World Health Organization
REGIONAL OFFICE FOR **Europe**

The European health report
2015

Targets and beyond – reaching
new frontiers in evidence

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To ensure the widest possible availability of authoritative information and guidance on health matters, WHO secures broad international distribution of its publications and encourages their translation and adaptation. By helping to promote and protect health and prevent and control disease, WHO's books contribute to achieving the Organization's principal objective – the attainment by all people of the highest possible level of health.

The European health report

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Acknowledgements

Abbreviations

BMI	body mass index
CARINFONET	Central Asian Republics Health Information Network
CCH	cultural contexts of health
CIS	Commonwealth of Independent States
COSI	Childhood Obesity Surveillance Initiative
EHII	European Health Information Initiative
EU	European Union
EVIPNet	Evidence-informed Policy Network
GDP	gross domestic product
HBSC	Health Behaviour in School-aged Children (study)
HEN	Health Evidence Network
ICD-10	International Classification of Diseases, tenth revision
ILOSTAT	International Labour Organization Department of Statistics
NCD	noncommunicable disease
OECD	Organisation for Economic Co-operation and Development
OOP	out-of-pocket payment
polio	poliomyelitis
POSE	polio outbreak simulation exercise
RCC	European Regional Commission for the Certification of Poliomyelitis Eradication
RIVM	National Institute for Public Health and the Environment (the Netherlands)
SDR	standardized death rate
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund

Abbreviations of country names used in some figures and tables

ALB	Albania
AND	Andorra
ARM	Armenia
AUT	Austria
AZE	Azerbaijan
BIH	Bosnia and Herzegovina
BLR	Belarus
BEL	Belgium
BEL (Fl)	Belgium (Flemish)
BEL (Fr)	Belgium (French)
BUL	Bulgaria
CRO	Croatia
CYP	Cyprus
CZH	Czech Republic
DEN	Denmark
DEU	Germany
ENG	England
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	The former Yugoslav Republic of Macedonia
MNE	Montenegro
MON	Monaco
NET	Netherlands
NOR	Norway
POL	Poland
POR	Portugal
ROM	Romania
RUS	Russian Federation
SCT	Scotland
SMR	San Marino
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
WLS	Wales

Foreword: making progress towards Health 2020 and embracing new forms of evidence

I am pleased to present the 2015 European health report, which is an essential resource for the 53 Member States in the WHO European Region, reporting on progress towards the Health 2020 targets. This report presents trends for the Health 2020 indicators and lessons learnt from individual countries on how they have taken effective public health action to improve the health and well-being of their populations. It also addresses the new public health challenges that have emerged in recent years. To respond effectively to these challenges, new forms of evidence are essential. This report gives an overview of the innovative work underway to improve the measurement and interpretation of health and well-being.

The European health report is a flagship publication that the WHO Regional Office for Europe issues every three years. The 2012 report set out the 2010 baseline measurements for monitoring progress towards the Health 2020 targets. The 2015 report presents the progress made since then. The targets encompass reducing premature mortality, increasing life expectancy, reducing inequities, enhancing well-being, ensuring universal health coverage and countries' setting national goals. An assessment of the available data across all these six targets reveals both positive developments and areas that need intensified public health action in the Region.

The 2012 European health report identified challenges in measuring and reporting on progress towards Health 2020, particularly in relation to measuring well-being. As a result of successful collaboration with other institutions and Member States, the WHO Regional Office for Europe is beginning to examine these challenges. The report presents an update on this work, along with proposals for new sources of qualitative evidence to describe and monitor well-being in relation to Health 2020. Facts and figures are not enough to report meaningfully on what it means to be healthy and well in Europe. Instead, this report argues, new forms of evidence are necessary to capture fully the experiences of health and well-being.

The Health 2020 monitoring framework, as adopted by Member States, is an important focus of this report. My team at the WHO Regional Office for Europe is working with countries to increase their capacity to monitor progress towards the Health 2020 targets. Nevertheless, comprehensive population health monitoring entails more than the indicators in the Health 2020 monitoring framework, which does not cover some important public health areas. Moreover, monitoring population health means more than analysing data and indicators; ensuring that health information is effectively used in the policy-making process is equally important. This report identifies key opportunities and challenges for making health information and evidence fit for the 21st century.

Primarily, the 2015 European health report shows progress at the regional level. I am confident, however, that it will also prove a useful information source for policy-makers, helping them identify areas that need further assessment and policy action at the national level. This publication should be of interest to all public health professionals, academic institutions, nongovernmental organizations and other groups keen to contribute to Health 2020 and to improving health and well-being in the European Region.

Broad international cooperation is required to efficiently and sustainably address the health information challenges facing the Region. Harmonization, cooperation and the sharing of knowledge, experiences and good practices are essential. I therefore hope that this book will inspire Member States and other stakeholders to join the European Health Information Initiative, a collaboration between the WHO Regional Office for Europe, European institutions and Member States to improve the information that underpins policy. Only by joining forces can the health information research and development agenda in our Region move forward in a productive and meaningful way.

Zsuzsanna Jakab
WHO Regional Director for Europe

Key messages

Progress towards the Health 2020 targets

Within only a few years of the development of the Health 2020 policy, increasing numbers of countries are adopting and using its principles and approaches to improve citizens' health and well-being.

The WHO European Region is on track to achieve the Health 2020 target to reduce premature mortality from cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases by 1.5% annually until 2020. Most of the progress in the Region is the result of improvements in countries with the highest premature mortality.

Alcohol consumption, tobacco use and overweight and obesity remain major public health problems in the Region. Europe has the highest rates of alcohol and tobacco use in the world and WHO estimates show rises in the prevalence of overweight and obesity between 2010 and 2014 in almost all countries.

Despite high overall coverage for measles vaccination in the Region, immunity gaps in the population persist, resulting in ongoing endemic transmission and some countrywide outbreaks.

The gaps between the highest and lowest reported values for the Health 2020 indicators linked to the social determinants of health – infant mortality, life expectancy, primary school enrolment and unemployment – have shrunk. Preliminary data suggest that this positive trend has continued since 2010, although absolute differences between countries remain large.

Out-of-pocket payments as a proportion of total expenditure on health at the regional level (24%) have not changed since 2010. In 2012, this proportion was below the 15% threshold critical for preventing catastrophic levels of health expenditure in only 12 of the 53 countries in the Region.

Well-being and its cultural contexts

By adopting Health 2020, Member States mandated the WHO Regional Office for Europe to measure and report on the well-being of the European population in a holistic manner.

Well-being is a unifying concept that is relevant to many government sectors. Engaging with well-being provides an important opportunity to take a whole-of-government approach to improving the health of the European population.

A growing body of evidence shows that:

- well-being can be reliably measured at the local and national levels;
- this shows something not captured by other metrics; and
- designing policies that take account of well-being can improve the delivery of health-related programmes, services and benefits.

Well-being is experienced at the subjective, individual level; it can also be described objectively through several indicators at the population level, such as education, income and housing. Engaging with the full complexity of subjective well-being demands a multidisciplinary, integrated health-research approach. This will require a more sustained use of different types of qualitative evidence to enhance the quantitative data available from well-being surveys.

Comparing subjective well-being data between groups from very different cultural contexts remains a challenge. Since cultural contexts strongly influence well-being, their importance to well-being and health more generally must be investigated more systematically.

A more participatory approach grounded in the local voices of communities should be adopted to communicate information about well-being. Top-down reporting frameworks are likely to miss out on the rich diversity of cultural contexts within which health and well-being are situated.

In January 2015 WHO launched a review of the cultural contexts of health, which seeks to synthesize the evidence about the impact of culture on well-being and on health more broadly. One of its longer-term objectives is to create a richer set of tools and methodologies for measuring and reporting on well-being.

New frontiers in health information and evidence

Some of the main problems with data collections used to inform the Health 2020 monitoring framework relate to data quality, regularity of collection and timeliness of reporting. Improvements in certification and coding practices will significantly strengthen the quality of cause-of-death data. Compliance by all Member States with the recommended level of detail of reporting to WHO would further increase the utility and comparability of indicators based on these data.

WHO and many countries have experienced a paradigm shift in public health from focusing on death and disease to focusing on health and well-being. More weight should be given in health information to subjective and qualitative data to ensure that it reflects this shift.

Exploring non-traditional sources of health information should be considered to improve reporting on health and well-being across the European Region. Historical records and anthropological observations may be useful sources of information on well-being. Data sources such as social media, mobile phone data and electronic health records can add new insights to regular health statistics.

Health 2020 monitoring should be optimized by looking beyond the usual indicators and broadening its scope to include concepts such as community resilience, empowerment and sense of belonging.

Broad international cooperation is required to tackle current health information challenges efficiently and sustainably. Countries should drive the priority-setting for such international research and development activities.

The European Health Information Initiative is a WHO network of stakeholders, including Member States, committed to enhancing health in the Region by improving the information that underpins policy. It supports the development of a single European health information system, as outlined in the joint declaration adopted by the WHO Regional Office for Europe and the European Commission in 2010.

01

Overview

This overview sets out the aims and target audiences of the 2015 European health report, provides information about the Health 2020 monitoring framework – the backbone of the report – and outlines the content of the main chapters.

Aims and target audiences

The European health report is issued every three years as a flagship publication by the WHO Regional Office for Europe. The main aims of this 2015 report are to:

- report on progress towards the Health 2020 targets in the Region so far;
- highlight new frontiers in health information and evidence to be addressed in the coming years to optimize health monitoring for Health 2020 and beyond, including subjective well-being measurements.

Given the strong focus on progress towards the Health 2020 policy targets, policy-makers are the main target audience for this report. Nevertheless, since it also addresses the epidemiological situation in the European Region and health information needs and innovations, the report will also be of interest to other users of health information such as public health experts, academic institutions, media groups, nongovernmental organizations and

associations of patients and health professionals. In addition to the full report, a short publication of highlights is also available *(1)*.

The Health 2020 monitoring framework

Health 2020 was adopted as the new European health policy framework in 2012 by the 53 Member States in the Region during the sixty-second session of the WHO Regional Committee for Europe. It supports action across government and society to improve significantly the health and well-being of populations, reduce health inequities, strengthen public health and ensure people-centred health systems that are universal, equitable, sustainable and of high quality. Its four priority areas are to:

- invest in health through a life-course approach and empower citizens;
- tackle Europe's major disease burdens of noncommunicable and communicable diseases;
- strengthen people-centred health systems and public health capacity, including preparedness and response capacity for dealing with emergencies;
- create supportive environments and resilient communities *(2)*.

To monitor the impact of the implementation of Health 2020, a framework was developed in close collaboration with Member States; it was approved in 2013 during the sixty-third session of the Regional Committee. This monitoring framework consists of areas, targets, quantifications and core indicators (see Table 1.1) *(3)*. The core indicators inform the Health 2020 monitoring process at the regional level; additional indicators are also provided for use alongside them to inform national target-setting and monitor progress at the national level in a more comprehensive way. In total, the framework consists of 37 indicators: 19 core (some of which serve more than one target) and 18 additional indicators. The Health 2020 indicators were developed by two dedicated expert groups including national representatives. More information about the Health 2020 monitoring framework and its development is provided in Annex 1.

Progress towards the Health 2020 targets

Chapter 2 assesses the extent to which progress has been made towards the targets defined in the Health 2020 monitoring framework, using the 2010 baseline set by countries as a reference point. It describes regional trends and intercountry differences for the Health 2020 core indicators. In some instances additional indicators are also described to provide a more comprehensive picture. The epidemiological information is enriched by inspiring good practice examples from countries and overviews of policy progress in the Region.

One of the principles for developing the Health 2020 monitoring framework – a pragmatic decision to keep it concise and prevent duplication – was to exclude targets and indicators already part of existing WHO or other agreed policy frameworks. Exceptions to this rule are the first quantification for the Health 2020 target

Table 1.1. Overview of the Health 2020 monitoring framework			
Area	Target	Quantification	Core indicators
Burden of disease and risk factors	Reduce premature mortality in Europe	Reduction of premature mortality	Premature mortality, tobacco use, alcohol consumption, overweight/obesity
		Elimination of vaccine-preventable diseases	Vaccination coverage for measles/rubella and polio
		Reduction of mortality from external causes	Mortality rate from external causes
Healthy people, well-being and determinants	Increase life expectancy in Europe	Increase in life expectancy	Life expectancy at birth
	Reduce inequities in Europe	Reduction in the gaps in health status associated with social determinants	Infant mortality, life expectancy at birth, proportion of children not enrolled in primary school, unemployment rate, (sub)national policy addressing health inequities, GINI coefficient (income distribution)
	Enhance the well-being of the European population	To be set	Life satisfaction, social support, population with improved sanitation facilities, GINI coefficient (income distribution), unemployment rate, proportion of children not enrolled in primary school
Processes, governance and health systems	Universal coverage and right to health	Moving towards universal coverage	Private households' out-of-pocket payments on health, vaccination coverage for measles/rubella and polio, total health expenditure
	National targets or goals set by Member States	Establishment of processes for the purpose of setting national targets	Establishment of process for target-setting, national policies aligned with Health 2020

on reducing premature mortality and the related core indicators, which are also part of the WHO global noncommunicable disease (NCD) monitoring framework *(4)*. Given their importance for the European Region, these were deemed essential for the Health 2020 framework: it was decided to keep them but to align them with the global framework. The consequence of not repeating other existing targets and indicators is that the Health 2020 monitoring framework does not cover all public health areas relevant to the European Region and within the remit of the WHO Regional Office for Europe, since some are monitored by different policy frameworks. As a result, Chapter 2 does not cover the full spectrum of public health: it only focuses on those areas and topics addressed in the Health 2020 monitoring framework and not those monitored via other policy frameworks such as the European Action Plan for HIV/AIDS 2012–2015 and the Parma Declaration on Environment and Health *(5,6)*.

Well-being and its cultural contexts

Health 2020 covers three main areas (see Table 1.1), one of which includes well-being. Building on the foundations of the 2012 European health report, which sought to identify initial indicators for monitoring well-being within the context of Health 2020, those indicators have now been tested and applied. Chapter 3 presents findings and questions to be addressed to develop this new area of public health.

Although a lot of work continues to take place in countries and international organizations, indicators to measure and monitor well-being are still in development. What has become clear, however, is that well-being measuring and monitoring activities have their own specific challenges, as they involve not only objective but also subjective measures. Working with subjective measures is notoriously challenging: it raises questions about the comprehensibility and feasibility of measurement tools across population groups and the influence of cultural bias; these in turn raise questions about the interpretation and comparability of subjective measures. Chapter 3 looks at these issues in detail, focusing on how culture influences well-being measurements and highlighting developmental work in this field.

