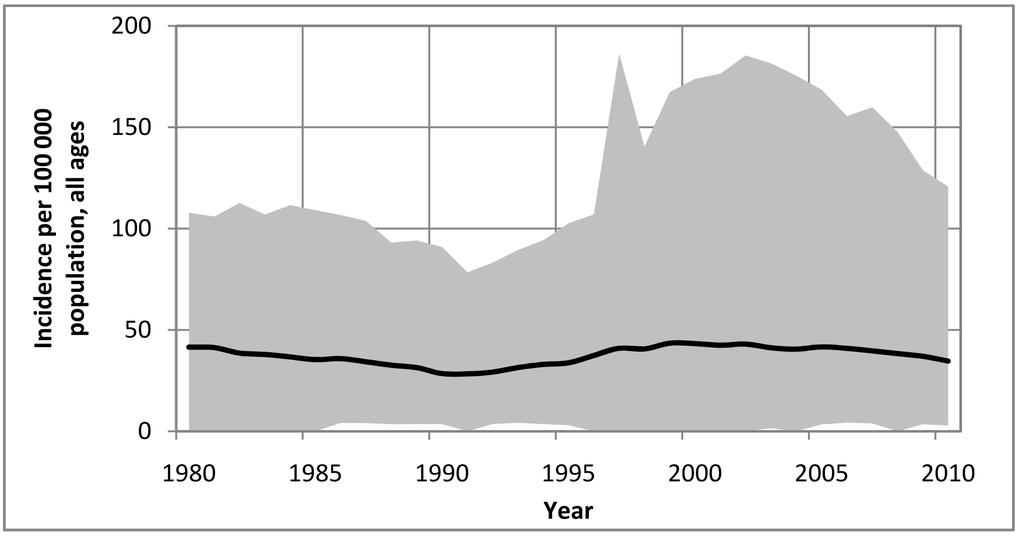
Although treatment success rates are not entirely satisfactory (only around 70%), earlier and accessible diagnosis, along with availability and adherence to short-course treatment, explains decreasing TB mortality and incidence trends. Nevertheless, some countries still face challenging situations and have pockets of populations at higher risk. For example, the WHO Regional Office for Europe’s interactive atlases *(20)* show that TB is highly concentrated in a few small deprived areas with a risk of mortality 14 times that in more affluent areas, suggesting the importance of social determinants of health for this cause of death. In parallel, co-infection with HIV offers a further challenge to reducing mortality from TB, particularly in areas where both infections coexist and where multidrug resistance is present.

Fig. 41. Mortality from TB in the European Region, last reported data, 2006–2010



Source: European Health for All database *(6)*.

Fig. 42. Incidence of TB in the European Region, 1980–2010

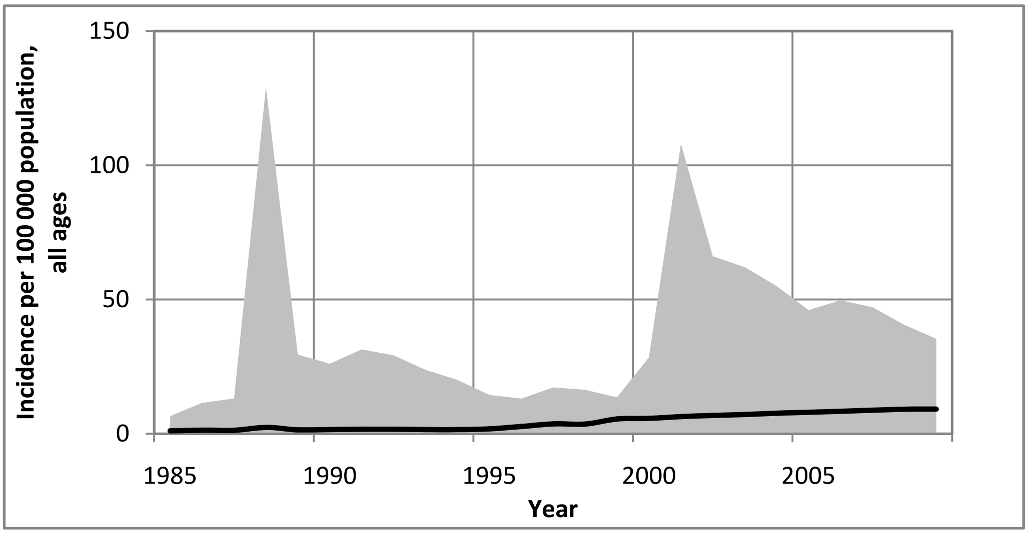


Source: European Health for All database *(6)*.

HIV/AIDS

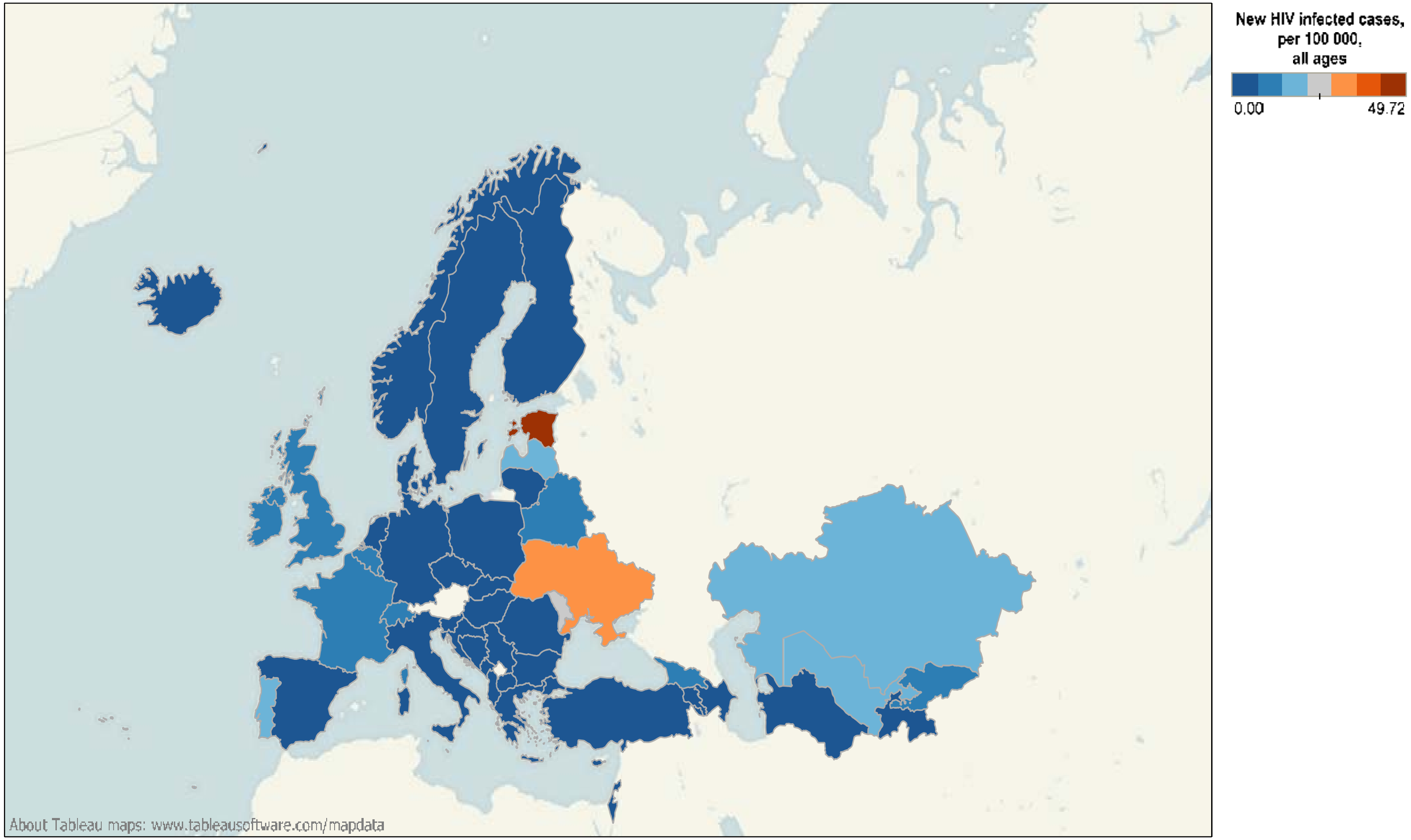
HIV incidence, rather than mortality, is the preferred measurement of the frequency and impact of HIV/AIDS. Annual HIV incidence has marginally increased and is potentially reaching a plateau at the regional level, according to the most recent data (Fig. 43). Yet HIV incidence varies widely across countries, as mapped by the latest reported data between 2006 and 2010 (Fig. 44).

Fig. 43. Incidence rate for HIV in the European Region, 1985–2009



Source: European Health for All database *(6)*.

Fig. 44. Incidence of HIV in the European Region, last reported data, 2006–2010



Source: European Health for All database *(6)*.

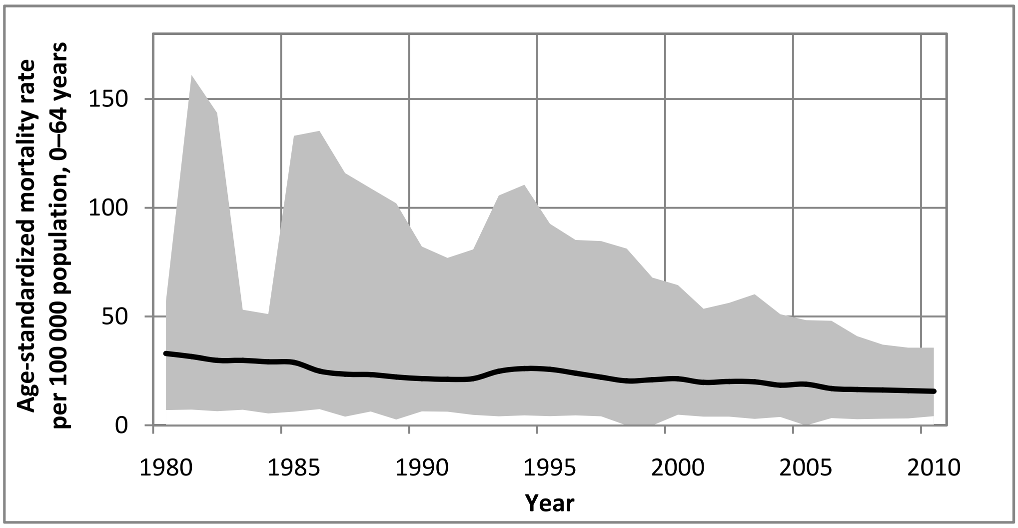
Importantly, with the wide availability of antiretroviral therapy in the European Region, progression from seroconversion to clinical disease is decreasing in most countries (data not shown). Lower reported rates can indicate that effective treatment of HIV-positive people plays an important role in reducing overt disease risk. Appropriate delivery mechanisms need to be in place in the diverse health systems across the Region, however, to reach all people without discrimination, and to provide the conditions to make this effort sustainable.

Diseases of the respiratory system

Mortality from respiratory diseases takes its toll on two distinct populations: children and older people. The main specific causes of death are chronic obstructive pulmonary disease (COPD), pneumonia, influenza and asthma; each is closely associated with outdoor and indoor environmental conditions and exposures. The interventions to prevent respiratory diseases often reflect wider social determinants of health that require some intersectoral action to ensure an impact that lowers disease incidence and severity.

Rates of premature mortality from respiratory diseases have steadily decreased in the European Region, falling by 40% since the mid-1990s to a rate of 16 per 100 000 in 2010 (Fig. 45).

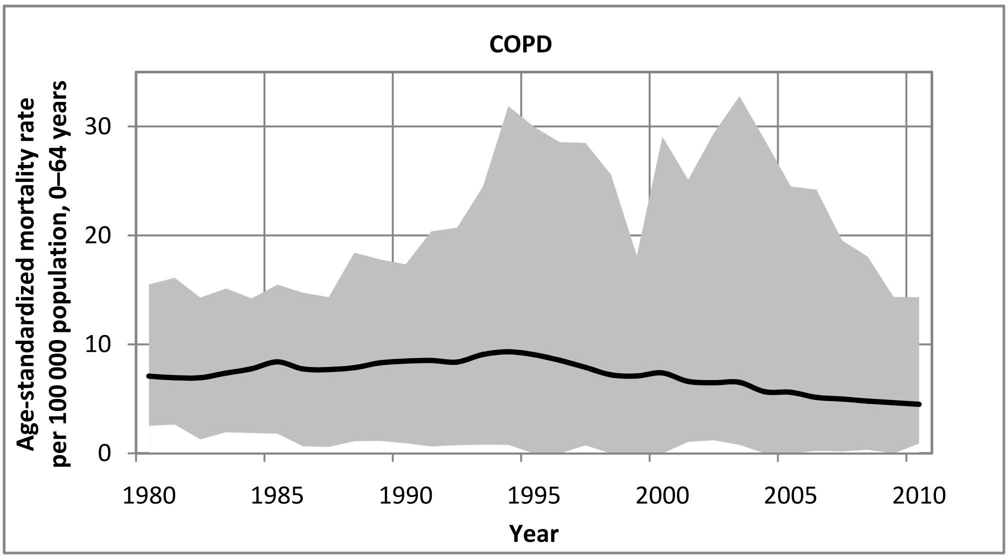
Fig. 45.Premature mortality rate for respiratory diseases in the European Region, 1980–2010

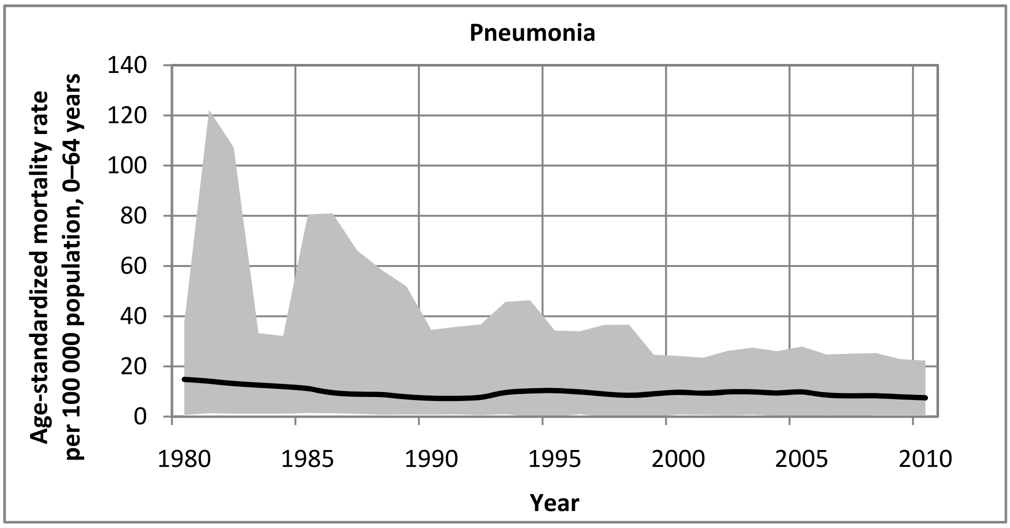


Source: European Health for All database *(6)*.

COPD and pneumonia account for the greatest number of premature deaths from respiratory diseases and their mortality trend patterns offer two distinct scenarios: one with decreasing rates and another with relatively stable ones (Fig. 46). Mortality rates from COPD (with men more affected than women) have decreased across the Region, while pneumonia rates remained mostly unchanged for the past decade.

Fig. 46.Premature mortality rates for COPD and pneumonia in the European Region, 1980–2010





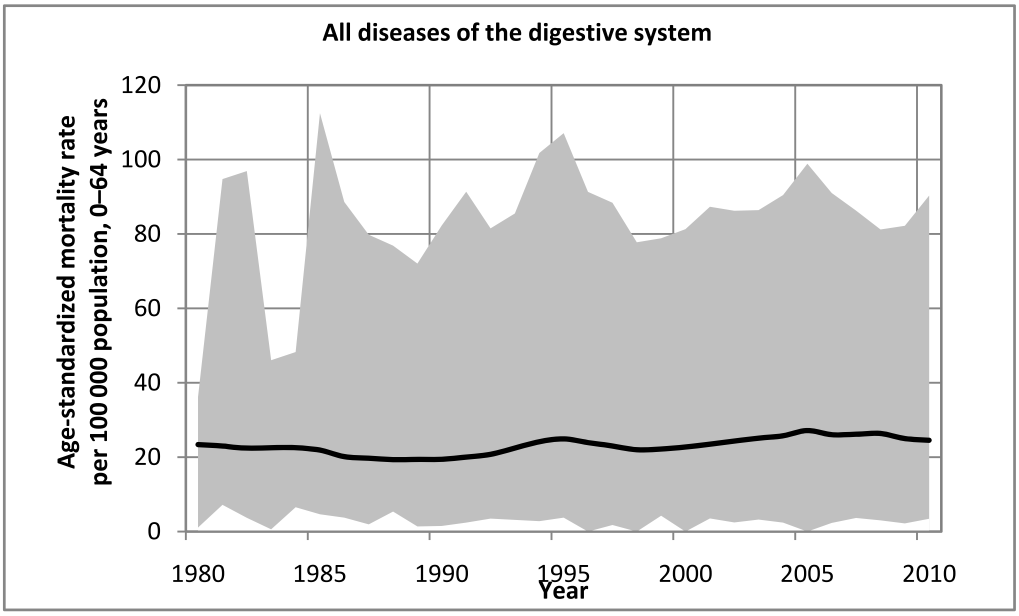
Source: European mortality database *(11)*.

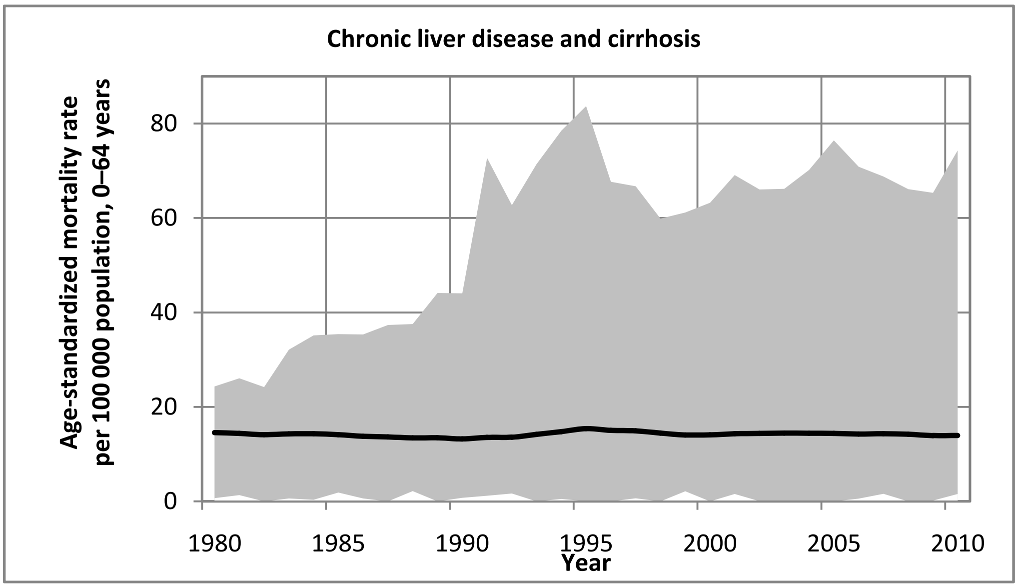
This context suggests that some exposures have increased in parts of the Region, perhaps as result of pollution and poorer air quality from industrialization and increased transportation, damp housing and poor indoor air quality. At the same time, increased access to treatment and vaccination, improved housing conditions and enhanced environmental protection and regulations may have a positive impact across the entire Region.

Diseases of the digestive system

Another important group of causes of death in the European Region, diseases of the digestive system include chronic liver disease and cirrhosis, as well as ulcers of the stomach and duodenum. At the regional level, premature mortality from all digestive-system diseases showed an increasing trend from the late 1990s to 2005, with a subsequent slight reduction. The overall rate reached 25 per 100 000 in 2010: a 30% net increase in the last two decades (Fig. 47). The harmful intake of some products, such as alcohol and some processed foods, contributes to these diseases.

Fig. 47.Premature mortality from all diseases of the digestive system, and chronic liver disease and cirrhosis, in the European Region, 1980–2010





Source: European Health for All database *(6)*.

Over the past decade, mortality from chronic liver disease and cirrhosis has stagnated (Fig. 47). Chronic liver disease has been associated with a range of viral causes (such as hepatitis B and C infections), toxins and drug misuse. Nevertheless, alcohol abuse, particularly at a heavy and sustained level, probably makes the largest contribution. Mortality from chronic liver disease and cirrhosis is therefore often used as a proxy measure of a wide range of health problems related to excessive alcohol consumption. According to recently reported data (2006–2010), premature mortality from chronic liver disease and cirrhosis across the Region ranges from less than 1 to more than 70 per 100 000 population (Fig. 48). Underreporting of this disease sometimes occurs, however, because of stigmatization.

It is well documented that people across Europe are increasingly drinking alcohol earlier in life, consuming large amounts and engage in binge drinking: all these behaviours increase the incidence of disease and the risk of death. These trends justify the scaling up of effective interventions across the Region to reduce consumption *(21)*.

Diabetes

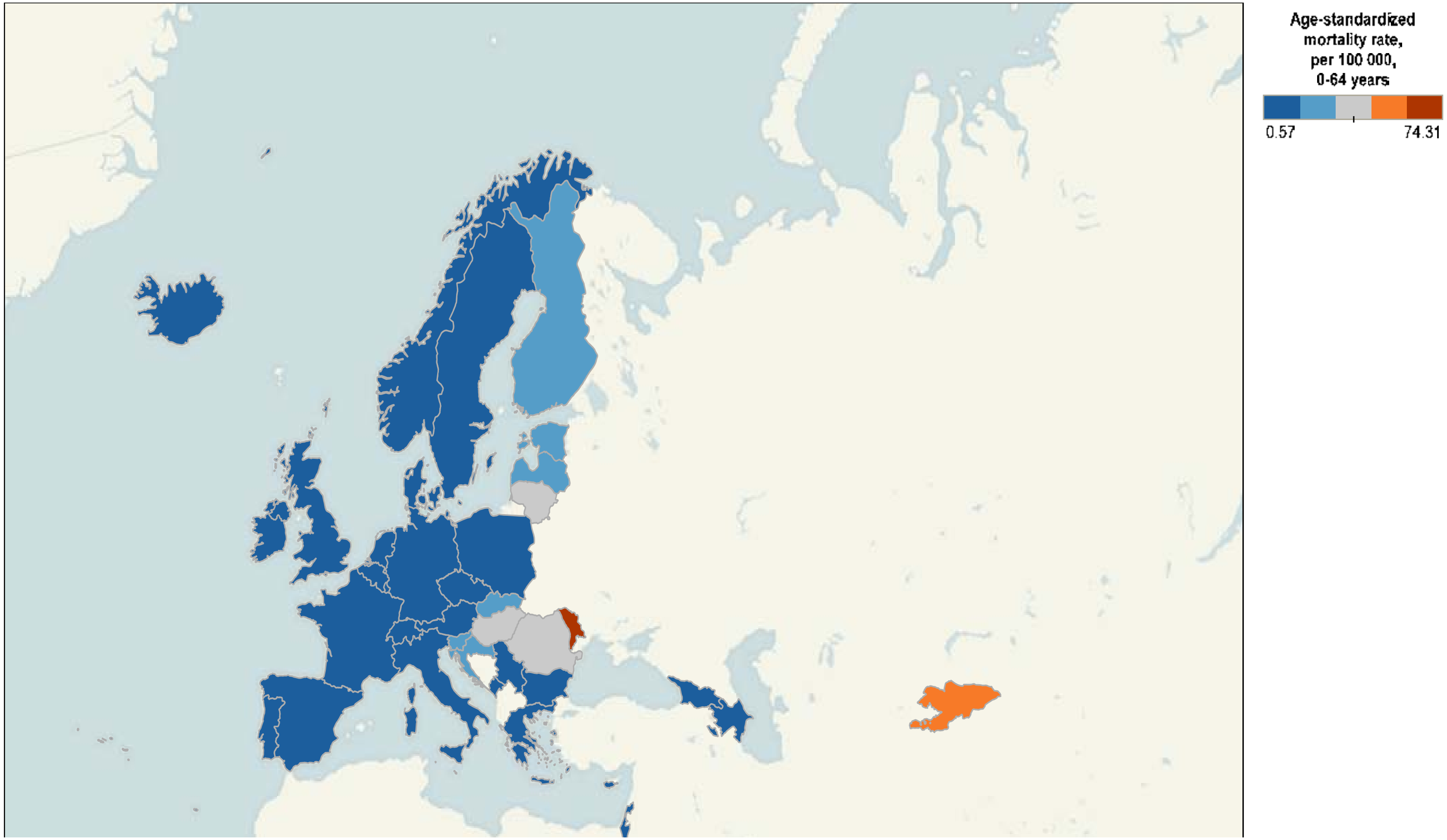
Diabetes is a major public health problem in Europe because of its direct and indirect effects on those with the disease. These range from renal, neurological and ophthalmological microvascular damage to vascular damage of the limbs, brain and heart, with various severe consequences. Diabetes is also an important and frequent risk factor for diseases of the circulatory system, with which it shares some risk factors, such as poor diet, lack of physical exercise and obesity (see the section on risk factors below). Although relatively easy to diagnose, diabetes remains largely undetected in many settings; thus, measures of hospitalization and premature mortality from diabetes are suggested as potential tracer indicators of the performance of health systems *(22)*.

In the European Region, premature mortality from diabetes decreased by 25% from 1995 to 2010, to 4 per 100 000. Countries vary, however, according to the most recent data reported (Fig. 49).

Box 5. Key messages – causes of death

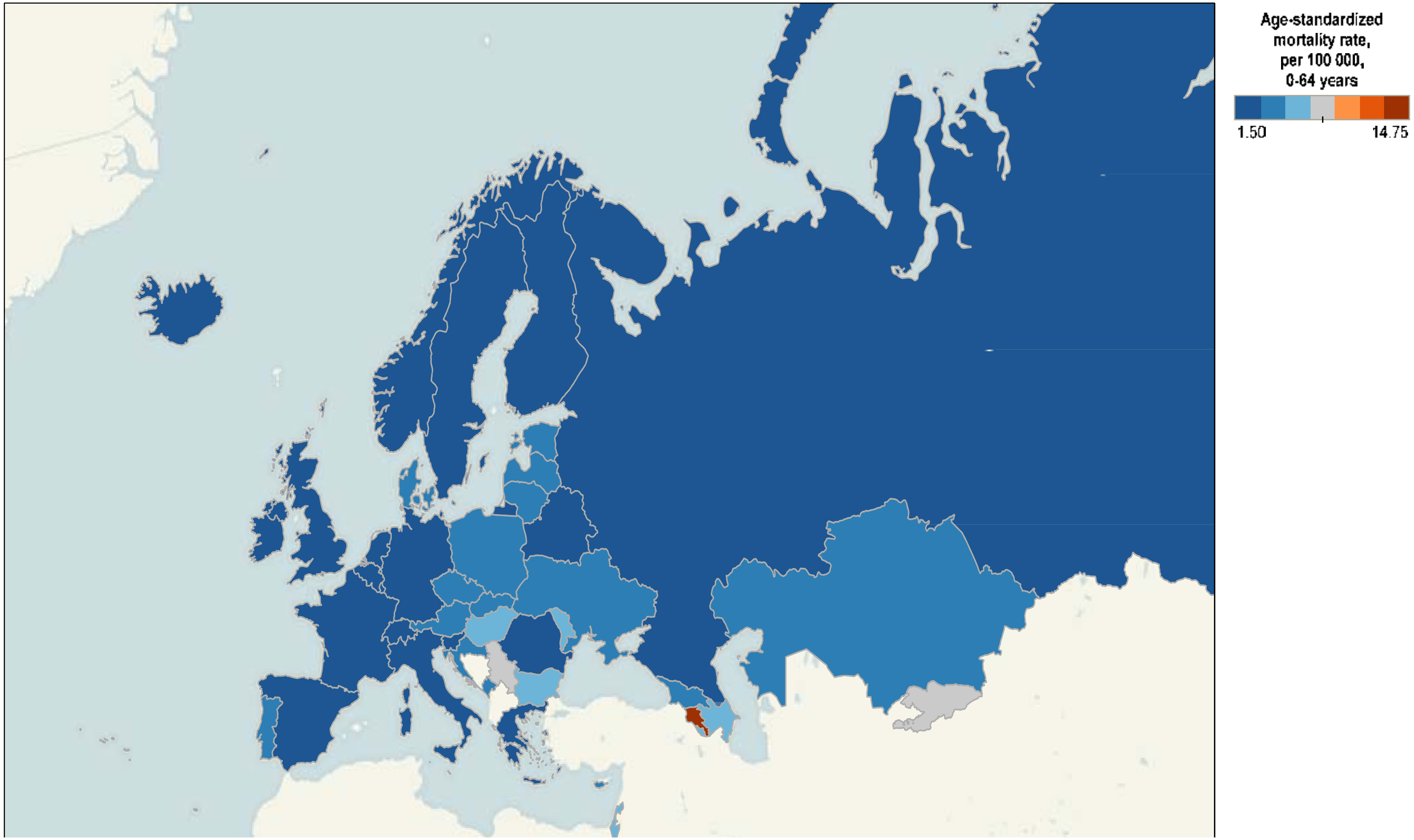
- NCDs account for the largest proportion of mortality in the European Region: 80% of deaths in 2009.
- Diseases of the circulatory system are the most important cause of premature mortality in the Region, accounting for nearly 50% of all deaths. Neoplasms are the second leading cause, accounting for nearly 20%, while external causes of injury and poisoning are responsible for 9%.
- Disease mortality shows changing patterns in various parts of the European Region; it also varies greatly both between countries and by age and sex.
- Since there has been a sustained decrease of mortality from diseases of the circulatory system and an associated increase in life expectancy, the risk of developing cancer – linked to long latency periods – is increasing. Neoplasms have replaced diseases of the circulatory system as the foremost cause of premature death in 28 countries in the Region.
- Primary and secondary prevention, rather than treatment only, are effective measures to reduce premature mortality from diseases of the circulatory system and neoplasms. For those with no effective treatment, prevention is the only way to reduce impact until innovations in medical technology become available.
- Communicable diseases, although occurring less frequently in Europe than the rest of the world, remain high on the health agenda. The main concerns are TB, HIV/AIDS and other sexually transmitted diseases, and viral hepatitis.
- Mortality from infectious and parasitic diseases in the Region has slowly increased since 1990.
- Trend patterns for HIV incidence differ across the Region, with higher rates in some central and eastern countries in the Region. AIDS incidence is decreasing, indicating the importance of effective treatment of people living with HIV.

Fig. 48. Premature mortality from chronic liver disease and cirrhosis in the European Region, last reported data, 2006–2010



Source: European mortality database *(11)*.

Fig. 49.Premature mortality from diabetes in the European Region, last reported data, 2006–2010



Source: European mortality database *(11)*.

Burden of disease – mortality, morbidity and disability

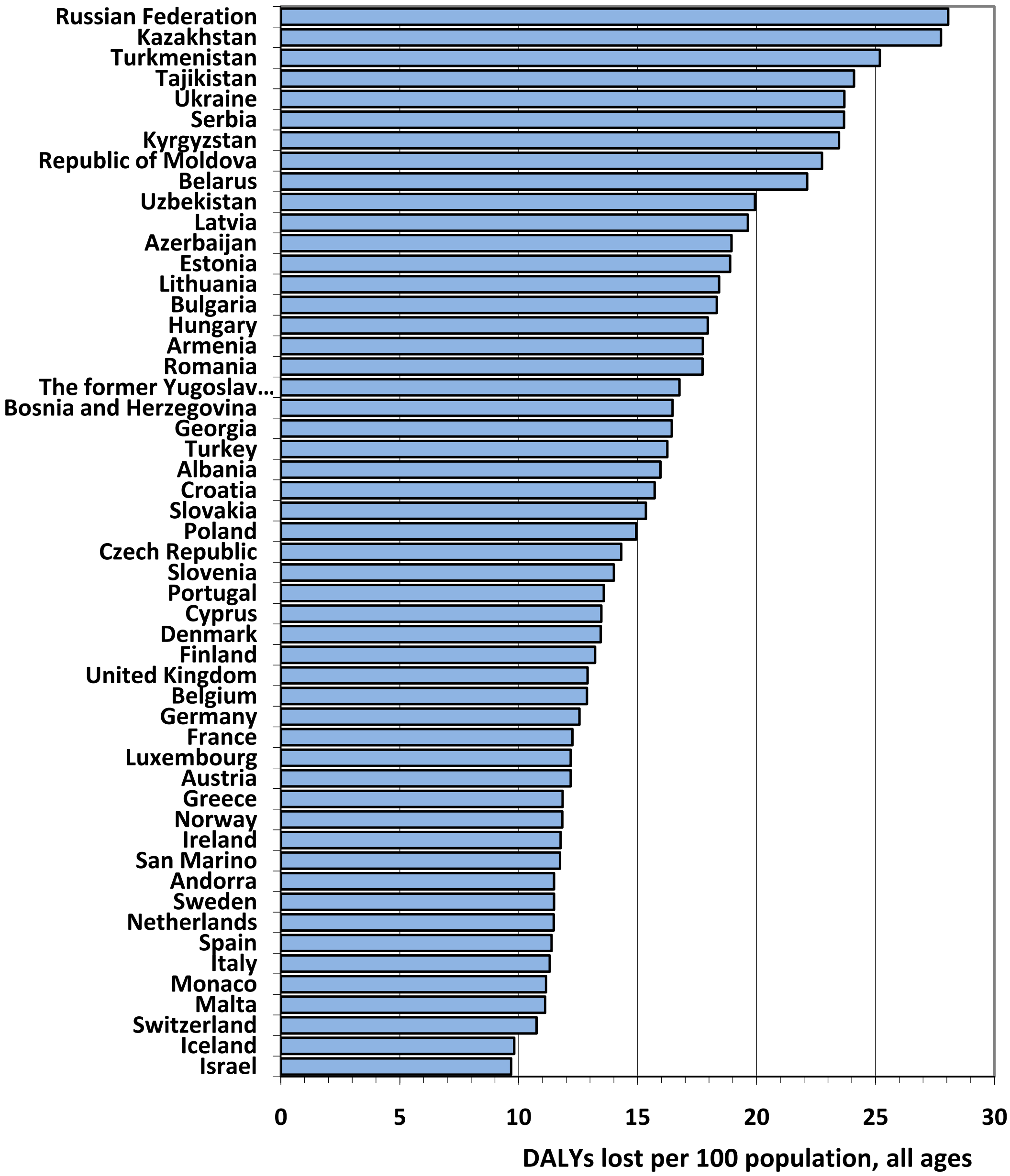
The principle guiding the burden-of-disease approach is that the best estimates of incidence, prevalence and mortality can be generated by carefully analysing all available sources of information in a country or region and correcting for bias. The disability-adjusted life-year (DALY) – a time-based measure that combines years of life lost due to premature mortality and years of life lost due to time lived in states of less-than-ideal health – was developed to assess the burden of disease. As a metric of population health and an input to health policies, the DALY makes clear in the way it is calculated that mortality does not comprise the entire burden of disease, and that morbidity and disability have a significant share *(23)*. Moreover, it is a gap measure, meaning that DALYs are lost from what would be potentially ideal or perfect health, if people did not experience any disease or disability and if death occurred at the highest life-expectancy rates observed in the world.

Two additional considerations make the DALY attractive: as a metric it facilitates cross-country comparisons, and it can be broken down and linked to underlying determinants, risk factors and interventions to assess risk, effectiveness and cost–effectiveness (efficiency). The distribution of DALYs lost or saved can also guide analysis from an equity perspective. Together, this information can contribute to priority setting and increase national or regional evidence on what interventions can avoid the greatest loss of DALYs.

The distribution of the European Region’s total burden of disease for 2004 shows a range of10–28 estimated DALYs lost per 100 population, depending on the country: this represents an almost threefold gap between the best country situation and the least favourable one (Fig. 50). Men lost about 20% more DALYs than women.

Projections of DALYs lost are another input to health policy and priority setting. To allow comparisons of estimates reflecting data from 2004 and projected numbers of DALYs lost for three time periods (2008, 2015 and 2030), data are presented for major causes and countries are clustered by their level of income (Fig. 51).

Fig. 50. Total DALYs lost per 100 population in countries in the European Region, 2004



Source: adapted from *The global burden of disease: 2004 update (23)*.

The data highlight several points. First, the overall number of DALYs lost is twice as high in low- and middle-income countries as in high-income countries in the European Region. This means that the former account for about two thirds of DALYs lost, but only just over half of the Region's population. (See Annex 1 for classifications of countries by income in the European Region.)

Besides the magnitude, the pattern of the disease burden differs by country income: low- and middle-income countries have high rates of diseases of the circulatory system followed by neuropsychiatric disorders, while high-income countries have high rates of neuropsychiatric disorders followed by malignant cancer and cardiovascular diseases. Cancer accounts for a similar number of DALYs in both groups. With the exception of an expected increase in infectious and parasitic diseases and no change in cancer in low- and middle-income countries, the burden of disease will tend to decrease for all causes. Projections estimate that the levels of decrease will be smaller between 2008 and 2015 and larger between 2015 and 2030, particularly in high-income countries.

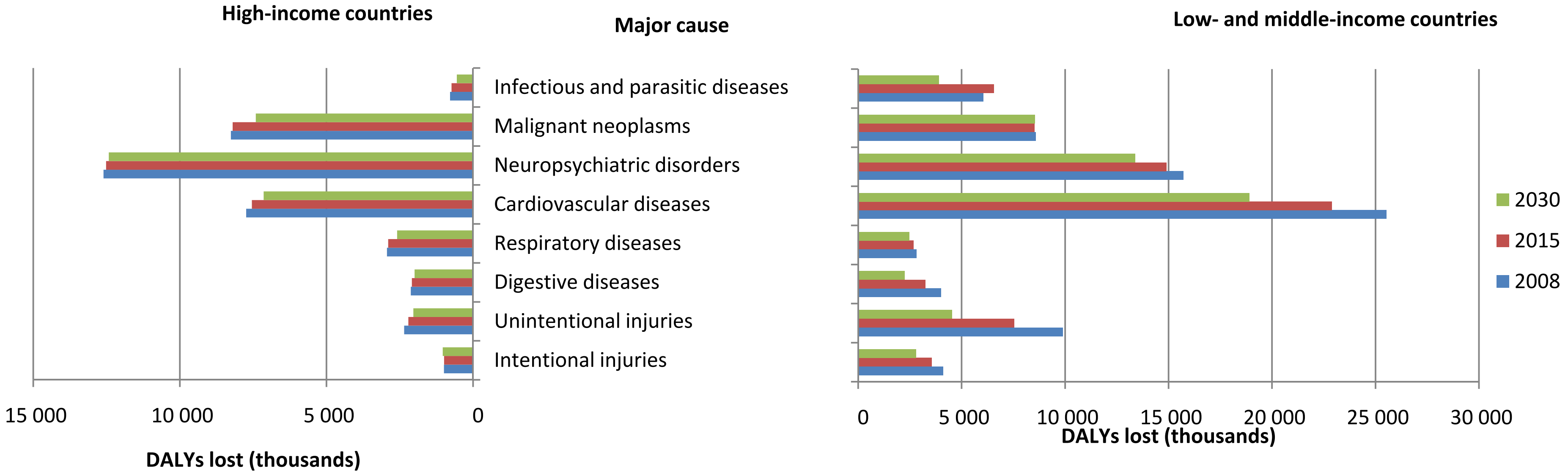
Further, the total number of DALYs lost has been attributed to different leading risk factors in the European Region (Fig. 52). As a result, it is possible to identify the most important areas for developing cost-effective interventions to address, for example, nutrition, physical activity and addictive substances, mainly to reduce overweight and obesity, high cholesterol and high blood pressure, and alcohol and tobacco use. Further work to combine cost–effectiveness analysis with approaches to consider the distribution of services and benefits across the population, including particular subgroups, would also highlight equity issues (see the section on risk factors below).

Although methods are constantly being refined, collating and analysing these types of data at the national, regional or global level can help to build up causal or pathway models for a given disease or set of diseases. Such models can provide insight into areas and levels for intervention and make it possible to identify actions that require intersectoral participation to reduce the overall disease burden, not just mortality.

Box 6. Key messages – burden of disease

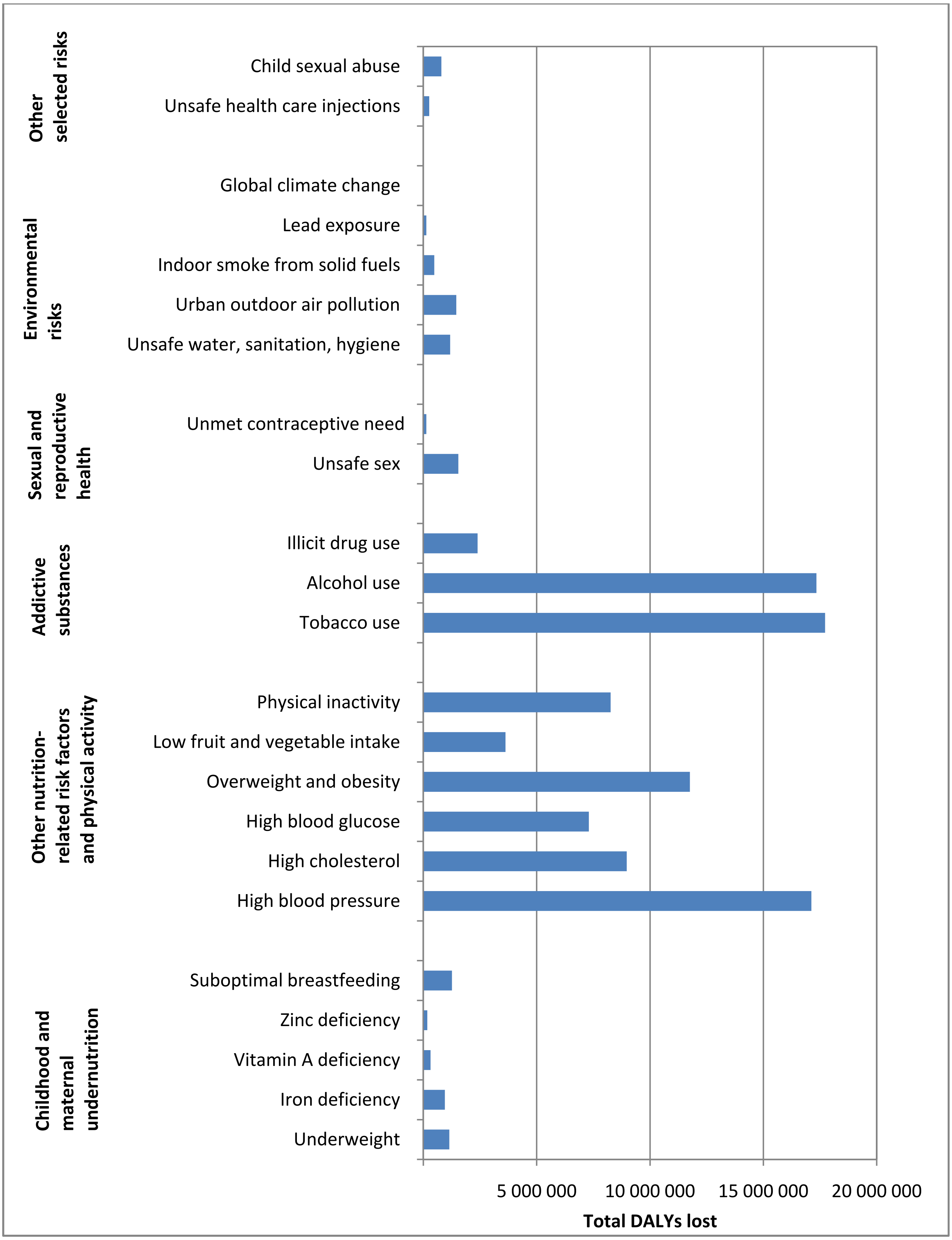
- Mortality does not account for all the burden of disease; morbidity and disability also have their share. The use of DALYs as a tool for assessing health status beyond mortality provides another focus in the evaluation process.
- The European Region's total burden-of-disease distribution for 2004 shows a range of 10–28 estimated DALYs lost per 100 population.
- The burden of disease is unevenly distributed within the Region: the overall number of DALYs lost is twice as high in low- and middle-income countries as in high-income countries.
- DALYs have been attributed to leading risk factors in the European Region, making it possible to identify key areas for intervention, such as nutrition, physical activity and addictive substances, mainly to reduce overweight and obesity, high cholesterol and high blood pressure, and alcohol and tobacco use.

Fig. 51.Projected DALYs lost, 2008, 2015 and 2030 in countries in the European Region, by major cause and income level



Source: The global burden of disease: 2004 update (23).

Fig. 52. Attributed DALYs lost by risk factor in the European Region, 2004



Source: *Global health risks: mortality and burden of disease attributable to selected major risks (24).*

Risk factors

An important element of disease prevention and control and health promotion is an understanding of the underlying causes, including risk factors, health system determinants and broader socioeconomic determinants (such as the social determinants of health) that shape the level and distribution of disease. For the major groups of diseases causing high mortality, morbidity and disability analysed in the previous sections, two main risk factors contribute to multiple disease outcomes and thus remain a priority to tackle: tobacco smoking and harmful alcohol consumption. From a European perspective, their prevalence and levels remain high across all populations, in spite of the knowledge and technology available to address both.

Tobacco smoking

The prevalence of regular tobacco smoking (the main component of tobacco use) in the European Region among the population aged 15 years and over has reached 27% on average (Fig. 53), according to data reported from 37 countries around 2008. In general, twice as many men smoke as women. Nevertheless, trends indicate that prevalence among women is increasing and beginning to converge with that among men (data not shown), particularly in countries with levels around or below the European average for men.

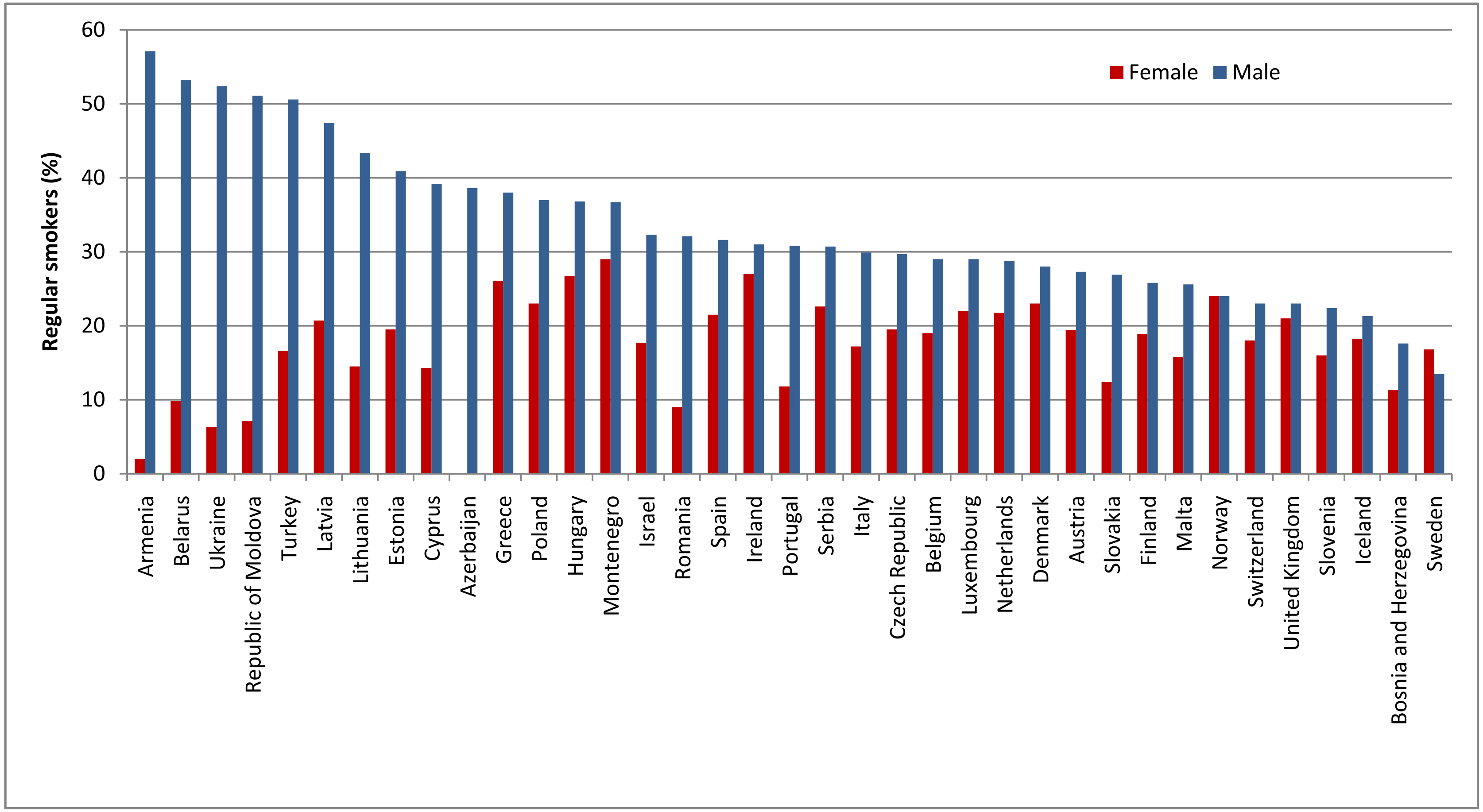
Tobacco affordability, as determined by prices, can help to increase prevalence: higher smoking prevalence is associated with lower cigarette prices. Data from across Europe document that cigarette prices range from US$ 1 to over US$ 10 per pack *(25)*. Addressing the aggressive marketing of tobacco products to young people, women and people with lower socioeconomic status requires equally aggressive and coordinated health policies, including those outlined in the WHO Framework Convention on Tobacco Control *(26)*, ratified by 168 countries worldwide. In the European Region, 47 countries and the European Commission are Parties to the Convention.

Alcohol consumption

Alcohol consumption is another important factor that determines the frequency and severity of illness; it accounts for nearly 6.5% of all deaths in Europe *(27)*. Estimated per capita alcohol consumption in the European Region remained almost unchanged over the past decade, with an average of 10.6 litres per person in 2007 (Fig. 54), according to data from 48 countries. Nevertheless, estimated average consumption levels vary significantly between countries, from 21 litres to less than 0.5 litres per person.

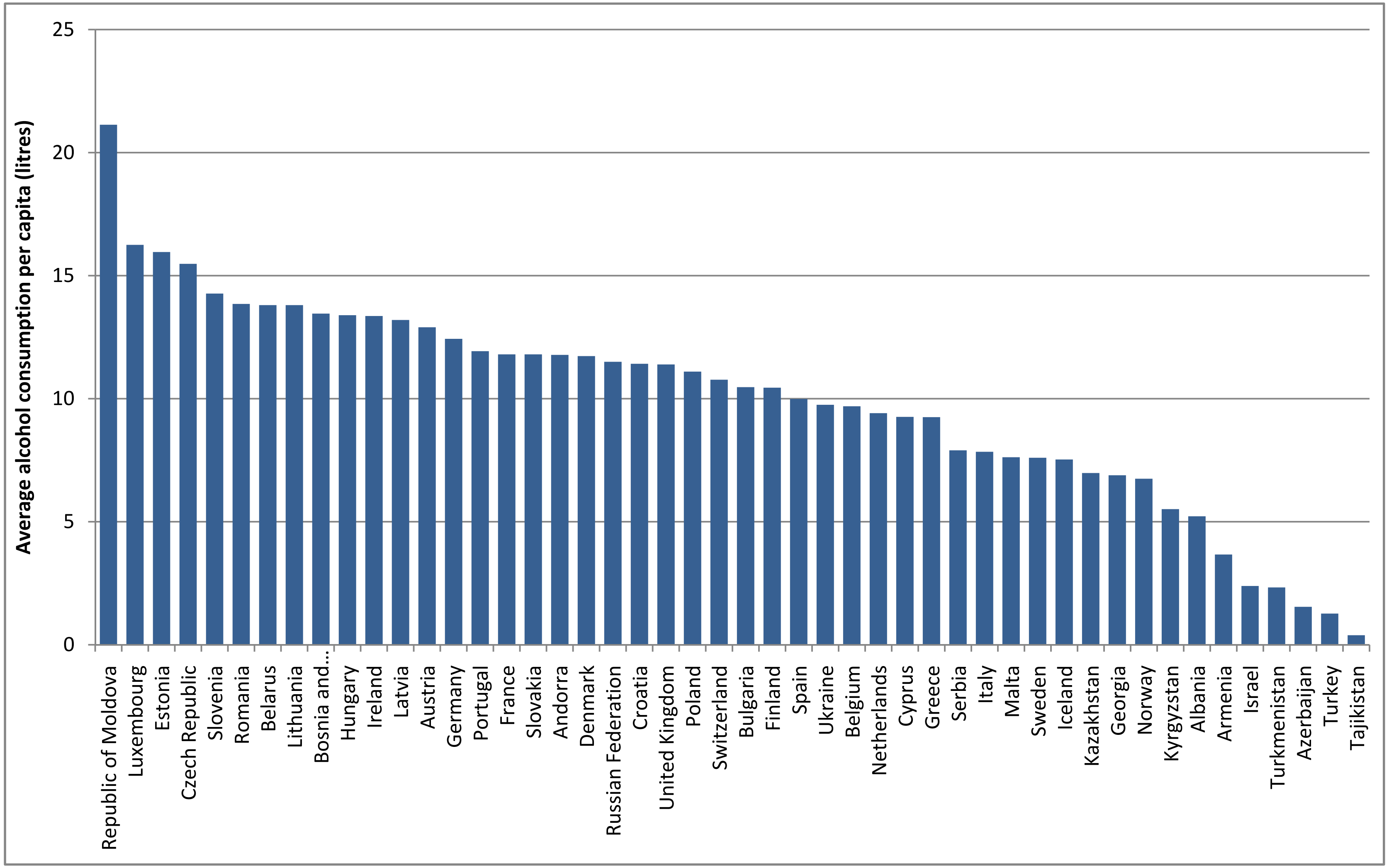
Not only the volume but also the type of alcohol consumed matters, as the higher the level of alcohol content consumed, the greater the negative health effects. Across the Region, the consumption of beer, wine or spirits varies. Countries with a higher level of spirits consumption also have a higher burden of alcohol-related diseases. As with tobacco use, socioeconomic determinants and alcohol affordability shape excessive alcohol use and binge drinking – defined as heavy (>50 g alcohol) episodic weekly drinking –which has a well-documented negative impact on health *(28)*. Data from individual countries show that the frequency of binge drinking tends to be inversely associated with the price of alcohol. Evidence from across Europe shows that an increase in diseases of the circulatory system and premature mortality can be attributed to very high consumption of alcohol and binge drinking patterns (*29,30*). For example, a recent study notes that when alcohol prices were reduced – similar to lifting other restrictions on access and use – alcohol-related deaths among adults aged 40–69 years increased by 17–40% *(31)*. According to information collected from across the European Region, successful policy approaches to reducing the deleterious effects of harmful alcohol consumption require a concerted effort involving and aligning several sectors, including the health sector, towards a common objective.

Fig. 53. Prevalence of regular smokers among the population aged 15 years and over in countries in the European Region, by sex, last reported data, 2006–2010



Source: European Health for All database *(6)*.

Fig. 54. Average alcohol consumption per capita among the population aged 15 years and over in countries in the European Region, last reported data, 2006–2010



Source: European Health for All database *(6)*.

Environmental factors

Differential access or exposure to diverse environmental factors over the course of people's lives is known to determine the occurrence of major health problems – including cardiovascular, respiratory and digestive diseases and neoplasms, as well as external causes of death – and to affect the severity of morbidity and disability. Various factors contribute directly or indirectly to shaping the health profile and disease burden of a population for good or ill:

- access to clean water and good sanitation services;
- poor housing conditions (such as dampness, poor indoor air quality and overcrowding);
- road safety (such as road and vehicle conditions, use of protective equipment and speed limits);
- poor air quality (from, for example, pollution with particulate matter, gases, toxic fumes and moulds);
- work environments (including employment conditions and occupational risks); and
- extreme climate conditions (whether heat or cold).

Information on pathways from environmental factors to disease impact, and on measures of level and distribution, is vital to improve policies and monitor and evaluate their effects.

A brief discussion of issues relating to monitoring and interpreting data on air quality, for example, hints at the impact such factors can have. Air quality is an important element for good human health and well-being, and extends beyond national borders. Yet air pollution continues to pose a significant threat to health in the European Region. As evidence on the health effects of air pollution mounts, countries across the Region are taking a greater interest in improving their monitoring procedures. As a result, data are increasingly available on concentrations of particulate matter – one of the basic air quality indicators – and its negative effects on health.

With better information, policies and guidelines can be proposed, discussed, refined and implemented. For example, WHO *(32)* suggests a guideline value for particulate matter with an aerodynamic diameter smaller than 10 microns (PM_{10}) at an average annual exposure of 20 µg/m^3, as this is associated with potentially increased environmental health risk. Nevertheless, some negative health impacts on respiratory and circulatory system diseases have been observed in Europe at lower average exposure levels (10 µg/m^3) *(33).*

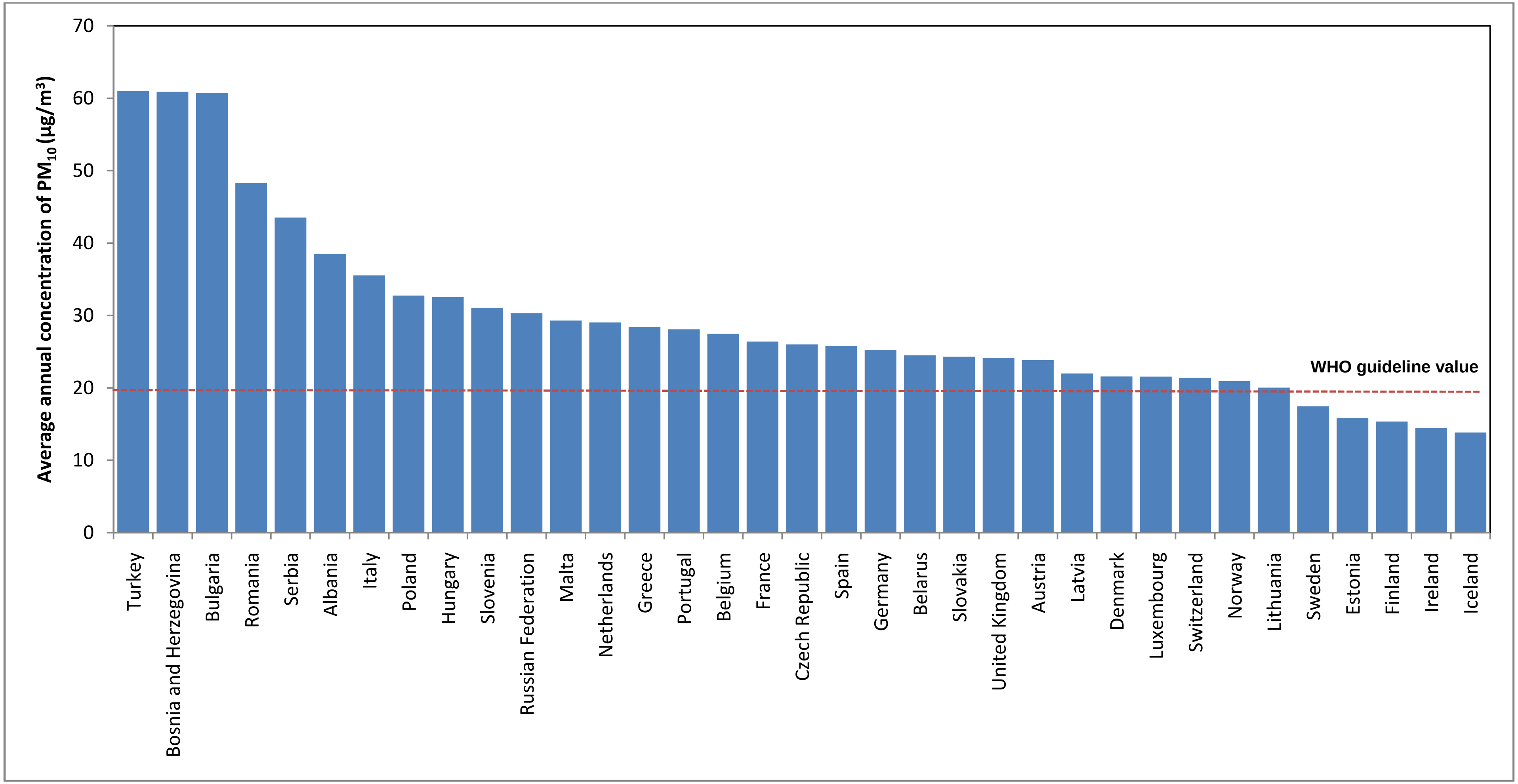
Air quality varies across the European Region, with the median value for country PM_{10} observed in 2006–2009 at 26 µg/m^3, which exceeds the WHO guideline value. Data indicate a fourfold gap in PM_{10}exposure between countries, from a low of 14 µg/m^3 to a high of 61 µg/m^3 (Fig. 55). Of the 35 countries with available data, 80% showed levels exceeding the standard threshold, while 15% had values at least double the standard level. Although specific to EU Member States, a recent report on the impact of air pollution on population health indicates that air pollution accounts for on average eight months and, in the most polluted cities, more than two years of life lost *(34)*. One should note that available country data from across Europe provide measurements from capitals or large cities (urban outdoor air pollution) and thus may overestimate the level of poorer air quality to which the entire population in a country is exposed.

The data in this section show some of the most important risk factors, but give only a few examples of the complexity of interactions between a range of risk factors, disease processes and effects on health in Europe. These processes are further shaped by interactions with broader social determinants of health that can either mitigate or exacerbate inequalities in health, as discussed in the following sections.

Box 7. Key messages – risk factors

- Two of the main risk factors for major diseases are well known: tobacco smoking and harmful alcohol consumption. Various intersectoral interventions to modify them are available.
- Although diverse tobacco control strategies have been implemented in many countries, smoking prevalence in the population aged 15 years and over reached 27% around 2008. An important factor that tends to affect smoking prevalence is affordability (cigarette prices).
- According to WHO estimates, alcohol consumption accounts for nearly 6.5% of all deaths in Europe. As with tobacco, the affordability and accessibility of alcohol are important determinants of alcohol consumption, particularly the more seriously health-threatening binge drinking.
- Differential access or exposure to diverse environmental factors over the course of a lifetime is a risk factor for major health problems. For example, air quality varies across the European Region, with the median value for country PM_{10} at 26 µg/m^3, exceeding the WHO guideline value of 20 µg/m^3.

Fig. 55. Average annual air concentration of PM_{10} in large cities in countries in the European Region, last reported data, 2006–2009



Source: European Health for All database *(6)*.

Social determinants and health inequalities

Inequalities in health imply a difference or a disparity either in access to health-promoting opportunities and health services or in the distribution of disease burden (including morbidity, disability and mortality) and positive health in the context of well-being. These differences can reflect biological or genetic factors: for example, men are usually taller than women. Health inequities are differences in health that are unnecessary, avoidable, unfair and unjust *(35)*. Health inequities are found across countries and between different groups of people in the same country. Evidence shows that factors driving health inequities are systematic and not distributed randomly.

The WHO Commission on the Social Determinants of Health (CSDH) defines health equity as “the absence of unfair and avoidable or remediable differences in health among population groups defined socially, economically, demographically or geographically” *(36)*. Numerous studies summarized by CSDH conclude that some of the variations in health across countries or within populations can be identified as health inequities. A proportion of these differences – from 25% to 75% depending on the condition – is due not only to physical health factors but also increasingly to social factors that are amenable to policy. The CSDH report agrees that health inequities mostly point to policy failure, reflecting unfair or unjust disparities in daily living conditions and in access to power, resources and participation in society.

As CSDH found, further supported by a recent report from the WHO Regional Office for Europe *(37)*, the underlying causes of health inequities are complex. Moreover, inequalities often reflect systematic social, political, historical, economic and environmental factors; these interface with biological factors that are accumulated during a lifetime and often transferred across multiple generations. The term “social determinants” is often used as shorthand for all these factors, which are also known as the “causes of the causes” to indicate their fundamental influence on disease causation and distribution of health within a population or across countries. Moreover, the health system itself is a social determinant of health, as it can either improve or exacerbate existing health inequities. The concept encompasses the full set of social conditions in which people live and work, and has been summarized as “the social characteristics within which living takes place” *(38)*.

In this context, health inequities are an important priority in the European Region. They continue to increase and take many forms, from lack of access to health services to excess premature mortality, hampering social development and well-being. Prerequisites for tackling health inequities include being appropriately informed about their magnitude and distribution, both absolute and relative, and understanding how pathways from social determinants, other intermediary factors and health systems affect the disease burden, health and well-being.

Socioeconomic determinants

Income level, employment status and education attained are among the most important social determinants of health, which in turn influence many other intermediary determinants. The gross domestic product (GDP) per capita is commonly used as a measure of income in a country in a given year, and is often positively correlated with the standard of living.

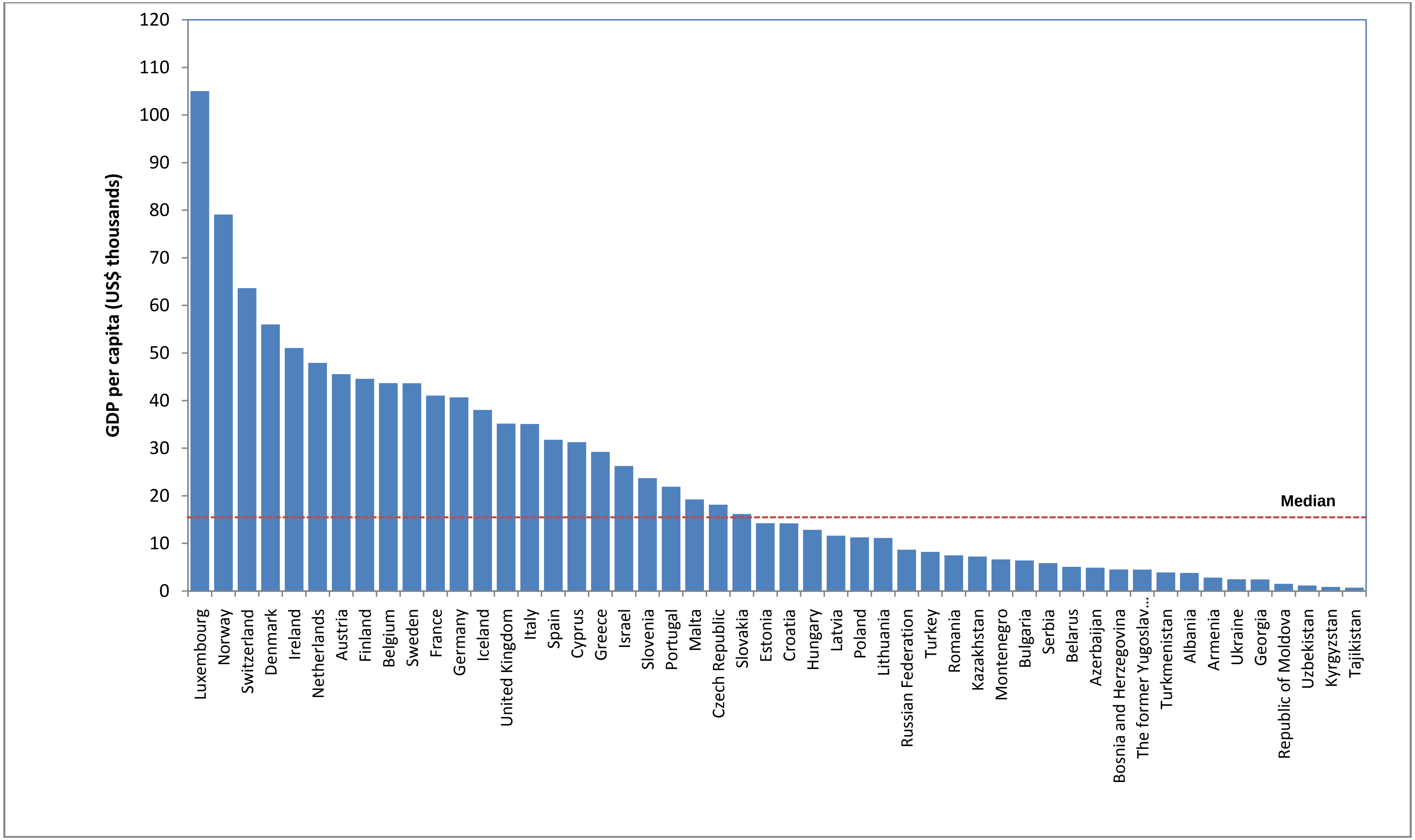
Overall, the European Region is one of the wealthiest in the world, with an annual average per capita income of just under US$ 24 000 in 2009. Although increasing across the entire Region since 1990, data from 50 of the 53 countries in the European Region indicate that per capita income levels vary widely: from just under US$ 700 to just over US$ 105 000 (Fig. 56).

Nevertheless, improvements in income levels seen in the past decades are challenged by the current economic downturn, which is affecting most European countries and has many effects still to be assessed. Moreover, average per capita income does not provide insight into the evolving distribution of income within a country, such as whether income levels and distribution between subgroups in a population are becoming more or less equitable.

The strong association between average per capita income and mortality levels is well established. Fig. 57 highlights one such example: premature mortality from diseases of the circulatory system. In countries with per capita income levels below US$ 20 000, mortality rates for diseases of the circulatory system exceed the European average, and tend to increase rapidly with lower income. This suggests an important health inequality that deserves greater attention in understanding the causal pathways and social processes that have led to or maintained such mortality rates. Another factor to consider is the extent to which such underlying causes can be considered health inequities. Further, decreasing income and increasing disease burden represent an important challenge because of the scale of the disease burden, and its negative impact on current and future economic development.