New frontiers in health information and evidence

Chapter 4 examines the need for further health information and evidence to improve monitoring of the implementation and impact of Health 2020. It summarizes the challenges and opportunities identified in Chapters 2–3 and places these in a broader context by addressing information and evidence needs beyond Health 2020 and establishing links with existing work and promising developments in the Region. It addresses issues related to established, traditional data collections and indicators, as well as future information and evidence needs.

02

Progress towards the Health 2020 targets

Key messages

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infant mortality, life expectancy, primary school enrolment and unemployment – have shrunk. Preliminary data suggest that this positive trend has continued since 2010, although absolute differences between countries remain large.

Out-of-pocket payments as a proportion of total expenditure on health at the regional level (24%) have not changed since 2010. In 2012, this proportion was below the 15% threshold critical for preventing catastrophic levels of health expenditure in only 12 of the 53 countries in the Region.

Introduction

This chapter reports on progress towards the Health 2020 targets at the regional level since the agreed 2010 baseline. Its structure follows the Health 2020 monitoring framework, developed for this purpose *(3)*, which defines targets, quantifications for those targets and core indicators for each of the three main Health 2020 areas: burden of disease and risk factors; healthy people, well-being and determinants; and processes, governance and health systems (see Table 1.1). The framework also contains additional indicators: countries are encouraged to use these for more informative monitoring at the national level but they do not track progress at the regional level. This chapter therefore reports on regional progress towards the Health 2020 targets only through the core indicators, but in some instances additional indicators are described to provide a more comprehensive overall picture.

As noted in the section on progress towards the Health 2020 targets in Chapter 1, targets and indicators already part of existing WHO or other policy frameworks were excluded (with one exception) from the Health 2020 monitoring framework. This chapter is therefore not a comprehensive overview of all public health areas of relevance to the European Region as it focuses solely on the areas and topics addressed in that framework.

This chapter uses indicators from WHO sources as a matter of preference. The data give a snapshot of the situation at the time of writing; WHO databases are updated regularly, so some of the regional averages and the maximum and minimum values presented will change in due course, as countries continue

to report to WHO. Further, data coverage at the regional level is not yet complete for several Health 2020 core indicators for the first few years since the 2010 baseline, which hinders the drawing of conclusions on progress towards the Health 2020 targets. More details about the indicators and data sources used and data availability can be found in Annex 1.

Target 1: reduce premature mortality in Europe

This Health 2020 target has three quantifications, which relate to premature mortality from major NCDs, vaccine-preventable diseases and external causes. A summary of progress and full descriptions of its related indicators are presented for each quantification.

Summary of progress: premature mortality from NCDs

The first quantification is an average annual reduction of 1.5% in combined premature mortality from four major NCDs until 2020. The core indicators linked to this are:

- overall premature mortality rate (from 30 to under 70 years) for four major NCDs (cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases);
- prevalence of current tobacco use among people aged 18 years and over;
- total per capita alcohol consumption among people aged 15 years and over;
- prevalence of overweight and obesity in people aged 18 years and over.

The average annual rate of reduction of premature mortality from the four major NCDs over the first three years of observations (2010–2012) is 2.0%. The Region is, therefore, currently on track to achieve the goal. The number of countries in the Region for which data are available for 2011 and 2012 is suboptimal, however (35 and 28 out of 53, respectively); this means that the reduction rate since 2010 should only be regarded as a preliminary estimate.

Alcohol consumption, tobacco use and overweight and obesity are among the major public health problems in the European Region. Country-reported data allowing assessment of developments in these risk factors at the regional level since 2010 were not available at the time of writing. Nevertheless, during the period 2005–2010 total alcohol consumption decreased by 10% in the Region, and this trend is expected to continue for several years. WHO estimates suggest that between 2010 and 2012 prevalence of tobacco use decreased in almost all countries for which data are available, but most are not on track to reach the global NCD target of a 30% relative reduction in current tobacco use by 2025 *(4)*. Alarmingly, WHO estimates for the prevalence of overweight and obesity show a rise between 2010 and 2014 in all 51 countries in the Region for which data are available.

Europe on track to reduce premature mortality

The average standardized death rates (SDRs) for premature mortality from the four major NCDs across the Region fell from 524 to 404 deaths per 100 000 people between 1998 and 2012, an average annual reduction of 1.8% (see Fig. 2.1). The rate of reduction accelerated during the period, from 0.8% in 1998–2005 to 2.6% in 2006–2012. To achieve the target of an average annual reduction of 1.5% from the 2010 baseline regional average to 2020, the SDR will need to decrease from 420 per 100 000 people to 361 per 100 000 (illustrated by the dashed line in Fig. 2.1). The average annual rate of reduction for 2010–2012 is 2.0%, indicating that the Region is on track to achieve the Health 2020 target. With available data from only 35 and 28 countries in the Region for 2011 and 2012 respectively, however, this should be regarded as a preliminary estimate, which will need to be assessed again once the remaining data are received.

Fig. 2.1 shows that the rate of decline in premature mortality from the four major NCDs since the mid-2000s has been much steeper in countries reporting the highest SDRs than in those reporting the lowest, where it remained virtually unchanged through the 2000s. Thus, progress in the regional average is due almost entirely to improvements in countries that started out with the highest levels of premature mortality. Caution is needed, however, in interpreting the maximum and minimum SDR trends because these represent the highest and lowest values reported in the

Fig. 2.1.
Combined SDR per 100 000 in people aged 30–69 years for cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases
(premature deaths per 100 000)

Maximum value reported in Region
Regional average
Minimum value reported in Region

Notes: International Classification of Diseases, tenth revision (ICD-10) codes used: cardiovascular dis eases: I00–I99, cancer: C00–C97, diabetes mellitus: E10–E14, chronic respiratory diseases: J40–47. The dashed line represents a trend of 1.5% annual decline in premature mortality to 2020 in accordance with the Health 2020 target, calculated using the average annual growth rate formula: $SDR_{time2} = SDR_{time1} \times (1+i)^n$, where i = growth rate of −1.5% and n = number of years.

Source: European detailed mortality database *(7)*.

Region in a given year and do not necessarily refer to the same country each year. They may, in some cases, reflect gaps or delays in national reporting, especially in recent years.

Cardiovascular diseases and cancer: leading causes of premature mortality

The Health 2020 indicators for premature mortality include deaths from cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases; these NCDs are largely responsible for deaths in people aged 30–69 years and are, to a great extent, preventable. Separate analysis of the relative contribution of each cause aids understanding of the overall premature mortality trend (see Fig 2.2).

Cardiovascular diseases include all the diseases of the heart and circulatory systems such as coronary heart disease, angina, heart attack, congenital heart disease and stroke. Ischaemic heart disease and strokes, in particular, were the leading causes of death in the Region in 2010 (8). Over half of premature mortality from the four major NCDs is due to cardiovascular diseases. Thus, the accelerated reduction in cardiovascular-related deaths from the mid-2000s has also driven the downward trend of overall premature mortality in the entire Region. This reduction may be a result of better preventive measures, such as people leading healthier lifestyles, and of improved life-saving measures for people who have suffered a heart attack or stroke.

Although the death rate for cancer has fallen gradually since the mid-2000s, the proportion of overall premature mortality from this cause has increased as the death rate from cardiovascular diseases has dropped faster. In 1998, cancer accounted for just over one third (37%) of premature mortality, and this has risen consistently to 43% in 2012.

Chronic respiratory diseases and diabetes mellitus account for the smallest share of premature deaths, at about 6% combined. Their contribution to premature mortality has remained unchanged over time (see Fig. 2.2).

Fig. 2.2.
SDR per 100 000 in people aged 30–69 years for cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases
(premature deaths per 100 000)

- Cardiovascular diseases
- Cancer
- Chronic respiratory diseases
- Diabetes mellitus
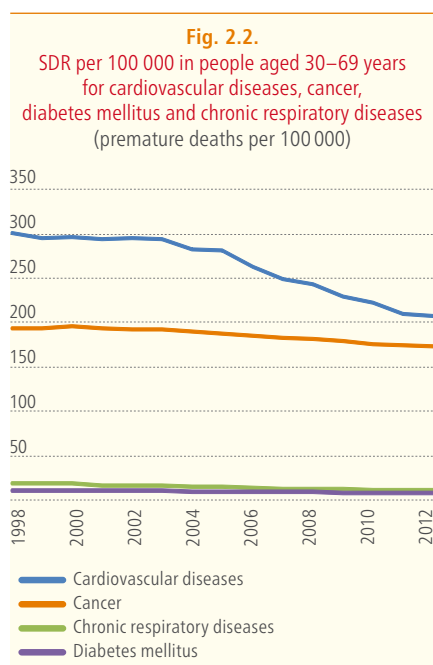
Note: ICD-10 codes used: cardiovascular diseases: I00–I99, cancer: C00–C97, diabetes mellitus: E10–E14, chronic respiratory diseases: J40–47.

Source: European detailed mortality database (7).

Countries not on track to reach global NCD target despite declining tobacco use

Between 2010 and 2012 prevalence of tobacco use among adults decreased in 39 of the 41 countries for which WHO estimates are available; the average reduction[1] was 1.8% *(9)*. Additional WHO analyses, however, show that only 11 countries in the Region are likely to meet the 30% reduction target of the global NCD monitoring framework by 2025 *(4)*: in most countries the degree to which the trend is declining is insufficient to reach the target *(10)*.

In 2012 the European Region had the highest regional average rate of tobacco use at 30%, although the rate varies considerably between countries. It also had the highest regional average rate of tobacco use among women. The highest and lowest national rates for smoking any tobacco product were 59% and 19% among men and 36% and 1% among women (see Fig. 2.3). It should be noted that these data are estimates, produced by WHO for the 2014 global status report on NCDs *(9)*. At the time of writing, no recent country-reported data were available to assess the developments since the Health 2020 baseline of 2010; trend data were only available for the period 2000–2008 *(11)*. These show a clear declining trend, however, and the 2010 and 2012 estimates suggest that this is continuing. This downward trend in tobacco use has contributed to a reduction in premature mortality and an increase in life expectancy over recent decades, particularly among men *(12)*.

The European Region's high rate of tobacco use means that it has one of the highest proportions of deaths attributable to tobacco use globally. WHO analyses in 2012 (based on 2004 data) showed that the proportion in adults over 30 in the Region was 16%. In contrast, the proportions in the African and Eastern Mediterranean regions were 3% and 7%, respectively; the global average is 12%. Almost one in five premature deaths in the European Region among those aged 30–44 years and one in three among those aged 45–49 years is attributable to tobacco use. Among NCDs, 85% of the deaths caused by cancer of the trachea, bronchus and lung and 16% of the deaths caused by ischaemic heart disease are attributable to tobacco use,

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[1] Average unweighted reduction, calculated without taking the countries' population sizes into account.

as are 26% of tuberculosis deaths and 24% of all lower respiratory infection deaths among communicable diseases *(13)*.

The WHO Framework Convention on Tobacco Control, which entered into force in February 2005, is the world's first global public health treaty, designed to tackle the health, social, environmental and economic consequences of tobacco consumption and exposure *(14)*. There is ample evidence for the effectiveness of actions in different policy areas *(15, 16)*. For example, the scientific literature indicates that that just a few months after the implementation of smoke-free laws, the hospitalization of myocardial infarctions can decrease by 20–40% *(17)*.

European Region has highest levels of alcohol consumption and related harm

Alcohol intake in the European Region is the highest in the world, resulting in a higher prevalence of alcohol dependence and alcohol-use disorders than in other WHO regions (see Table 2.1). Nevertheless, levels of alcohol consumption vary greatly between European countries, ranging from 0.32 to 14.37 litres per capita annually (see Map 2.1). Similarly, levels of harmful alcohol use among the population aged 15 years and over differ widely
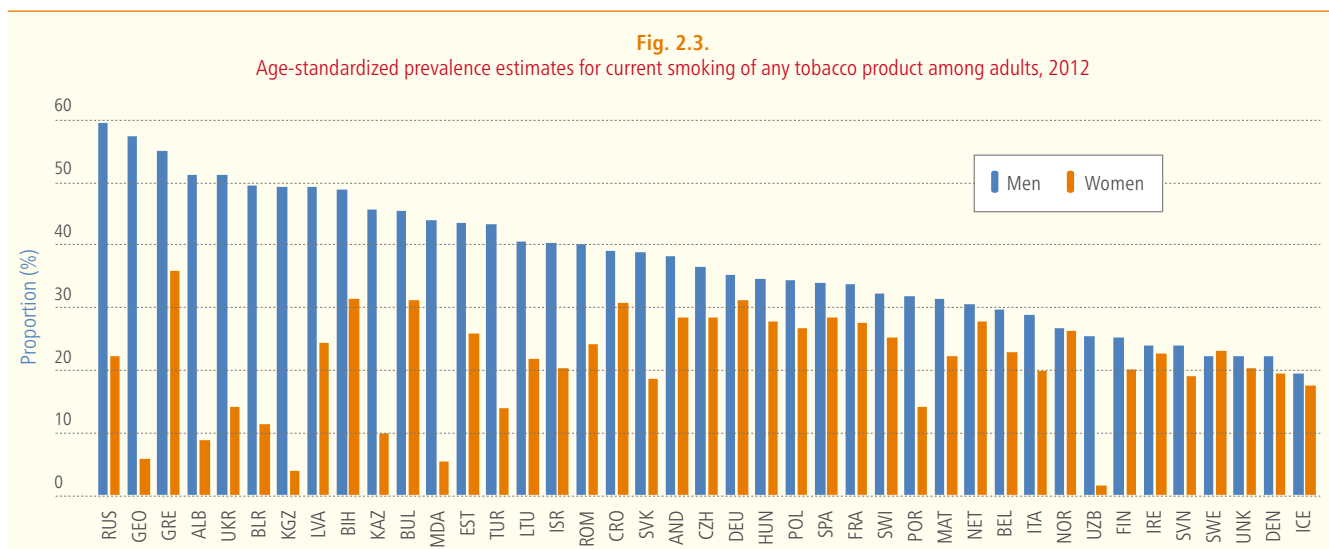
Fig. 2.3.
Age-standardized prevalence estimates for current smoking of any tobacco product among adults, 2012

Note: WHO uses standard methods to calculate estimates to maximize cross-country comparability. These data may therefore differ from the official statistics of Member States.

Source: Global status report on noncommunicable diseases 2014 *(9)*.

between countries, with 0.4% and 8.3% the lowest and highest levels in the Region in 2010 *(18)*. Unfortunately, regional data on alcohol consumption trends since 2010 are not yet available, but during 2005–2010 total alcohol consumption decreased by 10% in the European Region and this trend is expected to continue for several years *(19)*.

Table 2.1.
Per capita total alcohol consumption, prevalence of alcohol dependence and prevalence of alcohol-use disorders in WHO regions, 2010.

WHO region	Per capita (15+ years) total consumption (litres of pure alcohol)	Prevalence of alcohol dependence (%)	Prevalence of alcohol-use disorders (%)
Africa	6.0	1.4	3.3
Americas	8.4	3.4	6.0
Eastern Mediterranean	0.7	0.2	0.3
Europe	10.9	4.0	7.5
South-East Asia	3.5	1.7	2.2
Western Pacific	6.8	2.3	4.6
Global	6.2	2.9	4.1

Source: WHO Global Information System on Alcohol and Health *(18)*.

Map 2.1.
Recorded pure alcohol consumption, litres per capita, 15+ years

> 12
9–12
6–9
3–6
≤3
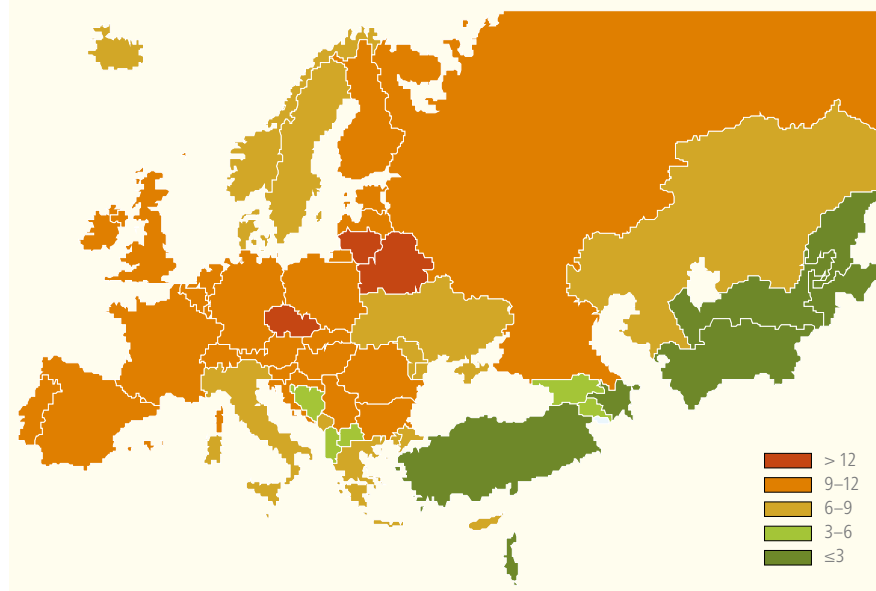
Note: data from latest available year, 2009–2012.
Source: European Health for All database *(11)*.

Europe has been at the forefront of action to reduce the harm done by alcohol: the European Region was the first to approve an alcohol action plan in 1992 and the European action plan to reduce the harmful use of alcohol 2012–2020 was endorsed by Member States in 2011. This includes a range of evidence-based policy options to reduce the harmful use of alcohol *(20)* (see Box 2.1). A strong body of evidence demonstrates the effectiveness and cost–effectiveness of policies such as interventions to regulate alcohol prices, limit alcohol availability and reduce drink–driving *(21, 22)*.

Prevalence of overweight and obesity alarmingly high and on the rise

In 2014 the prevalence of overweight – a body mass index (BMI) of 25 or above – in 51 countries in the European Region ranged from 44.9% to 66.9%, while the prevalence of obesity – a BMI of 30 or above – ranged from 13.6% to 29.5% (see Fig. 2.4). Estimates for 2010 were also produced by WHO for the 2014 global status report on

Box 2.1.
Alcohol and health in the European Region

Background
The Region has experienced a generally decreasing trend in alcohol consumption – a major risk factor for premature mortality – since 1990, but still has the highest rate of all WHO regions.

Policy action taken
In response to this, the European action plan to reduce the harmful use of alcohol 2012–2020 was endorsed by Member States in 2011. Within this plan's framework a joint European Commission/WHO survey was carried out in 2012 to monitor the policy situation in all European Union (EU) member states, accession and candidate countries, Norway and Switzerland (35 countries in total). It asked whether various policy areas had been strengthened, weakened or remained unchanged over the previous five years. Results below reflect the answers of all countries included in the survey except the five EU candidate countries.

Outcomes
The most positive developments were reported in awareness-raising (23 of 30 countries), drink–driving policies and countermeasures (22 countries) and monitoring and alcohol research (21 countries). Importantly, two thirds of the countries reported strengthening of action to control the availability of alcohol – one of the most effective interventions recommended by WHO to reduce harmful drinking. By 2012, 23 countries had a national policy on alcohol, and of the seven countries without policies, six were in the process of developing one. Those with a national policy indicated that it was multisectoral, with health, social affairs, transport/road safety, education, law enforcement, criminal justice and finance/taxation the most commonly represented sectors. All but one country reported having carried out some form of national awareness-raising activity

in the previous three years; these addressed drink–driving (24 countries), alcohol and youth (21 countries) and alcohol and health (19 countries).

In 2011 two countries prohibited below-cost selling (selling for a price less than the production cost), two prohibited volume discounts, such as two-for-one offers, and five reported an additional levy imposed on specific products, such as alcopops and other ready-to-drink mixtures. In 2012 legislation was passed in one country to set a minimum unit price for alcohol, setting a floor price below which a given quantity of pure alcohol cannot be sold. The trend of declining alcohol use in the Region is encouraging: this increase in national policies will spur the trend further and ultimately reduce premature mortality caused by alcohol use *(23)*.

NCDs *(9)*: in all cases the prevalence for the 51 countries for which estimates could be produced is higher in 2014 than in 2010. Recent, regular country-reported data on overweight and obesity are lacking at the regional level.

Looking at the global picture, the prevalence of overweight and obesity is highest in the Region of the Americas (61% overweight and 27% obese in both sexes) and the European Region (58.6% overweight, 23% obese) and lowest in the South-East Asia Region (22% overweight, 5% obese). In the European, Eastern Mediterranean and Americas regions, over 50% of women are overweight and roughly half of these are also obese (25%, 24% and 30%, respectively). While men in the European Region are more likely than women to be overweight, women are more likely to be obese *(9, 24)*.

Obesity is one of the greatest public health challenges of the 21st century. Its prevalence has tripled in many countries in the European Region since the 1980s. In addition to causing various physical disabilities and psychological problems, excess weight drastically increases a person's risk of developing several NCDs, including cardiovascular diseases, cancer and diabetes mellitus *(25)*. Several WHO Regional Office for Europe programmes work on tackling the obesity epidemic in the Region, including those focusing not only on physical activity and diet but also on socioeconomic determinants, cardiovascular diseases, diabetes mellitus, cancer and child and adolescent health.

Fig. 2.4.
Age-standardized prevalence estimates for overweight and obesity in adults aged 18 years and over, 2014
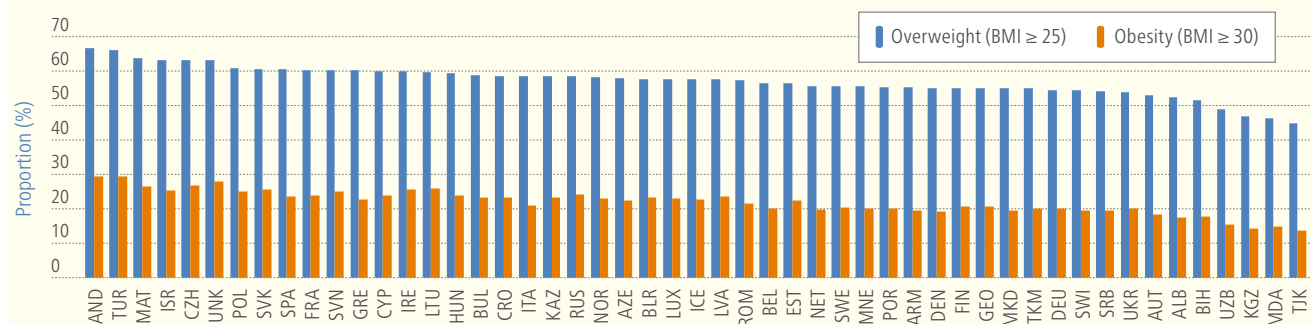
Note: WHO uses standard methods to calculate estimates to maximize cross-country comparability. These data may therefore differ from the official statistics of Member States.

*Source:* Global status report on noncommunicable diseases 2014 *(9).*

The European Region was the first to develop a dedicated strategy for physical activity. In the Vienna Declaration on Nutrition and NCDs *(26)*, alongside the European food and nutrition action plan for 2015–2020 *(27)*, Member States called for a strategy to encourage physical activity across all population groups with a view to promoting well-being using a whole-of-society approach and tackling the burden of obesity and NCDs. Recently published 2010 WHO estimates underline the necessity of such a policy, showing that about 20% of men and 25% of women in the European Region are insufficiently physically active *(9)*. The sixty-fifth session of the WHO Regional Committee for Europe is expected to consider the strategy in September 2015.

WHO also supports policy action by compiling information about the effectiveness of interventions targeting overweight and obesity: for example, in publications of the Health Evidence Network (HEN) *(28)*. The data presented in this section suggest that the potential gains in improved health and reduced premature mortality from tackling overweight and obesity in the Region are substantial.

International study shows overweight in 23% of 11-year-olds

An additional indicator for this Health 2020 target quantification is the prevalence of overweight and obesity among adolescents. The Health Behaviour in School-aged Children (HBSC) study, in which 36 European countries or subnational regions, the United States of America and Canada participate *(29)*, reported in 2012 that 11–33% of 11-year-olds were overweight or obese, based on self-reported data for weight and height. The average prevalence of overweight and obesity was 23% among 11-year-olds, 19% among 13-year-olds and 16% among 15-year-olds. In all participating European countries and regions, boys had higher rates of overweight and obesity than girls, often substantially so *(29)* (see Fig. 2.5).

The HBSC study focuses on adolescents. To monitor changes in overweight in children of primary school age, the WHO Regional Office for Europe established the Childhood Obesity Surveillance Initiative (COSI) (see Box 2.2).

As with adults, the two main risk factors for overweight and obesity in adolescents are an unhealthy diet and a lack of physical activity. The HBSC study showed that in 2009/2010 the proportion

Box 2.2.
COSI

COSI was established in 2007 to monitor changes in overweight in children of primary school age. Anthropometric results of COSI round 2 (2009/2010) explored changes in BMI and overweight among children within and across nine countries from school years 2007/2008 to 2009/2010. Using cross-sectional nationally representative samples of 6–9-year-olds, the study derived BMI, anthropometric Z-scores and overweight prevalence from measured weight and height. The Z-score system expresses the anthropometric value as several standard deviations or Z-scores below or above the reference mean or median value (30). Significant changes between rounds were assessed. At round 2, the prevalence of overweight and obesity ranged from 18% to 57% among boys and from 18% to 50% among girls; the prevalence of obesity ranged from 6% to 31% among boys and from 5% to 21% among girls. Southern European countries had the highest overweight prevalence. Between measurement rounds, the absolute change in mean BMI (range: from −0.4 to +0.3) and BMI-for-age Z-scores (range: from −0.21 to +0.14) varied statistically significantly across countries. The highest significant reduction in BMI-for-age Z-scores was found in countries with higher absolute BMI values and the highest significant increase in countries with lower BMI values *(31, 32)*.

of adolescents eating breakfast every school day and eating fruit daily decreased with age, while soft drink consumption increased with age *(33)*. It also showed that the proportion of 11-year-olds reporting participation in moderate to vigorous physical activity for at least one hour daily ranged from 10% to 43% for boys and from 7% to 31% for girls. Physical activity rates for the 13- and 15-year-old respondents were even lower *(29)*.

These figures imply that increasing physical activity among children and adolescents is an important area for policy action to tackle overweight and obesity. A recent survey conducted by the WHO Regional Office for Europe showed that more than 90% of countries reported having policies specifying requirements for a minimum level of physical education hours in schools and for the equipment needed for kindergartens and schools with exercise facilities. Only 20% of countries responding, however, reported having policies requiring bicycle lanes leading to schools and just 35% reported having measures to facilitate walking to schools. These results underscore the difficulty of developing intersectoral policies, which require the integration of education with urban planning and transport policies, to create more supportive and safer environments for children to be more active physically in all settings of daily life *(34)*.

Fig. 2.5.
Prevalence of overweight and obesity among adolescents aged 11 years, 2009/2010
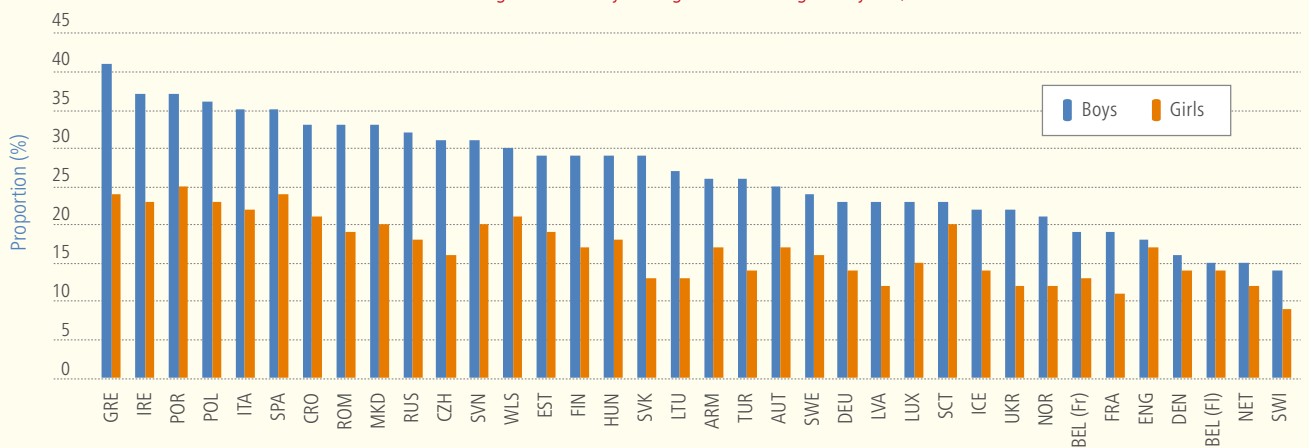
Note: overweight and obesity allocated based on the WHO growth reference for school-aged children and adolescents aged 5–19 years to monitor growth.
The findings show the proportions with a BMI greater than one standard deviation above the average WHO reference BMI for their age.