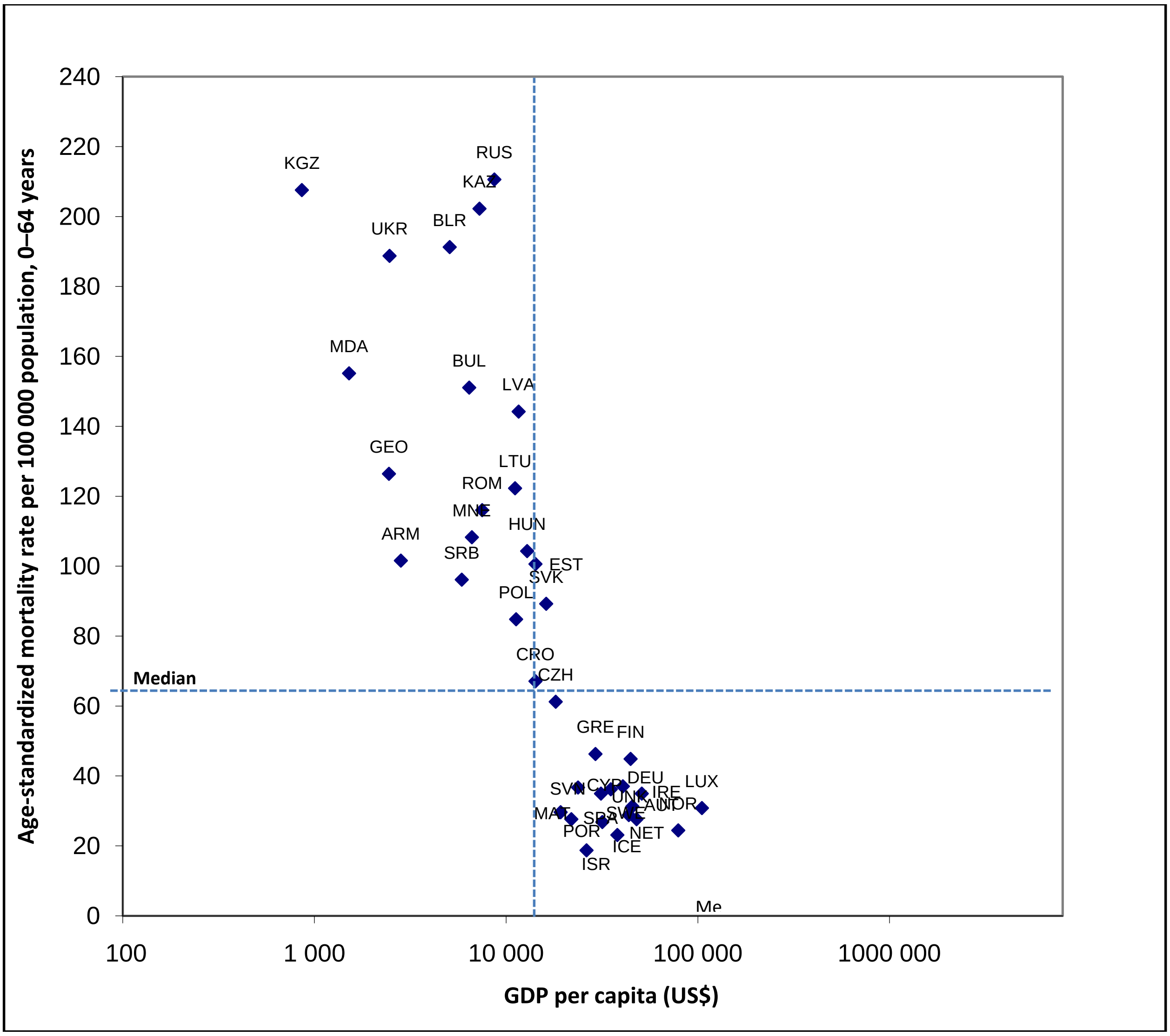
Various mortality indicators show similar patterns of health inequalities across the EU. One is “amenable mortality”, which measures deaths that are premature and essentially avoidable by various known public health and health care interventions; this identifies inequity in health and can be an indicator of health systems’ performance. The approach to amenable mortality in the EU illustrates one way to document important health inequalities in the Region, consider associated factors and explore whether the differences are potentially avoidable. For example, analysis shows disposable income (the amount of money an individual or household has to spend or save: in other words, net income after paying all taxes or other mandated social charges) is associated with the occurrence of amenable mortality: the lower the disposable income, the higher the mortality.

Fig. 56. GDP per capita in countries in the European Region, 2009



Source: European Health for All database *(6)*.

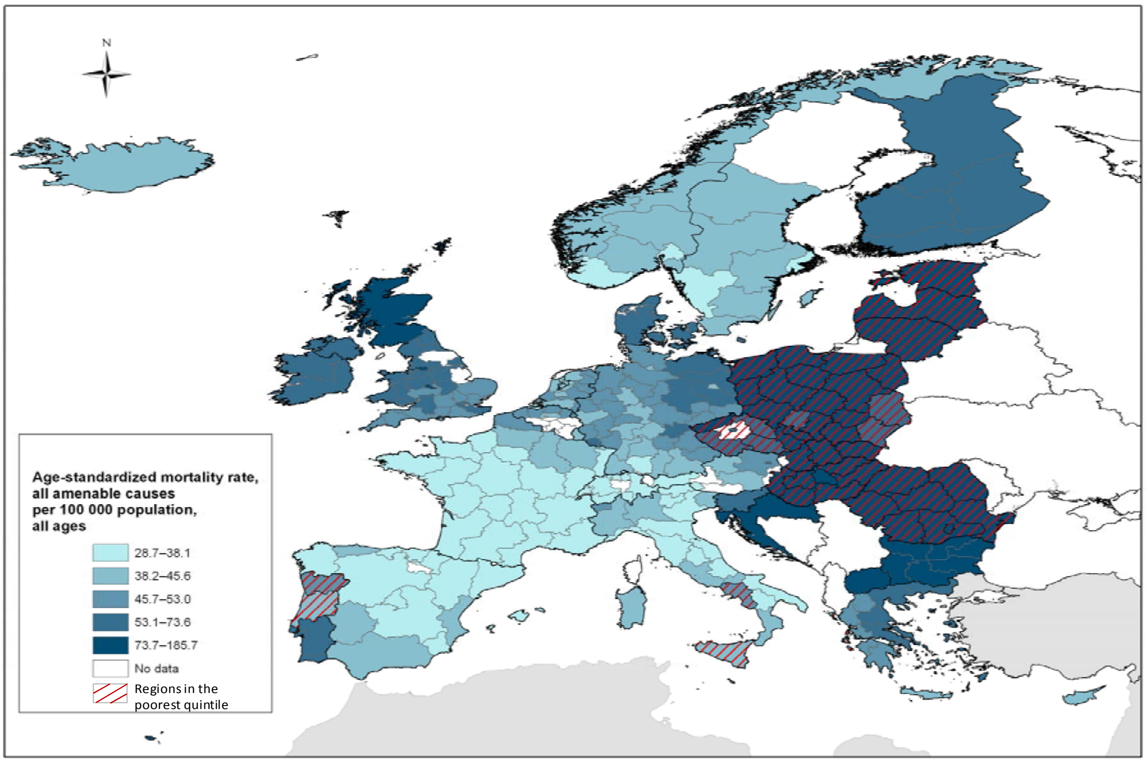
Fig. 57. Premature mortality from diseases of the circulatory system and GDP per capita in countries in the European Region, last reported data, 2006–2009



Source: European Health for All database *(6)*.

Approaches that enable health inequalities to be visualized can provide further insights. In 2007 the WHO Regional Office for Europe undertook a project with the European Commission called "Inequalities in health system performance and social determinants in Europe – tools for assessment and information sharing" *(39)*, which developed a set of interactive atlases to improve the evidence base for identifying and analysing social inequalities in health *(39)* (see Box 10 in Chapter 2). Rather than aggregated data at the national level, the project looked at the data from the 281 subnational regions of the EU. Mapping data on amenable mortality (from all causes) for each of these regions shows a geographical gradient, with higher death rates in the eastern and north-western parts of the EU, although some regions in other areas also have high mortality rates (Fig. 58). The superimposed hatching in Fig. 58 marks the EU regions in the poorest quintile (the 20% of the 281 regions with the lowest per capita income). This additional layer tends to validate the association with higher avoidable mortality. Nevertheless, some poorer regions have relatively low mortality levels. This requires additional investigation and research to identify other potential explanations. For example, what characteristics of these regions enable them to mitigate the effects of being relatively poorer, and to achieve lower amenable mortality? Are these characteristics related to policies and their effective implementation, involving, for example, a range of stakeholders, intersectoral action or effective public health functions? An understanding of the context, good practices and lessons learned could allow new policy options and strategies to be adapted and introduced in other resource-poor settings.

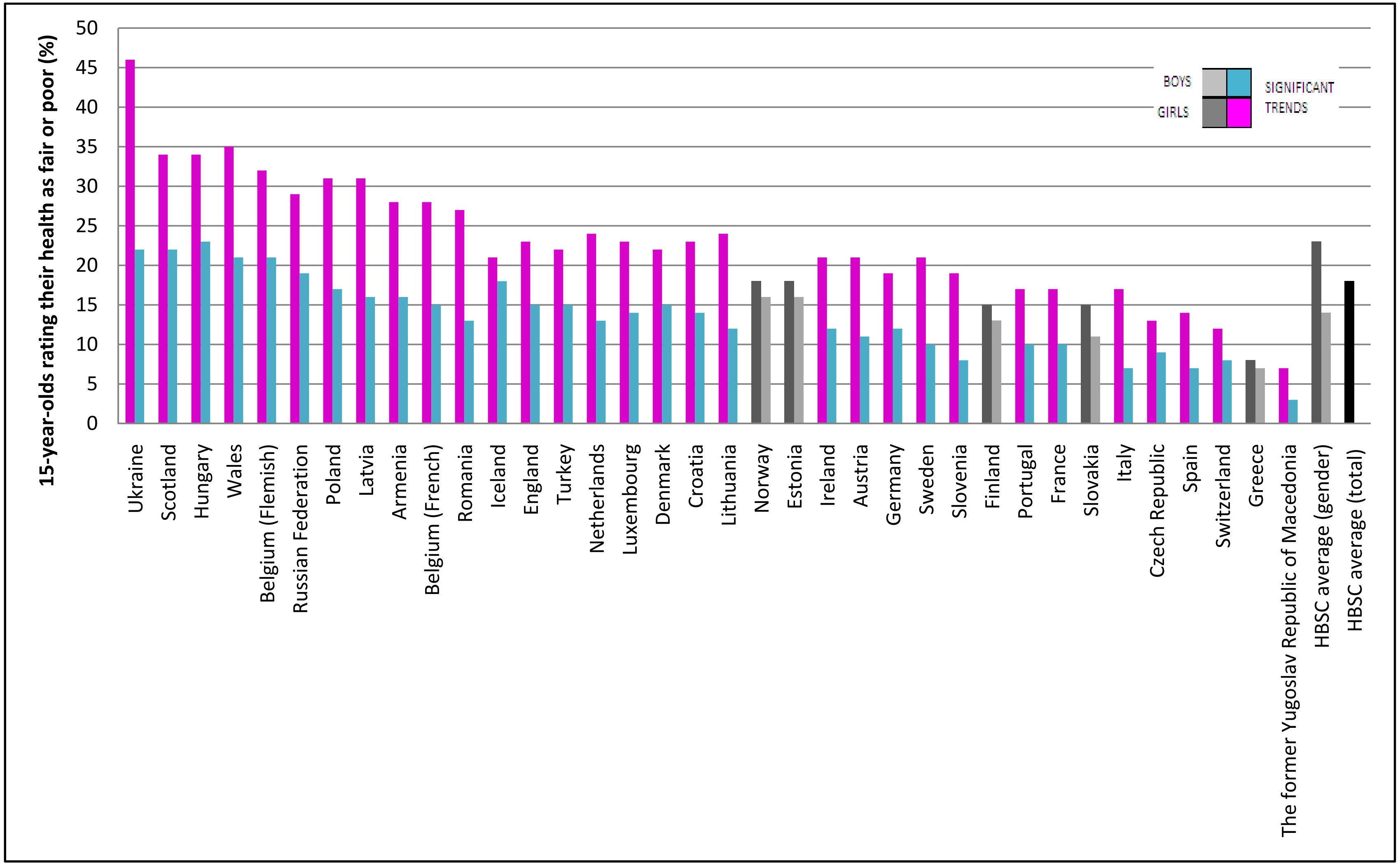
Fig. 58. All-cause amenable mortality by subnational regions of the EU and neighbouring countries, around 2006

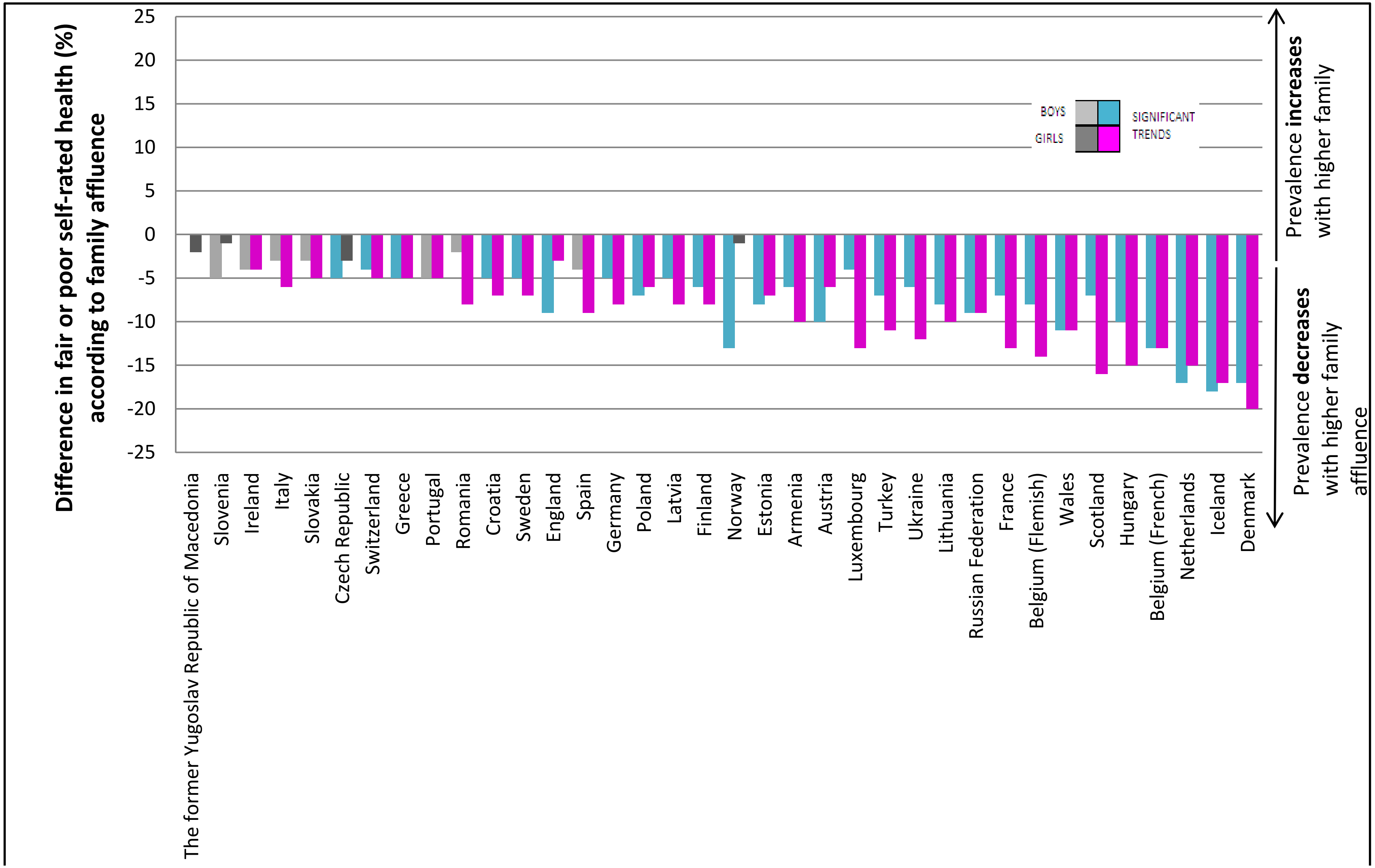


Source: Inequalities in health system performance and social determinants in Europe [web site] *(39)*.

The most recent report of the Health Behaviour in School-aged Children (HBSC) study *(40)* offers another example of how social determinants can shape the distribution of health. This multicountry study included 15-year-olds’ assessment of their own health status (as excellent, very good, good, fair or poor) and analysed those reporting fair or poor health by sex, by family affluence and across countries (Fig. 59). While nearly 20% of 15-year-olds rated their health as fair or poor, girls reported significantly lower levels of self-rated health than boys (on average, 23% and 14%, respectively), a consistent difference in all participating countries. In addition, 15-year-olds in affluent families were 20% less likely to report fair or poor health.

Fig. 59. Self-rated health of 15-year-olds in countries in the European Region, by sex and family affluence, 2009/2010





Source: Currie et al. *(40)*.

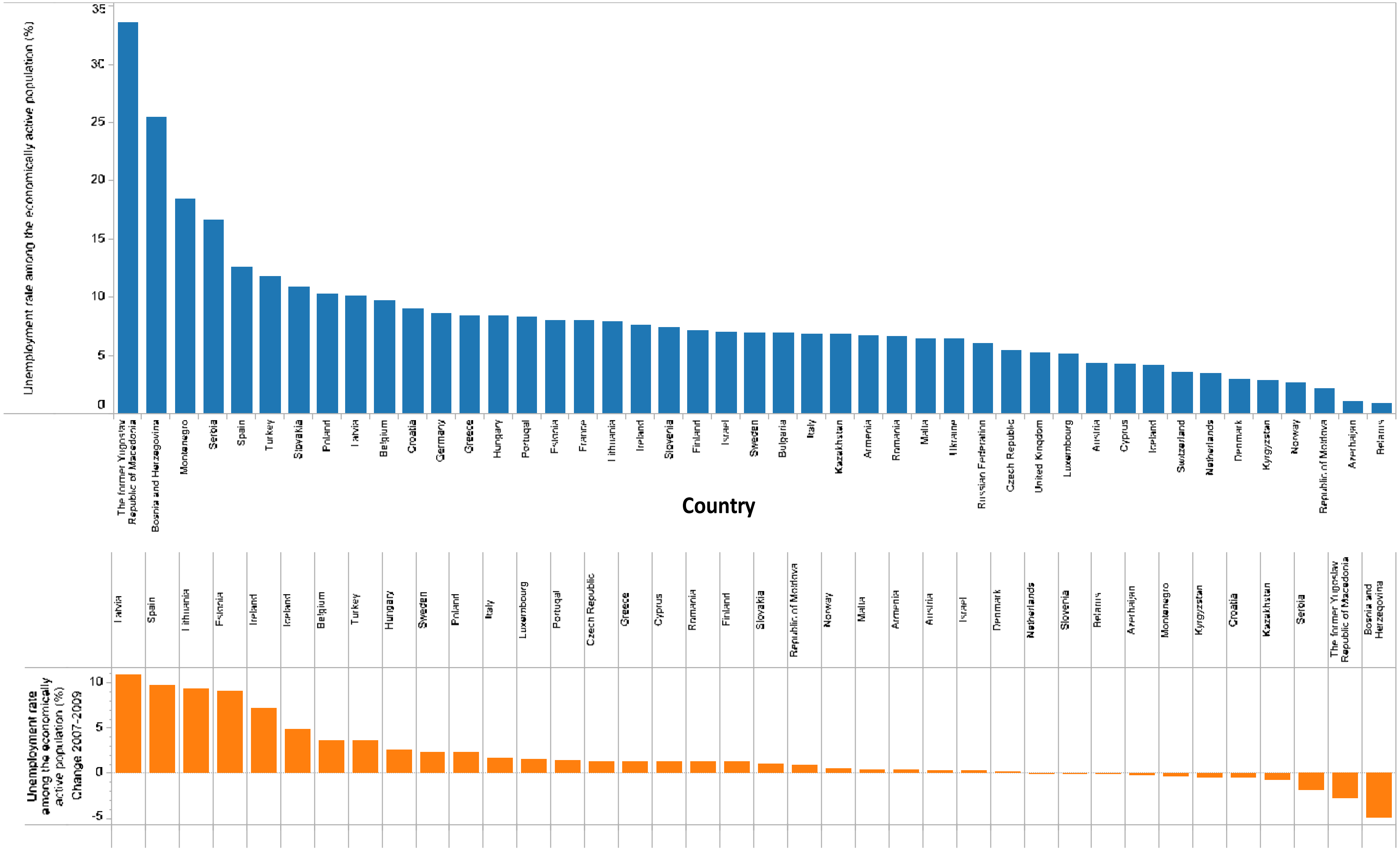
The overall results point out that perceived relative differences in wealth are associated with self-reported health across Europe, as well as, most likely, gender norms and roles. This draws attention to the apparent concentration of lower levels of self-reported health among adolescent girls in less affluent families. The importance of and challenges in measuring self-reported health within the context of well-being are further addressed in Chapter 3.

Unemployment is an indicator that directly reflects the economic opportunities and ability of a country to incorporate its potential workforce, and an important social determinant of health. During the recent economic downturn, unemployment increased to an average level of 8.7% of the economically active population in the European Region in 2009. This followed a decade of decreasing unemployment levels across the Region. At the country level, the highest unemployment level across 45 countries in the Region is 35 times the lowest level (Fig. 60).

Acute economic changes, measured by the unemployment-rate change, provide further insight into the potential impact on the health and well-being of populations, and add to the discussion on potential contributing factors to external causes of mortality (see Fig. 38). For example, an increase in unemployment of over 3% in a relatively short time has been associated with a nearly 5% increase in suicide and self-inflicted injuries among people younger than 65 years *(41)*. Between 2007 and 2009, the average unemployment rate in the European Region increased by nearly 1%, with significant variation across the 38 countries reporting data (Fig. 60). Although unemployment is a blunt indicator, based on recent trends and synthesized evidence, countries with increases of 3% and more are at potentially higher risk of increased mortality from self-harm.

Rising unemployment threatens to pose additional challenges to health systems, including ensuring appropriate services for more vulnerable or poorer population groups. The increased frequency of some health problems may result from additional stress, the adoption of unhealthy behaviours (such as tobacco smoking and abuse of alcohol and other substances) and inadequate health care resulting from overburdened services and delays in seeking care. Moreover, people who want to work yet cannot find it are also at risk of being excluded from a range of other social processes, depending on the context. Regular monitoring of these and other trends should be encouraged, using a whole-of-the-gradient approach, in which the entire population is monitored, not just vulnerable groups.

Fig. 60. Rate of and change in unemployment among the economically active population in countries in the European Region, last reported data, 2007–2009



Source: European Health for All database *(6)*.

The health determinants discussed and ways to identify health inequities are only illustrative, given the wide range of potential social determinants of health. Although policy options and actions to reduce health inequities are beyond the scope of this report, systematic and coordinated actions are clearly required, ranging from prioritizing the needs of people with vulnerabilities to addressing the well-being of future populations. Such actions can be categorized as promoting health across all population groups in relation to need, and improving the social determinants of health. Actions for the latter usually lie outside the specific remit of the health sector or health system, but the health sector can champion and contribute significantly to aligned efforts.

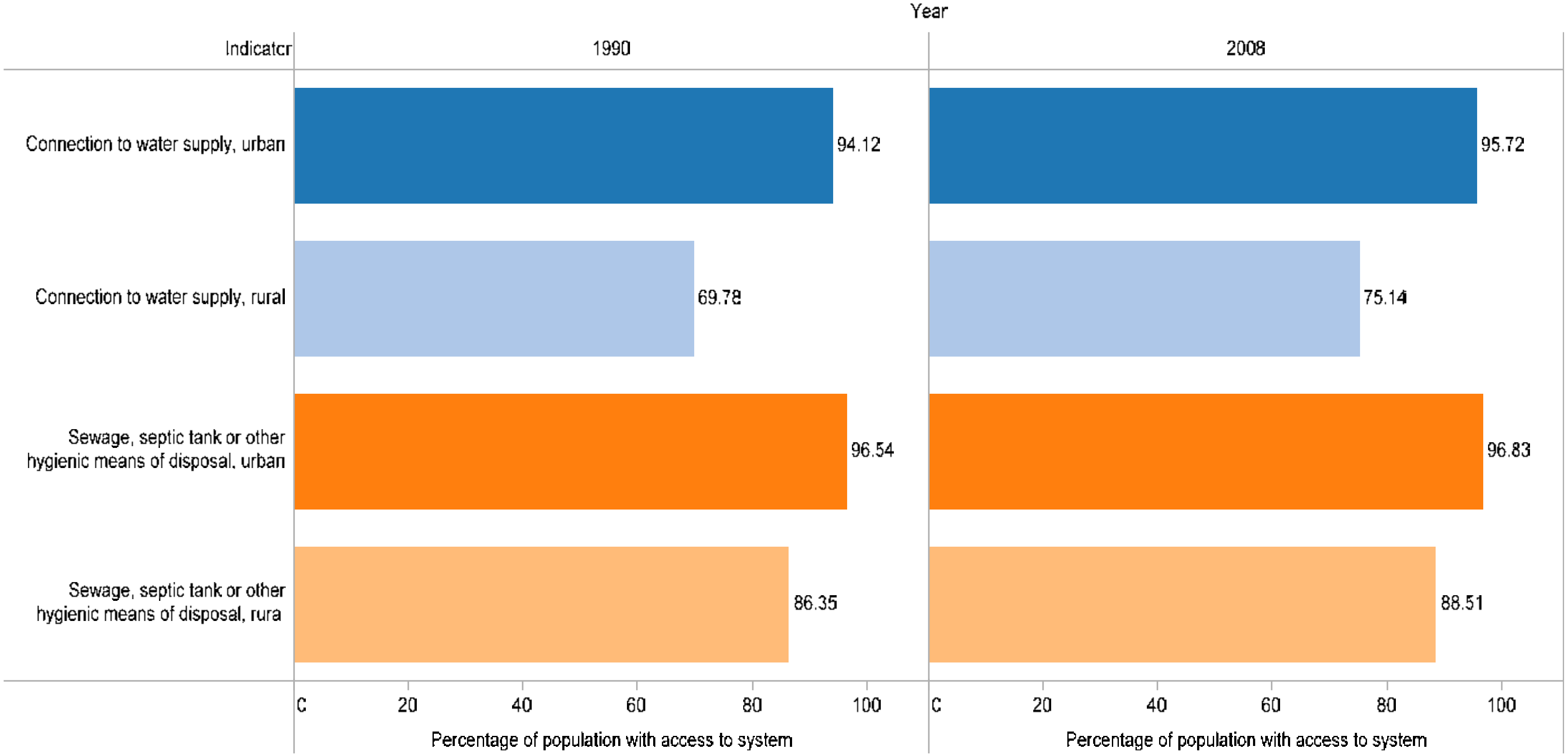
Environmental determinants

The environment represents another important health determinant, and the underlying issues are similar to the social determinants of health. Recent assessments on the contribution of environmental factors to health have estimated that they may be responsible for between 13% and 20% of the burden of disease in Europe, depending on their mortality pattern classification, such as population-specific levels of child and adult mortality strata *(42)*.

The availability of water in human living spaces, for both consumption and hygiene, is essential. Overall, access to water in the European Region is among the best in the world. Some issues still arise around the quality of water, however, particularly contamination by pathogens and chemical elements, which are caused by leakage from old pipes, breaks in services or lack of high-quality water protection and chlorination. Data on access to water (the population connected to a water supply system) and sanitation (the population connected to a sewage system or a septic tank or with other means of hygienic sewage disposal) in urban and rural settings were analysed for changes between 1990 and 2008. Overall, the share of the population with access to water in the Region in 2008 was 96% in urban areas, but 75% in rural areas (Fig. 61). Differences between countries range from nearly 100% access in both urban and rural areas to some larger gaps between areas in eastern countries in the Region.

Inadequate management of human excreta disposal may lead to increased disease risk. In the European Region, 97% of the urban population has improved sanitary excreta disposal, in contrast to 89% in rural areas.

Fig. 61. Access to water and sanitation in urban and rural areas in the European Region, 1990 and 2008



Source: European Health for All database *(6)*.

The lack of these services in some parts of the Region has led to increased exposure to pathogens, some causing diseases with high epidemic potential, such as cholera, shigellosis, haemolytic uraemic syndrome, cryptosporidiosis and giardiasis. These infectious diseases have taken their toll, with increased numbers of cases, including some requiring hospitalization, resulting in direct and indirect economic loss. Protection of water resources, further investment in public services and good planning of urbanization of the population will help to address access limitations.

Various socioeconomic, demographic and geographical conditions determine environmental exposures and produce important health inequalities, many of which can be considered to be inequities. The WHO Regional Office for Europe recently assessed the impact of environmental factors on health inequalities in the European Region *(43)*. Key factors include the availability of water and sanitation, housing conditions and the broader environment, including outdoor and indoor air quality and noise. According to the report, socioeconomically determined health inequalities related to noise, second-hand tobacco exposure and housing quality have the clearest effects and show some of the strongest patterns of inequalities at different geographical levels. In addition, gender inequalities are more strongly associated with external causes of injury and poisoning, where male fatality rates are often three or more times those for females.

Health systems as health determinants

An effective health system is a prerequisite for responding to the changing epidemiological situation and health needs and demands of the population. Some key expectations include disease prevention and control, mitigation of disease consequences (including disability) and promoting healthy behaviours and lifestyles, with comprehensive approaches to deal with different health problems throughout the life-course. To achieve its objectives – improving the level of health (“goodness”) and its distribution in a population (“fairness”) – the health system needs:

- to be well organized and functioning, including providing leadership and accountability;
- to ensure financing;
- to maintain its infrastructure, including the workforce; and
- to provide high-quality services.

In times of resource constraints, the balance of appropriate resources – financial, human and material – is essential. The 2009 European health report *(2)* focused on the importance of strengthening health systems across Europe; this is not the main subject of this report (see Box 25 on recent work on health systems and the contribution to overall well-being). Nevertheless, given the recent economic downturn, this section highlights health care financing and protection from financially catastrophic expenditure *(44)* as a critical aspect of the way health systems can either mitigate (for example, by being more progressive in financing) or exacerbate (for example, by further widening inequalities, such as those in access to care) economic shocks. At present, measures of the incidence and magnitude of households' direct payments for health care form the basis of metrics for assessing financial protection and comparing health systems *(45)*.

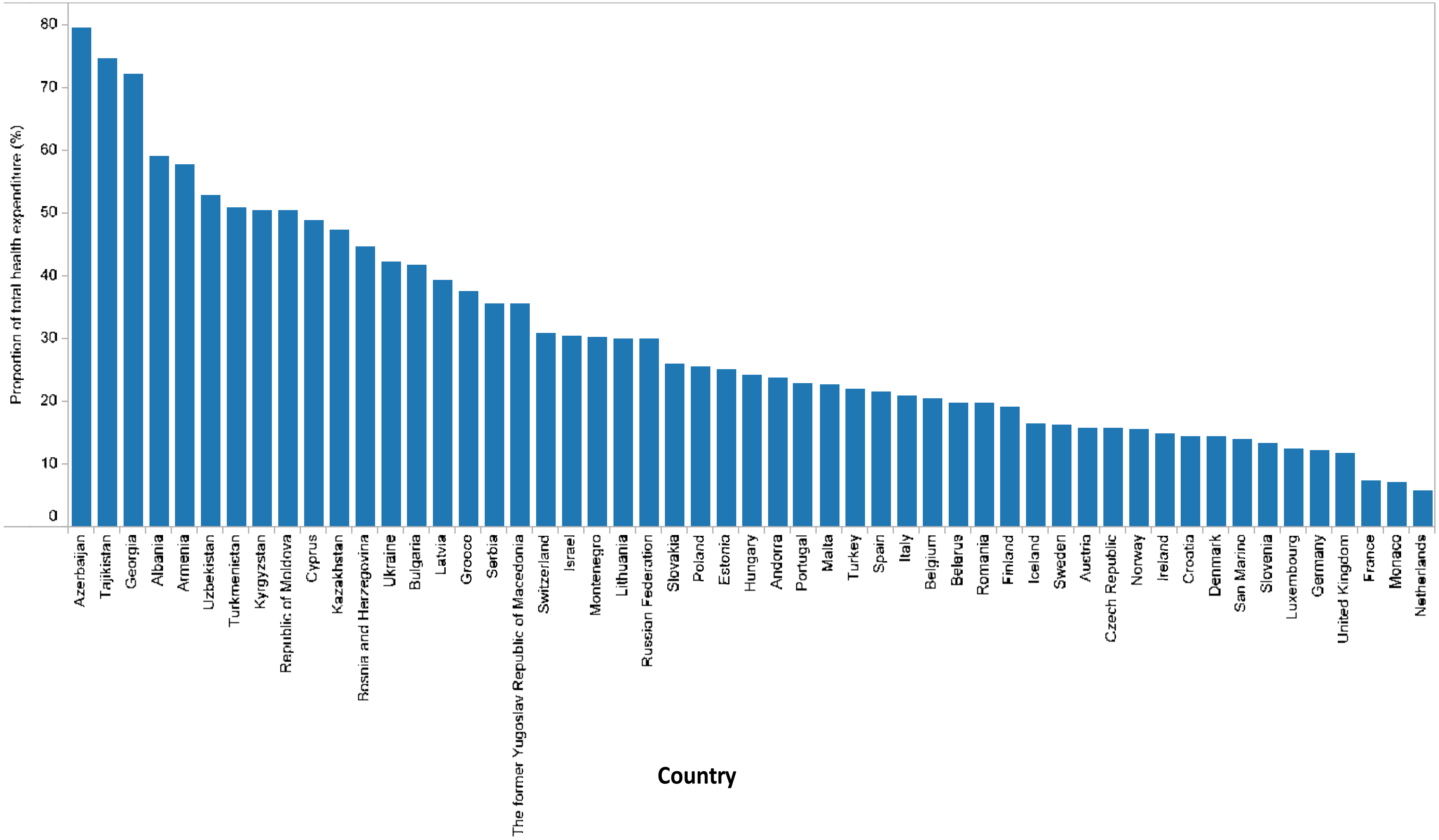
Overall, a country's investment in health comprises the government's response to the needs of the population (public) and households' use of resources (private). Total health expenditure shows countries' efforts at health investment and is usually presented as a percentage of GDP; the average level for the European Region was 8.5% in 2009. Nevertheless, levels of investment in health vary significantly between countries across the European Region, ranging from a high of 12% to a low of 2% (data not shown). Moreover, what matters is not only the level of spending but also the efficiency and equity of the use of resources to increase overall levels of health and improve the distribution of health.

In an economic crisis, when many people and households have less money, they tend to delay seeking health care, particularly when they must pay for services directly. Such payments are called private, out-of-pocket (OOP) expenditure. Particular concern focuses on catastrophic health expenditures, which threaten to impoverish households in countries where health systems rely heavily on household contributions. In the European Region, this is particularly relevant in countries where the rising costs of goods and services have weakened the purchasing power of many families.

On average, OOP expenditure made up 23% of total health expenditure in the European Region in 2009 (Fig. 62). Nevertheless, this proportion varies widely between countries, ranging from 5.7% to 79.5%: a fourteenfold gap. OOP expenditure remains the main source for payments (about 50% or more) in about 10 countries in the Region, while in other pooled prepayment mechanisms (for example, through government taxes or health insurance funds) are the main source of financing and expenditure. Evidence from around the world suggests that reaching two targets could considerably reduce the incidence of financial catastrophe for households: that OOP expenditure comprise no more than 15–20% of total health expenditure and that government expenditure on health comprise at least 5–6% of GDP *(45)*.

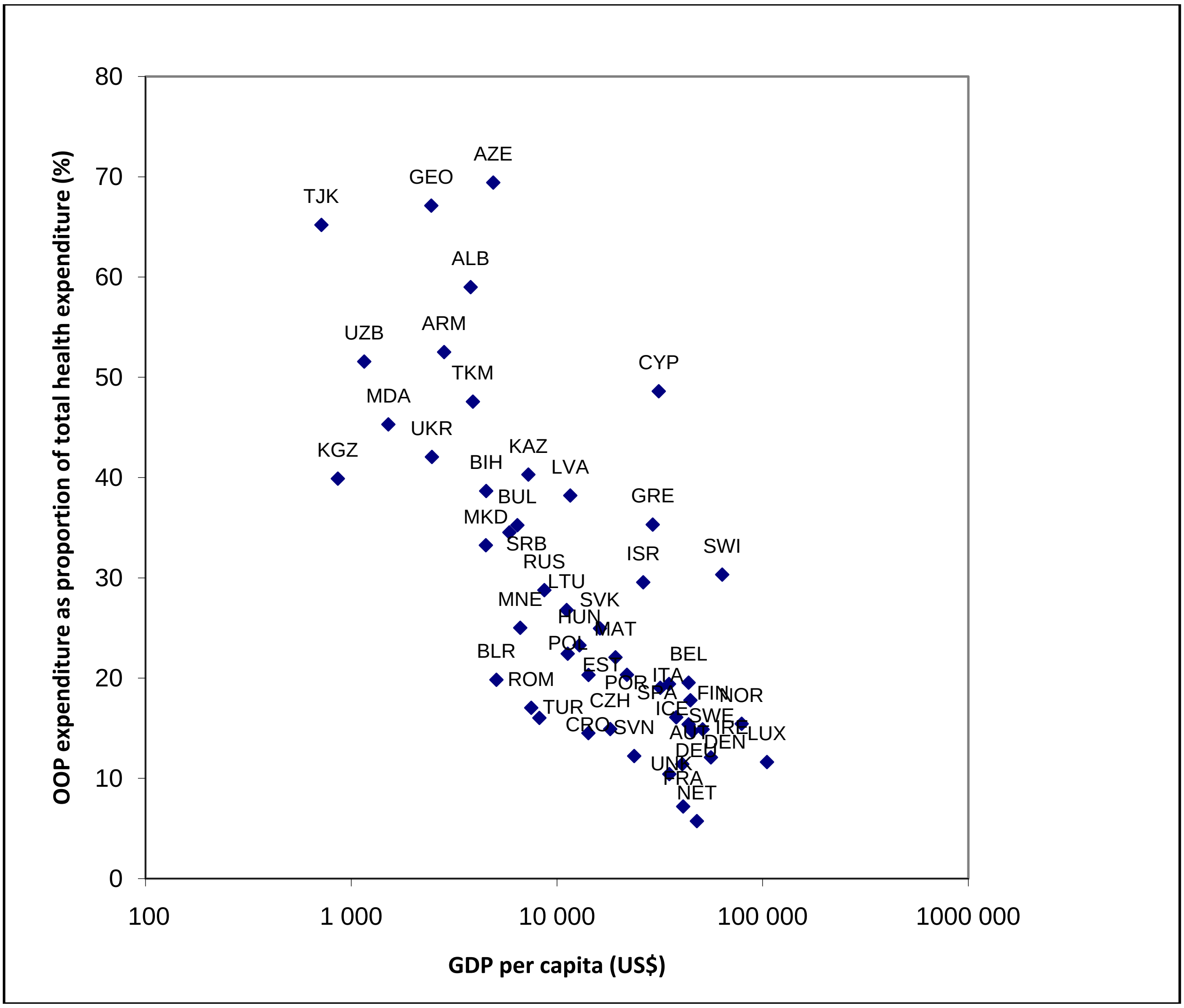
The paradox is, however, that countries with the highest private OOP expenditure are also less economically favoured (Fig. 63) and those with smaller government contributions to health expenditure. Although these circumstances make expanding the financial space to increase the public share of health expenditure more difficult, WHO recently outlined policy options and strategies that countries with different economic levels can consider as they explore ways to ensure sustainable and more equitable financing for health *(45)*.

Fig. 62. OOP expenditure as a proportion of total health expenditure in the countries in the European Region, 2009



Source: European Health for All database *(6)*.

Fig. 63. OOP expenditure as a proportion of total health expenditure and GDP per capita in countries in the European Region, 2009



Source: European Health for All database *(6)*.

Box 8. Key messages – social determinants and health inequalities

- Health inequalities are a major concern in the European Region, as they continue to increase.
- Social determinants of health include socioeconomic, demographic, environmental and cultural factors, along with the health system itself. They encompass the full set of social conditions in which people live and work.
- Income level, employment and education are among the most important socioeconomic health determinants. Although increasing since 1990, income levels in the European Region are still highly inequitable.
- Environmental factors are another major health determinant; key elements include the availability of water and sanitation, housing conditions and the broader environment, including outdoor and indoor air quality and noise. Different socioeconomic, demographic and geographical conditions determine environmental exposures, producing important health inequalities.
- Health care financing is critical in determining how health systems can either mitigate or exacerbate economic shocks experienced by households.

Chapter 1 outlines the health status and trends in Europe based on the most up-to-date data from Member States, highlighting where we as the Region stand, and describes the evolving context in which the Health 2020 policy will be implemented. Agreeing on the goals and priorities for the WHO European Region– what we are aiming for – is a first step towards establishing achievable targets and monitoring progress at the regional level; this is the subject of Chapter 2.

2. What we are aiming for: European targets for health and well-being

Through an intense process of consultation, the work of several expert groups and endorsement by the sixty-second session of the WHO Regional Committee for Europe, Health 2020 arrived at six goals (overarching targets), which it aims to achieve by 2020. These include a reduction in premature mortality, increases in life expectancy, a reduction in inequalities, and the enhancement of well-being, universal coverage and demonstrated target-setting efforts at the country level. The WHO Regional Director for Europe will report progress towards achieving the targets as regional averages, but monitoring of indicators at the country level is necessary to inform such regional targets. For this purpose, health information that is routinely collected by countries should be used to the greatest possible extent and the collection of new data should be avoided where possible. Every effort will be made to ensure that the targets and indicators used will be fully aligned with global target-setting work.

In the context of Health 2020 a target is defined as “a desired goal”. The desired outcome is health improvement, and targets are drafted in terms of, for example, reductions in mortality or morbidity. In addition, where improvements in health outcomes can be linked to processes or outputs with adequate scientific evidence, targets can also be legitimately drafted in terms of a process or an output, such as increases in public health expenditure or the introduction and enforcement of legislation fostering public health objectives.

One of the difficulties is to find the appropriate mix of indicators to reflect progress towards strategic goals and targets in a valid and reliable way. In monitoring health policy, the time lags between interventions and their impact on health status, as well as the difficulties of attributing an outcome to specific interventions, have usually encouraged the use of process or output indicators in addition to outcome indicators. The coherence of process, output and outcome indicators lies at the centre of measuring progress towards agreed goals and their associated targets. All need to be measured as long as the causal link cannot be ascertained. All need to evolve dynamically as the link is being tested in a wide range of contexts. For example, when process indicators improve, is there a measurable improvement in outcome indicators?

Thinking about the role of targets in Health 2020 needs to consider the principles of performance measurement and accountability. In the case of Health 2020, accountability can only exercised collectively by and between Member States. If people in each country are the ultimate principals in a complex accountability chain, we as a Region should ask how well policy and systems serve the population. This chapter sets out the process that led to agreement on the goals – the overarching targets aligned to the Health 2020 policy – and proposes more specific target areas and indicators to assess progress at the European level (Box 9).

Box 9. Terminology for target setting

A *policy* is an agreement on goals and objectives, the priorities between those objectives and the main directions for achieving them.

A *goal* refers to the long-range aims of society and is usually expressed in rather general terms.

A *strategy* refers to the broad lines of action for achieving the goals and objectives.

A *target* is an intermediate result towards the achievement of goals and objectives; it is more specific, has a time horizon and is frequently, though not always, quantified.

An *indicator* is a measurement that helps us to understand where we are, where we are going and how far we are from the target. Targets and indicators are sometimes confused. Targets should be set *before* indicators are selected to monitor progress towards a target.

Source: adapted from Ritsatakis *(46)*.

A baseline is provided for several indicators, reflecting the most recent data reported to the WHO Regional Office for Europe from across the Region’s 53 Member States. The chapter concludes with a framework for the monitoring of targets and indicators for Health 2020 that will be refined in consultation with Member States.

Previous target-setting and monitoring experiences

The use of targets

Historically targets were first suggested in the European Region as part of the first common health policy: the European strategy for attaining health for all. The policy called for the formulation of specific regional targets to support the implementation of the strategy. Aptly described as a “wonderful blend of today’s realities and tomorrow’s dreams” *(47)*, the 1984 WHO Regional Committee for Europe, meeting in Copenhagen, Denmark, adopted 38 specific regional targets and 65 indicators to monitor and assess progress at the regional level. The European Health for All policy and targets were updated in 1991 and the Regional Committee adopted a renewed policy, “HEALTH21 – Health for All in the 21st century”, in 1998.

Health for All

In 1981 WHO published its global strategy for Health for All by the year 2000 *(48)*; the WHO Director-General at the time, Dr Halfdan Mahler, stated that this was “not a separate ‘WHO strategy’, but rather an expression of individual and collective national responsibility, fully supported by WHO”. Soon afterwards, WHO regional offices started developing regional health targets. The WHO Regional Office for Europe led the way by producing the most comprehensive list in 1984.

The then 32 Member States in the WHO European Region debated the new European health policy, Health for All by the year 2000, and regional targets were aligned to the new policy. The formulation of European targets was a major undertaking, with the staff of the Regional Office working with more than 250 experts from across Europe, going through more than 20 drafts and a complex consultative process with Member States, over about three years *(49)*. The result was 82 targets presented for consideration to the Regional Committee for Europe, which unanimously adopted a reduced set of 38 1984. Then the new European health policy was published *(50)*.

The policy and accompanying targets stimulated European Member States to reassess their health strategies and, in many cases, to set their own targets for health improvement. The original 38 targets addressed health goals (targets 1–12), strategies to reach them (targets 13–21) and sustained political, managerial, financial support and mobilization (targets 22–38) to inspire and guide *(50)*. This was the first time the European Region had had a distinct health policy with goals, strategies and targets outlined (see Box 9).

In 1991 the 38 targets were revised to reflect the changes in the Region since the mid-1980s. The intention was to provide a contemporary understanding of the problems involved in target setting and in approaches to achieving them. The six major themes of the first target set were retained (promoting equity in health, community participation, health promotion and disease prevention, reorientation of the health system towards primary health care and collaboration for health across sectors), and an explicit concern with ethics and inequalities across different population groups was added. The Regional Office supported the implementation of the targets by aligning its budgets and programmatic activities with it and responding to Member States' requests.

HEALTH21 – a more focused strategy

The major political, economic and social changes in the Region during the 1990s transformed the European landscape. One result was a dramatic increase in the number of European Member States to more than 50 by the end of the decade. Unsurprisingly, the WHO Regional Office for Europe revisited its European health policy and regional targets. In 1999, it published the HEALTH21 policy document with a new set of "21 targets for the 21st century", identifying two main aims, three basic values, and four main strategies *(4)*. The new policy made a first step towards approaches to monitor compliance, as it noted how each target could be achieved and suggested areas for formulating indicators. In addition, HEALTH21 was aligned with Agenda 21 on sustainable development. In practice, the focus remained on the construction of targets at the country and local level, with no regional reporting.

In 2005, the Regional Office published an update of the European health policy that reviewed and affirmed HEALTH21: "incorporat[ing] the knowledge and experiences that have accumulated since" 1998 *(3)*. The publication *(3)* noted that the HEALTH21 targets continue to provide a regional framework – "the essence of the regional policy" – yet emphasized that the 21 targets provided an inspiration "for the construction of targets at the country and local levels".

Some lessons learned about target setting

The WHO European Region has about 30 years of experience in setting targets as part of regional health policies and strategies, albeit in the context of a Europe that has changed dramatically. Dr Jo E. Asvall, WHO Regional Director for Europe between1985 and 1990 *(51)*, summarized targets' functions:

> These targets and indicators made the European Health for All policy sharper and provided a model for the Region as a whole, which countries could adapt to their own contexts. They also provided public health advocates, professionals, academics and government decision-makers at grassroots with a lever to push for Health for All within countries.

Several lessons have been learned over the decades.

- A broad consensus needs to be developed among stakeholders. The development of a health policy at the political level requires both recognition of the need for action and political will to implement it.
- Targets need to be limited to a manageable number. WHO's original 38 were widely agreed to be too many, but so perhaps were the subsequent 21 programme. Most national and regional programmes have focused on 5–10.
- Any plan should be based on evidence of effectiveness. Although health promotion is supported by more evidence of effectiveness than is often thought, much remains poorly evaluated and it often dependent heavily on context.
- To be achieved, targets need to be linked to resources.
- Once a target-based strategy is agreed, technical challenges remain. Target setting requires an understanding of the current pattern of health in a population, including determinants, and projections based on the best available models *(52)*.

While the Health for All targets *(50)* were not generally quantified and were meant to be achieved at the country level, not the regional, those of HEALTH21 *(4)* tended to be too specific and – with hindsight – to a large extent unachievable.

Health for All database

The Health for All database *(6)* is the basis for monitoring and reporting on the European targets and indicators. It has evolved to cover 53 countries and is widely used across the Region. The database includes several hundred indicators, and health statistics covering basic demographics, health status, health determinants and risk factors, and health care resources, utilization and expenditure. These data are compiled from various sources, inform the interactive atlases of health in the European Region *(20)*, and are updated twice a year.

In 2012, the WHO Regional Office for Europe launched a new annual publication reporting on core indicators from the Health for All database. It will launch a new web portal in 2013, which permits users to access and analyse all databases simultaneously from one location. Additional added value to users will include new data visualization tools, including dashboards and the interactive atlases (Box 10).

Box 10. Interactive atlases – visualization of EUROSTAT databases

Publicly available socioeconomic and health-related indicators from across European databases – particularly those of EUROSTAT (the statistical office of the EU) – were used to produce interactive atlases. The NUTS 2 regions (the second level of regions in the Nomenclature of Units for Territorial Statistics used in the EU) are the main geographical units of analysis. Variables displayed in maps, graphs and tables represent more than 600 individual indicators. To analyse and display data, the WHO Regional Office for Europe developed the following interactive atlases: a correlation map atlas, atlases of social inequalities and a regional comparison atlas *(20)*.

The atlases aim not only to provide more visibility to the subnational patterns of health and their determinants but also to analyse how such an integrated information system and its underlying data can inform policy across European countries. For example, the atlases of social inequalities allow visualization of the difference between a target value and the value in a region or group of regions. The target value is the population-weighted average of the most advantaged quintile of the population with available data, and is considered an achievable goal. Differences between the target and the individual region are visualized as absolute differences (area target differences) and as relative differences (area target ratios). The amenable mortality atlases show an example of the socioeconomic variable of disposable income, net purchasing power standard based on final consumption per inhabitant.

Health 2020 targets – building on and updating Health for All and HEALTH21 in a contemporary context

Consultation on and endorsement of the Health 2020 targets

At its sixty-first session in September 2011 in Baku, Azerbaijan, the WHO Regional Committee for Europe endorsed proposals that Health 2020 would:

- set out an action framework to accelerate attainment of better health and well-being for all;
- be adaptable to the different realities that make up the Region; and
- have regional targets for achievement by 2020.

The process of target setting was informed by previous efforts, detailed participatory discussion and written consultation, and the results approved by WHO governing bodies at each stage. At its sixty-second session in September 2012 in Malta, the Regional Committee endorsed the Health 2020 policy, its overarching targets and the need for specific targets and indicators to monitor implementation by 2020 *(53)* (Box 11).

Box 11. Key consultation milestones 2011–2012

World Health Organization
Regional Office for Europe

Regional Committee for Europe
Sixty-first session

Baku, Azerbaijan, 12–15 September 2011

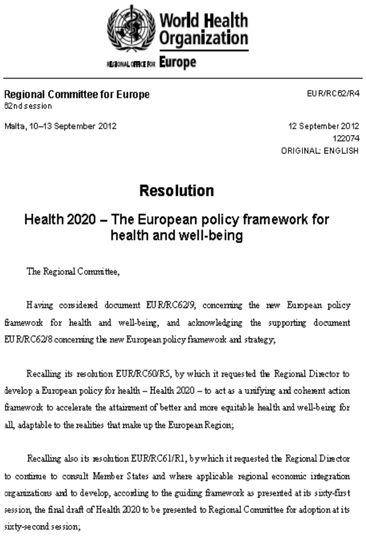
Provisional agenda item 8(a)

EUR/RC61/Inf.Doc./7

29 August 2011
112374
ORIGINAL: ENGLISH

Setting targets for Health 2020

The purpose of Health 2020 is to improve the health and well-being of European populations. Using the best available evidence, its implementation across the countries of the Region should reflect this purpose and gain this end result. The SCRC has previously debated and agreed on the use of targets to measure progress with and success of the implementation of Health 2020. This short discussion paper proposes a process and mechanisms for the development of such targets. SCRC members were requested to provide guidance and comments on the draft proposal, suggest necessary revisions and nominate experts to serve as focal points for the further development of targets for the European Region.



World Health Organization
Regional Office for Europe

Regional Committee for Europe
62nd session

Malta, 10–13 September 2012

EUR/RC62/R4

12 September 2012
122074
ORIGINAL: ENGLISH

Resolution

Health 2020 – The European policy framework for health and well-being

The Regional Committee,

Having considered document EUR/RC62/9, concerning the new European policy framework for health and well-being, and acknowledging the supporting document EUR/RC62/8 concerning the new European policy framework and strategy;

Recalling its resolution EUR/RC60/R5, by which it requested the Regional Director to develop a European policy for health – Health 2020 – to act as a unifying and coherent action framework to accelerate the attainment of better and more equitable health and well-being for all, adaptable to the realities that make up the European Region;

Recalling also its resolution EUR/RC61/R1, by which it requested the Regional Director to continue to consult Member States and where applicable regional economic integration organizations and to develop, according to the guiding framework as presented at its sixty-first session, the final draft of Health 2020 to be presented to Regional Committee for adoption at its sixty-second session;

Date	*Action*
May 2011	The Standing Committee of the Regional Committee (SCRC) endorses the development of targets and forms an SCRC working group on targets and indicators to lead the process.
November 2011	The technical divisions of the WHO Regional Office for Europe propose a long list of 51 high-level targets and monitoring indicators for each major area of Health 2020.
January 2012	Using agreed criteria, the SCRC working group reduces the number of target proposals to a shortlist of 21.
February 2012	The Regional Office conducts undergo extensive written and face-to-face consultation with Member States on the targets, resulting in an initial framework of 16 potential targets and associated indicators, largely drawn from existing data reporting by countries.
April 2012	Based on the consultation results, the third meeting of the European Health Policy Forum of High-level Government Officials proposes six overarching regional or headline targets.
May 2012	The SCRC fully supports the target work, further endorses the six overarching targets, agrees that they will feature in all Health 2020 documents and confirms that indicators will monitor progress and achievement by 2020.
September 2012	The Regional Committee endorses the six overarching regional targets, recognizing the need for quantification and for detailed indicators to be developed as part of the resolution endorsing Health 2020 *(53)*.

At its sixty-second session, the Regional Committee discussed in great depth the principles and criteria for selecting targets as part of the formulation and implementation of Health 2020, along with sample indicators to monitor progress and the elements of a monitoring framework *(53)*. The targets would clearly help to define the Health 2020 policy's direction and gaols. Much work went into setting the targets for Health 2020 (Box 11). The Regional Committee's key message on monitoring and reporting was that existing, available health information should be used as much as possible, and that the targets would be regional, not national, with progress reported at the European level. Representatives of Member State delegations and nongovernmental organizations alike congratulated the WHO Regional Office for Europe on its efforts, and underlined the need to ensure that targets and indicators were specific, measurable, achievable, relevant and timely (SMART).

The Regional Office will reconvene the expert group that had guided the process and, after further broad consultation, submit the final list of indicators to the SCRC and then the Regional Committee for adoption in 2013. The key debates and decisions within these processes are described further in this chapter.

Formulating targets – general principles and specific criteria

Targets have often been associated with reductionist views of system behaviour and performance, as well as mechanisms of hierarchical thinking and control. Yet the present literature on health systems increasingly considers these to be systems characterized by complexity and uncertainty; thus, targets may help to clarify expectations, motivate performance and improve accountability in this context. Moreover, the concept of "collective benchmarking" *(54)* provides a participatory process for the setting of goals and targets, in which the parties are accountable to one another, to facilitate overall improvement. Box 12 summarizes both the strengths of targets and limitations on their usefulness.

Box 12. Strengths and limitations of targets

Strengths	*Limitations*
Targets are a concrete way to express policy and focus direction, including raising awareness and facilitating political and organizational support (for example, the MDGs).	Targets are difficult to align with strategy.
They reflect a scientific view on the future, in terms of achievable improvements in population health.	There is a risk that priority will be given to targets that can be measured easily ("what can be measured gets done").
They provide a learning experience for stakeholders.	They may be liable to bureaucratic capture – elements of the organizational bureaucracy justify their existence in terms of a target.
They are seen as a tool for strengthening accountability and communication.	They are subject to the law of diminishing returns – achieving the last few percentage points of a target may be very resource-demanding.
They provide a map for partners.	They may be associated with "gaming" – managing the target rather than the task.
They serve as reference points for day-to-day action.	If too numerous or complex, they may be seen as burdensome and demotivating.

They provide motivation for action, creating a virtuous cycle.	They are often expressed in terms of averages (as with the MDGs), thus hiding distributive or equity issues that will be fundamental for Health 2020.

Targets should be adaptable and dynamically assessed. In the context of policy implementation, targets are a heuristic that gives a concrete direction useful in assessing and adjusting activities along the way. A crucial consideration is the availability of data. Monitoring progress towards health targets depends on the availability of comparable data of reasonable quality and reliability. In practice this is often a key constraint. Data availability is one criterion for either regional or country indicators to monitor Health 2020 targets. Even so, experience in the European Region has shown that setting targets and selecting indicators can be a huge motivating and innovating factor for countries to strengthen and/or expand data collection and incorporate reporting within national routine information systems. This includes stimulating the use of new and existing data to inform public health policy, including wider government policies promoting health. For some countries, this has catalysed the inclusion, analysis and use of data that had not previously existed at the national level.

These issues were considered by the internal and external steering groups for Health 2020, and in the Regional Office’s wider consultations with Member States and experts. Clear guiding principles and criteria were set for the use of targets within Health 2020. From the start, Member States agreed that targets would be set at European rather than country level, leading to reporting of regional averages. Hence targets should be both relevant for the whole Region and important for every Member State. A European-level target is meant to inspire and to promote learning, solidarity and engagement – particularly, yet not only, on cross-border issues. At the same time, Member States are encouraged to develop their own national targets and strategies for action; the specific context should be the development of national policies for health.

Moreover, a good balance had to be struck between different types of targets, given the themes of Health 2020: a mixture of outcomes, determinants, risk factors and processes; input targets on, for example, investment, capacity and resources; and some looking at distribution within a country or across countries to address health inequalities – gradients and gaps, relative and absolute – and promoting “levelling up” rather than being satisfied with regression to the mean.

Another important consideration was to be realistic and parsimonious, yet not simplistic: for example, by creating a set of 5–10 understandable and measurable targets, possibly with quantitative and qualitative measures. Consultation with Member States and governing bodies confirmed the need for mechanisms for accountability.

Further, the targets had to refer explicitly to existing global frameworks, conventions, targets and strategies to which all countries had agreed, or signed, in the case of conventions and treaties. In the contemporary context, it was important to be in line with not only the MDGs but also new global targets on NCDs, among other global and regional issues.

SMART targets are more likely to be accomplished than general goals. Targets must be clearly expressed and unambiguous. To arrive at measureable targets, concrete criteria for measuring progress must be established. For targets to be achievable, they must be realistic and set against a defined time scale: a time frame, preferably with deadlines, maintains momentum and increases targets' use to catalyse collective action. Targets are considered relevant when they represent objectives to which a policy can contribute. Again, although a heuristic, every target should represent real progress with qualitative or quantitative measures. In fact, the SMART criteria should apply to both qualitative and quantitative targets.

Formulation of specific targets for Health 2020

Process

The process of target and indicator setting is complex and previous experience with the Health for All approach in the 1980s and 1990s – and more recently with setting goals for the MDGs – showed that a well-organized mechanism was needed to achieve SMART outcomes. It needed to include a monitoring framework and structured reporting, as well as elements of interpretation of the indicators and what achievement of SMART targets would mean for the European Region. The process had to be participatory, but not too complex and cumbersome. The SCRC proposed forming a small working group on targets and indicators, composed of the following members:

- experts from Member States (represented in the SCRC and the Forum of High-level Government Officials) with expertise in the subject areas and health information;
- senior staff of the WHO Regional Office for Europe; and
- Regional Office staff with experience and expertise in target setting and health information.

Member States contributed to the technical deliberations, working closely with the WHO Secretariat, as proposed by the SCRC in May 2011. Representatives of the following Member States were nominated for this working group: Andorra (previous SCRC chair), Poland, Sweden (subsequent SCRC chair), the former Yugoslav Republic of Macedonia (former SCRC Chair), Turkey, Ukraine and the United Kingdom. A representative of a Member State (Sweden) with extensive experience in this area and the WHO Regional Director for Europe co-chaired the group. The group held meetings via video or teleconferencing every 1–2 months and face to face in connection with SCRC and Regional Committee meetings, with terms of reference spelled out in Box 13.

Box 13. The SCRC working group on targets and indicators

The SCRC working group on targets and indicators agreed on its terms of reference during its first teleconference:

- to finalize the modus operandi of the Working Group, including a roadmap;
- to summarize the results of the discussions within the SCRC and WHO Regional Office for Europe in relation to Health 2020 targets and to examine previous target-setting exercises;
- to agree on the technical methodologies used for setting targets and indicators, placing particular emphasis on recommending a process and methodology for the development of qualitative targets;
- to identify salient issues for presentation to the Regional Committee;
- to establish two high-level targets for each major area, and to discuss and propose up to two subtargets for each high-level target;
- to research and propose the indicator(s) for each target that follow the principles agreed on and for which information is available;
- to accompany the consultation with Member States, to be coordinated by the Regional Office;
- to propose and finalize the targets to be presented to the sixty-second session of the Regional Committee in connection with the finalized Health 2020 policy.

The group co-opted other experts as required, and maintained close links with the groups conducting studies to support the development of Health 2020, particularly the task group on measurements and targets involved in the review of social determinants of health and the health divide in Europe. At each meeting, the working group made clear recommendations to narrow the list of potential targets and indicators in line with the three broad areas initially identified as part of Health 2020:

- the burden of disease and risk factors;
- healthy people, well-being and determinants;
- processes including governance and health systems, for wider consultation *(47)*.

The Regional Office Secretariat collated inputs and recommendations on the process, as well as potential targets for inclusion, for the various consultations with Member States.

Health 2020 targets

As mentioned, the Regional Committee adopted the text with the six overarching targets and agreed on the development of indicators to assess the success of the implementation of Health 2020 across Europe. The targets have the advantage of being inextricably linked to the strategic objectives and policy priorities of Health 2020. The rationale for choosing them was that they either are in line with contemporary global target-setting efforts, for example, in the area of NCDs, or extend and update previous European target-setting strategies and approaches acknowledged or agreed by European Member States.

Here are the overarching targets.

1. Reduce premature mortality in Europe by 2020.
2. Increase life expectancy in Europe.
3. Reduce inequities in health in Europe.
4. Enhance the well-being of the European population.
5. Provide universal coverage in Europe.

6. Establish national targets set by Member States.

Table 1 shows the correlations between the areas addressed by the Health 2020 targets and the Health for All and HEALTH21 targets.

Although progress on the overarching targets will be reported at the European Regional level, most actions will occur at the country level. The sixth overarching target makes this explicit, and reflects many European countries’ inclusion of target setting in their national health policies (Box 14).

Box 14. Case study: targets in action in Austria *(55)*

Through an extensive and broad process of consultation during 2011 and 2012 the Austrian Federal Ministry of Health arrived at 10 national framework health targets. A committee was set up to develop the targets, comprising representatives of almost 40 public authorities at the federal, regional and local levels (covering different political sectors), social insurance and social partners; experts on the health care system and health care professionals; and representatives of institutions of the health and social care system, and of patients, children and adolescents, elderly people and socioeconomically disadvantaged people.

Interested citizens were able to participate in the process by using an internet platform that allowed them to provide input at the start and feedback on the draft targets at the end of the process. Two large conferences – to start the process in May 2011 and to present the draft health targets in May 2012 – were organized to involve a wider group of health experts and members of the public.

The targets cover a wide span: from a healthy environment and equity to health literacy, from social cohesion and healthy lifestyles to health care, and from healthy childhood and nutrition to promotion of psychosocial health. The overall target is to increase healthy life expectancy by 2 years within the next 20 years. Following approval by the Federal Health Commission and a resolution by the Council of Ministers in July 2012, Austria is now identifying suitable indicators for each of the 10 targets and setting up a binding plan for implementation and health reporting. For implementation and evaluation, the same cross-sectoral group of political and societal institutions and stakeholders will be nominated as a target monitoring board.

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Table 1. The areas addressed by the overarching targets of Health 2020 and previous European targets

Health 2020 target area	**Health 2020 overarching target**	**Equivalent targets**	
		Health for All *(50)*	**HEALTH21 *(4)***
Burden of disease and risk factors	1. Reduce premature mortality in Europe by 2020	No direct equivalent but indirect ones through targets on reduction of infant, child and maternal mortality and healthy ageing	Premature mortality targets under various headings, including young people, road safety, communicable diseases and NCDs
Healthy people, well-being and determinants	2. Increase life expectancy in Europe	"By the year 2000 life expectancy at birth in the Region should be at least 75 years and there should be a sustained and continuing improvement in the health of all people aged 65 years and over"	"By the year 2020 … the gap in life expectancy between the third of European countries with the highest and the third ofcountries with the lowest life expectancy levels should be reduced by at least 30%"
	3. Reduce inequities in health in Europe (social determinants target)	"By the year 2000 the actual differences in health status between countries and between groups within countries should be reduced by at least 25%; people with disabilities should be able to lead socially, economically and mentally fulfilling lives"	"By the year 2020 … the gap in life expectancy between socioeconomic groups should be reduced by at least 25%; the values for major indicators of morbidity, disability and mortality in groups across the socioeconomic gradient should be more equitably distributed"
	4. Enhance the well-being of the European population (*to be further elaborated during 2012/2013*)	"By the year 2000, all people should have the opportunity to develop and use their own health potential in order to lead socially, economically and mentally fulfilling lives"	"By the year 2020, people's psychosocial well-being should be improved"
Processes, governance and health systems	5. Provide universal coverage in Europe	Formulated as access to care, particularly primary health care, without financial burden to households	"By the year 2010 funding systems for health care [should] guarantee universal coverage, solidarity and sustainability"
	6. Establish national targets set by Member States	Support provided to target setting and health information in countries, including indicators and adequate information systems at the country level	A high proportion of targets also formulated for national achievement

Identifying ways to set target levels and indicators

Once target areas are agreed, the next step is to identify target levels and indicators to monitor progress towards the target. Moreover, since the WHO Regional Director for Europe is to report progress towards achieving the targets as European averages, the regional targets need to be informed by monitoring of indicators at the country level.

The Regional Office held a special meeting of an expert group to identify indicators in June 2012 *(56)*. The group agreed on the principle criteria for selecting indicators for five of the six areas (excluding well-being), indicators should:

- be routinely collected, simple and inexpensive to administer for Member States where possible (most often already being processed for international databases);
- have a high level of robustness and validity, to measure target achievement;
- inform policy options, to support decisions on priorities;
- offer disaggregation at the lowest regional or subnational level possible to facilitate monitoring of regional differences within and across Member States;
- be able to be stratified by age and sex, and where possible by ethnicity, socioeconomic characteristics and vulnerable groups; and
- be available in the majority of Member States.

For these purposes, health information routinely collected by countries should be used as much as possible, and new data collection should be avoided where possible.

Methods for setting target levels

The technical methods used for setting a target level and selecting existing or developing new indicators vary according the objectives to be attained. Several approaches exist that vary in relation to the data and evidence required and the complexity of calculation methods (see Box 15 on setting target levels and identifying indicators for NCDs). The following sections outline alternative methods for the first target area: the burden of disease and risk factors.

Counterfactual method

This method is based on comparing a biologically achievable or theoretical minimum with the existing reality according to available information. Murray and Lopez *(57)* described it in 1999 as taxonomy of counterfactual exposure distributions that assist with mapping options for policy implementation. These include distributions that correspond to a theoretical minimum, a plausible minimum, a feasible minimum and a cost-effective minimum of any risk factor or target described. For this target area the method takes account of the fact that a certain burden of disease will be unavoidable, no matter how favourable the environment.

Trend analysis

This method is often used, and involves observing and documenting trends by geographical areas, either within or across countries or grouping of countries, or by social, economic or demographic population characteristics, such as sex, educational level or occupational group. It provides a basis for considering the evolution of broader determinants of health, risk factors, and health outcomes or consequences, between different groups. A target could therefore be set to reduce differences in rates between groups of countries.

Other methods

Many other methods exist, including approaches to further refining target setting. One is the pooling of intervention studies: studies examining and quantifying the effect of interventions (including cost–effectiveness) from various countries in Europe can be pooled and the percentage reduction of the outcome of the intervention can be used as a quantifier for the target. These are important as they link directly with policy options.

Comparative risk assessments offer another approach: these studies examine and quantify the effect of risk factors on disease, and predict the development of the disease burden based on predictions with changes in the determinants over time. There is plenty of literature on this subject, especially from Europe.

Box 15. Illustrating approaches to setting target levels and identifying indicators for NCDs

The counterfactual method

An indicator of premature mortality from diseases of the circulatory system, a target area for NCDs, could be used. (Premature mortality is used purely for illustrative purposes and may not be appropriate, since it excludes the elderly as an important vulnerable group.) The target content can be formulated in different ways, including:

- a reduction of mortality from diseases of the circulatory system in the European Region of at least 1. 5% by 2020, with the most significant reductions achieved in countries with the highest current rates; or
- a reduction of mortality from diseases of the circulatory system in the Region to the lowest current subregional average. This would immediately become a quantified target, as it would set the European Region average to decline from 100 per 100 000 in 2010 to a currently observed rate within the Region by in 2020.

The indicator for this target could be “age-standardized mortality rate for diseases of the circulatory system per 100 000 population, 0–64 years”. The figure below shows this rate for all countries in the European Region, as well as the average rates for the previously used subgroups of countries within the European Region:

- the 15 countries belonging to the EU before 1 May 2004 (EU15);
- the 12 countries joining the EU since May 2004 (EU12); and
- the Commonwealth of Independent States (CIS) until 2006 (see Annex 1 for details).

To achieve an age-standardized mortality rate of zero would be a theoretical but not physiologically plausible minimum rate. One could argue, however, that, given the right environment and conditions, all countries in Europe should be able to attain the lowest rate (in this example, that of Israel) as it is already a biological reality, and hence plausible; or, as noted above, to reach the lowest current subregional average (in this example, that of the EU15) as this is also already observed, and hence feasible.

Alternatively, one could argue that countries with the highest rates should be able to attain the average rate for the whole Region. Further information from intervention studies would be required to debate a cost-effective minimum. The choice of the standard (often called the counterfactual) against which progress would be compared and the target set would either be through expert opinion, consensus or other methods (described further below).

The highest country rate in this figure is more than 10 times the lowest, and more than 2.5 times the average for the European Region. Depending on which rate is used as the counterfactual or target rate, the percentage reduction of the target would vary. Alternatively, a positive expression could be used, focusing on life expectancy rather than mortality; the highest life expectancy in the Region could then be identified as counterfactual for regional comparisons.