Source: Currie et al. *(29)*.

Summary of progress: vaccine-preventable diseases

The second quantification for Health 2020 target 1 is sustained elimination of selected vaccine-preventable diseases, for which the core indicator is the percentage of children vaccinated against measles, poliomyelitis (polio) and rubella. As children today are usually vaccinated against measles, mumps and rubella in combination, this chapter reports only on measles and polio vaccination.

Average vaccination coverage for measles in the European Region increased from 93.4% in 2010 (Health 2020 baseline) to 93.7% in 2011 and 94.6% in 2012. Although overall coverage is steadily increasing, several countries have ongoing endemic transmission, and some have experienced nationwide outbreaks. More action is therefore needed to achieve the target of eliminating measles, particularly focusing on closing immunity gaps in the population by improving subnational and second-dose coverage rates and by reaching specific population groups.

Average vaccination coverage for polio in the Region was 94.7% in 2010, 94.4% in 2011 and 95.4% in 2012. Constant vigilance is needed as polio outbreaks in other WHO regions and suboptimal immunization coverage in some areas in the European Region still pose a threat.

Measles cases increase despite improved overall vaccination coverage

Vaccination coverage for measles increased steadily in the European Region from 81% in 1990 to about 95% in 2012 (see Fig. 2.6 and Map 2.2). From 93.4% in 2010, it grew to 93.7% in 2011 and 94.6% 2012. Nevertheless, after a historically low incidence rate in 2007–2009, measles has resurged: over half the countries in the Region reported measles cases for 2013, amounting to a total of 31 685 cases. Nine countries, in both the western and eastern parts of the Region, reported over 1000 cases each.

While national-level coverage with a first dose of measles- and rubella-containing vaccines is generally high throughout the Region, subnational and second-dose coverage rates are still unacceptably low in many countries. Most outbreaks occurred

in the general population; some, however, affected particular groups, such as communities that refuse vaccination on religious grounds. In 2013 over a third of cases across the Region were aged 20 years and over. This shows that adults who were not immunized when measles vaccination programmes were first implemented have emerged as a susceptible group in many countries *(35)*. The European Vaccine Action Plan 2015–2020 is a regional interpretation of the Global Vaccine Action Plan developed to address the specific needs and challenges related to immunization in the Region *(36)*.

Polio transmission outside Europe underlines need for constant vigilance

Overall vaccination coverage for polio in the Region rose from about 87% in 1990 to 94.7% in 2010, 94.4% in 2011 and 95.4% in 2012 (see Fig. 2.6). In June 2013 the European Regional Commission
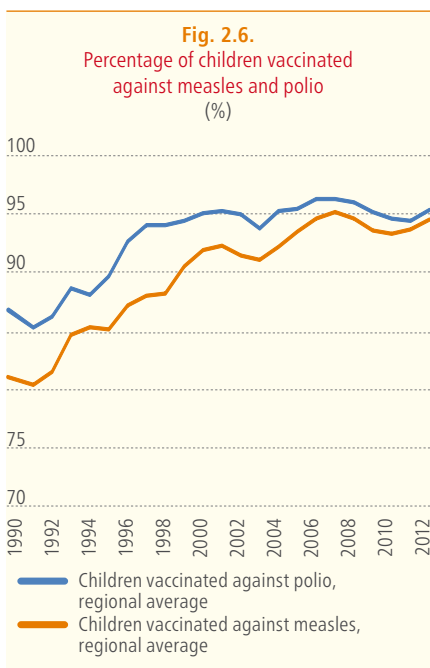
Fig. 2.6.
Percentage of children vaccinated against measles and polio
(%)

— Children vaccinated against polio, regional average
— Children vaccinated against measles, regional average

Note: shows percentage of children vaccinated against measles (1 dose) by their second birthday and percentage of infants fully vaccinated against polio (3 doses) by their first birthday in the given calendar year.

Source: European Health for All database *(11)*.
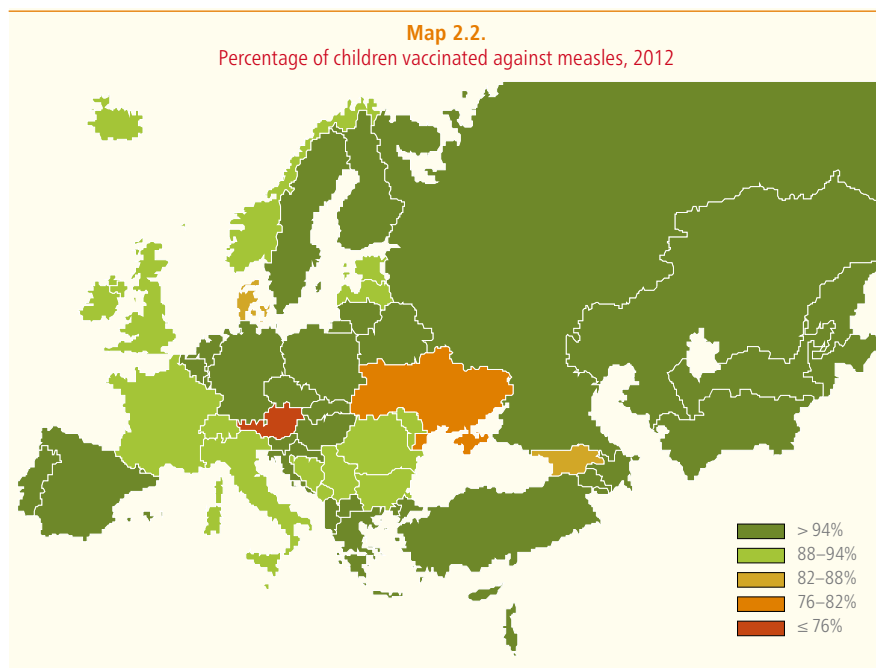
Map 2.2.
Percentage of children vaccinated against measles, 2012

> 94%
88–94%
82–88%
76–82%
≤ 76%

Note: shows percentage of children vaccinated against measles (1 dose) by their second birthday..
Source: European Health for All database *(11)*.

for the Certification of Poliomyelitis Eradication (RCC) assessed the risk of continued transmission following importation of poliovirus in each of the 53 countries in the Region: it deemed that 18 countries were at intermediate risk and four at high risk. Moreover, the presence in environmental samples and the transmission of wild poliovirus were detected in one country. Surveillance was enhanced; in 2014, after a six-month absence of transmission, RCC concluded that wild poliovirus transmission in this country had stopped. These developments, as well as polio outbreaks seen in previously polio-free areas in other regions in 2013, serve as a stark reminder of the need for constant vigilance to maintain the European Region's polio-free status *(35)*. Polio outbreak simulation exercises (POSEs) can be a good way to strengthen polio outbreak preparedness (see Box 2.3).

Box 2.3.
Polio outbreak preparedness in the European Region

Background
Significant progress has been made since the Global Polio Eradication Initiative began *(37)*. Nevertheless, wild poliovirus remains endemic in three countries (Afghanistan, Nigeria and Pakistan) and importation-related outbreaks continue to occur in polio-free areas, most recently in the Syrian Arab Republic, so polio-free areas of the world need to remain vigilant. The European Region, which has been certified polio-free since 2002, experienced an importation-related outbreak in 2010. Although the risk of poliovirus transmission after importation is low within the Region, RCC noted that national poliovirus response action plans were incomplete or absent in many countries and recommended that those plans be tested to ensure their preparedness in case of future outbreaks.

Policy action taken
To meet this recommendation a series of POSEs was carried out to explore countries' coordination and planning capacities in response

to detecting a poliovirus outbreak. The exercises took place around the Region in 2012–2013 and included participants from Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Montenegro, Serbia, Ukraine and the United Kingdom of Great Britain and Northern Ireland. Participants were encouraged, as part of the exercise, to analyse and update their national response plans to improve detection of poliovirus importation and to increase preparedness. POSEs addressed elements of the response plans – such as their coordination, communication and collaboration at both national and international levels – and facilitated participants' identification of strengths and challenges to improve their countries' responses.

Outcomes
The POSEs demonstrated that the participating countries were generally prepared for a potential introduction of poliovirus but that the level of preparedness needed improvement. Strengths and weaknesses were revealed for each country and useful

information to address shortcomings was presented. Country reports to RCC in 2013 and 2014 indicated that much has been done since the initial POSE was carried out. For example, paediatricians and epidemiologists have defined common strategies for immunizing traditionally underserved population groups, including training mediators within those groups, mapping their settlements and developing promotional materials in local dialects and languages. Continuing education for all health professionals has also been established.

POSEs have helped familiarize participating countries with each other's preparedness plans and promoted better understanding and cooperation between countries and international organizations. The experiences and lessons learnt are transferable to other vaccine-preventable diseases and have been endorsed by RCC to be extended to other countries and subnational areas *(38)*.

Summary of progress: external causes

The third quantification for Health 2020 target 1 is the reduction of mortality from external causes, for which the core indicator is SDRs from all external causes and injuries (ICD-10 codes V01–V99, W00–W99, X00–X99 and Y00–Y98).

The mortality rate from all external causes and injuries in the Region has been declining since 2002. In 2010 (Health 2020 baseline) the rate was 60.9 per 100 000 people; in 2011 it was 60.2 per 100 000. The 2011 regional average, however, is based on data from a limited number of countries and thus needs to be reassessed when the majority of countries have reported mortality data to WHO.

Mortality from external causes and injuries declining since 2002

The mortality rate from all external causes and injuries in the Region shows a steady decline since the early 2000s. In recent years this decline seems to have stagnated; in 2010 the rate was 60.9 per 100 000 people; in 2011 it was 60.2 per 100 000. It should be noted, however, that the regional average for 2011 is based on data from a limited number of countries (see Table A.2 in Annex 1), so this should be regarded as a preliminary figure to be reassessed when the majority of countries have reported mortality data to WHO.

In particular, male mortality rates from external causes and injuries have declined in recent years, reducing the gap between men and women to 72.6 in 2010 and 71.9 in 2011. Although this is a positive development, the male–female gap in absolute terms is still considerable (see Fig. 2.7).

Men comprise 75% of people dying in road traffic accidents

An additional indicator for this Health 2020 target quantification breaks down the overall mortality rates by cause, including motor vehicle traffic accidents and suicides, among others. The data show that mortality rates are consistently higher for men than for women across specific external causes of death (see Table 2.2). Of people dying in motor vehicle traffic accidents in the Region, 75% are men and more than half are aged 15–44 years (54%) (39). Although road traffic injuries cause relatively fewer deaths among

older people, this group is especially vulnerable: people's ability to cope with difficult traffic situations declines gradually with age and they become more fragile physically *(40)*.

In 2010, 92 500 people died from road traffic injuries, 25% fewer than those reported in 2007. During this period, the number of registered vehicles increased by 6%, suggesting that road safety interventions have had mitigating effects despite increased exposure *(39)*. Injury prevention is on the agenda of many governments: a 2013 study by WHO and the European Observatory on Health Systems and Policies concluded that numerous evidence-based policies in road safety exist within Europe, but that their implementation varies considerably. Where implemented successfully, these policies appear to have led to a marked reduction in road traffic injury mortality *(42)* (see Box 2.4). Indeed, intercountry differences in mortality from road traffic accidents are considerable (see Table 2.2), showing that in many countries there is still extensive room for improvement.

Suicide remains important health problem despite declining trends

Mortality from suicide and self-inflicted injury shows a downward trend in the Region, with mortality rates declining from 19.8 per

Fig. 2.7.
SDRs from all external causes and injuries, overall and by sex
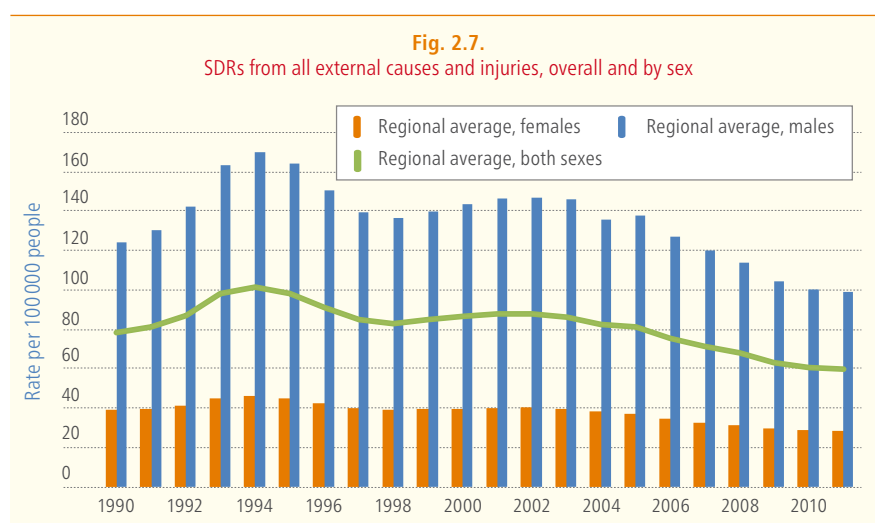
Source: European Health for All database *(11)*.