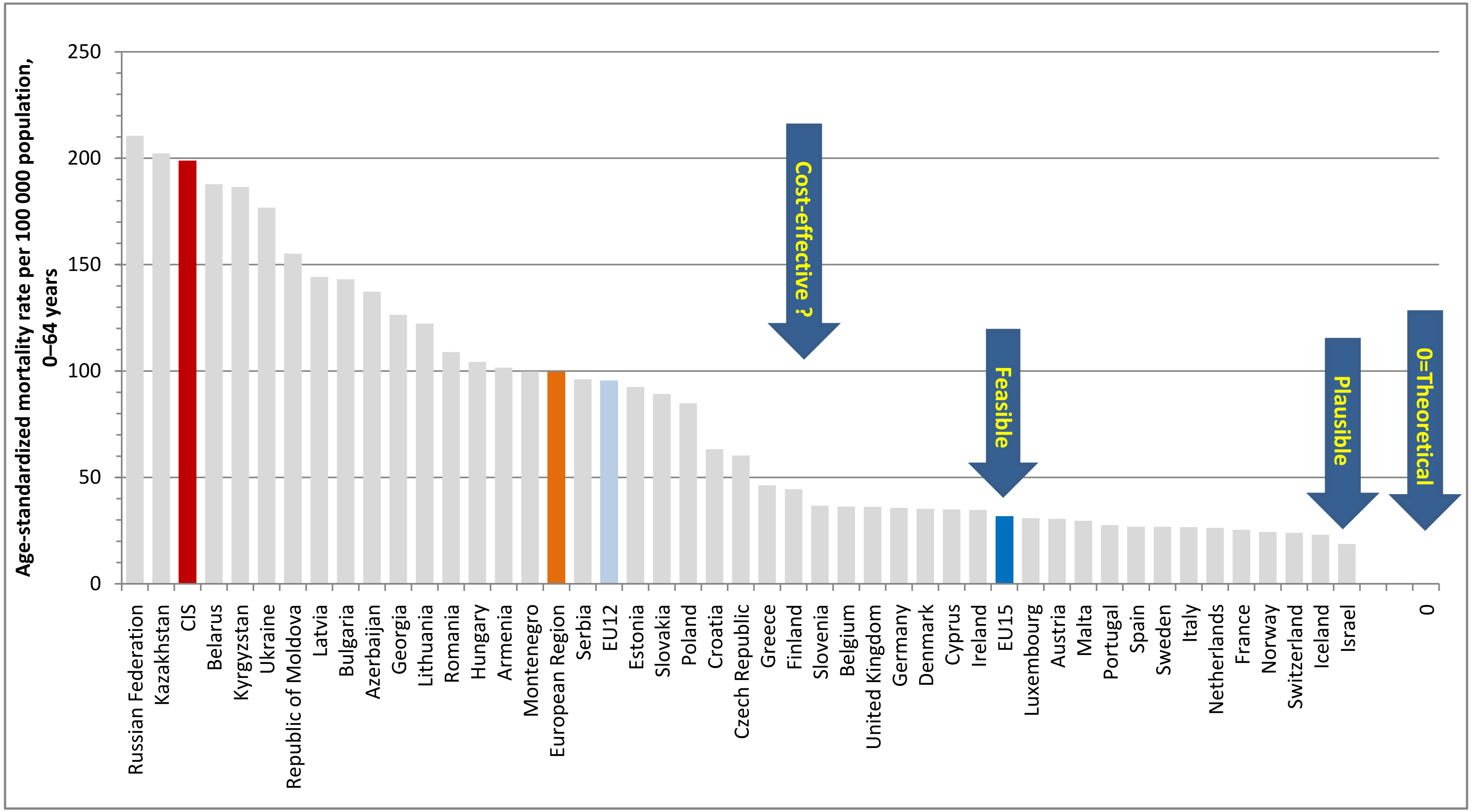
To quantify this sensibly, further steps would be required. Moreover, many factors determine the differences in rates, but overall mortality is an important one, where low rates of cause-specific mortality may only reflect high rates of competing mortality from other avoidable causes.

Trend analyses

Another illustration of mortality from diseases of the circulatory system demonstrates how trends in rates can be used to arrive at a target, this time in the area of inequalities. The figure below shows how premature mortality from diseases of the circulatory system has changed in Europe. It demonstrates that the differences in rates between countries in the Region have increased, particularly in the past 20 years. This may lead to the formulation of a target such as “a reduction in the inequalities in mortality from diseases of the circulatory system within the European Region by x%”. The indicator would be the “proportional difference in mortality from diseases of the circulatory system between the highest and the lowest countries”. Alternatively, the target could be to “reduce the differential of mortality from diseases of the circulatory system between certain subgroups of countries (that would need to be identified) by x%”; many different options are available. In both cases, the percentage of reduction needs to be set with the agreement of Member States.

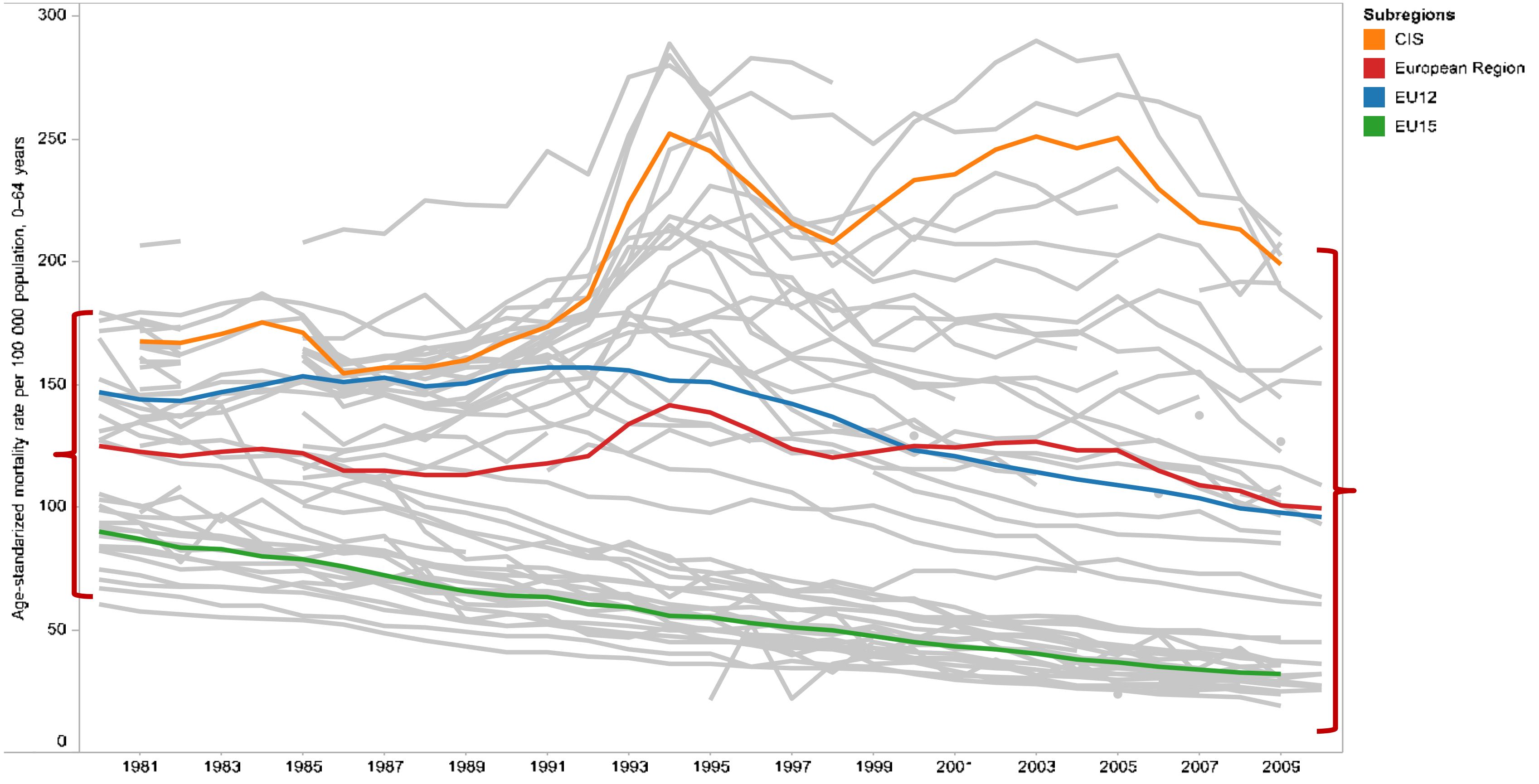
Further analysis is required to assess whether a quantified target is realistic. This would include the examination of correlations using predictor variables, particularly those that are prone to respond to interventions, or the analysis of quintiles where the countries within the best quintile are examined for commonalities. This requires more detailed knowledge of the effectiveness of interventions to reduce either disease or risk factors/determinants. This analysis would examine the commonalities of countries, subgroups or regions with the highest and the lowest rates.

Premature mortality from diseases of the circulatory system in countries and subregions in the European Region, last reported data 2006–2010



Source: European Health for All database *(6)*.

Trends in premature mortality from diseases of the circulatory system in countries and subregions in the European Region, 1980–2010



Source: European Health for All database *(6)*.

Pooling of intervention studies

As a hypothetical example, if the aggressive use of statins and certain health system improvements have reduced mortality from diseases of the circulatory system by 5% in some countries, then a potential target could be set at a 5% reduction in premature mortality rates for diseases of the circulatory system.

Comparative risk assessments

Here is another hypothetical example. If declines in tobacco consumption have been followed by a reduction in mortality from diseases of the circulatory system by 10% in some countries, then a potential target could be set at a 10% reduction in premature mortality rates for diseases of the circulatory system.

Setting target levels and selecting indicators to monitor progress towards 2020

The expert group meeting in June 2012 proposed a preliminary set of potential indicators for monitoring the six overarching targets *(56)*. The main points of agreement from this meeting should be noted in the light of the indicators currently available in the Health for All database and a few other sources.

- There should be a set of core indicators for which data should be available across the European Region, with the opportunity for countries to expand this list and make use of additional indicators available to them.
- Member States should report on core indicators and refer to the expanded list if resources are available.
- A dimension of accountability is needed: the list of core indicators could provide it.

As Member States agreed that the baseline for monitoring of Health 2020 targets should be set at 2010, this provides a ten-year window for monitoring and reporting progress.

Based on criteria proposed to monitor progress, the expert group proposed a target level for each of the overarching target areas, and drafted two sets of indicators for further discussion (see Table 2): core indicators that clearly meet all or almost all criteria and additional indicators compiled in a menu from which Member States may select the most relevant or to which they may wish to make additions where appropriate.

Table 2. Monitoring progress towards Health 2020

Health 2020 overarching target	Key target areas	Proposed core indicators	Additional potential indicators
1. Reduce premature mortality in Europe by 2020	1.1. 1.5% relative annual reduction in overall mortality from diseases of the circulatory system, neoplasms, diabetes, and chronic respiratory disease by 2020 1.2. Achieve and sustain elimination of selected vaccine preventable diseases (poliomyelitis, measles, rubella, prevention of congenital rubella syndrome) 1.3. 30% reduction in road traffic injuries by 2020	1.1a. Age-standardized all-cause mortality rate per 100 000 population, disaggregated by sex and broad cause of death 1.1b. Prevalence of major risk factors, including those formulated in the global NCD monitoring framework 1.1c. Infant mortality per 1 000 live births 1.2a. % of children vaccinated against measles, poliomyelitis and rubella 1.3a. Age-standardized mortality rates per 100 000 population from all external causes	a. Overall and premature mortality for four major NCDs by sex (diseases of the circulatory system, neoplasms, diabetes, and chronic respiratory disease) b. Daily tobacco smoking in population aged 15 years and over by 2020 c. Alcohol consumption d. Overweight/obesity e. Transport accidents f. Accidental poisonings g. Alcohol poisoning h. Suicides i. Accidental falls j. Homicides and assaults
2. Increase life expectancy in Europe	2.1. Continued increase in life expectancy at current rate coupled with either 50% or 25–30% reduction in the difference in life expectancy between European populations by 2020	2.1a. Life expectancy at birth	a. Life expectancy at birth and at ages 1, 15, 45 and 65 b. Healthy life expectancy at birth and 65
3. Reduce inequities in health in Europe (social determinants target)	3.1. Reduce the gap in health status between population groups experiencing social exclusion and poverty and the rest of the population	3.1a. % of early school leavers 3.1b. Poverty, including in special groups (children, the elderly) 3.1c. Infant mortality per1 000 live births 3.1d. Qualitative indicator documenting establishment of national policy addressing health inequities 3.1e. Life expectancy	a. % of primary school enrolment b. % of children at risk of poverty c. Life expectancy by sex and rural/urban split d. Human Development Index – adjusted for inequities

		3.1f. GINI coefficient 3.1g. Human Development Index 3.1h. Suicide/homicide rates 3.1i. Teenage pregnancy rates	
4. Enhance the well-being of the European population	To be developed during 2013	4.1a. Prevalence of childhood obesity 4.1b. To be developed (including mental health, ill health, mortality, including suicide rates; objective and subjective measures)	a. Participation rates of people with mental disorders in employment
5. Provide universal coverage and the “right to health” in Europe	5.1. Funding systems for health care to guarantee universal coverage, solidarity and sustainability by 2020	5.1a. Private households’ OOP expenditure as a proportion of total health expenditure 5.1b. % of children vaccinated against measles, poliomyelitis and rubella 5.1c. % of low-birth-weight babies (<2. 5 kg) 5.1d. Per capita expenditure on health (as % of GDP)	a. More detail on OOP expenditure indicator
6. Establish national targets set by Member States	6.1 National target-setting processes established and targets formulated	6.1a. Qualitative indicator documenting both process and formulation 6.1b. Qualitative indicator documenting use of health-in-all-policies approach 6.1c. Qualitative indicator documenting: (i) establishment of national Health 2020 policy; (ii) implementation plan; (iii) accountability mechanism	

The indicators proposed by the expert group are placeholders. Following the 2012 session of the Regional Committee, the WHO Regional Office for Europe started extensive consultation with Member States to finalize the indicators for the agreed targets for submission to the Regional Committee in 2013. This includes discussions at all governing body meetings and a written, web-based consultation.

To stimulate the debate on relevant indicators for the endorsed overarching targets for Health 2020, some of the indicators proposed by the expert group are used here to illustrate a baseline, including trends for four of the overarching targets. In addition, a framework for monitoring is illustrated for one indicator.

Target 1. Reduce premature mortality in Europe by 2020

The key target areas involve the relative reduction in overall mortality from diseases of the circulatory system, neoplasms, diabetes and chronic respiratory disease; elimination of selected vaccine preventable diseases and reducing road traffic accidents.

Indicator: age-standardized all-cause mortality rate per 100 000 population, disaggregated by sex and broad cause of death

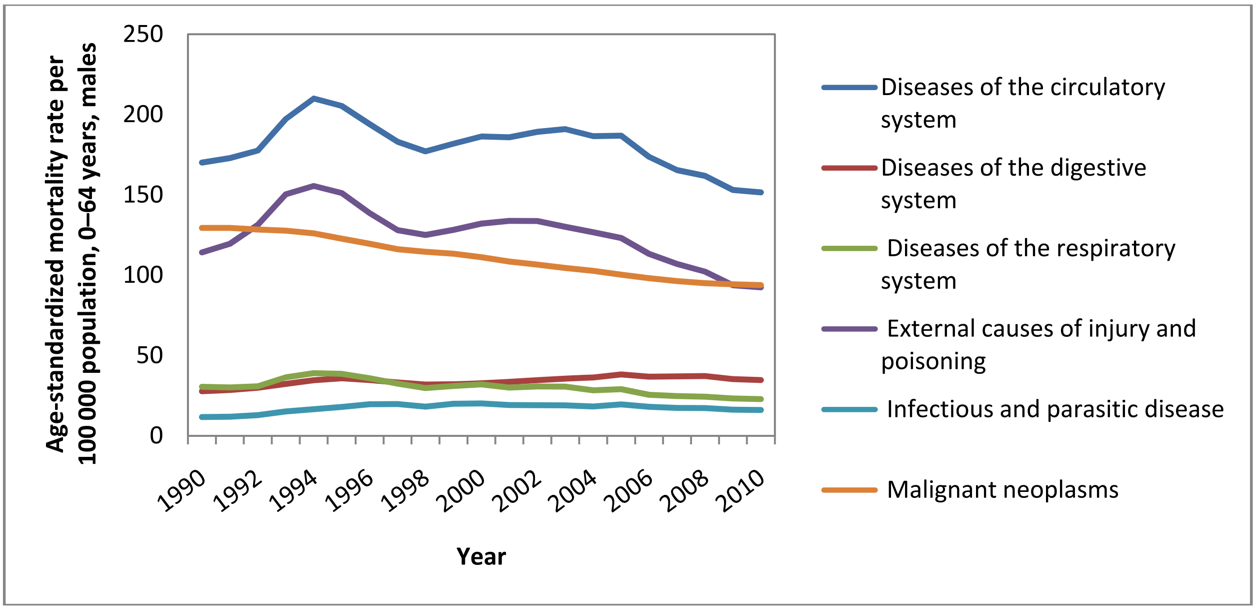
As noted in Chapter 1, although the overall average has decreased in recent years, all-cause mortality rates show large discrepancies across the European Region (see Fig. 10, p. 20).

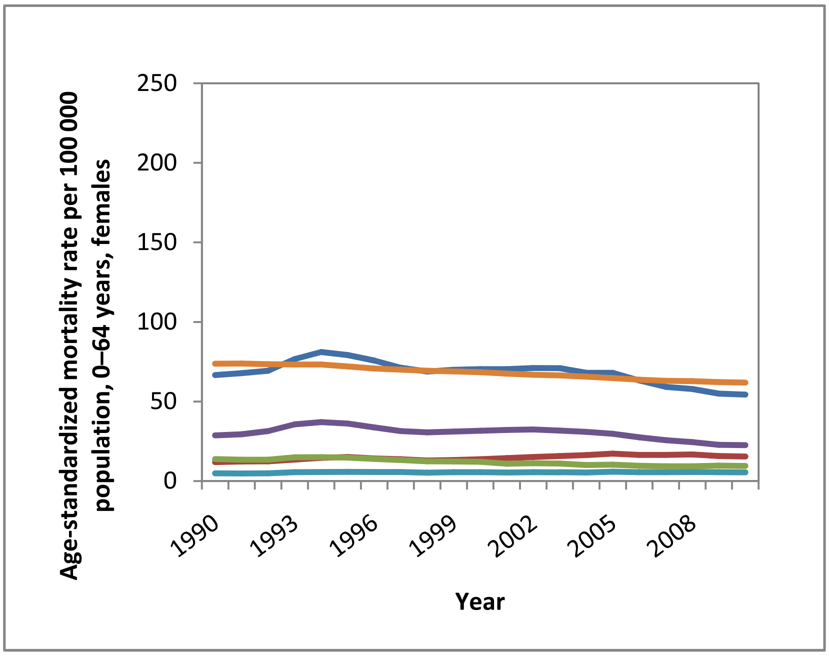
Premature mortality (deaths occurring before the age of 65 years), disaggregated by broad groups of causes of death and sex, has been suggested as a potential additional indicator for this target (Fig. 64). Trends for the European Region show large differences of magnitude between males and females, twofold or higher for all groups of causes, but particularly marked for diseases of the circulatory system, neoplasms and external causes. Disease incidence patterns also diverge: females are now similarly affected by both diseases of the circulatory system and neoplasms and affected to a lesser extent by external causes. Males are significantly more affected by diseases of the circulatory system than any other cause group, followed by external causes and neoplasms. Mortality trends for most groups of causes are decreasing, although at different paces, except for diseases of the digestive system (most related to chronic liver disease and cirrhosis).

Indicator: prevalence of major risk factors

Another proposed core indicator is the prevalence of major risk factors for NCDs, including tobacco smoking and alcohol consumption. The prevalence of regular smoking has decreased towards 25% in Europe. Nevertheless, smoking prevalence rates are not recorded in all countries, which poses some challenges to monitoring.

Fig. 64. Trends in premature mortality by sex and main broad group of causes of death in the European Region, 1990–2010





Source: European Health for All database *(6)*.

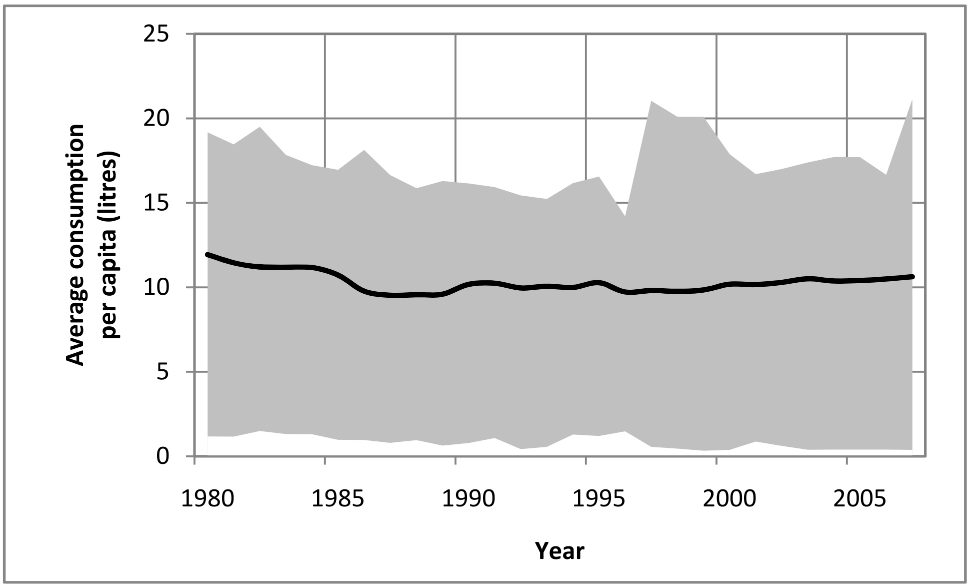
In contrast, alcohol consumption rates in some parts of the Region have risen strikingly fast, masked by the overall European Regional average (Fig. 65). This is accompanied by similar patterns of mortality from alcohol-related causes.

Indicator: percentage of children vaccinated against measles, poliomyelitis and rubella

A crucial target area for reducing premature mortality is achieving and sustaining the elimination of selected vaccine-preventable diseases. Potential indicators for monitoring are those relating to efforts of the health system, particularly immunization. Over the past decade, the proportion of children protected against measles and poliomyelitis has reached levels above 90% in the European Region (Fig. 66). The levels have been slightly higher in countries in eastern Europe and central

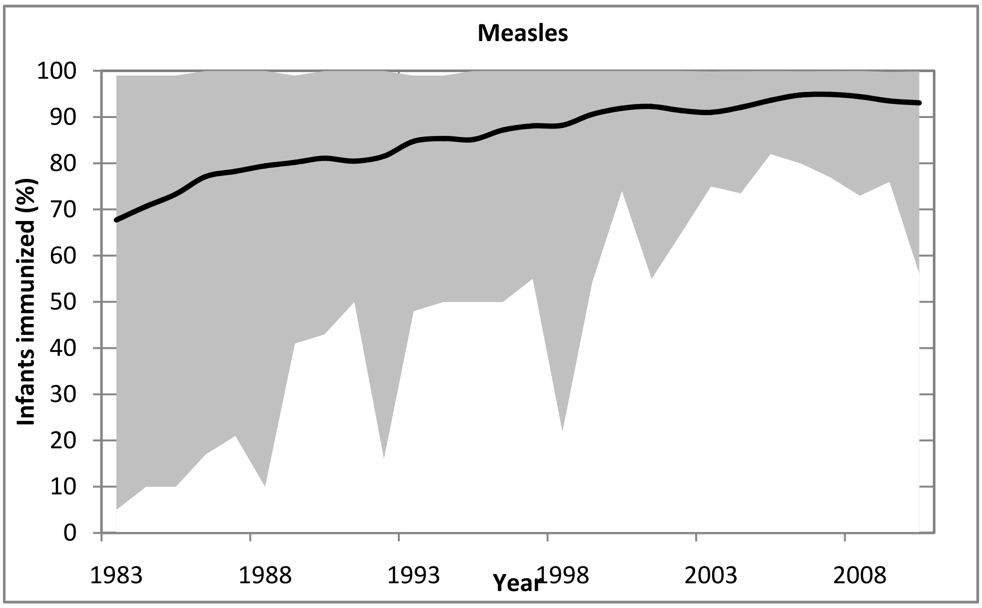
Asia. In some countries, recent declines in immunization rates have created the conditions for outbreaks. Increased efforts will be required to achieve effective protection of the population in such scenarios.

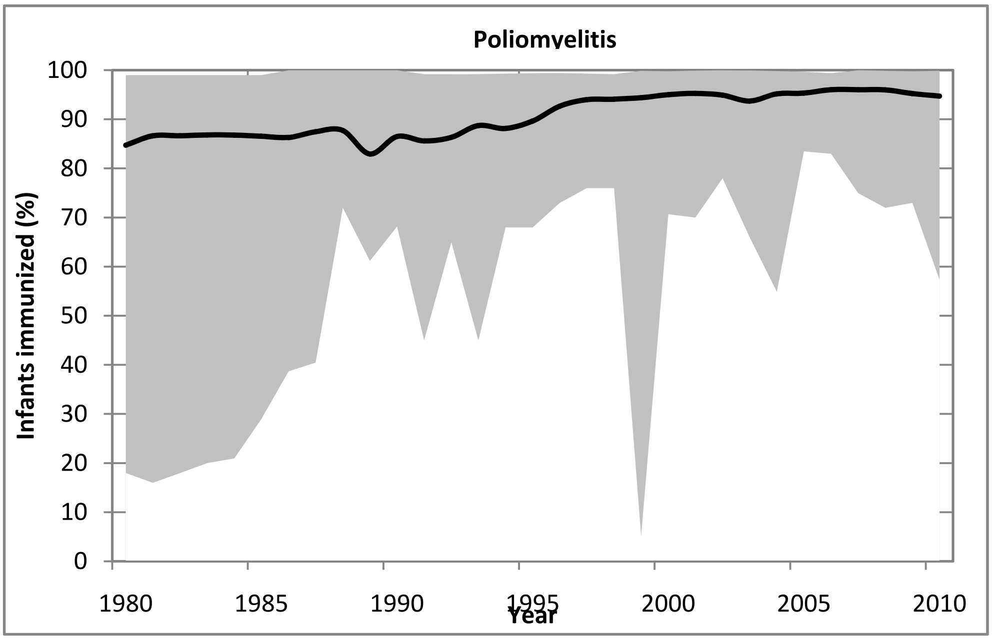
Fig. 65. Average alcohol consumption per capita among the population aged 15 years and over in the European Region, last reported data, 1980–2007



Source: European Health for All database *(6)*.

Fig. 66. Immunization against measles and poliomyelitis in the European Region, 1980–2010



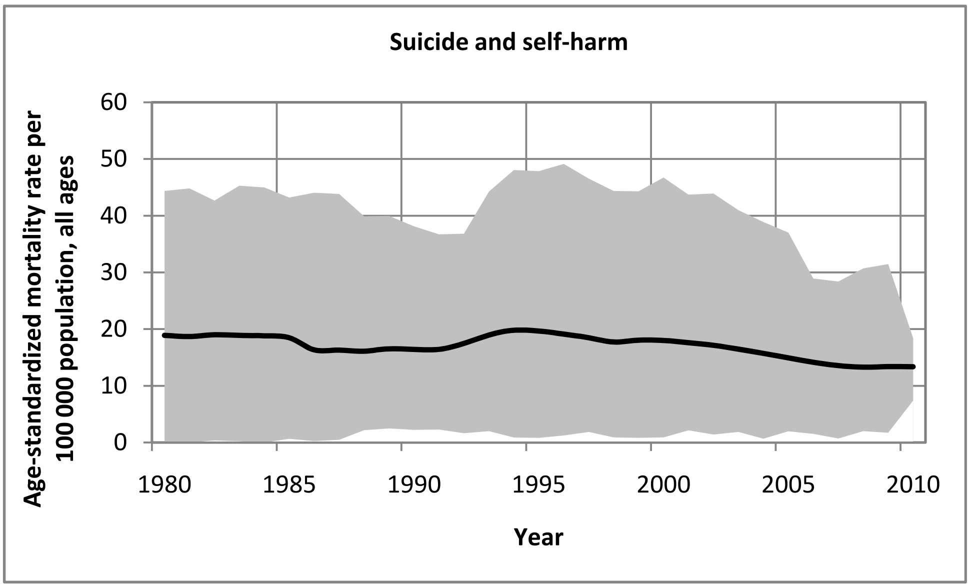


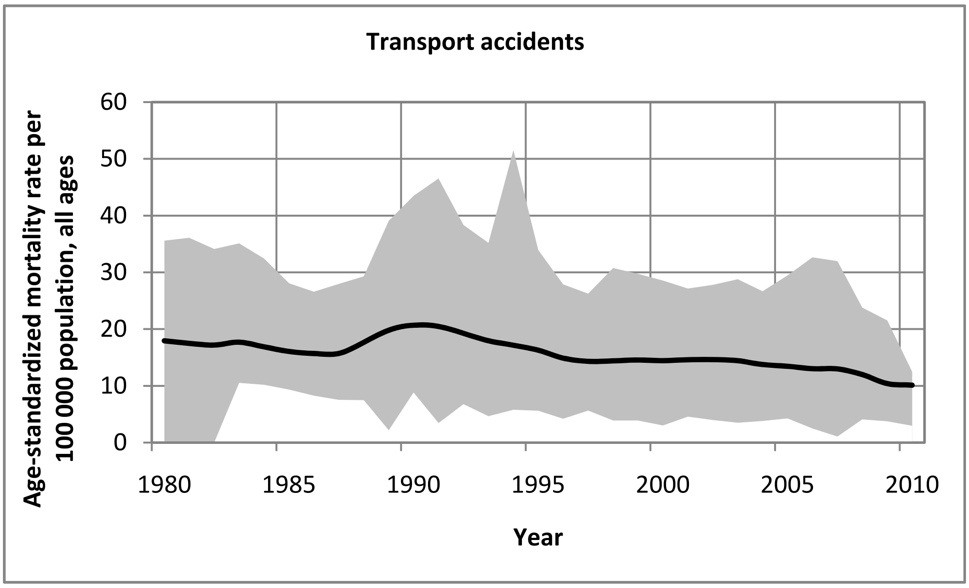
Source: European Health for All database *(6)*.

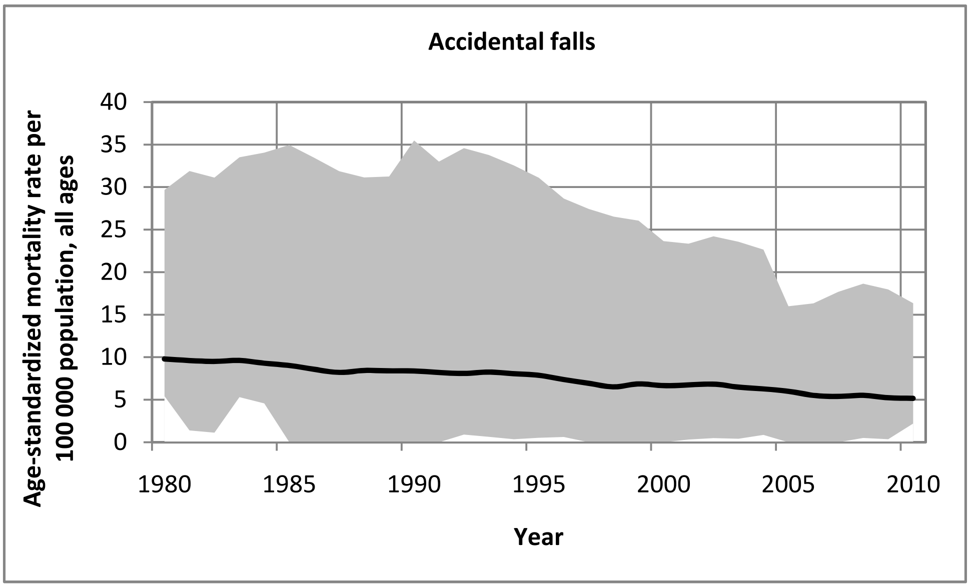
Indicator: age-standardized mortality rates per 100 000 population from all external causes

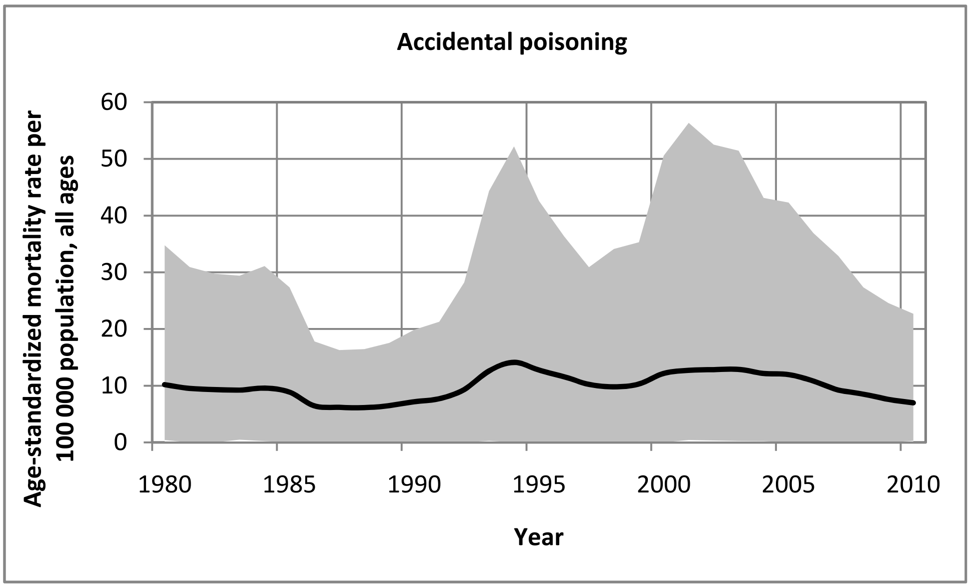
Given their importance for mortality, road traffic accidents (and other external causes of death) are considered another relevant target area. In 2010, mortality rates from external causes varied from 25 to 103 per 100 000 in the Region, a nearly fourfold difference (see Fig. 36, p. 51). Rates from specific external causes also vary considerably between countries (Fig. 67), as discussed in Chapter 1.

Fig. 67. Mortality from external causes of death in the European Region, 1980–2010









Sources: European Health for All and mortality databases *(6, 11).*

Target 2. Increase life expectancy in Europe

The key target area is the continued increase in life expectancy at the current rate, combined with a reduction in gaps between populations.

Indicator: life expectancy at birth

Over the past three decades, life expectancy has increased in Europe at an average annual pace of 0.17 years (see Fig. 4, p. 13). Projections suggest that it will nearly reach 81 years by 2050, at a pace similar to that in 1980–2010 *(7)*. Nevertheless, there are important gaps between groups of countries. For example, in 2010 life expectancy in some western European countries had already reached the level expected for the whole Region in 2050, and will reach 85 years in 2050. In contrast, others are expected to reach only 75 years of life expectancy by 2050 – the level observed in the European Region as a whole in 2010 – or that already achieved by some countries in 1985.

Target 3. Reduce inequities in health in Europe (social determinants target)

The target area will address reductions in health gradients and gaps between population subgroups in countries. The focus is likely to be on those experiencing social exclusion and poverty, in comparison to the rest of the population. This will include differences in life expectancy between European populations by 2020.