Table. 2.2.
SDRs from external causes of death per 100 000 people, by sex

Location	Motor vehicle traffic accidents		Accidental falls		Accidental poisoning		Accidental poisoning by alcohol		Suicide and intentional self-harm		Homicide and assault	
	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males
Regional average	4.3	14.4	3.1	7.5	3.0	11.0	0.9	3.9	4.8	21.3	1.8	5.6
Armenia	2.1	11.9	0.1	1.2	0.2	0.6	0.0	0.1	1.2	4.4	0.8	2.7
Austria	2.7	7.9	3.9	8.9	0.1	0.3	0.0	0.0	6.0	20.6	0.4	0.6
Belarus	–	–	3.8	19.1	2.7	16.1	–	–	8.5	46.9	3.7	8.0
Belgium	3.4	11.5	6.8	9.7	1.3	2.5	0.1	0.4	9.2	24.9	0.7	1.4
Bosnia and Herzegovina	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Bulgaria	2.7	7.7	1.2	4.5	0.6	1.7	0.2	0.5	3.1	14.6	0.7	1.7
Croatia	2.3	15.5	11.7	17.8	1.5	3.8	0.2	0.7	6.1	25.3	0.6	1.7
Cyprus	2.8	15.3	1.9	3.7	0.4	2.9	0.0	0.0	1.0	6.0	1.4	1.0
Czech Republic	2.7	9.0	3.1	7.3	2.3	4.9	1.1	2.9	4.3	23.9	0.7	0.9
Denmark	1.5	5.1	4.4	6.6	1.9	6.1	0.2	0.2	4.7	14.6	0.4	1.1
Estonia	3.0	11.9	2.4	8.8	6.7	33.6	3.8	15.5	4.5	26.7	1.6	7.9
Finland	2.2	7.0	7.9	19.5	5.6	19.5	2.5	10.4	7.0	25.0	1.3	2.4
France	2.4	9.5	3.7	6.8	1.5	3.0	0.2	0.8	7.4	22.9	0.4	0.8
Georgia	0.6	2.5	0.1	0.3	0.3	0.7	0.0	0.3	0.6	4.5	0.2	0.5
Germany	1.8	5.7	4.7	7.4	0.3	1.0	0.1	0.2	4.8	14.8	0.5	0.5
Greece	4.2	17.1	1.4	4.2	0.7	3.7	0.0	0.0	1.3	6.2	0.5	2.5
Hungary	3.2	10.1	8.2	15.6	0.6	1.7	0.1	0.3	8.2	34.5	1.0	1.7
Iceland	0.7	6.3	5.4	6.5	1.3	2.0	0.0	0.0	4.6	18.2	0.0	0.6
Ireland	2.1	6.0	3.9	5.5	3.5	8.7	1.6	2.7	4.5	17.3	0.2	1.4
Israel	2.5	7.4	0.9	2.2	0.0	0.1	0.0	0.0	2.4	9.5	1.0	3.5
Italy	2.5	10.8	1.8	4.0	0.3	1.0	0.0	0.1	2.2	8.9	0.4	1.1
Kazakhstan	–	–	1.7	5.7	7.3	26.1	–	–	7.6	40.8	3.6	16.2
Kyrgyzstan	9.1	27.8	0.8	4.4	4.4	22.6	2.6	15.5	4.0	17.2	3.0	12.7
Latvia	4.0	12.7	2.6	12.9	2.9	14.0	1.9	9.5	5.0	36.6	2.8	9.5
Lithuania	3.7	15.7	3.1	14.2	5.9	26.9	3.4	15.5	9.1	51.4	2.7	7.5
Luxembourg	3.5	7.3	4.1	10.2	3.0	3.5	1.5	1.4	5.9	13.1	0.0	0.9
Malta	2.2	6.5	3.0	7.7	0.0	0.5	0.0	0.0	0.0	9.2	1.0	0.0
Montenegro	4.4	10.1	0.3	4.5	0.0	0.3	0.0	0.0	8.5	25.5	1.1	3.1
Netherlands	1.7	4.7	5.3	7.1	0.4	1.2	0.1	0.1	5.6	12.7	0.6	1.1
Norway	1.4	4.4	4.0	7.3	3.5	8.7	0.3	1.1	5.6	14.1	0.3	0.8
Poland	3.9	15.6	4.9	11.7	1.0	5.6	0.6	4.6	3.4	26.7	0.6	1.4
Portugal	3.5	12.9	1.2	3.0	0.1	0.3	0.0	0.1	3.3	13.0	0.5	1.3
Republic of Moldova	5.9	18.3	2.0	7.8	4.4	14.3	2.2	8.2	5.4	26.9	3.5	7.8
Romania	4.8	16.4	2.1	10.0	2.4	7.2	0.8	3.8	3.7	20.8	1.3	3.1
Russian Federation	–	–	2.8	10.6	9.3	38.7	–	–	6.6	39.5	5.6	20.5
Serbia	2.7	10.1	1.5	4.2	0.3	0.9	0.1	0.2	6.1	22.3	0.9	2.2
Slovakia	3.3	11.1	3.4	12.5	1.0	3.5	0.7	2.7	3.0	19.4	0.9	1.3
Slovenia	2.4	10.7	11.5	22.8	1.3	4.5	0.4	1.8	6.1	29.3	0.4	0.4
Spain	1.7	7.0	1.9	3.6	0.6	2.0	0.1	0.1	2.6	9.1	0.4	1.0
Sweden	1.2	3.8	3.2	6.6	1.9	6.2	0.4	1.8	5.9	16.4	0.6	1.4
Switzerland	1.4	5.2	8.1	12.2	1.1	3.1	0.2	0.5	6.2	16.5	0.5	0.5
The former Yugoslav Republic of Macedonia	3.1	9.5	3.3	4.1	0.5	1.4	0.0	0.2	3.1	8.3	1.2	3.0
Turkey	3.0	10.4	4.6	6.6	0.3	0.5	0.0	0.1	0.8	2.5	0.5	2.0
Ukraine	–	–	1.8	8.5	5.0	23.6	–	–	5.7	32.5	2.4	7.3
United Kingdom	1.5	4.8	3.4	5.4	1.8	4.3	0.5	0.9	2.9	10.1	0.2	0.4

Note: data from latest available year, 2009–2012; regional averages for 2011. Countries for which no data are available for this time period are not included.

Source: European mortality database *(41).*

100 000 people in 1994 to 12.6 in 2010 and 2011 *(11)*. Nevertheless, it is still an important health problem: six of the 20 countries with the highest suicide rates in the world are in the European Region. Young adults are particularly at risk, with suicide accounting for 17.6% of all deaths among people aged 15–29 years in high-income countries. It is ranked the second leading cause of death after road traffic accidents both globally and in Europe among this age group *(43)*. Older people are also at high risk for suicide, and the overall suicide rate in the European Region is higher than in other regions, illustrating the need to address suicide prevention actively in this age group *(44, 45)*. Mortality rates from suicide and intentional self-harm for all ages differ widely between countries, with the highest rate in the Region among men an alarming 51.4 per 100 000 people (see Table 2.2). A 2014 WHO report proposes practical guidance on strategic actions that governments can take

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Box 2.4.
Reducing road traffic accidents in the Russian Federation

Background
Developments over time in mortality from transport accidents in the Russian Federation have shown a mixed picture, with upward and downward trends at different periods. Nevertheless, comparisons with other parts of the European Region showed an increasing gap, which required action.

Policy action taken
A federal road safety improvement target programme for 2006–2012 was implemented to reduce transport-related mortality. Key components included:

- improvement in driver training standards;
- modernization of the road infrastructure;
- introduction of mechanisms to improve compliance with traffic regulations;
- strengthened enforcement of legal measures in cases of misconduct;
- reductions in the time interval between the crash and the arrival

of emergency services to the crash scene;
- improved speed and coordination of the medical response.

Outcomes
Male and female mortality rates decreased by an average of 26.2% and 29.4% respectively between 2005 when the programme was introduced and 2013, suggesting a positive impact. Declining trends were observed in all age groups. In working-age adults aged 20–39 years the observed reduction in mortality rates was 20.8% for men and 22.2% for women. Among people aged 60 years and over the reduction was greater, at 35.5% for men and 39.9% for women.

Pedestrians are frequently victims of transport accidents; thus, the programme also had a significant impact on pedestrian mortality. Owing to a reduction in mortality of 45.7% in men and 45.2% in women, pedestrian fatalities as a proportion of all transport-related fatalities declined from 40.1% to 29.5% in

men and from 49.2% to 38.2% in women. Since pedestrians are frequently older people, this suggests that the programme had a greater effect on mortality in this age group.

Subnational variations in mortality due to different levels of infrastructure development and traffic intensity in various regions (oblasts) were striking. In 2013 the variation was 14-fold in death rates in men (ranging from 5.8 to 82.2 per 100 000 people) and 30-fold in women (ranging from 0.9 to 30.3 per 100 000) among the regions. Between 2005 and 2013 mortality from transport accidents decreased in 69 out of 82 regions.

The significant initial reductions begun to slow down after 2010, however: during 2010–2013 mortality decreased by only 1.1% among women, while it increased by 3.1% among men. To ensure the sustainability of the positive changes achieved in the Russian Federation, a follow-up programme for 2013–2020 has been approved.

on the basis of their resources and existing suicide prevention activities. In particular, it recommends effective evidence-based and low-cost interventions, even in resource-poor settings *(46)*.

Target 2: increase life expectancy in Europe

Summary of progress

The quantification for this Health 2020 target is a continued increase in life expectancy at the current rate (the annual rate for the period 2006–2010), coupled with reducing differences in life expectancy in the Region. The core indicator is life expectancy at birth.

Average life expectancy at birth in the Region has been increasing since the 1990s. At the time of writing, insufficient information was available to enable assessment of the rate of change in life expectancy at the regional level since the Health 2020 baseline in 2010. Differences between countries in the Region and between men and women have decreased over time. This positive trend seems to have continued in the period 2010–2011, although the limited data availability does not permit sound conclusions. Nevertheless, the gaps remain considerable.
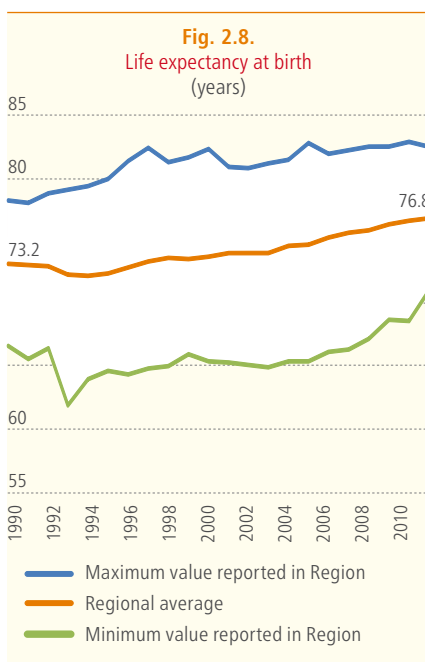
Gap in life expectancy at birth between countries still more than a decade

The Health 2020 target stipulates a continued increase in life expectancy at the annual rate for 2006–2010. The average annual increase in this period was 0.26 years, indicating accelerated progress compared to the previous period (1990–2005), when it was only 0.09 years. Average life expectancy at birth in the European Region was 76.6 years in 2010 and 76.8 years in 2011 (Fig. 2.8). At the time of writing, the regional average for 2012 could not yet be calculated reliably because data for that year were available for only a minority of countries. This will therefore be reported in the Regional Office's 2015 edition of core health indicators. Assessment of the longer-term time trend shows that in 1993 the average life expectancy in the Region took a sharp downturn;

Fig. 2.8.
Life expectancy at birth
(years)

76.8

— Maximum value reported in Region
— Regional average
— Minimum value reported in Region

Source: European Health for All database *(11)*.

this was related to the social and economic crisis following the break-up of the USSR *(47)*.

The gap between the highest and lowest life expectancy figures for most years since the early 1990s has been 16 years on average. In 2009 and 2010, however, it was reduced to about 14 years, and it fell to only 11 years in 2011. This gap is considerably smaller than in previous years, but since only 25 countries had reported 2011 life expectancy data at the time of writing this should be interpreted with caution: minimum and maximum values will be updated when the remaining countries report their data to WHO.

The regional averages for male and female life expectancy show similar rates of increase since 1990 (see Fig. 2.9). Assessment of the gap in life expectancy by sex since 1990 shows that women consistently live on average about 8 years longer than men. The greatest difference of around 8.5 years occurred in the years 1994 and 1995; this is probably explained by the effects of the crisis after the dissolution of the USSR *(48)*. Since 2002 the gap has reduced to 7–8 years, mainly due to steeper gains in male life expectancy in the Commonwealth of Independent States (CIS).

The reduction in differences in average life expectancy in the Region between countries and between men and women is a positive sign; nevertheless, the remaining gaps are still large.
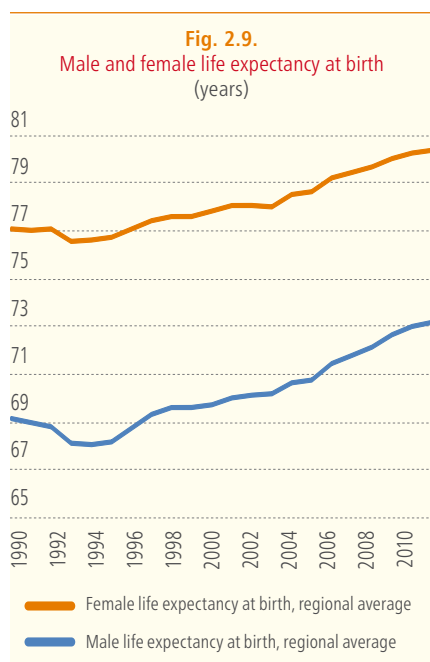
Life expectancy above average at birth and below at age 65 in some countries

An additional indicator for this Health 2020 target quantification is life expectancy at ages 1, 15, 45 and 65 years; this subsection looks at life expectancy at age 65. In some countries both male and female life expectancy is above the regional average at birth but below it at age 65. In some countries both male and female life expectancy at birth and at age 65 are lower than the regional average, while in others life expectancy for only one sex is lower (see Table 2.3). Life expectancy at age 65 at the regional level shows an upward trend, having increased from 15.7 years in 1993 to 18.0 in 2011 *(11)*.

A 2014 study looked into the causes of increases in life expectancy at age 60, primarily in high-income countries, and concluded that

Fig. 2.9.
Male and female life expectancy at birth
(years)

Female life expectancy at birth, regional average

Male life expectancy at birth, regional average

Source: European Health for All database *(11)*.

improvements were mainly the result of reductions in tobacco use (for men) and in cardiovascular disease mortality (for both men and women). The different timing of trends in tobacco smoking behaviour in men and women in high-income countries (known as the tobacco epidemic *(49)*) is likely to explain the different patterns seen in this study between the sexes. The increase in obesity and consequent diabetes mellitus type II prevalence could limit future rates of improvement in older age mortality, as could the increasing prevalence of dementia due to the ageing population *(12)*.