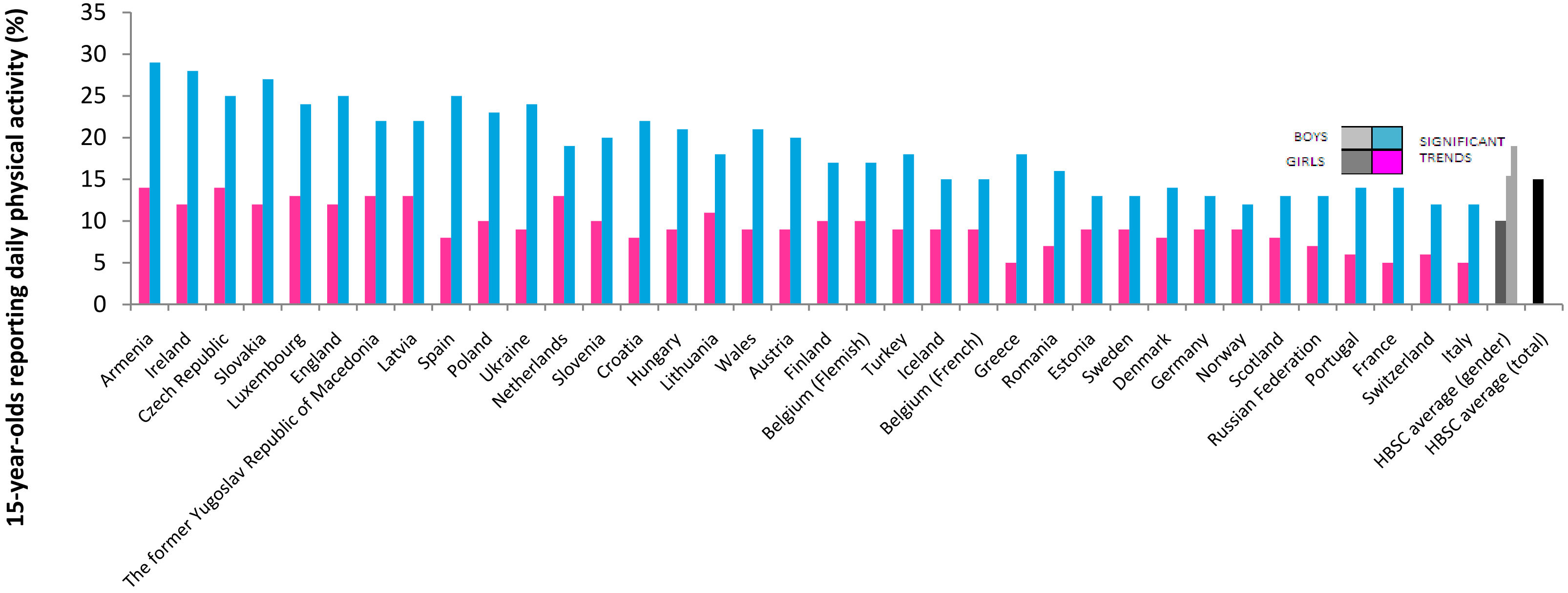
Target 4. Enhance the well-being of the European population

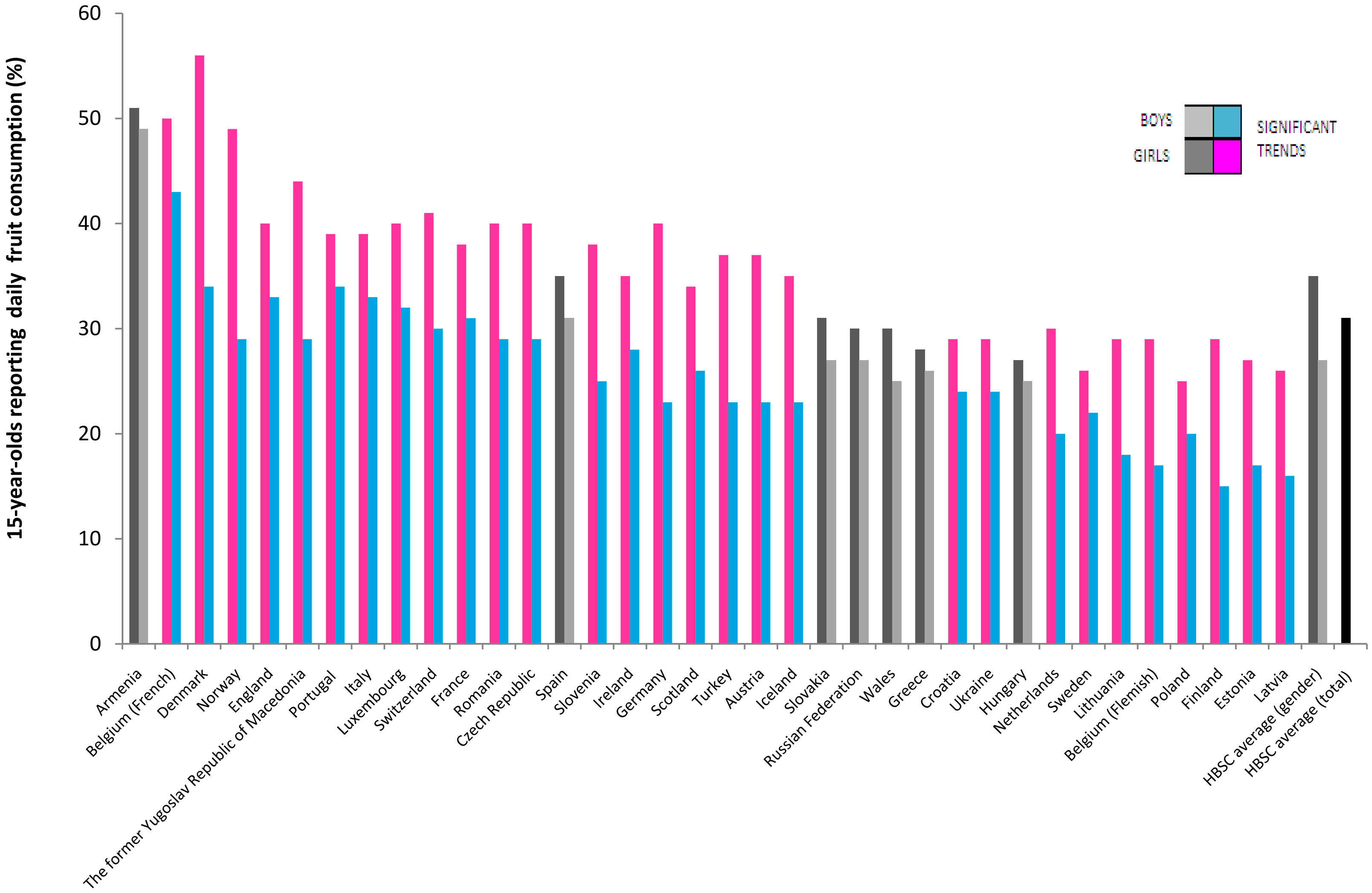
This target area requires considerable new work. The WHO Regional Office for Europe has launched an initiative on measuring and setting targets for well-being, led by international experts. This group’s proposals for indicators will be intensively discussed with Member States, as discussed in Chapter 3. The group has suggested that the prevalence of childhood obesity may be one of several indicators in this area.

Indicator: prevalence of childhood obesity

New data on the prevalence of obesity are only slowly becoming available for European countries, and some proxy measures linked to health behaviours may be used as alternatives. The latest survey of schoolchildren for the HBSC study provides information on their health behaviours, including physical activity and nutritional habits *(40)*. While 15% of 15-year-olds reported moderate-to-vigorous physical activity in their daily routine (Fig. 68), boys were twice as likely to do so as girls (19% versus 10%). The highest reported rate for both boys and girls was nearly three times the lowest. In relation to healthy eating behaviours, 31% of adolescents overall reported eating fruit daily, although the rates were higher for girls than boys (35% and 27%, respectively). Variation between countries was considerable, with up to twofold differences between boys and girls.

Fig. 68. Prevalence of moderate-to-vigorous physical activity and fruit consumption among 15-year-olds in countries in the European Region, by sex, 2009/2010





Source: Currie et al. *(40)*.

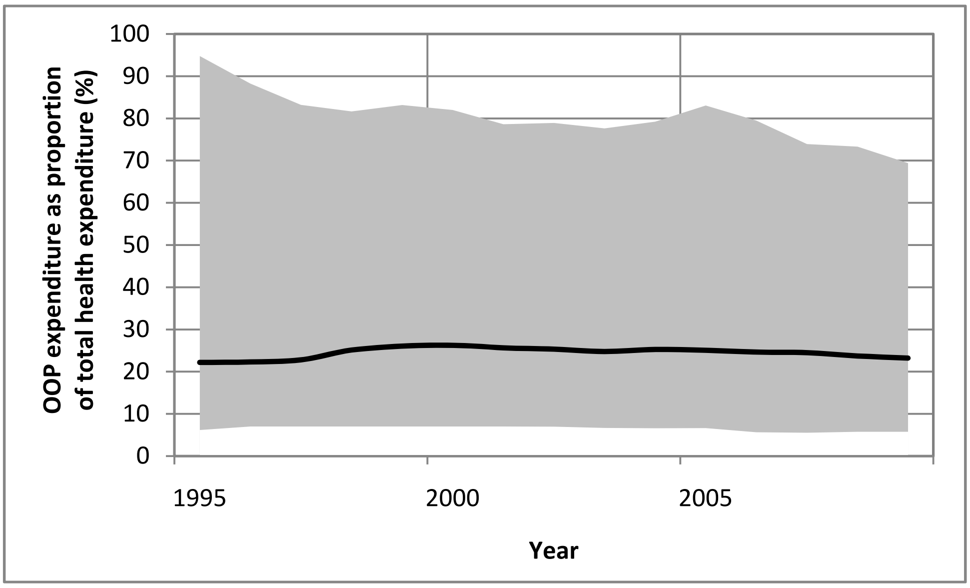
Target 5. Provide universal coverage and the “right to health” in Europe

The key target areas involve the funding of health systems to guarantee universal coverage, which requires solidarity and sustainability in order to be achieved by 2020.

Indicator: private households’ OOP expenditure as a proportion of total health expenditure

This indicator provides information on health expenditures made by households that are not covered by a pooled fund (whether from general taxes or insurance schemes), and is a core indicator for universal coverage (representing one of its three dimensions). The average share of OOP expenditure in total health expenditure in the European Region was 23% in 2009 (Fig. 69), but ranged from a low of 5.7% to a high of 79.5% (a fourteenfold gap between countries), as discussed in Chapter 1.

Fig. 69. OOP expenditure as a proportion of total health expenditure in the European Region, 1995–2009



Source: European Health for All database *(6)*.

Target 6. Establish national targets set by Member States

This target area will reflect the processes put in place or strengthened by Member States across the European Region (see the example in Box 14), further described below. The focus is likely to be on updating existing efforts, and on adding new areas relevant to the Health 2020 policy and to countries that strengthen the monitoring and reporting of targets and indicators at the country level. In addition, the WHO Regional Office for Europe will support an exchange of best practices across the Region.

Monitoring of targets and indicators for Health 2020

The Regional Office is finalizing a framework for the monitoring of targets and indicators for Health 2020, in consultation with Member States. Feedback from the 2012 session of the Regional Committee indicated that the following mechanisms would be appreciated.

Reporting mechanisms for Member States

Existing reporting mechanisms should be used to the greatest possible extent. This includes annual or biannual reporting to the Health for All or other databases hosted by the WHO Regional Office for Europe, including joint data collection with EUROSTAT and OECD. The Regional Office will be required to monitor and harvest the information from the databases and ensure its appropriate synthesis, analysis and presentation to Member States.

Platform(s) for reporting from Member States

Member States should not have to provide additional information except where non-routine data are required (potentially for targets 4 and 6). Where indicators are not routinely collected (through either the national reporting system or regular surveys) and already reported to WHO, estimates from WHO headquarters or joint United Nations efforts that are accepted by Member States could be used. The WHO Regional Office for Europe will hold discussions with Member States to determine what options may be pursued to achieve this, and continually consult the SCRC.

Existing platforms, particularly the annual data collection for the Health for All database *(6)*, should be used until the Division of Information, Evidence, Research and Innovation has established a single platform merging all the Regional Office’s databases. This is envisaged for early 2013. Joint data collection with EUROSTAT and OECD feeds into these mechanisms, so additional reporting will not be required.

Over the coming years, however, this platform is to be replaced by the integrated European health information system that the Regional Office is establishing in collaboration with the European Commission and OECD. The Regional Office’s vision is to launch this system with the core indicators required for Health 2020 monitoring and reporting, as all Member States would accept this. The Regional Office will discuss this important issue further with the European Commission and OECD, to agree on a common way forward. In due course, the scope of the system may be expanded, reflecting opportunities, options and eventual agreements. For instance, the Regional Office is analysing how existing platforms can be transferred to an electronic infrastructure for a new system and will report on this regularly to Member States.

For indicators on which information is not routinely collected at present (such as national target-setting efforts and those addressing well-being), existing mechanisms can support any new effort. The Regional Office therefore proposes the following.

- The Regional Office's technical programmes may collect information on the qualitative indicators from Member States through minimal questionnaires, largely requiring a yes/no response; a narrative can be provided, if desired. Regional Office staff should canvass their technical counterparts in countries on this.
- The well-being indicators being developed in 2013 will include a mix of routinely reported data and self-reported information, and will require additional reporting. The Regional Office will regularly consult WHO Member States and governing bodies on the approach to data collection in this area. Existing mechanisms (for example, surveys by Gallup International or other groups conducting annual surveys in all European countries) should be explored for this purpose. The Regional Office is investigating these options (which should not pose any additional burden, including a financial one, on countries) with such providers and will ensure consultation, for example, through the existing annual efforts related to the Health for All database.

Synthesis of reporting through European health statistics and the Regional Director's report

The WHO Regional Office for Europe proposes to provide a synthesis of all data received through existing mechanisms every two years through a special section in a new publication, provisionally called "European health statistics". Prior to publication, the Regional Office will conduct extensive written consultation with Member States. Reporting may take the form of detailed analyses of the data and their presentation in tables and graphs as regional averages, potentially new subregional averages, ranges giving maximum and minimum values, or detailed interpretative text and executive summaries.

To complement this biennial reporting, the WHO Regional Director for Europe will include an abridged report on the Health 2020 indicators in her annual report to the Regional Committee. This will provide a further platform for direct consultation and feedback. Analysis as outlined above is proposed. In addition, every 2–3 years the Regional Director will give an update on progress towards the quantified targets for the European Region. The SCRC meeting held in May of each year could function as a further platform for consultation on the results, in preparation for the Regional Director's report to the Regional Committee.

Major milestone reporting on the Health 2020 targets and indicators is envisaged to be included in the European health report, which the Regional Office publishes every three years. This will also permit more detailed analysis and discussion. The first milestone report would thus be in 2015, followed by 2018 and a final report in 2020. Moreover, the Regional Office is revitalizing its Highlights on Health series of country profiles; this medium can make progress immediately visible. The Regional Office is also bringing back a brief annual publication on core indicators for all European countries, with varying themes every year. It will publish the information in all these reports using media including the Regional Office web site.

Accountability

The Regional Office Secretariat is working out a process to outline the actions to be taken when:

- Member States do not regularly report on all indicators; or
- the targets as proposed do not appear to be on track for achievement.

In addition, it will need to share and highlight how countries across the Region use information at the national level – perhaps in comparison to the regional level and other countries in the Region – to inform health policies and programmes, and to provide insight into effective approaches in different contexts. Clearly, the wide range of activities underway can illustrate concretely that every country gains further insights through better national and regional health information: for example, through national and international comparative benchmarking studies that are linked to support national health policy, as is the case in the Netherlands (Box 16).

Box 16. Case study: benchmarking health in the Netherlands with the European Community Health Indicators

Reflecting a 2006 ambition to move the Netherlands back into the top five healthiest European countries, the country adopted a new health policy approach to prevention. To provide evidence, the Ministry of Health, Welfare and Sport commissioned the National Institute for Public Health and the Environment (RIVM) to update the picture of public health and benchmark the Netherlands in the light of other EU Member States. In 2008 RIVM published the report, entitled *Dare to compare (58)*, which responded to the following questions.

- How does Dutch public health compare with public health in other European countries in general, and with a focus on young people and the elderly? Where possible, issues of socio economic inequalities will be addressed.
- To what extent are Dutch data available and suitable to meet the specifications of the European Community Health Indicators shortlist, and what are the main gaps and bottlenecks when making international comparisons based on the shortlist?

A close examination of the shortlist of European Community Health Indicators covering public health showed that the Netherlands ranges among the top five healthiest European countries for some issues, but among the bottom countries for others. This diversity underlined the need for further investigation of causal pathways and patterns. The director of RIVM raised essential questions, such as why the country was doing so well on some issues and what could be learned for policy action on the ones that lag behind.

Importantly, the report is primarily aimed at policy-makers and public health professionals in the Netherlands, and provides a direct comparison between the Netherlands and other EU Member States on many current issues. Topics include health status, the determinants of health, prevention and care, and the demographic and socioeconomic situation. The report also gives special attention to health at different stages of life, covering children, young people and elderly people.

The monitoring framework

The WHO Regional Office for Europe will populate a detailed framework with all indicators, as outlined in Table 3, and present it to Member States for discussion and decisions. This framework outlines the data collection mechanisms, consultation events, reporting formats and timelines for all targets and indicators.

Chapter 2 has documented the process of establishing the overarching targets of the Health 2020 policy – what we are aiming for as a Region – and proposes an approach to setting achievable targets and indicators to monitor progress at the regional level. A key area for further development is measuring progress on health in the context of well-being, or what we value: this is the subject of Chapter 3.

Table 3. Excerpt from an eventual detailed framework for all indicators

Overarching target	Key target areas	Potential quantification	Additional potential indicators	Number of countries reporting	Data collection mechanism	Consultation with Member States	Reporting	
							Format	**Timeline**
1. Reduce premature mortality in Europe by 2020	1.1. 1.5% relative annual reduction in overall mortality from diseases of the circulatory system, neoplasms, diabetes, and chronic respiratory disease by 2020 (To be aligned with global NCD target-setting efforts)	1a. Age-standardized all-cause mortality per 100 000 population (as first indicator), disaggregated by sex and broad cause of death	a. Overall and premature mortality for four major NCDs by sex (diseases of the circulatory system, neoplasms, diabetes, and chronic respiratory disease)	43	Health for All database through existing annual mechanism (WHO prompt)	In Health for All context May SCRC Additional written consultation Information document at RC	Direct to countries (existing) Regional Director's report to the Regional Committee European health statistics European health report	2013 2014 2015

3. How we are getting there and what we value: the case for measuring well-being

As mentioned, WHO defines heath as “not merely the absence of disease or infirmity” but “physical, mental and social well-being” *(5)*. Nevertheless, for more than 60 years WHO has neither measured nor reported on well-being, focusing instead on death, disease and disability. While this monitoring function is clearly part of the Organization’s core mandate, WHO needs to partner other institutions to describe populations’ well-being in Europe and measure progress in enhancing it in the context of Health 2020. As described in Chapter 2, the Region has reached consensus on the long-range goal of improving the health and well-being of European populations by 2020. Moreover, well-being provides an important mechanism for creating an integrated vision of health, with an opportunity to link to governance and ensure that health remains on all policy agendas.

The WHO Regional Office for Europe convened an expert group in February and June 2012 to review, discuss and advise on the different definitions and frameworks for well-being *(59,60)*, on which there have been many complementary efforts and recent contributions. This chapter provides a roadmap for developing a European target and indicators on well-being and health, and lays out a process for advancing conceptual clarity and increasing the usefulness of information on health and well-being for policy-makers. It aims to answer the following questions.

- What do we mean by well-being?
- Why is it important for health?
- Why are governments and societies across Europe interested in health and well-being?
- How can we measure levels of well-being?
- What can we build on?
- What are the challenges in measuring health and well-being?
- Where are we now?
- How can this information be used to improve health and well-being?

What do we mean by well-being?

What makes up a good life is one of the basic moral discussions in all philosophical traditions. Across countries, people usually agree on the big picture, or minimum ingredients of well-being. What matters to people’s lives is also surprisingly constant, indicating that what we value does not change easily, even though the identification of important areas or components remains a normative exercise, drawing on different notions of the basic nature of well-being (its ontology) and on how knowledge can be gained about it (its epistemology). The first issue in defining well-being is to clarify these different concepts and their underlying assumptions.

Elements of objective well-being include people’s living conditions and their opportunities to realize their potential: opportunities that in principle should be equitably distributed among all people, without discrimination on any basis. A fair chance at health is one part of objective well-being. Elements of subjective well-being include people’s experiences of their own lives. Based on these elements, well-being has either been framed as a composite of different building blocks or a concept in itself.

The Commission on the Measurement of Economic Performance and Social Progress’ recommendations on assessing functioning and capabilities *(61)* illustrate the composite approach: this typically draws on an objective epistemology, using objective measurement tools and indicators, such as income, education or mortality rates. This approach sees health as a component of the composite of well-being. A large body of literature and research *(61–63)* defines well-being as a function of life opportunities and achievements. It is multidimensional, reflecting people’s functioning or the “flourishing of selected human normal functions” *(64)* – such as consumption and personal security – and their capabilities – the objective conditions in which choices are made and that shape people’s abilities to transform resources into given ends, such as health.

For the conceptual approach, the ontological method is typically linked to a subjective epistemology, with knowledge about well-being gained through people reporting their own perceptions. This combination of ontology and epistemology is often called subjective well-being: what someone feels is what matters. Although there is significant debate on the content and usefulness of subjective elements of well-being, including what people feel and report (as opposed to objective elements only) clearly adds different information for policy discussions. Nevertheless, in policy implementation and evaluation, governments are more easily held accountable for objective conditions.

What people feel and experience can be described in different ways. A new OECD review *(65)* documented three separate areas, each contributing important information, that make up subjective well-being:

- eudemonic well-being – self perceptions of autonomy, competence, purpose of life, locus of control;
- positive and negative state – experience of joy, happiness, anxiety, sadness;
- life evaluation – a reflective assessment.

Other conceptual models have different underlying assumptions. Moreover, well-being is envisaged as both a state and a dynamic process: a definition and a route that could illustrate pathways. Frameworks sometimes mix these aspects.

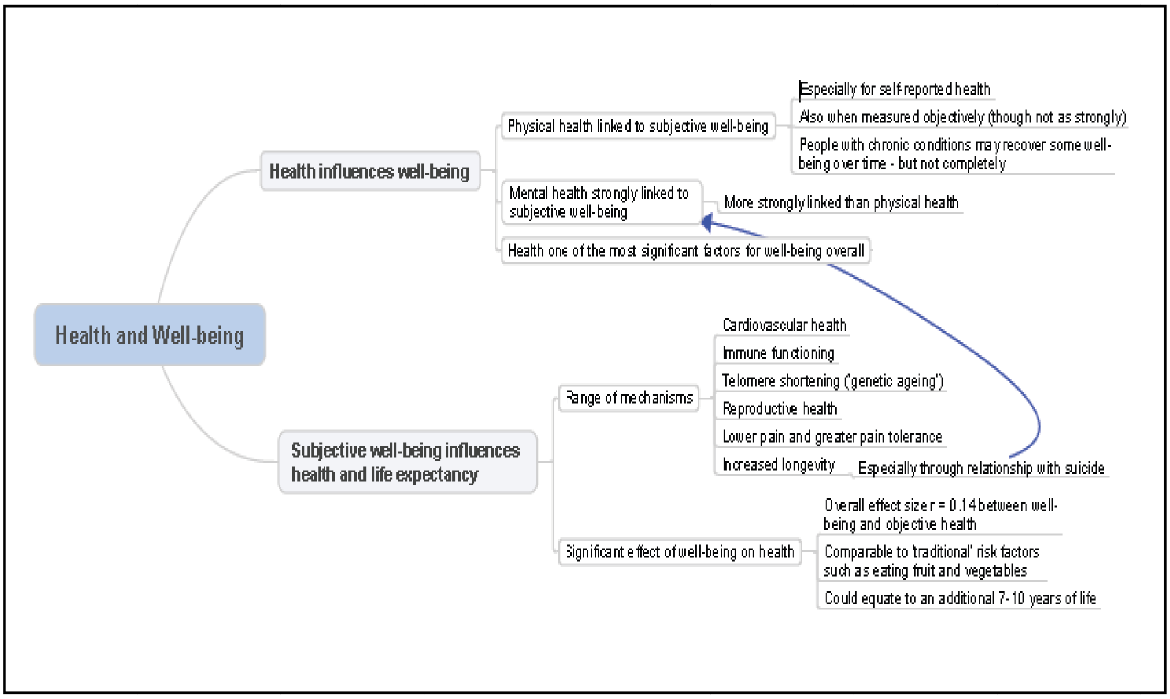
Defining the components or elements of well-being is an important step towards conceptual and operational clarity. Mapping the processes and pathways towards a state of well-being identifies the potential entry points for action to improve average well-being and its distribution within a population.

Why is it important for health?

Policy-makers, public health practitioners and people in communities across Europe agree that well-being includes health as an essential part, if not a prerequisite. The WHO definition of health should not be taken to mean that health is the same as well-being, but that health – including its physical, mental and social aspects – matters for well-being.

An overview of the relationship between health and well-being is beyond the scope of this report but a mind map illustrates the connections between the concepts (Fig. 70).

Fig. 70. Mind map of connections between health and well-being

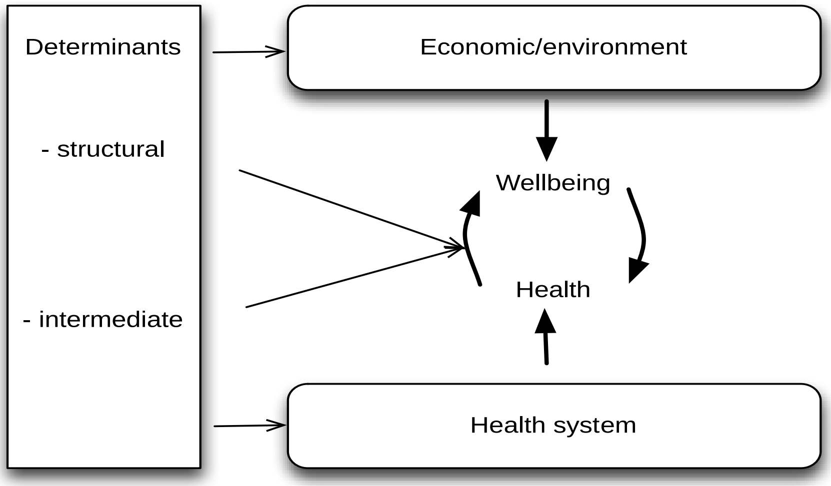


Source: *Measurement of and target setting for well-being (59).*

This draws on recent overviews of the evidence on well-being, such as that carried out by the New Economics Foundation *(66)*, as well as the discussion of the expert group convened by the WHO Regional Office for Europe *(60)*. Both physical and mental health influence well-being; indeed, health is one of the strongest influences on well-being overall. The relationship between physical functioning and well-being is not as strong, but this may be precisely because of the added value of measuring subjective well-being; it captures what people perceive (such as pain), which traditional biological measurement does not *(67)*. This is a two-way relationship, as well-being significantly influences future health through a range of mechanisms such as the functioning of the immune system and responses to stress *(68)*. Reviews of studies to date suggest that well-being has a substantial (though variable) effect on health that is comparable to that of other factors, such as a healthy diet, that have more often been the targets of public health interventions *(69)*.

Moreover, the literature documents two-way relationships between different areas of well-being: it is clear that health influences overall well-being, but well-being predicts future health or illness. Well-being and health are interactive concepts with some common determinants, such as the health system. Other determinants include the broader political, economic and social context, as well as other intermediary factors, such as the degree of social stratification or exposures that could either increase or reduce vulnerabilities. Fig. 71 shows another way to start to conceptualize these relationships, also connecting the role of the health system.

Fig. 71. Health and well-being: an overview of determinants



Source: *Measurement of and target setting for well-being (59).*

Discussions with representatives from European Member States and technical experts during the consultation on Health 2020 provided qualitative evidence that people across the European Region value health and want to minimize disease: they value social cohesion and inclusion as important broader determinants of health and well-being, giving all people a fair chance of health. People also value security and safety, which are related to health in the context of well-being. Common values across Europe increase the likelihood of having a regional target on health and well-being.

Of course, other domains of well-being are valued or matter. Nevertheless, full agreement on or a static understanding of what well-being means is needed to develop ways to improve well-being and eventually to measure and monitor it.

Box 17. Key messages – the meaning of well-being, its importance to health and its stability across populations

- One approach to well-being concerns the meeting of people's objective basic needs and the enabling of their capabilities; another approach considers people's subjective perceptions.
- Health can be conceptualized as part of well-being, as both a determinant and an outcome.
- Common values across Europe increase the likelihood of having a regional target on health and well-being.

Why are governments and societies across Europe interested in health and well-being?

Improving or at least maintaining well-being is part of the social contract between governments and the people they represent. No particular sector or service is responsible for ensuring a good life; it is a multidimensional concept with multiple determinants. Improving population well-being can be a platform on which to develop a common agenda, including a whole-of-government approach across sectors and stakeholders. Health ministers and ministries all know that well-being is part of the WHO definition of health. As noted, some of the determinants of well-being are also determinants of health.

In addition to governments, major actors interested in well-being include civil-society groups, patient groups, wellness and health promotion practitioners, and media organizations. Various groups – government and nongovernmental, public and private – try to influence the policy-making process and/or programmes in one or more sectors to improve well-being outcomes for people and society as a whole. Over the last decade, the goal of enhancing population well-being in Iceland catalysed an effort to measure progress at the national level and to inform policies across government sectors (Box 18). The remaining sections of this chapter lay out a range of issues and challenges to address, along with approaches to do so over the next several years.

Box 18. Case study: enhancing well-being in Iceland – 6 steps linking assessment and interventions to improve well-being

1. Deciding to start measuring well-being

Over the last decade, Iceland has focused increased attention on the goal of enhancing well-being. As a result, interest has grown in assessing well-being status and exploring whether any interventions might be successful in increasing it for both individuals and society as a whole.

Inspired by studies looking at well-being from an epidemiological perspective (such as Huppert et al. *(70)*) and emphasizing the need for measuring positive mental health (Stewart-Brown *(71)*), public health authorities in Iceland became very interested in measuring well-being at the population level. They were keen to explore both well-being and the determinants of health, which research has revealed are not necessarily the same (Wilkinson & Marmot *(72)*, Huppert *(73)*).

2. Selecting methods and processes, including stakeholders, and gathering information

When the Public Health Institute of Iceland (which was incorporated into the Directorate of Health in 2011) decided to implement a national survey on health and well-being in 2007, a module on well-being therefore needed to be constructed. A group of experts was convened to decide what to include from measures already published:

- a single measure of happiness;
- the WHO-Five Well-being Index (WHO-5) *(74)*;
- Satisfaction With Life Scale (SWLS) created by Diener et al. *(75)*;
- a short version of the Perceived Stress Scale (PSS) created by Cohen et al. *(76)*;
- the short version of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) created by Stewart-Brown et al. *(77)*, which was translated specially for this purpose and has since been used as the main measure on well-being within public policy.

All these measures were included in the health and well-being study in 2007, which was repeated in 2009 and 2012. The second and third rounds added further scales, including the Meaning in Life Scale by Steger & Samman *(78)* and new well-being questions based on Huppert & So’s conceptual framework for defining well-being *(79)*.

3. Ensuring the assessment responds to the current context

When its banking system collapsed in October 2008, Iceland’s public health authorities decided to conduct a new study to assess the impact of the economic crisis on Icelanders’ well-being. The protocol included the single measure of happiness, WEMWBS and PSS.

4. Presenting and communicating the results

An analysis of the impact of the economic crisis in Iceland, using data from studies on both health and well-being and economics and well-being, documented the findings (Gudmundsdottir *(80)*). An open seminar presented the results, including a panel discussion with the Minister of Welfare and the studies’ project leader. The panel discussed the kind of society that would increase well-being in the population, and highlighted the following points.

- Good social relationships – the quality of relationships with family and friends, along with the amount of time spent with family – predict happiness.
- Difficulty making ends meet is the strongest predictor of unhappiness.
- The population subgroups that find it difficult to make ends meet are not the same as the unemployed or those in the lowest income group.

The results and the reaction from the Minister received extensive attention from the mass media (newspapers, radio and television).

5. Ensuring an impact on policy-makers and policy

The decision to measure well-being at the national level affected both health and whole-of-society policies. The well-being measures are used as an indicator in the Health 2020 policy for Iceland, as well as in a broader policy called Iceland 2020, led by the Prime Minister *(81)*: a government policy on the economy and community. In addition, the Minister of Welfare was very interested in the results and gave good examples of how they could be incorporated in further policy-making efforts.

6. Planning for the future

As demonstrated, indicators of well-being are already used to monitor policies in Iceland, where several actions aim to increase well-being. It is therefore necessary to continue monitoring the population’s well-being and further develop measures of mental well-being to increase its comprehensiveness.

How can we measure levels of well-being?

To improve and maintain people’s well-being, we need to describe in more detail what well-being comprises, and understand how to measure it. Researchers, organizations, governments and other entities take a wide range of different approaches to describe both what areas or domains make up well-being and what should be measured for each. Some argue for objective measures, of air quality or level of hearing impairment, for example, whether measured by external scientific devices or by people responding to a questionnaire or an interview. Others include subjective measures: for example, people's satisfaction with a particular area of their lives, such as their jobs or the quality of the environment. Some measures are quantitative; others include qualitative evaluations.

Technical experts agree that multidimensional profiles of well-being are more likely to be used in policy-making, as they are easier to interpret. If an index is constructed of different elements or domains, each contributing part (level) and its value (weight) should be made transparent and be interpreted on its own, as well.

Different methodologies and tools are used to collect information to measure each area. One of the most common tools is a survey, typically asking people to respond to specific questions. A very large number of standardized instruments has been developed to provide additional information on well-being associated with a particular type of morbidity, health condition or disability. These are often used in clinical trials as part of the outcomes assessed in the evaluation of new or different treatments. Standardized instruments, such as telephone or postal surveys, are also widely used across Europe to collect population-based information.

To assist the process of developing a common concept and approach to measuring well-being at the population level across the European Region, the WHO Regional Office for Europe carried out a systematic literature review of validated tools to measure well-being. The search combined six key concepts: well-being, measurement tool, measurement properties, general population, observational studies, and peer-reviewed literature. It drew on databases covering biomedical, psychological and economics literature, resulting in some 3200 published articles for review, of which about 160 contained information on indicators and measures. Box 19 highlights the main findings.

Box 19. Key findings from WHO's literature review of tools to measure well-being

- There are many definitions of health in the context of well-being: this requires more conceptual clarity.
- Well-being is often treated as synonymous with quality of life and happiness.
- Among various descriptions of tools used, the distinction between subjective and objective measures is often incorrect, or not distinguished from the measurement technique (for example, whether data are self-reported or externally assessed/measured).
- The most common domains in all tools are economics, health, education, society/community and environment.
- Within the different domains there is no consistency in the types of question asked or areas assessed.
- A limited number of tools supports assessment at the population level: the vast majority focuses on specific clinical conditions.

In addition, the review showed that each instrument or tool uses different sets of domains, reflecting an implicit difference in how well-being is conceptualized and an explicit difference in how it is measured operationally.

Two short questionnaires widely used to monitor well-being within and across populations are Cantril's Ladder and the Personal Wellbeing Index (Table 4). Each provides measures of self-reported health, self-perceived health and well-being.