Table. 2.3.
Male and female life expectancy at birth and at age 65

Country	Life expectancy at birth		Life expectancy at age 65		Country	Life expectancy at birth		Life expectancy at age 65	
	Male	Female	Male	Female		Male	Female	Male	Female
Regional average	73.1	80.3	15.9	19.6	Latvia	68.9	79.0	13.7	18.6
Albania	73.7	78.9	14.9	17.8	Lithuania	68.0	79.0	13.6	18.5
Andorra	77.4	84.2	—	—	Luxembourg	79.2	83.9	18.2	21.7
Armenia	71.3	77.8	14.3	17.0	Malta	78.8	83.1	17.8	21.1
Austria	78.4	84.0	18.2	21.8	Montenegro	73.3	78.0	15.2	17.3
Azerbaijan	71.3	76.3	14.5	16.3	Netherlands	79.5	83.2	18.2	21.3
Belarus	64.8	76.6	11.8	16.9	Norway	79.7	83.6	18.5	21.2
Belgium	77.5	83.0	17.6	21.3	Poland	72.7	81.2	15.5	20.0
Bosnia and Herzegovina	74.2	79.0	15.6	17.4	Portugal	77.4	83.9	17.9	21.7
Bulgaria	70.8	77.9	14.0	17.4	Republic of Moldova	67.2	75.1	12.8	15.8
Croatia	74.0	80.7	15.0	18.8	Romania	70.2	77.6	14.1	17.3
Cyprus	80.1	83.9	19.0	21.1	Russian Federation	63.1	75.0	12.0	16.6
Czech Republic	75.1	81.3	15.8	19.4	San Marino	77.6	84.4	18.3	24.2
Denmark	78.0	82.1	17.5	20.3	Serbia	72.4	77.5	14.1	16.5
Estonia	71.3	81.4	14.8	20.1	Slovakia	71.8	79.4	14.1	18.1
Finland	77.5	84.0	17.9	21.9	Slovenia	76.6	83.2	16.9	21.1
France	78.4	85.4	19.0	23.5	Spain	79.4	85.5	18.8	22.9
Georgia	70.2	79.0	14.5	18.4	Sweden	79.7	83.7	18.4	21.3
Germany	78.7	83.4	18.3	21.3	Switzerland	80.4	85.0	19.2	22.7
Greece	78.6	83.2	18.6	20.7	Tajikistan	71.2	76.3	14.5	17.8
Hungary	71.7	78.8	14.4	18.2	The former Yugoslav Republic of Macedonia	73.0	77.3	14.0	16.1
Iceland	79.9	83.9	18.7	21.1	Turkey	74.5	80.0	15.7	19.1
Ireland	78.5	83.0	17.8	21.0	Turkmenistan	62.5	69.8	12.4	14.9
Israel	80.4	84.1	19.4	21.7	Ukraine	66.2	76.2	12.8	16.8
Italy	79.8	85.0	18.7	22.5	United Kingdom	78.8	82.7	18.4	21.0
Kazakhstan	63.7	73.5	11.9	15.6	Uzbekistan	68.2	73.0	13.0	15.0
Kyrgyzstan	65.5	73.7	12.8	15.7					

Note: data from latest available year, 2004–2012 (with one exception from 1998); regional averages for 2011.

Source: European Health for All database *(11)*.

Target 3: reduce inequities in Europe

Summary of progress

The quantification for this Health 2020 target is a reduction in the gaps in health status associated with social determinants within the European population. The core indicators include:

- infant mortality per 1000 live births;
- proportion of children of official primary school age not enrolled;
- unemployment rate;
- life expectancy (described in the section on target 2);
- national and/or subnational policy addressing the reduction of health inequities established and documented.

Since 1990 infant mortality has fallen in countries with the highest rates, reducing the gap between countries. Data reported for the past few years do not have sufficient coverage to determine whether this positive trend has continued since 2010.

The difference between the highest and lowest proportions of children of official primary school age not enrolled in school in countries in the Region is decreasing: it was 15.2% in 2010, 12.7% in 2011 and 10.6% in 2012 (the lowest value in 2012 was 0.2%, while the highest was 10.7%).

Unemployment rates across the Region vary considerably, with highest and lowest values of 31% and 0.5% in 2012. While the difference between the highest and lowest values in the Region has been decreasing since 2005, in recent years the rate of reduction has slowed, making the difference 31.3% in 2010 to 30.8% in 2011 and 30.5% in 2012.

The proportion of countries in the Region with a standalone policy on health inequities increased from 58% in 2010 to 67% in 2013.

Gap between highest and lowest infant mortality rates has shrunk

The infant mortality rate is defined as the number of deaths of infants aged under 1 year per 1000 live births. The maximum values reported in the Region outline an erratic pattern while

the minimum values are more or less constant (Fig. 2.10). This is largely explained by the fact that data coverage for countries is not complete, especially for those with the highest infant mortality rates. The regional averages for earlier years are based on data from most countries; the 2011 average, however, is based on data for only 27 countries. Those that have not yet reported for 2011 are also among those with higher infant mortality rates; this may explain the sharp decline in the highest reported value in the Region in 2011. In general, however, it can be concluded that the highest rates have fallen significantly over time, thus reducing the gap between countries. The difference between the lowest and highest infant mortality rates in 1990 amounted to 40 infant deaths per 1000 live births; in the 2000s it had declined to a range fluctuating between 20 and 30.

The regional average infant mortality rate has fallen by over half over 22 years, from 15.4 deaths per 1000 live births in 1990 to 7.0 in 2011 (see Fig. 2.10), representing an average annual rate of decline of 3.7%. In comparison, Millennium Development Goal 4 requires a two thirds reduction in under-5 mortality over a 25-year period, which is equivalent to a 4.4% average annual rate of decline. Furthermore, the pace of decline diminished in the latter half of the reporting period: the average annual reduction in 2001–2011 was, at best, 3.3% compared to 4.5% in 1998–2000. The pace cannot be measured reliably as of 2010, owing to delayed reporting by countries, but the trend indicates that infant mortality in the Region will decrease further.
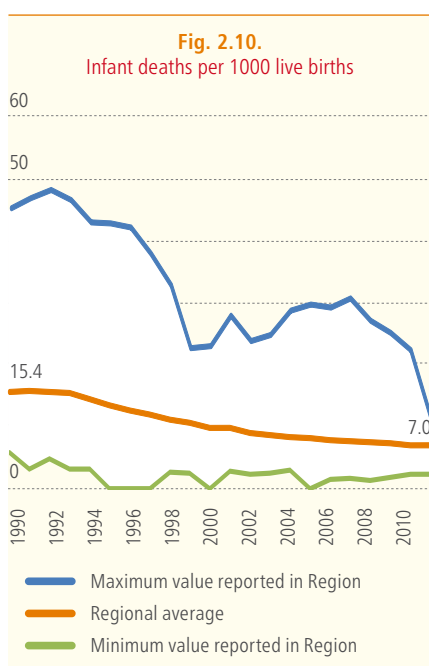
Experience across the Region – and indeed the world – shows that lower levels of infant mortality are strongly associated with a larger share of neonatal deaths (deaths occurring at 0–27 completed days) and that declines in neonatal deaths are slower than those in postneonatal deaths (occurring between 28 days and 11 months) *(50)*. To monitor the transition to low infant mortality across the Region, well functioning civil registration systems that accurately record infant deaths are required, especially in the first days after birth. While the level of infant mortality is likely to be underestimated due to either misclassification of early neonatal deaths as stillbirths or civil registration systems failing to capture deaths occurring in the first hours or days following birth *(51)*, the reporting bias is assumed to be largely constant. The direction and the magnitude of change described above therefore probably

Fig. 2.10.
Infant deaths per 1000 live births

- Maximum value reported in Region
- Regional average
- Minimum value reported in Region

Source: European Health for All database *(11).*

reflect reality. Annex 1 offers more information about quality issues and problems related to infant mortality data.

Wide variation in proportion of children not enrolled in primary school

The difference between the highest and lowest proportions of children of official primary school age not enrolled in the Region is decreasing: it was 15.2% in 2010, 12.7% in 2011 and 10.5% in 2012. Nevertheless, differences between countries remain large, with proportions in 2012 ranging from 10.7% to 0.2%. Distribution across the Region shows an unbalanced picture: the proportion was below 3.3% in 75% of countries, and 3.3–10.7% in 25% of countries (Fig. 2.11).

The positive relationship between education and health is widely acknowledged. It appears to be reciprocal: better education results in better health (through better jobs, higher income and increased health literacy) and better health enables people to invest more time, money and energy in education (53). Tackling inequities in education is therefore vital for addressing health inequities. The global initiative on out-of-school children set up by the United Nations Children's Fund (UNICEF) and UNESCO Institute for Statistics reported a lack of systematic analyses to identify the barriers to achieving universal primary education, partly due to a lack of adequate tools and methodologies to identify out-of-school children and monitor progress. The initiative worked with several countries in the European Region on improving inclusion rates in education (54) (see Box 2.5).

Differences in unemployment rates decreasing, but recent changes small

Rates of unemployment across the Region vary considerably: the lowest value in 2012 was 0.5% and the highest 31%. Although the difference between the highest and lowest values in the Region has been decreasing since 2005, in recent years the rate of decline has slowed, with a difference of 31.3% in 2010, 30.8% in 2011 and 30.5% in 2012 (Fig. 2.12). In 2012, according to the International Labour Organization Department of Statistics (ILOSTAT), differences between men and women in the developed economies and countries of the EU were small (unemployment rates

Fig. 2.11.
Distribution of proportions of children of primary school age not enrolled
(%)

- Highest percentage of schoolchildren not enrolled
- 3rd quartile (75% of values are below this line)
- Median (50% of values are below this line)
- 1st quartile (25% of values are below this line)
- Lowest percentage of schoolchildren not enrolled

Source: United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (52).

Box 2.5.
Comprehensive policy action to boost primary education enrolment in Turkey

Background

According to Turkey's 2008 demographic and health survey, 7.5% of 6–10-year-olds and 4.63% of 11–13-year-olds were not enrolled in school. Turkey was one of 25 countries in which UNICEF and the UNESCO Institute of Statistics started the global initiative in 2010 to accelerate the reduction in the number of out-of-school children and strengthen monitoring systems for these children.

Policy action taken

To overcome barriers and bottlenecks leading to exclusion from education, the Turkish government implemented several social policies and programmes such as distributing free textbooks and providing free lunches for those

children living in rural areas at long distances from schools. It also began to provide assistance for student housing, transportation and boarding; educational materials; scholarships for children in low-income and/or rural households; free transportation for children with disabilities; and monthly payments for caring for disabled children. An expansion of pre-primary education was implemented to reach more children, and the education sector began using an e-school management information system, transitioning to a performance-based budgeting and management system. Other strategies were also enacted to increase school enrolment, such as a project to improve the work and social lives of seasonal agricultural workers and work targeting children in need of protection.

Outcomes

Hundreds of thousands of children have benefited from free lunches, stipends to meet housing costs, free bus services and many other services targeted at increasing school enrolment. According to national education statistics, the net enrolment rate for the 2013–2014 school year was 99.5% in primary education. For children aged 10–13 years the net enrolment rate in lower secondary education – after adjustment, for example, for primary schoolchildren falling in that age group because of repeated classes – was 99.9%. The proportion of children in Turkey who benefit from pre-primary education and who successfully complete basic education has greatly increased, which may be attributed to the comprehensive reforms and efforts made to address education challenges (55,56).

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of 8.6% for men and 8.5% for women). In central and south-eastern European (non-EU) countries and the CIS, the rates for men were higher than for women (8.2% versus 7.7%) *(57)*.
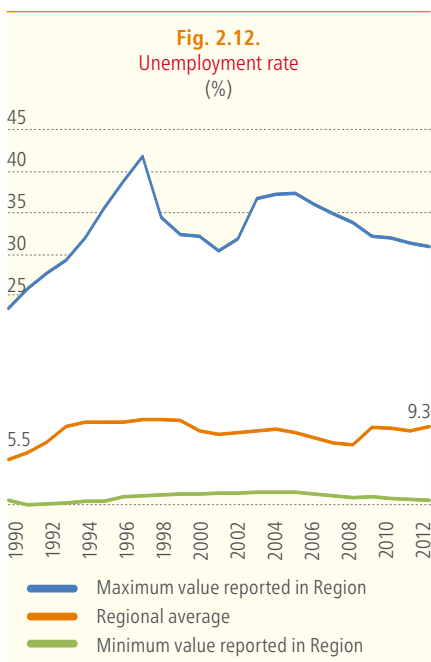
The effects of the economic crisis on the labour market disproportionately affect young people. ILOSTAT estimates that youth unemployment rates for 2012 are 18% for the developed economies and EU countries and 17.5% for central and south-eastern European (non-EU) and CIS countries. According to these projections the rates will be 16% and 18%, respectively, in 2018, implying that major improvements in the situation are not to be expected within the next few years. Importantly, in countries for which information exists, the proportion of young people neither in employment nor in education or training has continued the steep upward trend recorded since the start of the crisis *(57)*. These high and/or rising rates are a major concern for policy-makers, as this group is neither engaged in employment nor investing in skills development.

Unemployment has a direct effect on health (it is associated with an increased mortality risk and with risk behaviours, including heavy drinking) and an indirect effect through the

Fig. 2.12.
Unemployment rate
(%)

- Maximum value reported in Region
- Regional average
- Minimum value reported in Region

Source: European Health for All database *(11).*

financial consequences of being unemployed, which leads to psychological distress and an increase in mental disorders *(58)*. The evidence suggests that employment has a beneficial effect on health, although the relationship between the two is complex. In particular, employment has a protective effect against depression and on general mental health *(59)*. Employment is an important element of healthy ageing strategies; thus, ensuring a higher employment rate among people aged 50 years and over is an important goal of many European governments. Current employment rates in the EU range from 47.5% to 82.0% for people aged 55–59 years, from 13.9% to 64.2% for people aged 60–64 years and from 3.8% to 27.0% for people aged 65–69 years *(60)*. These figures illustrate that significant policy action is required to achieve adequate employment levels among older people, contributing to active and healthy ageing.

Policies to tackle inequities exist in 31 countries in 2013

The trend of countries adopting standalone policies to address the reduction of health inequities is increasing (see Fig. 2.13). Among 36 reporting countries in 2013, 31 (86%) had a policy or strategy addressing inequities and/or social determinants, of which 77% were health-specific policies.

Fig. 2.13.
Number of countries in which policies or strategies exist on health inequities or social determinants of health

Source: Qualitative indicators for monitoring Health 2020 policy targets *(61)*.

Overall, the most common elements reported in 2010 to reduce health inequities focused on integrating and improving the health of disadvantaged groups and on having a healthy start in life (87% and 77% of the responses, respectively). In 2013 the focus on disadvantaged groups and a healthy start remained (86% and 75%, respectively), but an increasing and diversified emphasis on tackling poverty (81%), improving the physical environment (81%) and enhancing human rights (75%) was also reported. The broadening of the focus of policies from the more traditional approaches applied in 2010 is encouraging. This suggests that Health 2020 implementation is gathering momentum and generating new action at the national and subnational levels *(61)*. Data for this indicator were collected by means of a survey of countries by the WHO Regional Office for Europe (see Box 2.6).

Other core indicators linked to this target

The core indicators of life expectancy at birth and GINI coefficient (income distribution) are also linked to this target. The indicator on life expectancy is described in the section on target 2; the GINI coefficient is not described in this report due to insufficient data availability (see Annex 1 for more details).

Target 4: enhance the well-being of the European population

Summary of progress

The Health 2020 core indicators linked to this target are related to subjective and objective well-being. The indicator for subjective well-being is life satisfaction and those for objective well-being include:

- availability of social support;
- percentage of population with improved sanitation facilities;
- unemployment rate (described in the section on target 3);
- proportion of children of official primary school age not enrolled (described in the section on target 3).

The average self-reported life satisfaction score – measured on a scale of 0 to 10, with 10 the best possible life – ranges from 7.8 to 4.2 in countries in the European Region. Understanding and interpreting such subjective well-being data, however, requires additional research and developmental work.

The proportion of people aged over 50 years in the Region who feel that they have social support ranges from 43% to 95%.

Considerable proportions of the population in rural areas in the Region still lack access to improved sanitation facilities and piped water on their premises. In nine countries less than 50% of the population in the rural areas had access to piped water in 2012.

Life satisfaction scores vary: more work needed to understand the differences

The average self-reported life satisfaction score in countries in the European Region ranges from 7.8 to 4.2. Of 50 countries for which data are available, 23 have an average score above 5.9; the remaining 27 score 5.9 or lower (see Fig. 2.14). Life satisfaction was scored from 0 to 10 on the Cantril Self-Anchoring Striving Scale, with 10 the best possible and 0 the worst possible life for respondents.

Life satisfaction is accepted as a measure of subjective well-being, which relates to what people feel and report themselves. Other elements commonly described in subjective well-being are emotional well-being (such as positive and negative affect) and positive functioning (such as sense of purpose and meaning). The Health 2020 monitoring framework currently has no indicators related to these aspects, but the WHO expert groups on the development of indicators and on the measurement of well-being for Health 2020 recommended considering additional indicators to capture them *(62)*. Understanding and interpreting such subjective well-being measures is challenging: the opportunities and pitfalls involved are addressed in detail in Chapter 3. A relationship between life satisfaction and health indicators such as mortality and life expectancy, however, has been described repeatedly *(63, 64)* (see Fig. 2.14).

The life satisfaction data in this report were gathered by Gallup World Poll and published by UNDP as part of its *Human development report 2014 (65,66)*. The data are not age-standardized; this limits comparability because of differences in the age structure of countries' populations.

Highest rate of older people with social support more than twice the lowest

The proportion of people aged over 50 years in countries in the European Region who state that they have relatives or friends they can count on when in trouble ranges from 43% to 95%. This proportion is 80% or higher for 68% of countries, and below 70% for 14% (Fig. 2.15).

Social connectedness is a measure of objective well-being. Its importance for health and well-being has been well established: it is therefore a common element in existing well-being frameworks

Fig. 2.14.
Life expectancy at birth and overall life satisfaction

$y = 0.1409x - 4.9201$
$R^2 = 0.38173$

Overall life satisfaction

Life expectancy at birth (in years)
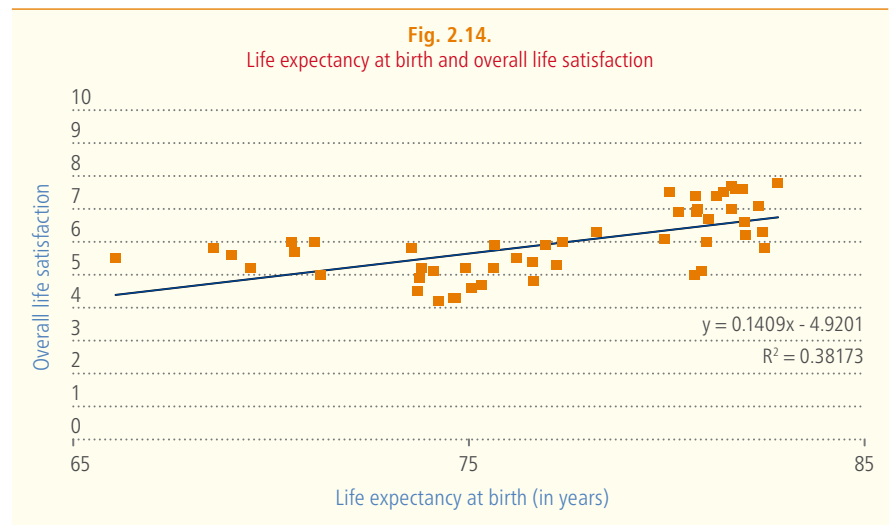
Notes: each dot represents a country in the European Region. The Gallup World Poll poses the Cantril Scale question in the following way *(65)*. "Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that the top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?" A single linear regression model was applied to the data: the equation in the graph describes the resulting regression line. The better the fit of the linear regression model, the closer R^2 is to 1. Data on life satisfaction from latest available year, 2007–2012; data on life expectancy from latest available year, 2004–2012 (with one exception from 1998).

Sources: life satisfaction: Gallup World Poll (through the United Nations Development Programme (UNDP)) *(65, 66)*; life expectancy: European Health for All database *(11)*.

(62). Work by the Organisation for Economic Co-operation and Development (OECD) shows an influence of education and economic status on social network support: people with secondary or tertiary education can count on someone for help in an emergency more often than those with only primary education. Similar differences apply between upper and lower income quintiles *(68)*. The social connectedness data used in this report were gathered by Gallup World Poll and published by HelpAge International as part of its Global AgeWatch Index 2014 *(65, 67)*.

Many rural homes still lacking piped water and improved sanitation facilities

Large differences exist between rural and urban areas in the European Region in access to piped water on premises and improved sanitation facilities. In 2012 the proportion of the population in rural areas with access to piped water on premises was below 75% in 14 countries and below 50% in nine countries. In urban areas this proportion was below 90% in seven countries and below 80% in two (Fig. 2.16 and 2.17). The total regional proportion of the population with piped water on premises has remained practically static since the Health 2020 baseline of 2010. In rural areas the figure was 71% in 2010, 2011 and 2012; in urban areas it was 96% in 2010 and 97% in 2011 and 2012 *(69)*.

In 2012 the proportion of the rural population with access to improved sanitation facilities (flush or pour-flush to piped sewers, septic tanks or pit latrines, ventilated pit latrines, pit latrines with slab and composting toilets) was below 85% in six countries and below 70% in one. In urban areas it was below 90% in three countries and below 80% in one (Fig. 2.18 and 2.19). As with the situation for piped water hardly any change has occurred in the total proportion of the regional population with access to improved sanitation facilities since the 2010 baseline. In urban areas this was 94% in 2010, 2011 and 2012; for rural areas it was 88% in 2010 and 89% in 2011 and 2012 *(69)*.

Overall, more than 90% of the population of the European Region has access to improved sources of drinking-water and sanitation facilities, as defined by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. Nevertheless, 67 million people lack access to basic sanitation in terms of

Fig. 2.15.
People aged over 50 years who have social support, proportion of countries

Proportion of people over 50 who report having relatives or friends they can count on when in trouble:

- 90–100%
- 80–89%
- 70–79%
- 60–69%
- < 60%
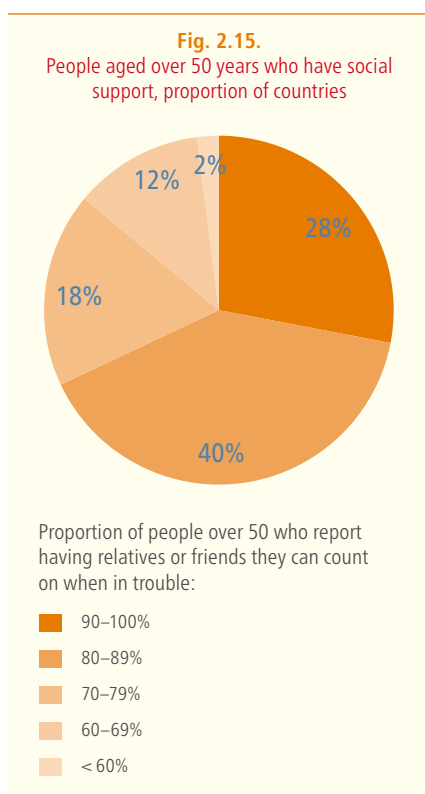
Note: data from 2013 or latest available year.

Source: Gallup World Poll (through HelpAge International) *(65, 67)*.

functioning toilets and safe means to dispose of human faeces. Moreover, about 100 million people lack access to piped drinking-water on premises and more than 6 million still rely on surface water as their primary source, posing severe risks to health. As illustrated in Fig. 2.16–2.19, rural dwellers are the most disadvantaged. This also is true for the least wealthy. The data show that progress has stalled; in fact, in some countries proportions of the population with access to piped water on premises have decreased, and the Region is not on track to meet the Millennium Development Goal 7c target on sanitation *(34)*.
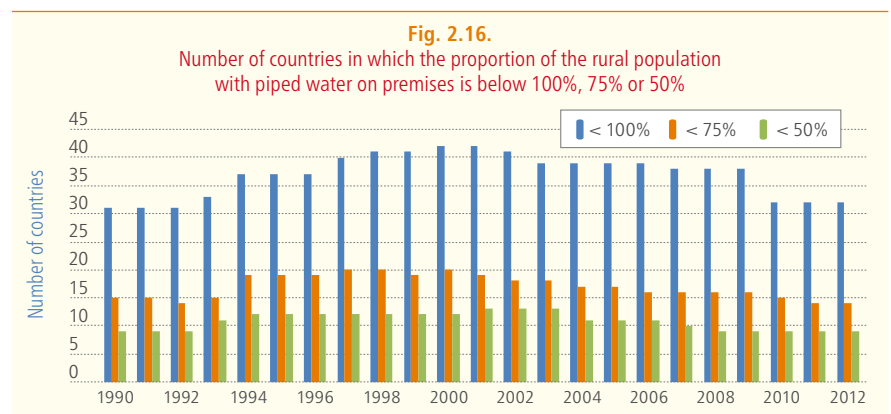
Fig. 2.16.
Number of countries in which the proportion of the rural population with piped water on premises is below 100%, 75% or 50%

Note: the total number of countries for which data are available may differ between years.
Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation *(69)*.

Fig. 2.17.
Number of countries in which the proportion of the urban population with piped water on premises is below 100%, 90% or 80%
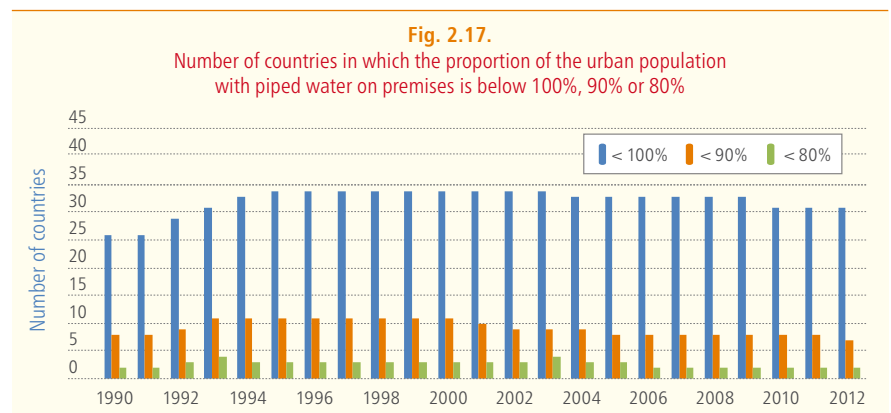
Note: the total number of countries for which data are available may differ between years.
Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation *(69)*.

Diseases related to inadequate water, sanitation and hygiene represent a significant health burden, primarily from diarrhoea. In low- and middle-income countries in the Region, inadequate water, sanitation and hygiene accounts for 10 diarrhoea deaths a day. Children aged under 5 years are particularly vulnerable to diarrhoea, a leading cause of malnutrition and death. Inadequate water, sanitation and hygiene also cause other diseases, such as legionellosis and soil-transmitted helminth infections. Moreover, chemicals in drinking-water – such as arsenic, fluoride, lead and nitrates – can cause NCDs *(34)*. Safe and sustainable water supply and sanitation facilities are essential for good health, and a safe and clean environment is important for well-being. Action on these basic provisions is clearly still needed in the Region to ensure a healthy environment for all.
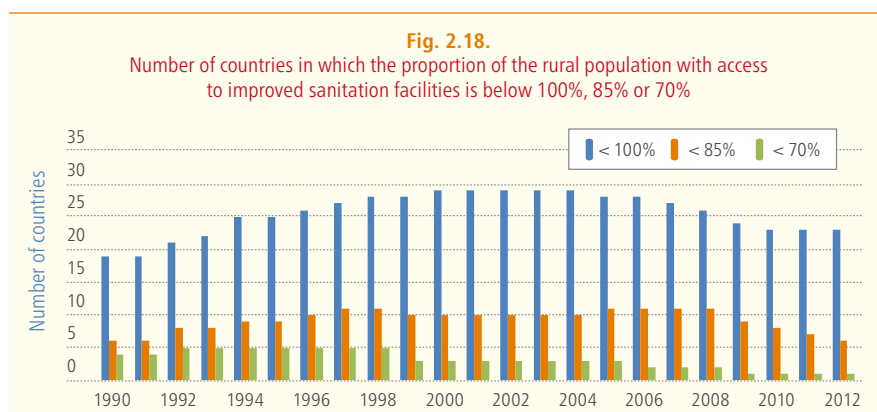
Fig. 2.18.
Number of countries in which the proportion of the rural population with access to improved sanitation facilities is below 100%, 85% or 70%

Note: the total number of countries for which data are available may differ between years..
Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation *(69)*.