Table 4. Typical questions from Cantril's Ladder and the Personal Wellbeing Index

Question	Scale used	Source/User
How satisfied are you with your life as a whole?	Cantril's Ladder, eleven-point scale (worst possible = 0 to best possible = 10)	OECD, Gallup
Are you satisfied with: • your standard of living • your health • your achievements in life • your personal relationships • how safe you feel • feeling part of your community • your future security • your spirituality or religion?	Personal Wellbeing Index, eleven-point Likert Scale (completely dissatisfied = 0 to completely satisfied = 10)	International Wellbeing Group

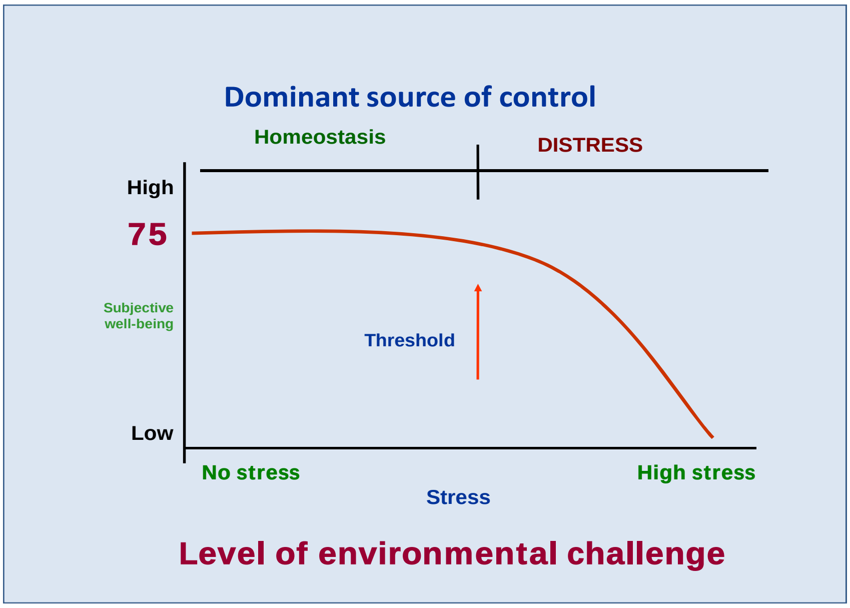
For subjective measures of well-being it is important to gauge whether the questions asked measure what they intend to measure. When there is no gold standard to use for comparison – such as people's assessment of their personal relationships or the quality of their social networks – validity can be estimated in several other ways. Analysis can focus on the extent to which life circumstances and other candidate variables plausibly explain responses for an individual or the distribution of responses for a population. The extent to which they are correlated with other subjective and objective measures of well-being (correlation validity) can also be assessed: this is a measure of reliability. Another method is to consider how and whether the measures predict subsequent outcomes and behaviour (predictive validity).

Methodological questions, as with any tools that use survey approaches, need to address whether the way data are collected, including the ordering and framing of questions, influences the response. It is also important to confirm whether the data collected can be compared over time for population health monitoring across or within countries. Another significant issue for monitoring is the role and potential influence of people's expectations of a certain level of well-being. People consider their position in relation to an idealized norm, for example, within a community or a country, and this can influence their self-assessment. The importance of expectations can affect the analysis and interpretation of the meaning and significance of different components of well-being and their distribution across different subpopulations.

Another important aspect is knowing how to interpret the data collected, either for individuals or populations, including in what scale the data are expressed and what differences of 5%, 10% or 20% mean. For measures of well-being that aim to capture the positive end of the distribution within a population, it is important to understand, for example, how health in the context of well-being differs from being sick or being normal. For the latter, is there an expected set point or norm for well-being?

In fact, the Australian Unity Wellbeing Index *(82)* surveys claim that the major strength of subjective well-being as an indicator is its reliability and stability, as shown by highly consistent results. Subjective well-being seems to behave like body temperature: it is normally constant. Strong challenges can make it fall or rise, but it normally returns to its set point. If it does not, this indicates overwhelming challenge and distress (Fig. 72). The Australian Unity Wellbeing Surveys identified some groups that are found below the normal range, such as people who are unemployed, live alone, have low incomes or provide informal care.

Fig. 72. The relationship between stress and subjective well-being



Source: Professor R. Cummins, Deakin University, Melbourne, Australia (unpublished).

What can we build on?

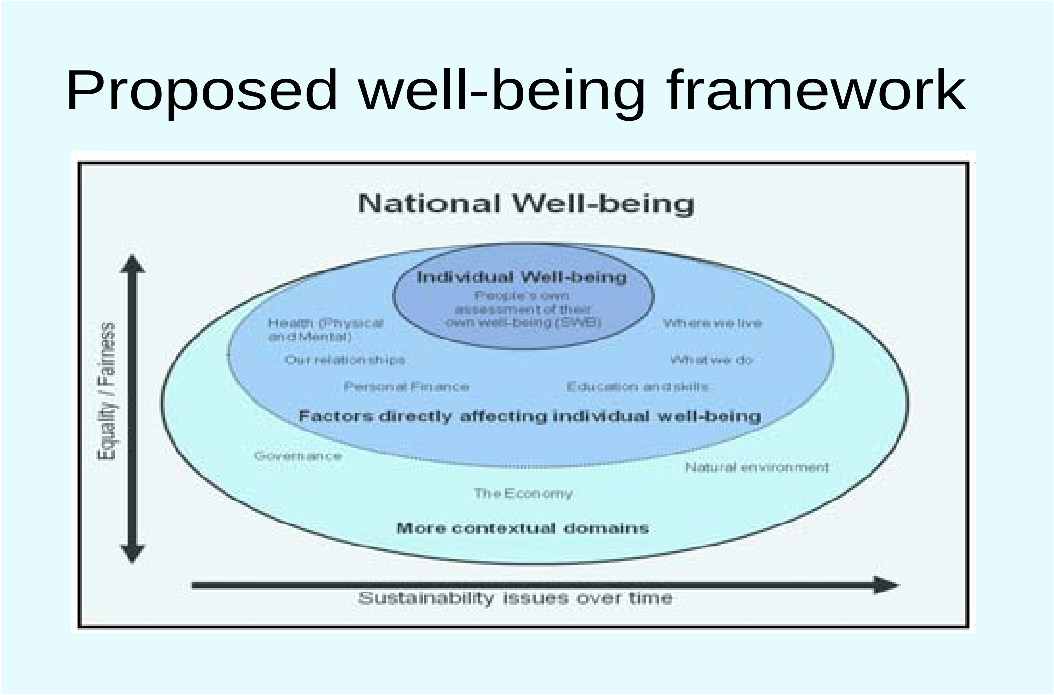
To monitor and report on health and well-being across the European Region, previous efforts to measure well-being at the population level are more relevant in practice than those focusing on specific clinical subpopulations. This report briefly examines five examples, led by a national government, another international organization, a private firm, WHO at the international level and the United Nations. All feature health as an important component of well-being, or a factor directly affecting it; a few draw on the same data sets collected through international surveys, and some use different words – such as quality of life and happiness – to discuss what makes up a good life, or different ways to measure subjective well-being and self-reported objective well-being.

Work in the United Kingdom

A Member State with a long history of commitment to target setting and health measurement at the population and local levels is the United Kingdom. A programme to develop an accepted set of national statistics for understanding and monitoring national well-being, launched in 2010 and led by the Office for National Statistics (ONS), aims to put measures in place by around 2014. The initiative includes public debate (in which health is one of the major issues identified), a review of international work and further development of subjective well-being.

The programme initially proposed domains in 2011, and ONS published a second iteration of a framework for the domains and proposed headline indicators in July 2012 *(83)*. The current framework comprises 10 domains (Fig. 73).

Fig. 73. Proposed well-being framework



Source: United Kingdom Office for National Statistics licensed under the Open Government Licence v. 1. 0.

Health is one of the proposed domains, including four headline indicators *(84)* as set out in Table 5. The ONS approach to measuring health within the context of well-being includes indictors of objective (including self-reported functioning or disability) and subjective (satisfaction measures – all self-reported) well-being.

Table 5. Proposed headline measures for the health domain

Objective	Subjective
• Healthy life expectancy (at birth) • People not reporting a long-term limiting illness or disability • General Health Questionnaire (GHQ-12) assessment (percentage with some evidence indicating probable psychological disturbance or mental ill health *(85)*)	• Satisfaction with your health (percentage somewhat, mostly or completely satisfied with their health)

Source: United Kingdom Office for National Statistics licensed under the Open Government Licence v. 1. 0.

ONS published background details on the domains in July 2012, along with the first set of experimental statistics on subjective well-being from its Annual Population Survey *(86)*. These studies explore the headline measures in more detail and put them in the context of other measures of health and well-being – for example, looking at self-reported health and subjective well-being in relation to life expectancy, mortality, disease and physical health, mental health and lifestyles – each of which affects health. This supports the overall interpretation, and several key findings emerged.

- People who feel that they are in good health are much more likely to report higher levels of subjective well-being; conversely, those who report poor health are much more likely to report lower subjective well-being.
- Nevertheless, everyone who reported that their health was good or very good did not report relatively high levels of life satisfaction. Neither did all those who reported bad or very bad health also report low satisfaction with life. Similar patterns emerge in relation to the other aspects of subjective well-being.
- The findings of the Annual Population Survey, combined with evidence from other sources, show that people's well-being depends on multiple aspects of their lives, not just their feelings about their health. This means that other areas also matter, such as housing, employment and such non-traditional areas of government policy as friendships, autonomy and volunteering.

The domains and measures will be further developed as the Measuring National Well-being Programme progresses, including to address subgroups, such as children.

Work by OECD

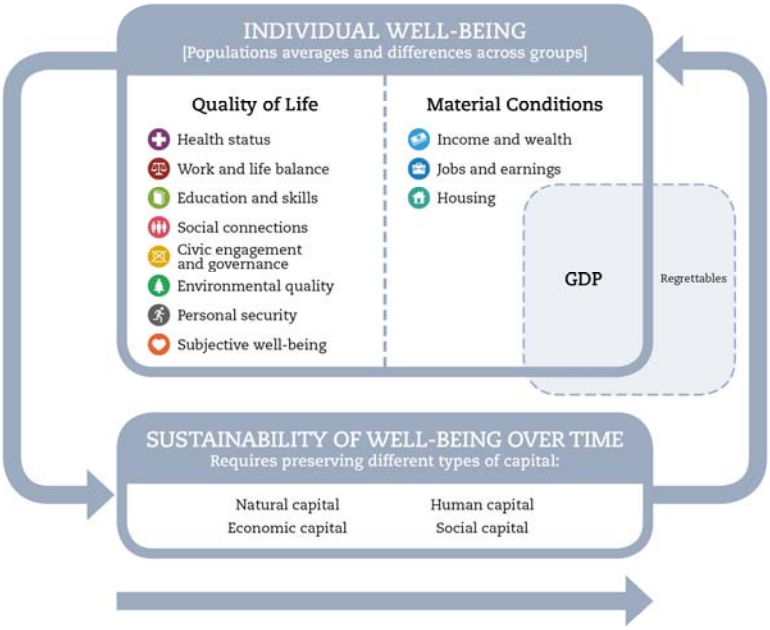
Work by OECD on measuring well-being represents a recent major effort by an international organization. The interest in new measures came out of the long-standing debate on how far traditional indicators, such as GDP per capita, actually measure well-being. Evidence from within the European Region and beyond suggests that one should look beyond markets, national averages and a focus on current economic well-being. OECD's work also builds on other important initiatives in the field, such as the report by the Commission on the Measurement of Economic

Performance and Social Progress *(61)*, set up by the French Government in 2008; the European Commission's 2009 communication on measuring progress in a changing world *(87)* and subsequent work; the Group of 20 leaders' statements from 2009, 2010 and 2011 *(88)*; OECD ministerial council conclusions in 2010 *(89)* and national initiatives.

The resulting OECD Better Life Initiative, described in its 2011 report *How's life? (90)* and distributed through an interactive tool (the Your Better Life Index) covering OECD Member States, builds on almost 10 years of work. This framework (Fig. 74) has four distinctive features.

- It focuses on people (individuals and households): both their individual attributes and how people relate to others in the community where they live and work.
- It looks beyond the purely economic aspects of well-being (people's command over resources and commodities), conceiving well-being as a truly multidimensional concept.
- It considers the distribution of well-being in the population alongside average achievements of each country.
- It considers both current and future well-being, assessing the latter in terms of key resources (observable today) that have the potential to generate well-being over time.

Fig. 74. OECD framework for measuring well-being



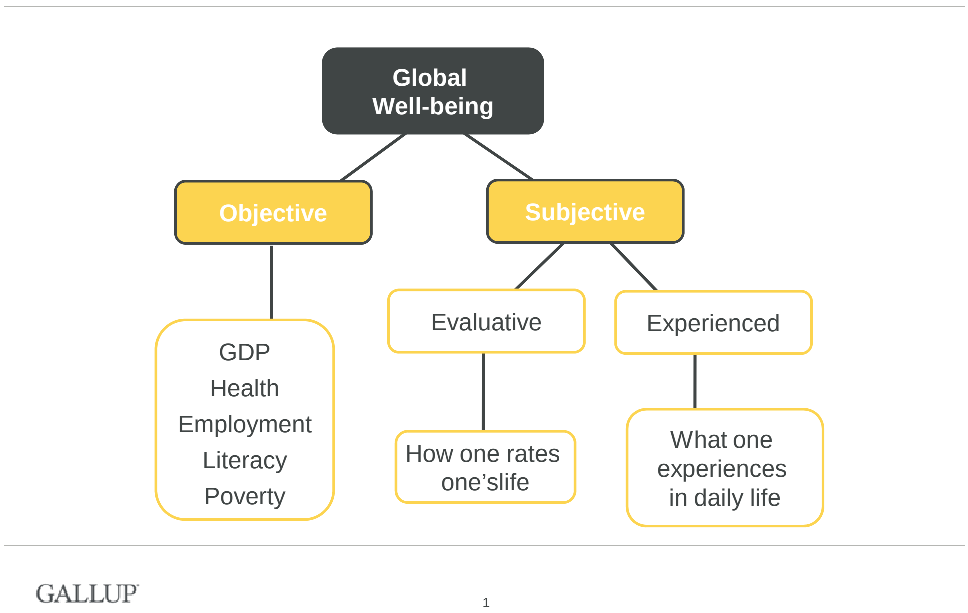
Source: Measuring well-being and progress (91).

Measurement of each domain is based on indicators, the criteria for which include unambiguous interpretation, amenability to policy changes and the possibility of disaggregation by population subgroups. The availability of high-quality data is also considered, normally from official statistics (with comparable definitions across countries). In addition, OECD integrated into its dashboard of well-being indicator data from non-official sources such as Gallup. These are placeholders for indicators based on comparable official surveys that should become available in the future.

Work by Gallup

Since 2006, Gallup, a private company, has been conducting an international poll, which provides practical experience with collecting international data on well-being over time. The Gallup World Poll *(92)*, primarily reflecting self-reported data, covers at least 130 countries in any given year, and asks about a wide range of topics, including health. Its well-being index combines objective and subjective measures, with self-reported health as one of five domains included as objective measures (Fig. 75).

Fig. 75. Gallup model for measuring well-being through the World Poll



Source: Gallup World Poll *(92).*

A recent OECD working paper *(93)* used Gallup World Poll data to explore the determinants of well-being and examine the drivers of measures of affect (positive and negative states), as well as the determinants of life satisfaction that are more prevalent in the existing literature. It reported that *(93)*:

> Overall, items relating to health status, personal security, and freedom to choose what to do with one's life appear to have a larger impact on affect balance when compared to life satisfaction, while economic factors such as income and unemployment have a more limited impact. … Relatively small differences are found between men and women, but priorities change significantly over the life course.

Moreover, since 2008 Gallup has conducted a daily survey in the United States of America covering six domains, including emotional and physical health, which provides data on micro trends. This tool has already collected information from over 1 million randomly selected respondents, and links emotional and physical health with micro information on basic access to health care, work environment and healthy behaviour. The project has expanded into Europe, to Germany and the United Kingdom, and will regularly provide information for public health programmes. The tool can be used to conduct assessments in communities and organizations and among health service providers.

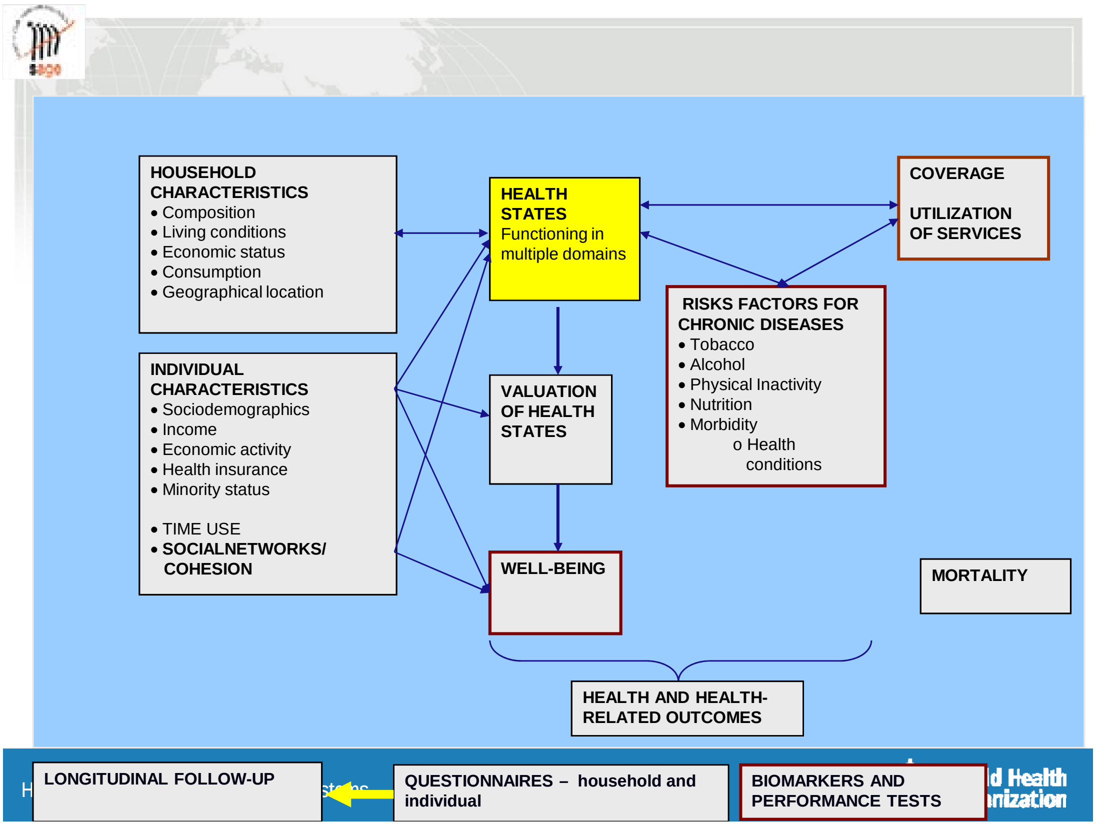
Collecting and reporting on data from a large number of countries around the world present serious methodological challenges. Drawing on its experience with estimating population preferences, Gallup is setting strict standards to ensure proper sampling, analysis and comparability across countries: a particular challenge for a private company, as public authorities frequently do not provide access to all facilities used by official statistical agencies conducting surveys or polls. Nevertheless, Gallup has also provided tools for individuals to track their well-being and is developing ways to collect biomarkers of individual well-being, such as taking saliva samples and providing analysis of stress levels.

Work by WHO

An effort to measure well-being at the global level is nested within the WHO Study on Global AGEing and Adult Health (SAGE) *(94)*. SAGE is a worldwide survey of ageing and health, drawing on population-representative samples from six countries: China, Ghana, India, Mexico, the Russian Federation and South Africa. It has a total sample of around 45 000 people, with oversampling of people aged 50 years or more to provide more detailed information. The aim is to track changes in health and to have a clear, meaningful concept of well-being over time: a baseline cohort was set up in 2002–2004, and the first full wave was carried out in 2008–2010. Two further waves are or planned for 2013 and 2015. The survey looks at health conditions, functioning in daily life (self-reported health status and performance tests in a range of domains) and people’s subjective well-being.

Within this framework, well-being is seen as made up of a combination of subjective appraisal (happiness, life satisfaction) and affective experience (Fig. 76). SAGE measures subjective well-being through a combination of life satisfaction (using WHO Quality of Life (WHOQoL) 8: eight questions about satisfaction with different domains of life and life overall) and experienced well-being through the Day Reconstruction Method *(see 59)*.

Fig. 76. Overall SAGE measurement framework



Source: WHO Study on Global AGEing and Adult Health (SAGE) *(94)*.

The data collected allow analysis of various factors affecting changes in well-being over the life-course. The results to date suggest that overall happiness and experienced well-being have very similar determinants: a strong relationship with health status, chronic disease and disability; and consistent relationships with age, income, education, social networks and the broader environment. In the future this study may help to improve understanding of well-being and its measurement by identifying biomarkers of well-being, examining framing effects within different methodologies (such as how the way questions are asked can influence the response), making comparisons between populations and identifying relations with characteristics such as temperament. Better ways of interpreting the data will bring stronger validity, leading to greater use of longitudinal survey data in identifying and evaluating possible interventions, and making policy *(59)*.

In the European Region, Finland, Poland and Spain are collecting similar data.

Work by the United Nations

A recent global report commissioned by the United Nations *(95)* starts with the premise that we need a very different model of humanity, one that does not put rising income or economic growth at the centre of what matters in life. The report is part of the response to a 2011 United Nations General Assembly resolution that invited Member States to “pursue the elaboration of additional measures that better capture the importance of the pursuit of happiness and well-being in development with a view to guiding their public policies" *(96)*. Similar to the origins of OECD work in this area, the aim is to learn from studies and existing data, even if not from official sources, that consistently show that higher average incomes do not necessarily improve average well-being within a country or across countries. This is not to discard the idea that higher household income (or higher GDP per capita) usually signifies an improvement in the life conditions of the poor. Instead, the report *(95)* argues that the information used to build an understanding of what makes lives better should include measures of subjective well-being.

The report is not billed as addressing subjective well-being, but as the first *World happiness report (95)*, reviewing and reporting on data collected by others, including the World Values Survey, the Gallup World Poll and several other national and international surveys, including the European Social Survey. It argues that the assessment of social progress needs a broader set of domains, which addresses both objective and subjective aspects of well-being. Moreover, information on multiple domains provides policy-makers with a greater understanding of the implications of their policies and decisions, beyond income or economic growth.

The report *(95)* concedes that, for many:

> Happiness seems far too subjective, too vague, to serve as a touchstone for a nation's goals, much less its policy content. That indeed has been the traditional view. Yet the evidence is changing this view rapidly. A generation of studies by psychologists, economists, pollsters, sociologists, and others has shown that happiness, though indeed a subjective experience, can be objectively measured, assessed, correlated with observable brain functions, and related to the characteristics of an individual and the society.

External factors proposed as important domains or key determinants of subjective well-being are income, work, community and governance, and values and religion. Among the more personal factors are mental and physical health, family experience and education. Differences in the level of well-being by sex and age are also noted.

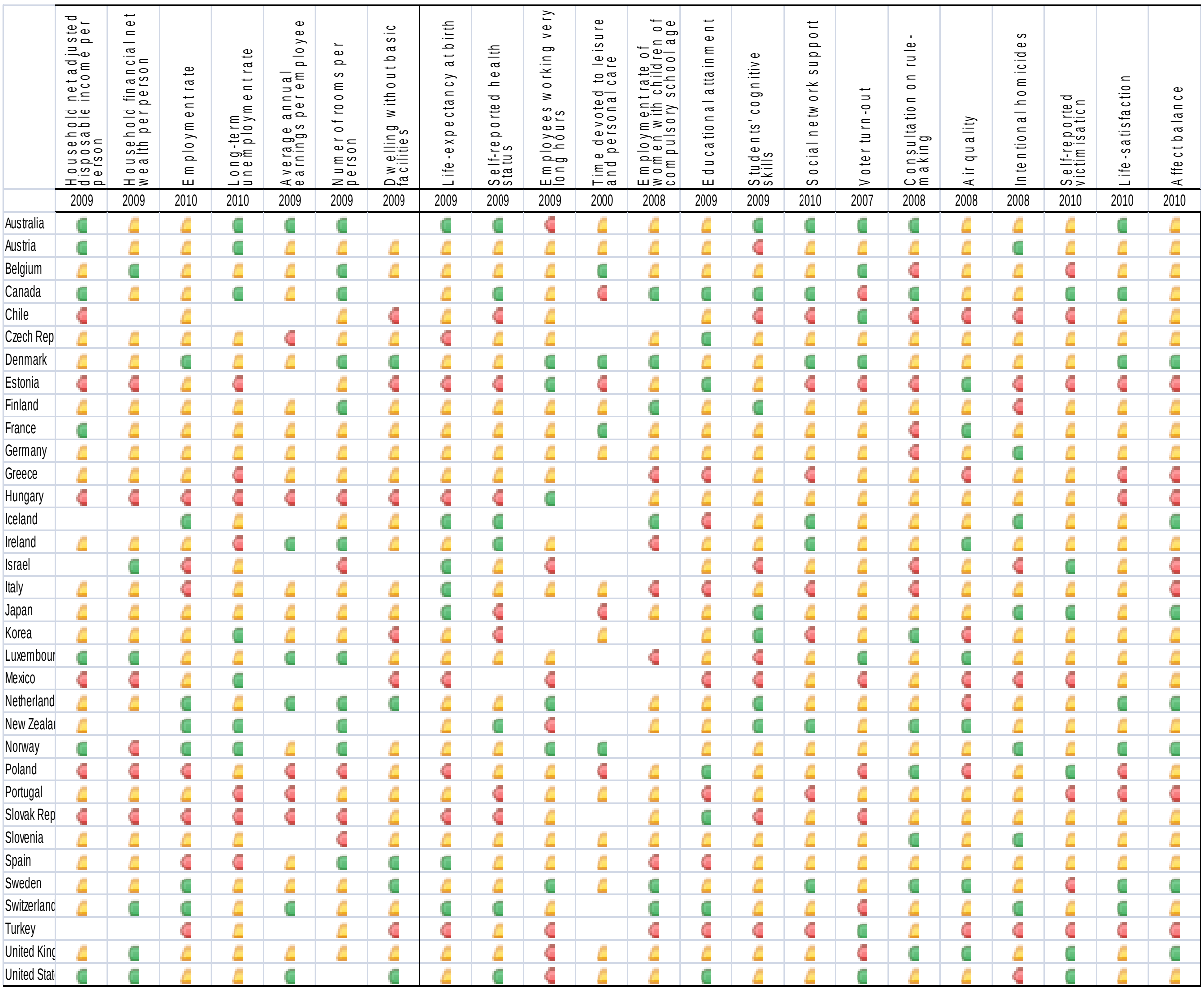
The main message from the data across countries is that wealth is not the only thing that makes people happy, in terms of subjective well-being. In fact, political freedom, strong social networks and an absence of corruption are together more important than income in explaining differences in well-being between the highest- and lowest-ranking countries. Other things also matter: at the individual and household level, good mental and physical health, someone to count on, job security, stable families and community trust are crucial.

Reporting and presenting data

Well-being is multidimensional; this creates challenges for presenting data. Much can be learned from current efforts around the world, including those of OECD, when crafting an approach to communicate results across the European Region's 53 Member States. Typical approaches to presenting multidimensional concepts include using a dashboard or combining data into composite measures (reflecting composite indices); each has advantages and disadvantages.

With dashboards, patterns are straightforward to interpret and require no specific assumptions. Such images, however, can sometimes make it difficult to understand the main message (Table 6), and priorities can be hard to set. In addition, taking the dashboard approach may lead to not being as parsimonious as possible with indicators.

Table 6. Dashboard of OECD Better Life Index: multiple domains and countries

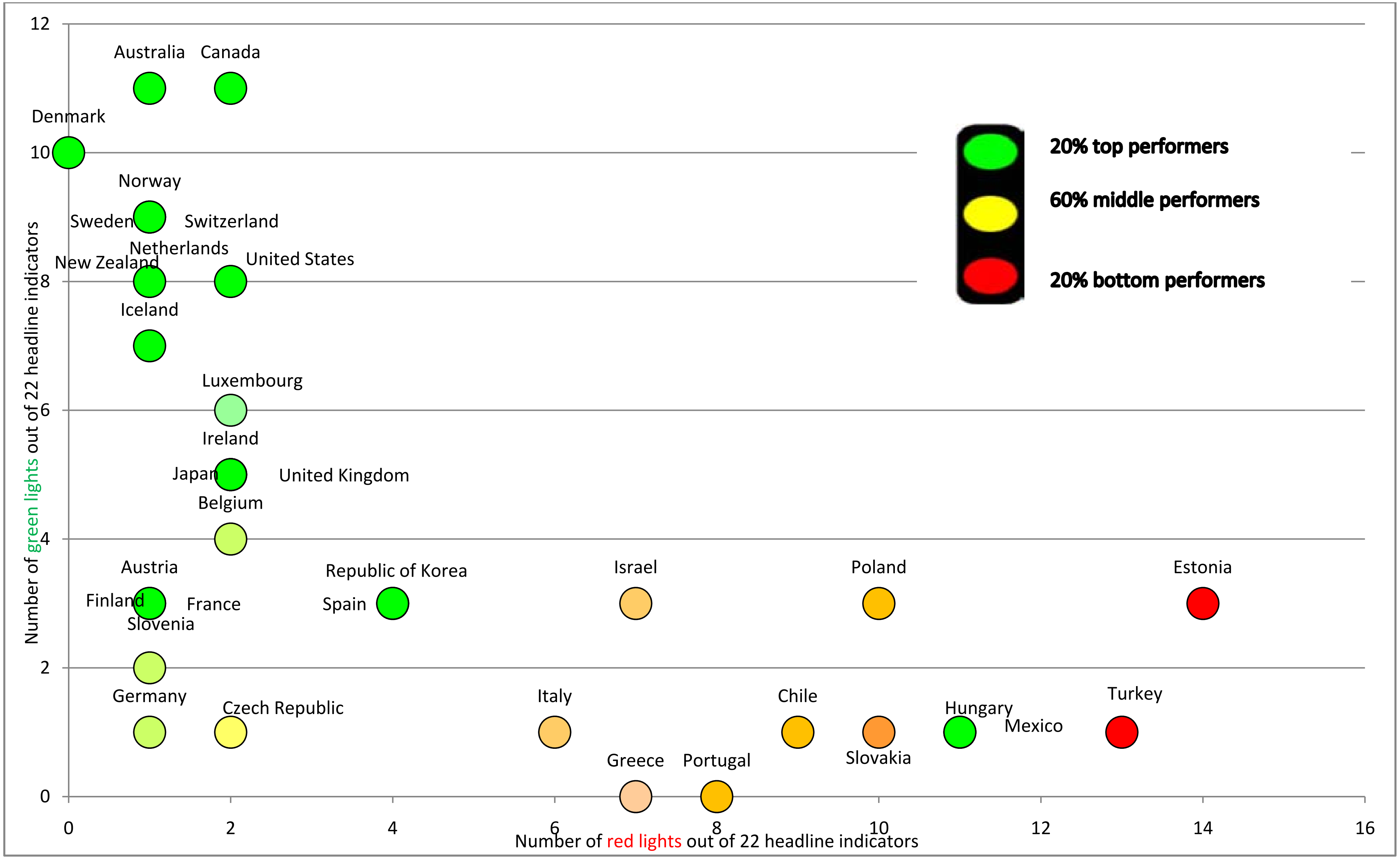


	Household net adjusted disposable income per person	Household financial net wealth per person	Employment rate	Long-term unemployment rate	Average annual earnings per employee	Numer of rooms per person	Dwelling without basic facilities	Life-expectancy at birth	Self-reported health status	Employees working very long hours	Time devoted to leisure and personal care	Employment rate of women with children of compulsory school age	Educational attainment	Students' cognitive skills	Social network support	Voter turn-out	Consultation on rule-making	Air quality	Intentional homicides	Self-reported victimisation	Life-satisfaction	Affect balance
	2009	2009	2010	2010	2009	2009	2009	2009	2009	2009	2000	2008	2009	2009	2010	2007	2008	2008	2008	2010	2010	2010
Australia	●	▲	▲	●	●	●		●	●	◆	▲	▲	▲	●	●	●	●	▲	▲	▲	●	▲
Austria	●	▲	▲	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	◆	▲	▲	▲	▲	●	▲	▲	▲
Belgium	▲	●	▲	▲	▲	●	▲	▲	▲	▲	●	▲	▲	▲	▲	●	◆	▲	▲	◆	▲	▲
Canada	●	▲	▲	●	▲	●		▲	●	▲	◆	●	●	●	●	◆	●	▲	▲	●	●	▲
Chile	◆		▲			▲	◆	▲	◆	▲			▲	◆	◆	●	◆	◆	◆	◆	▲	▲
Czech Rep	▲	▲	▲	▲	◆	▲	▲	◆	▲	▲		▲	●	▲	▲	▲	▲	▲	▲	▲	▲	▲
Denmark	▲	▲	●	▲	▲	●	●	▲	▲	●	●	●	▲	▲	●	●	▲	▲	▲	▲	●	●
Estonia	◆	◆	▲	◆		▲	◆	◆	◆	●	◆	▲	●	▲	◆	◆	◆	●	◆	◆	◆	◆
Finland	▲	▲	▲	▲	▲	●	▲	▲	▲	▲	▲	●	▲	●	▲	▲	▲	▲	◆	▲	▲	▲
France	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	▲	▲	▲	▲	▲	◆	●	▲	▲	▲	▲
Germany	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	◆	▲	●	▲	▲	▲
Greece	▲	▲	▲	◆	▲	▲	▲	▲	▲	▲		◆	◆	▲	◆	▲	▲	◆	▲	▲	◆	◆
Hungary	◆	◆	◆	◆	◆	◆	◆	◆	◆	●		▲	▲	▲	▲	▲	▲	▲	▲	▲	◆	◆
Iceland			●	▲		▲	▲	●	●			●	◆	▲	●	▲	▲	▲	●	▲	▲	●
Ireland	▲	▲	▲	◆	●	●	▲	▲	●	▲		◆	▲	▲	●	▲	▲	●	▲	▲	▲	▲
Israel		●	◆	▲		◆		●	▲	◆			▲	◆	▲	▲	◆	▲	◆	●	▲	◆
Italy	▲	▲	◆	▲	▲	▲	▲	●	▲	▲	▲	◆	◆	▲	◆	▲	◆	▲	▲	▲	▲	◆
Japan	▲	▲	▲	▲	▲	▲	▲	●	◆		◆	▲	▲	●	▲	▲	▲	▲	●	●	▲	●
Korea	▲	▲	▲	●	▲	▲	◆	▲	◆		▲		▲	●	◆	▲	●	◆	▲	▲	▲	▲
Luxembour	●	●	▲	▲	●	●	▲	▲	▲	▲		◆	▲	◆	▲	●	▲	●	▲	▲	▲	▲
Mexico	◆	◆	▲	●			◆	◆		◆			◆	◆	▲	◆	▲	◆	◆	◆	▲	▲
Netherland	▲	▲	●	▲	●	●	●	▲	▲	●		▲	▲	●	▲	▲	▲	◆	▲	▲	●	●
New Zeala	▲		●	●		●		▲	●	◆		▲	▲	●	●	▲	●	●	▲	▲	▲	▲
Norway	●	◆	●	●	▲	●	▲	▲	▲	●	●		▲	▲	▲	▲	▲	▲	●	▲	●	●
Poland	◆	◆	◆	▲	◆	◆	▲	◆	▲	▲	◆	▲	●	▲	▲	◆	●	◆	▲	●	◆	▲
Portugal	▲	▲	▲	◆	◆	▲	▲	▲	◆	▲	▲	▲	◆	▲	◆	▲	▲	▲	▲	◆	◆	◆
Slovak Rep	◆	◆	◆	◆	◆	◆	▲	◆	◆	▲		▲	●	◆	▲	◆	▲	▲	▲	▲	▲	▲
Slovenia	▲	▲	▲	▲		◆	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	▲	●	▲	▲	▲
Spain	▲	▲	◆	◆	▲	●	●	●	▲	▲	▲	◆	◆	▲	▲	▲	▲	▲	▲	▲	▲	▲
Sweden	▲	▲	●	▲	▲	▲	●	▲	▲	●	▲	●	▲	▲	●	▲	●	●	▲	◆	●	●
Switzerlan	▲	●	●	▲	●	▲	▲	●	●	▲		●	●	▲	▲	◆	▲	▲	●	▲	●	▲
Turkey			◆	▲		▲	◆	◆	▲	◆		◆	◆	◆	◆	●	▲	◆	◆	◆	◆	◆
United King	▲	●	▲	▲	▲	▲	▲	▲	▲	◆	▲	▲	▲	▲	▲	◆	●	●	▲	●	▲	●
United Stat	●	●	▲	▲	●		●	▲	●	◆	▲	▲	●	▲	▲	●	▲	▲	◆	●	▲	▲

Note. Circles denotes OECD countries in the top two deciles; diamonds, those in the bottom two deciles, and triangles, those in the six intermediate deciles. In addition, the indicator "Dwelling with basic facilities" considers only data referring to dwellings without indoor flushing toilet.
Source: OECD calculations based on the indicators shown in *How's life? Measuring well-being (90)*.

Composite measures may be easier to communicate (especially for the public and policy-makers), and they can help to support priority setting. Their creation depends on assumptions (that are arbitrary, to some extent), however, and may lack transparency; they can also be overly simplistic in representing complex phenomena (Fig. 77).

Fig. 77. OECD Better Life Index, composite: single index for each country



Source: *How's life? Measuring well-being (90).*

One solution is to use both approaches in a complementary way. Dashboards provide information on each component and are easier to interpret; composite indices can be used to show highlights and to assess interconnections between drivers of well-being, for example.

Box 20. Discussion points – what we can build on?

- Efforts to measure well-being at the population level are more relevant in practice than those focusing on specific clinical subpopulations.
- Subjective well-being measures should be complemented by objective measures, even if self-reported.
- In practice there is a high degree of cooperation between international organizations in this area and complementarities between international and national initiatives.
- For policy-makers, the main issues are often external, environmental factors affecting well-being, since government policy might be able to influence these in a stable way in the long term.

What are the challenges in measuring health and well-being?

Despite general agreement on what makes a good life and the availability of multiple tools and approaches, researchers agree that the field of measuring well-being lacks clear definitions and rigorous assessment methods. There are several plausible reasons for this, including a narrow conceptualization of health and well-being, limited data sources and unclear application of information on well-being in the context of monitoring or improving health. In addition, the measures of health included in well-being indices often continue to measure mortality or illness ("ill-being"), not the positive end of what constitutes health and well-being.

Another challenge may be the inability to choose from a range of potential measures of well-being; there are many and almost all ask different questions or include different existing data, such as from economic, social or health surveys or statistics. Yet another is that most efforts to measure the level of health in the context of well-being have been primarily based on subjective measures that might be perceived as difficult to compare over time, across countries or across socioeconomic groups. Without clear guidelines, another challenge is the interpretation of collected data: some approaches combine domains that are measured at the individual level and the community or national level. Such indices are difficult to interpret if some of the parts improve while others stagnate or worsen.

Box 21. Key messages – challenges for measuring health and well-being

- There is no single definition of well-being across place or time, yet all agree that health is a key component.
- Multiple measurement approaches exist, with no criteria on how to select a tool.
- Presentation of multidimensional data is not always consistent or transparent.
- Interpretations can be limited because of differences in how domains are weighted or combined, and the difficulty of combining data on different scales.

A roadmap for advancing measurement of health and well-being

Reflecting the recommendations of the expert group convened by the WHO Regional Office for Europe and the new Health 2020 policy *(1,59,60)*, the WHO Regional Office for Europe is committed to providing operational clarity on how health is measured in the context of well-being. Recommendations and agreed criteria include the following steps.

A definition of well-being that is conceptually sound should be developed. As far as possible, the operational approach should draw on models that have been used at the population level, such as the OECD Better Life Index. The choice of domains used to measure well-being should aim for maximum coherence with other approaches at the international level.

For the health component of well-being, the range of domains and subsequent indicators tested should be linked to the International Classification of Functioning, Disability and Health (ICF) *(97)*, WHO's framework for measuring health and disability at both the individual and population levels. ICF is structured around the following broad components:

- body functions and structure;
- activities (related to tasks and actions by an individual) and participation (involvement in a life situation);
- additional information on severity and environmental factors.

It complements WHO's International Classification of Diseases, which contains information on diagnosis and health condition, but not functional status. Moreover, at minimum, health in the context of well-being must include social, mental and physical health.

Indicators selected to measure each aspect of the health domain need to be linked to an agreed target for monitoring progress towards the Health 2020 goal: to improve population health in the context of well-being. Approaches to measurement should be as objective as possible, although without discarding validated self-reported measures or lessons from assessments of health systems' performance. This includes identifying measurement indicators where data already exist, or recommending potential new measures that need to be developed and tested. In either case, measurement of these indicators should reach acceptable levels of reliability and validity.

The measurement approach should allow for the comparison and interpretation of health in the context of well-being within and across countries. Thus, values (data) for each indicator of health should be made available, and different potential approaches to combining the indicators and to reporting and interpreting a single index for the health domain should be tested and evaluated.

How policy-makers, health professionals and other interested stakeholders across the WHO European Region can use this information should be documented and communicated.

Communication should also include tools that allow presentation and interaction in a web-based medium.

Where are we now?

Based on the expert technical consultations in 2012 *(59,60)*, the WHO Regional Office for Europe proposes an initial high-level definition of well-being that could serve as an umbrella for other international population-based efforts:

> Well-being exists in two dimensions: subjective and objective. It comprises an individual's experience of their life and a comparison of life circumstances with social norms and values.

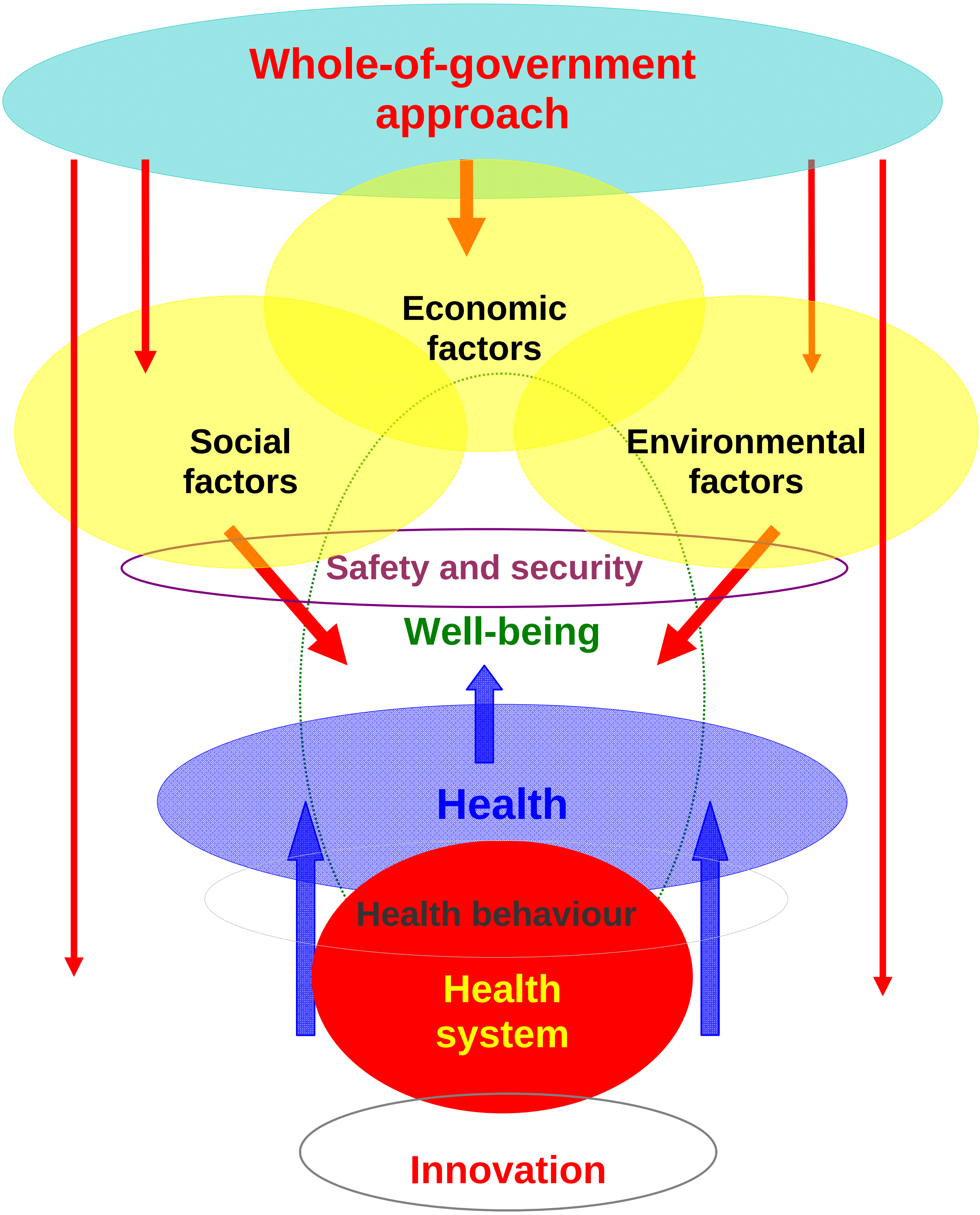
The term "social norms and values" is meant to capture the minimum threshold or level of different objective elements of well-being, recognizing such thresholds may change over time. Additional explanatory detail for the recommended definition includes the following.

- Well-being and health are interactive, with some common determinants, such as health and social systems. Health influences overall well-being, yet well-being also predicts future health.
- Across countries people usually agree on the big picture (the minimum ingredients of well-being), even if identification of the important areas or components remains a normative exercise.
- Subjective experiences can include a person's overall sense of well-being and psychological functioning, as well as affective states. Examples of objective well-being and life circumstances include health, education, jobs, social relationships, environment (built and natural), security, civic engagement and governance, housing and leisure.

This definition recognizes that multiple domains or areas cover different aspects of well-being, with health an important domain of and contributor to well-being. Fig. 78 illustrates these domains and contributors, and indicates the approaches or entry points for improvement. As discussed, refining the mapping of the processes and pathways towards the state of well-being will help to clarify the potential entry points for action to improve average well-being and its distribution within a population.

Moreover, both subjective and objective elements could be incorporated as complementary parts of each domain of well-being. It is important, however, to clarify which framework will be used and for what purpose. For example, a descriptive framework would help to identify how to describe and measure well-being. An action-oriented framework would help policy-makers or practitioners understand the entry points for action and change, based on attribution studies and evidence on what works in practice.

Fig. 78. Overall framework for health and well-being



Source: *Measurement of and target-setting for well-being (59).*

Establishing how to refine the frameworks and move towards a specific definition of well-being in this context requires a more detailed review of the existing concepts. Although well-being clearly covers a range of domains, including health among many others, the expert group recommended that the Regional Office focus on its central mandate of health and concentrate advances in measurement on the areas of health and the health-related aspects of well-being *(59,60)*.

Testing hypothesized relationships with different illness and disease groups, different socioeconomic and demographic groups, and other external criteria in advance will strengthen the interpretation and usefulness of multidimensional profiles of health and well-being. For this specific area, given the lack of existing data (depending on the choices made about the definition and indicators of well-being to be used), one option would be to have at least one process target for Health 2020, on governments' collecting data on well-being. This could be accompanied by a roadmap towards an outcome target, depending on the process target. This in turn could take account of inequities and variations within the Region by framing the outcome target in terms of reducing the gaps identified for specific groups at the national level. Other options include setting a target of increasing total well-being (however measured) within the Region; focusing on a few specific aspects (linked to health), or focusing on reducing inequalities in a particular dimension of overall well-being (such as reducing the social gradient related to income or education).

How can this information be used to improve health and well-being?

Government policy-making is a process formed and developed over time. This can include setting high-level policy objectives, discussing the role of government in achieving them and identifying where and how governments can best use resources, including managing trade-offs and competing priorities. Policy-making often involves a wide range of actors, from government ministers and key decision-makers, other politicians and parliamentarians, special interest groups, patient and community groups, civil servants, public service professionals, researchers and other experts to members of the public.

The past few years have witnessed national and international initiatives promoting policy use of well-being indicators that reach beyond measuring economic performance and can supplement standard metrics of mortality, disability or disease within the health sector. These initiatives vary in scope, methods, targets and key audiences. Some are briefly presented in this chapter. Some initiatives share the goal of involving citizens in the definition of measures of well-being and progress. Across many countries, activities to link well-being and health are increasing, including target setting to improve interventions addressing health in the context of well-being (Box 22).

While the direct relevance of these initiatives and their objectives to policy varies, they all aim at informing policy-making: for example, the OECD Better Life Index was launched to promote benchmarking and mutual learning *(90)*.

Box 22. Case study: occupational health and well-being in the former Yugoslav Republic of Macedonia

The country's Institute of Occupational Medicine, a WHO collaborating centre, promotes WHO principles in the field of occupational health, including well-being, at the national and international levels. The Institute took part in preparing the country's national strategy and action plan for safety and health at work for 2011–2015, coordinated by the Ministry of Health. This joint action resulted in the establishment of a national public health network of occupational health services, intended to improve health and well-being among vulnerable groups of workers.

Since 2007 the Institute has implemented the new basic occupational health services approach, within the framework of preventive programmes to assess health status and work ability, to support agricultural workers and unemployed people. Some of the activities that evaluate interventions from the perspective of impact on workers' well-being include research on workplace stress and burnout (supported by the EU's Seventh Framework Programme), and on occupational risks of infectious disease among health workers.

In addition, the Institute participated in the development of the national strategy and action plan to adapt health care to climate change (2011–2015), a heat–health action plan and an action plan on the prevention of adverse population health affects due to cold weather. The Institute also initiated the establishment of the South-eastern European Network on Workers' Health, which also includes Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, Romania, Serbia, and Turkey. The Network's purpose is to strengthen subregional cooperation in occupational health, contributing to the implementation of the WHO Global Plan of Action on Workers' Health *(98)*.

Health 2020 aims to establish policy targets, which implies putting in place actions to improve the situation. For use within the Health 2020 framework, both the information content and the entry points of well-being measures need to be considered carefully. For example, in the case of health outcomes, some of the relevant drivers may pertain to the characteristics of individuals (patients), others to the programmes of service delivery and implementation (such as the health system), and still others to the environment where people live (including environmental and working conditions, immigration, income and other inequalities). Health systems clearly contribute to health and well-being: lessons from assessments of health systems' performance and related approaches to quantifying and attributing their overall contributions are crucial to ensuring the policy relevance of such efforts (Box 23).

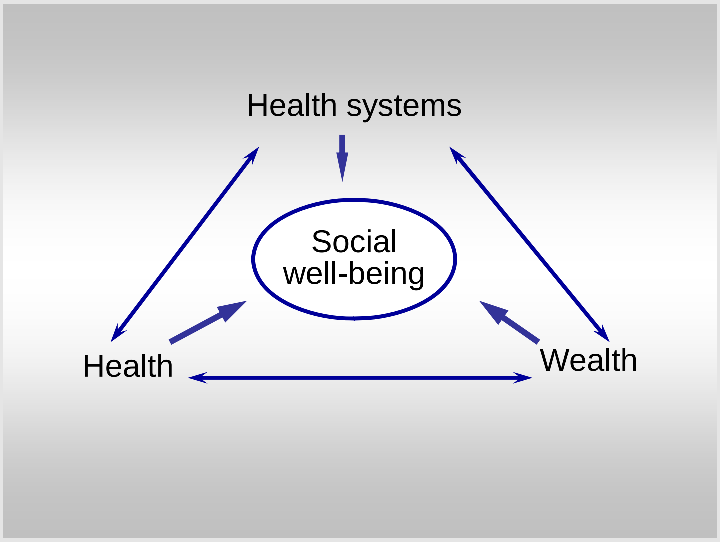
Although beyond the scope of this discussion, some of these factors may not be directly amenable to policy interventions, while other measures of societal progress (such as measures of social connections or subjective well-being) may be too general to identify a causal link to government interventions in specific fields.

Box 23. Health systems' contribution to well-being

Health systems, health, wealth and societal well-being: assessing the case for investing in health systems (99), a publication by the European Observatory on Health Systems and Policies, describes health systems' contributions to societal well-being in three main ways, based around a conceptual framework (see figure below).

- Health systems produce health, which is a major component of well-being.
- Health systems promote wealth by being a significant component of the economy, which is an indirect yet key contributor to well-being.
- Health systems directly affect societal well-being as people draw satisfaction from the existence of health services and their ability to access them.

Health systems, health, wealth and societal well-being



The constellation formed by these three factors in enhancing societal well-being and the nature of the interrelationships between health systems, health and wealth necessarily differ between contexts and jurisdictions or countries. Well-being is something of a general principle in this work *(99)*, and health systems' contribution is not explicitly measured. Rather, it outlines that better health outcomes and healthier populations, via well-functioning health systems, can contribute to greater societal well-being.

Health is central to wealth and societal well-being (and health systems are a catalyst)

Health constitutes a major component of well-being.

- Health is valued in and of itself, and citizens in the European Region place a high value on good health.
- Health increases economic productivity and national income, which can promote societal well-being (healthier people are more productive).

Health has an impact on wealth and vice versa.

- Health may contribute to budgetary gains from health expenditure savings (better health reduces demands on health care now and in the future).
- Wealth affects health directly through material conditions, and indirectly though social participation and people's control over their lives.

Health also reflects the progress of societies, and measures of social development must include it.

Investment in health systems brings real benefits

Societies can choose how and how much to invest in health systems, despite competing demands for resources. Appropriate investment in health systems is an effective way of improving health and wealth, thereby contributing to societal well-being.

- Health systems support healthier, more economically active societies.
- Health services save lives.
- Well-targeted public health interventions make a difference.
- Health systems help to create societal well-being, not least by promoting equity and responsiveness.

The Observatory has a dedicated programme on health system performance assessment, whose objectives are to "improve approaches to measurement and analysis, and to demonstrate how comparative metrics can help in the design and evaluation of initiatives intended to strengthen health systems" *(100)*. *Health systems, health, wealth and societal well-being (99)* documents progress in this area, with a second volume planned for 2013.

Further, there are potential limitations to using well-being indicators. Many indicators used by organizations or Member States are better suited to monitoring well-being than evaluating the impact of specific policy measures. It is nevertheless important to take account of how the outcomes measured respond to policy interventions and how other organizations, such as OECD, have fine-tuned the choice of indicators from a policy perspective.

The WHO Regional Office for Europe can support the use of health and well-being measures in policy in the following ways. It can:

- provide evidence on the mechanisms and tools that the health sector can use to enhance well-being in all sectors; this role could be expanded to support policy-makers in improving well-being within the health sector, in other sectors, across government and in partnership with nongovernmental actors;
- disseminate policy-relevant information prepared in collaboration with European institutions or Member States (Box 24);
- investigate how well-being indicators should be interpreted and used in connection with standard measures of mortality, morbidity and health system performance: well-being indicators are meant to complement, rather than replace, such measures.

Box 24. Usefulness of well-being measures to policy-makers

OECD analysis *(90,101)* indicates that policy-makers use well-being measures:

- to stimulate public discourse and help policy-makers to focus on policies that matter to people's lives – making more legitimate and socially acceptable policies that are more likely to succeed;
- to identify priorities for action needed to achieve the overall goal of improving people's lives; and
- to offer a broad set of criteria against which specific policy interventions can be evaluated.

Priorities emerge from defining what matters to well-being; identifying relative strengths and weaknesses in life conditions in a particular country, inequalities in well-being within countries and particularly vulnerable groups of people who may benefit from policy interventions; and assessing the interrelations between the different dimensions of well-being and their policy determinants, with a view to better managing trade-offs between them.

A research agenda covering the statistical and methodological issues touched on in this chapter is warranted. It could also include ways to develop and test how best to communicate well-being measures that:

- include health as an important domain;
- connect this work to health system performance assessment;
- provide a broader picture of what matters for a good life;
- consider how changes in one domain can influence changes in another or multiple domains.

Moving forward

Improving health and well-being is a recognized and essential component of Health 2020. A wide range of continuing activities measuring well-being at the international level in Europe, as well as many national initiatives (Box 25), provide a strong basis from which the WHO Regional Office for Europe can advance this work, particularly measuring health in the context of well-being.

Box 25. Case study: child well-being in Italy – a wealth of research studies

Italian indicators of child well-being are available, with those of 20 other countries, in a report by the United Nations Children's Fund (UNICEF) on a project on child well-being in rich countries (see table).

Summary table: child well-being in rich countries

		Dimension 1	Dimension 2	Dimension 3	Dimension 4	Dimension 5	Dimension 6
Dimensions of child well-being	**Average ranking position (for all 6 dimensions)**	**Material well-being**	**Health and safety**	**Educational well-being**	**Family and peer relationships**	**Behaviours and risks**	**Subjective well-being**
Netherlands	4.2	10	2	6	3	3	1
Sweden	5.0	1	1	5	16	1	7
Denmark	7.2	4	4	8	9	6	12
Finland	7.5	3	3	4	17	7	11
Spain	8.0	12	6	16	8	5	2
Switzerland	8.8	6	9	14	4	12	6
Norway	8.7	2	8	11	10	13	8
Italy	10.0	14	5	20	1	10	10
Ireland	10.2	19	19	7	7	4	5
Belgium	10.7	7	16	1	5	19	16
Germany	11.2	13	11	10	13	11	9
Canada	11.8	6	13	2	18	17	15
Greece	11.8	16	18	16	11	8	3
Poland	12.3	21	15	3	14	2	19
Czech Republic	12.5	11	10	9	19	9	17
France	13.0	9	7	18	12	14	18
Portugal	13.7	16	14	21	2	15	14
Austria	13.8	8	20	19	16	16	4
Hungary	14.6	20	17	13	6	18	13
United States	18.0	17	21	12	20	20	–
United Kingdom	18.2	18	12	17	21	21	20

Note. OECD countries with insufficient data to be included in the overview: Australia, Iceland, Japan, Luxembourg, Mexico, New Zealand, the Republic of Korea, Slovakia and Turkey.

Source: Child poverty in perspective (102).

In addition, several national studies evaluate factors included in the broad definition of well-being, although none had previously focused on collecting specific indicators on child well-being. The Italian National Institute of Statistics (ISTAT) started a survey in 2008 to evaluate functioning, disability, health and well-being in students with disabilities in primary and lower secondary schools. Financed by the Ministry of Labour and Social Policy, in collaboration with the Ministry of Education, Universities and Research, its goal is to examine the resources and tools adopted by single school centres to facilitate the integration and inclusion of students with disabilities, and thus to improve their functioning and well-being. The survey provides indicators, based on the ICF framework *(97)*, on types of health problem and the scholastic environment: accessibility of buildings, presence of learning support teachers, presence of other specific professional figures and use of learning technologies.

Two rounds have been completed (2008–2009 and 2009–2010), and the first-round results are available in English *(103)*. For the second round, more than 89% of schools (over 23 000) completed the questionnaire. Analysis of the third round from 2012 is under way.

A new publication provides another overview of Italian child poverty and well-being *(104)*, and there are several ongoing research studies on child well-being in Italian universities and research centres, linking mental, physical and social functioning. The Foundation of the Carlo Besta Neurological Institute has also implemented pilot studies on disability, well-being and health-related quality of life in children with neurological disorders, such as Tourette's syndrome and dystonia.

Nevertheless, national efforts (within the health ministry, other ministries or national statistical agencies) or research studies to conceptualize, collect or use information on health and well-being are lacking in a large number of countries in the Region. Any effort to improve well-being at the regional level should consider options to support a broad range of countries, with different data and measurement starting points, connecting research centres with policy-makers in health and other sectors.

This chapter outlines an approach to further develop the measurement of progress towards health in the context of well-being – what we value. Addressing the challenges identified across the European Region and achieving solutions by 2020 will require the identification of collaborators, resources and processes that can support joined-up work: marking progress. Some areas for this agenda are discussed in the last chapter of this report, including mechanisms to refine concepts and agree on norms, validity and limitations; methodological issues; measurement approaches and challenges; and interpretation of health and well-being at the level of the European Region.

4. Next steps in the countdown to 2020: marking progress

While this report shows the wealth of health information available in the WHO European Region, considerable measurement challenges remain:

- relevant data to measure progress are not available for all countries;
- definitions vary between countries and disease classifications are not homogeneously applied; and
- vital-event registration varies in population coverage and is not yet compulsory in all countries in the Region.

The WHO Regional Office for Europe is committed to assisting Member States to enhance their progress in reporting and monitoring health information with the implementation of Health 2020.

One of the major challenges to the implementation and impact of Health 2020 is the availability of data at the country level to monitor progress. The overarching targets and their indicators were selected for data availability, as well as their importance in achieving Health 2020. Information either routinely or regularly collected in most European countries can supply data on most indicators listed for the targets. Nevertheless, differences in definitions, population coverage and data quality hamper comparisons. As progress will be measured at the regional level, these difficulties will be multiplied, but limitations do not make comparisons meaningless.

The Regional Office supports countries with tools and instruments to enhance the collection, analysis and reporting of health information at the country level. As mentioned, it is working with the European Commission and OECD to establish a single integrated health information system for Europe, covering all 53 Member States (Box 26).

Box 26. Roadmap to an integrated health information system for Europe

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Since 2011, the European Commission and the WHO Regional Office for Europe have worked together to establish an integrated health information system for all 53 countries in the European Region. Initial steps already completed include:

- analysis and mapping of all databases and data collections in both agencies;
- establishment of new partnerships, including with OECD; and

- the development of a roadmap to create a single platform for European health information.

The next steps include detailed situation analyses for countries and a plan for the integration of key core indicators into the platform.

This integrated system will in time reduce the reporting burden of countries, which often submit information to several agencies. It will also serve as one-stop-shop for health information in Europe.

This work is well under way, as is the development of a health information strategy for the Region. During the 2012 session of the Regional Committee, the Regional Office and OECD signed a joint action plan that includes concrete collaboration in several areas of public health, including health information.

Key challenges include:

- addressing the range of data sources and norms/standards, from vital statistics to household surveys, so that these contain common ways to disaggregate data by social or other strata, and enable the monitoring of health inequalities within and across countries;
- establishing how to allocate all 53 countries within meaningful subEuropean aggregations or subregional trends, since the current subregional groups (EU12, EU15 and CIS – see Annex 1) do not include 14 Member States;
- increasing the validity and reliability of data reported to the Health for All database *(6)* from across all 53 countries, in the light of collaborative work with Member States and other regional entities;
- improving the measurement and reporting of the overall burden of disease, including morbidity and other conditions particularly addressing mental health;
- collecting, linking and making accessible data across health and other sectors, to support the health-in-all-policies approach and intersectoral analysis, policy-making, monitoring and evaluation;
- making progress on surveillance and outbreak monitoring, as well as compliance with the International Health Regulations *(105)*, across the European Region and via connections with other regions (through governance for health and tackling communicable diseases);
- developing a road map to address these challenges and achieve solutions, identifying collaborators, resources and processes, and a research agenda to support joined-up action.

Chapter 1 provides a detailed account of the health status of European populations. The indicators shown, however, are largely those describing mortality rather than summary measures of population health (such as DALYs). The latter combine information on fatal and non-fatal outcomes, providing a more comprehensive picture of the burden of disease. The Regional Office aims to work more closely with Member States to enhance the use of such summary measures, which include elements of disability and morbidity in addition to mortality.

The increasing inequalities in health described in this report add urgency to the need to obtain a better understanding of the pathways to health and well-being and their distribution across the European Region and within countries. This will also include the ability to better attribute the share and degree of impact of an intervention on health (from within the health sector and from other sectors), and the associated reduction in health inequalities.

A major challenge is measuring well-being in the context of health and eventually setting a target level for it. As Chapter 3 outlines, many actors have tackled these questions in an intersectoral sense, and WHO is working with its partners to resolve this in the context of health. Chapter 3 also provides a detailed roadmap that will culminate in proposed indicators for well-being in 2013.

Reducing the fragmentation and increasing the sustainability of health information systems across Europe are additional challenges. The expert meeting on indicators convened by the Regional Office in June 2012 *(60)* identified several different initiatives carried out over the years, particularly in the EU, to harmonize definitions, methods and collection of indicators, including the European Community Health Indicators *(58)*, the WHO Environment and Health Information System *(106)* and the European Health Examination Survey *(107)*. Financial constraints threaten many of these data collection efforts. Working closely with the European Commission, the Regional Office will support approaches to build on existing infrastructures and work towards a single integrated European health information system.

The experts convened by the WHO Regional Office for Europe *(60)* made some key comments and recommendations to support this approach that the Regional Office, Member States and key partners could take forward.

- Build on existing and ongoing health information activities. Several long-term health information activities, particularly at the EU level, are unfortunately being terminated. These activities have produced useful tools, methods and standards; they should not be discarded but put to further use.
- Share knowledge and expertise with countries that are lagging behind: for example, knowledge on conducting surveys is lacking in some eastern European countries. Extra efforts are needed to increase the participation of countries from all parts of the European Region.
- Emphasize the benefits of a common health information system that will reduce the administrative burden for Member States and improve data quality and interpretation.

As part of work to support improved monitoring and reporting, the WHO Regional Office for Europe will encourage Member States to share their experience in working towards each of the Health 2020 targets, including best practices and success stories, and how methods and approaches worked in particular contexts.

In addition, the Regional Office works with Member States and partners to enhance the use of new technologies and innovations, particularly in the area of e-health. Secure and relevant information exchange within the European context needs to be supported, while staying in line with data-protection laws, patients’ rights and accountability.

Information and evidence are only as good as their use by policy-makers. The Regional Office supports new initiatives to translate evidence into policy, including EVIPNet, the WHO Evidence-

Informed Policy Network *(108)*. This platform, which has been successful in other WHO regions, provides workshops and tools for countries to formulate, address and resolve policy questions using the best available evidence. The Regional Office officially launched EVIPNet Europe with four Member States in the central Asia in October 2012; it has received much support from participants and partners, including various United Nations organizations and donor agencies *(108)*.

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The WHO Regional Office for Europe will complete its work to develop indicators for the Health 2020 targets, including well-being, over the coming months through its expert groups and in close collaboration with Member States. A web-based country consultation and detailed discussions with governing bodies will precede the submission of final proposals to the Regional Committee in September 2013.

The European health report 2012 is only the starting point of a journey that Member States in the European Region will take. It provides a platform for discussion and a basis for accountability and measurement of progress in implementing Health 2020 in the Region. *The European health report 2012* facilitates tracking of the impact of Health 2020 on health and well-being in Europe; future reports will use it as a baseline to measure success.

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Annex 1. Technical notes for the demographic and epidemiological profile

Data sources and methods

Data sources for this report include demographic data from the United Nations World Population Prospects (2008 revision) and World Urbanization Prospects (2009 revision), and health-related data from the WHO European Health for All (January 2012 revision) and GLOBOCAN (2008) databases and from *The global burden of disease: 2004 update (1–5)*.

The main source is the European Health for All database *(3)*, which contains over 600 indicators from demographic, socioeconomic, mortality, morbidity and hospital discharge, lifestyle, environment, health care resources, health care utilization and expenditure, and maternal and child health categories, disaggregated by sex and age groups, where pertinent. Time series for some indicators span 1970 to 2011, but most data used extend from 1980/1990 to 2009/2010. Although the number of countries in the WHO European Region nearly doubled after 1990, the statistics used represent data annually reported by today's 53 Member States to the WHO Regional Office for Europe, contributing to its health monitoring efforts.

European regional averages represent population-weighted averages, weighted by total population, population younger or older than 65 years, or number of live births – either for both sexes or solely for males or females, as appropriate. In most cases, mortality indicators represent the age- and sex-standardized mortality rate, calculated with the direct method using the European standard population *(3)*. Some of the estimates and projections used were produced by WHO, the International Agency for Research on Cancer (IARC) and the United Nations Population Division.

The global burden of disease: 2004 update (5) divides the countries in the European Region into two groups:

- high-income countries: Andorra, Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland and the United Kingdom;
- low- and middle-income countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Poland, the Republic of Moldova, Romania, the Russian Federation, Serbia and Montenegro (one country in 2004), Slovakia, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine and Uzbekistan.

In contrast, Chapter 2 of this report illustrates target development using historical country subgroups, as used in the European Health for All database *(3)*:

- EU15: the 15 Member States belonging to the EU before 1 May 2004 – Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom;
- EU12: the 12 new Member States joining the EU in May 2004 or in January 2007 – Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia; and
- CIS (Commonwealth of Independent States until 2006): Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Countries in the European Region but not included in these groups are: Albania, Andorra, Bosnia and Herzegovina, Croatia, Iceland, Israel, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, the former Yugoslav Republic of Macedonia and Turkey.

A challenge identified in this report is how to allocate all 53 countries to meaningful sub-European aggregations, for example, to illustrate subregional trends in a contemporary context.

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Like its predecessors, the 2012 European health report describes both the overall improvements in health in the WHO European Region and their uneven distribution within and between countries. It breaks new ground, however, by helping both to define well-being, a goal of Europe’s new health policy, and to map the way towards achieving it.

The report shows that, while decreases in certain causes of death and advances in tackling risk factors and socioeconomic and living conditions have led to better health, health inequalities and their determinants occur – and in some cases are widening – in many parts of the Region. Avoidable inequalities that can be addressed by current knowledge are in fact health inequities. In response to this situation, the countries in the Region adopted the new European health policy, Health 2020, in 2012; its aim is to improve the health and well-being of populations, reduce health inequities and ensure sustainable people-centred health systems.

By describing health in Europe, this report provides policy-makers and public health professionals with the epidemiological evidence base that underpins Health 2020 and its six overarching targets. Further, it works to incorporate well-being in Health 2020 by quantifying a European target and relevant indicators. The report describes the WHO Regional Office for Europe’s work with partners and experts to develop a common concept and approach to well-being that both allow for valid measurement and yield information useful to policy-makers and in programme evaluation. It sets out the agreed approach to monitoring progress towards Health 2020, outlines the collaborative agenda to address the challenges ahead and makes the case for measuring well-being as a marker of progress in health.

The European health report 2012 | Charting the way to well-being

Investing in health and health systems is especially important during times of crisis, such as the severe economic crisis and pandemic (H1N1) 2009 influenza. To address these issues, governments and policy-makers need information that is current, accurate, comparable and user-friendly.

What were the trends in public health indicators over the last four years? What faactors influence health, and what are the challenges for the future? What contribution can health systems make to improve population health in the WHO European Region? In addressing these questions, this report illustrates the wide-ranging reforms countries have undertaken to strengthen performance in four core functions of health systems: service delivery, resource generation, financing and stewardship.

This report presents essential public health information to support countries in choosing sound investments in health. It should encourage the successful implementation of effective health system reforms and policies, and help countries improve their health systems' performance to provide efficient, patient-centred, high-quality health care. The annex provides some of the data used in the analysis.

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health.

The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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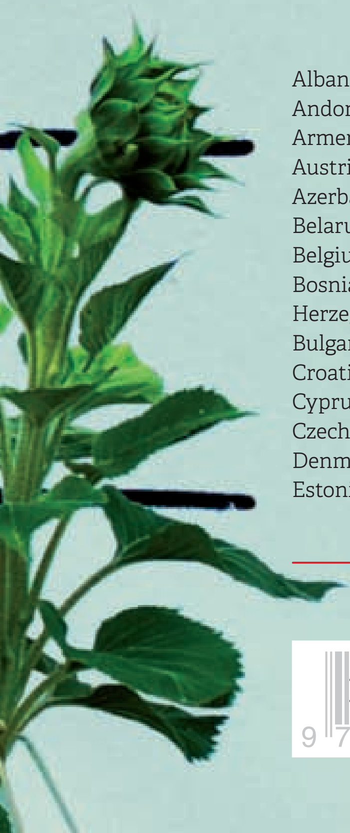

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World Health Organization
Regional Office for Europe
Scherfigsvej 8, DK-2100 Copenhagen Ø, Denmark
Tel.: +45 39 17 17 17; Fax: +45 39 17 18 18
E-mail: postmaster@euro.who.int
Web site: www.euro.who.int