Fig. 2.19.
Number of countries in which the proportion of the urban population with access to improved sanitation facilities is below 100%, 90% or 80%
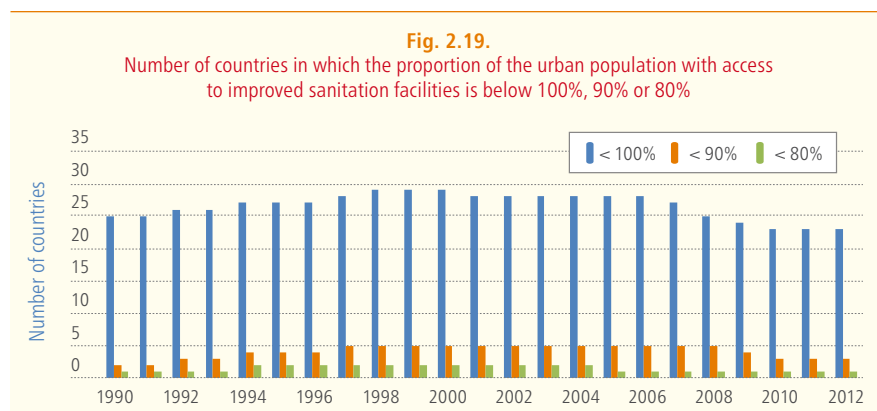
Note: the total number of countries for which data are available may differ between years..
Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation *(69)*.

Other core indicators linked to this target

The core indicators of GINI coefficient (income distribution), unemployment rate and proportion of children of official primary school age not enrolled are also linked to this target. The GINI coefficient is not described in this report due to insufficient data availability (see Annex 1 for more details). The other two indicators are described in the section on target 3.

Country experience of monitoring well-being

Iceland is a country with considerable experience of well-being measurement. For example, a dedicated module on well-being, which included the WHO-Five Well-being Index and the Satisfaction with Life Scale *(70, 71)*, was developed and incorporated in the country's regular health interview survey (see Box 2.7).

Target 5: universal health coverage and the right to health

Summary of progress

The quantification for this Health 2020 target is moving towards universal coverage.[2] The core indicators include:

- total expenditure on health as a percentage of GDP;
- private household out-of-pocket payments (OOPs) as a proportion of total health expenditure;
- percentage of children vaccinated against measles, polio and rubella (described in the section on target 1).

While average total expenditure on health as a percentage of GDP at the regional level has remained unchanged at about 8.3% since the Health 2020 baseline of 2010, public spending has

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[2] According to the WHO definition (76), universal coverage is equitable access to effective and needed services without financial burden.

fallen in many countries. Health systems need adequate levels of public funding to promote financial protection and stable revenue flows to maintain service quality and accessibility.

Average OOPs as a proportion of total expenditure on health at the regional level have also remained unchanged since 2010, at about 24%. In 2012 their level was below the 15% threshold critical for preventing catastrophic levels of health expenditure in only 12 of the 53 countries in the Region.

Moving towards universal health coverage still requires considerable action

Total expenditure on health as a proportion of GDP – one of the Health 2020 core indicators adopted by Member States – differs considerably between countries in the European Region, ranging from 2.0% to 12.4% in 2012. The regional average has been more or less stable, however, at around 8.3%, since the 2010 baseline (Fig. 2.20).

When assessing progress towards universal health coverage, looking at public expenditure on health is important: health

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Box 2.7.
Linking health and well-being measures with public policy outcomes in Iceland

Background
Following the collapse of the banking system in 2008, Iceland was one of the OECD countries that went into recession with negative growth in gross domestic product (GDP). In 2007–2009 unemployment rates increased from 2% to 7% (11), the GDP index fell considerably and the national currency lost more than half its value. The collapse resulted in a reconsideration of national values, with increased interest in adopting not only economic but also social and well-being indicators for public policies.

Policy action taken
To limit the negative consequences of the economic crisis on health and well-being a series of actions was undertaken. In 2009 a proactive policy called "Iceland 2020" was created to increase well-being by the year 2020. Another action – "Welfare Watch" – systematically monitors the social and financial consequences of the crisis for families and individuals in Iceland and proposes solutions. Social indicators were developed, including health and well-being factors. In 2014 a new ministerial committee on public health, chaired by the prime minister, was established; it involves ministers of health, education and culture, and social affairs and housing. Other ministers also participate as needed.

Outcomes
With the development of the public health policy and action plan, major emphasis is put on including health and well-being in all policies and on the creation of a health and well-being impact assessment. One of the main activities is providing support to local governments around the country to become health-promoting communities, encouraging them to monitor health and well-being regularly, linking those measures with their policies. Recent evaluations of the consequences of the economic crisis have shown that measures of adult well-being indicate a rise again after a small decline just after the collapse. Among adolescents, an increase in well-being was detected between 2000 and 2010 as adolescents were spending more time with their parents and found it easier to get emotional support from them after the collapse (72–75).

systems need adequate levels of public funding to promote financial protection and stable revenue flows to maintain service quality and accessibility. Most countries experienced some fluctuation in public spending in the years following the financial and economic crisis, especially in 2009, 2010 and 2012. Public spending on health fell in many countries between 2010 and 2013, both as a share of GDP and per person; in some countries this was a continuation of a long-standing trend. Overall, most reductions were small, but a few countries experienced large or sustained reductions, so that their levels of public spending on health per person were lower in 2012 and 2013 than in 2007 *(77)*.

Ensuring an adequate level of public financing for the health system – through general tax revenues and/or taxes earmarked for health – is essential for progress towards universal health coverage. Many countries in the Region that have traditionally relied heavily on earmarked payroll taxes to finance health care now realize that a mixed public revenue base is more conducive to achieving higher levels of coverage without unduly burdening the labour market *(77, 78)*.
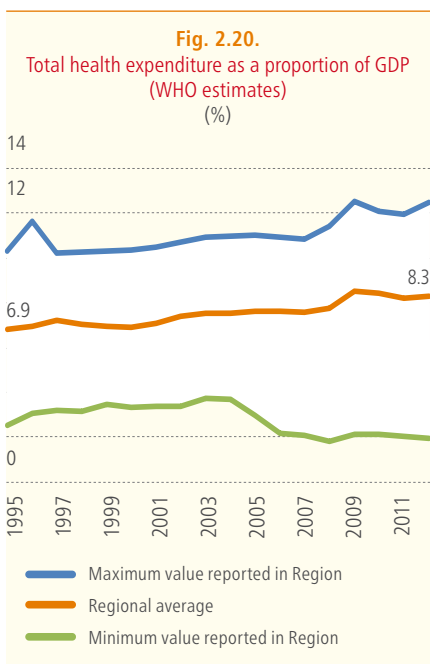
Low levels of public spending on health typically result in high levels of OOPs. The OOP proportion of total spending on health is thus an important proxy indicator of financial protection. International analysis suggests that once the OOP share falls below 15% of total spending on health very few households experience catastrophic or impoverishing levels of health expenditure *(79)*. In 2010 and 2011 only 13 of the 53 countries in the Region had an OOP share below 15%; in 2012 only 12 countries were below this threshold (Map 2.3) and one had a value just slightly above 15%. Between 2010 and 2012 the OOP share grew in 22 countries, although the magnitude of growth was usually small *(11)*. On average, the OOP proportion of total health expenditure in the Region has remained stable since 2010, at about 24% (see Fig. 2.21).

These figures highlight the need for policy action to reduce OOPs in most countries. Reducing OOPs requires a comprehensive approach that aligns all dimensions of health financing policy – revenue collection, pooling, purchasing and coverage decisions – for greater financial protection, equity and efficiency (see Box 2.8

Fig. 2.20.
Total health expenditure as a proportion of GDP (WHO estimates)
(%)

- Maximum value reported in Region
- Regional average
- Minimum value reported in Region

Source: European Health for All database *(11)*.

for an example of policy action from Georgia). Medicines are usually the main driver of OOPs and a key source of catastrophic and impoverishing health expenditure. Weak pharmaceutical policies and inappropriate use of medicines are also leading sources of inefficiency in many health systems. Stronger pharmaceutical policies can thus safeguard timely and equitable access to medicines and improve financial protection, while at the same time promoting more efficient use of resources *(79)*.

Other core indicator linked to this target

The core indicator of percentage of children vaccinated against measles, polio and rubella is also linked to this target; it is described in the section on the second quantification for target 1.

Maternal mortality still varies widely, despite a general decline

An additional indicator for this Health 2020 target quantification is maternal deaths per 100 000 live births. The steady decline in maternal mortality in the Region has been impressive: maternal deaths per 100 000 live births decreased by 59% between 1990 and

Map 2.3.
Private households' OOPs on health as a proportion of total health expenditure, 2012

> 35%
25–35%
15–25%
≤15%

Source: European Health for All database *(11).*

Fig. 2.21.
Private households' OOPs on health as a proportion of total health expenditure
(%)

Maximum value reported in Region
Regional average
Minimum value reported in Region
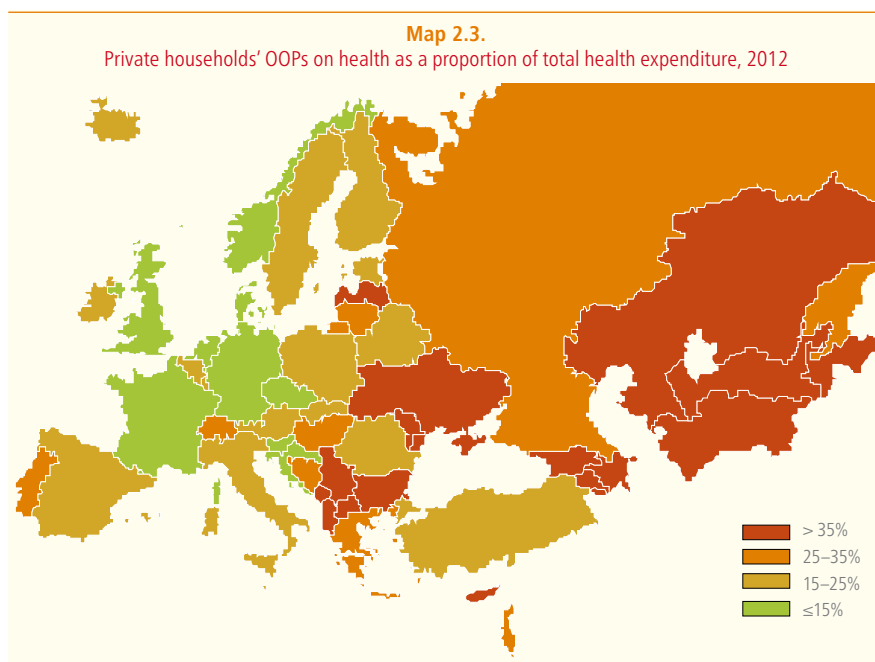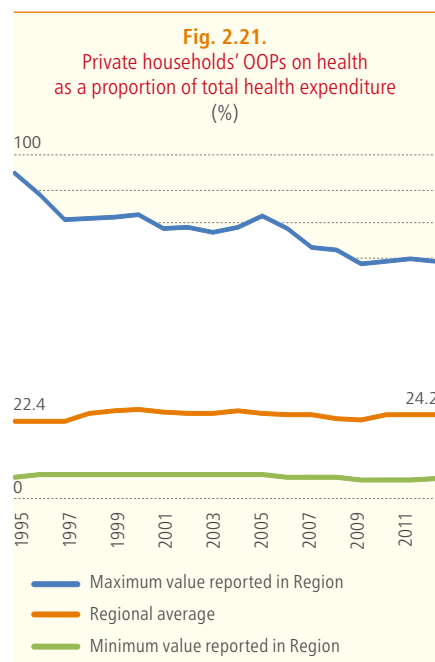
Source: European Health for All database *(11).*

2013. Several countries in the Region have achieved remarkable success in their progress towards the related Millennium Development Goal: in the same period Belarus was able to reduce its maternal mortality ratio by 96%, Israel by 84%, Poland by 81%, Romania by 80%, Bulgaria by 78%, Estonia by 78% and Latvia by 77% *(81)*. Nevertheless, intercountry differences in the Region are still substantial (Map 2.4). This implies that action is still needed to improve health system performance in maternal health – in particular, action to reduce existing inequities.

Target 6: national targets or goals set by Member States

Summary of progress

The quantification for this Health 2020 target is the establishment of processes for the purpose of setting national goals (if not

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Box 2.8.
Substantial progress in moving towards universal health coverage in Georgia

Actions taken and achievements so far
In 2013 Georgia extended publicly financed coverage of primary care, emergency care and some elective inpatient services to people who were previously insured. Before the reform, only half of the population had access to publicly financed benefits. To fund this significant expansion the government doubled the level of public spending on health in absolute terms between 2012 and 2013, increasing the health share of its budget from 5.2% in 2012 to 6.7% in 2013 (80). The government also took back the purchasing function from private insurance companies: its universal health coverage programme is currently administered by the Social Services Agency of the Ministry of Labour, Health and Social Affairs. The programme covers 89% of the population; the remaining 11% is covered by voluntary private health insurance. A recent survey showed high

levels of satisfaction among programme beneficiaries and health service providers. Preliminary analysis also suggests a welcome increase in the use of health services and a reduction in OOPs.

Challenges ahead
The government now faces the challenge of maintaining this higher level of public spending on health and ensuring that public resources are used as efficiently as possible to address unmet need and strengthen financial protection. This is likely to involve action on several fronts, including:

- more efficient methods of paying providers and better monitoring of provider performance to improve the scope and quality of primary care and keep people out of hospital;
- efforts to improve equitable access to cost-effective medicines at lower

cost – especially those essential medicines for chronic conditions that are not yet part of the universal health coverage benefits package;
- a strategy to ensure that user charges do not prevent people from accessing the programme's benefits and to harmonize entitlements across the population.

Important role for health information
In the last five years Georgia has invested in boosting health information through national health accounts, monitoring of financial protection, two health utilization and expenditure surveys and a health system performance assessment. Continuing to generate data and improving routine health information systems will play an important role in developing effective policies to sustain Georgia's remarkable recent achievements.

already in place). The core indicators linked to this target quantification are:

- establishment of a process for target-setting documented;
- evidence documenting: (a) establishment of national policies aligned with Health 2020; (b) implementation plan; (c) accountability mechanism.

In 2010 nearly 40% of countries in the Region had defined targets to monitor the progress of health and well-being; by 2013 this had increased to 56%.

The proportion of countries with policies aligned with Health 2020 increased from 58% in 2010 to 75% in 2013. In 2010 26% of countries had adopted a policy implementation plan; by 2013 this proportion had increased to 50%. Finally, 45% of countries reported an accountability mechanism in 2010 and the proportion increased to 72% in 2013. These results show that Health 2020 implementation has rapidly gained momentum in the European Region.

Map 2.4.
Maternal deaths per 100 000 live births

> 30
12–30
7–12
3.5–7
≤ 3.5
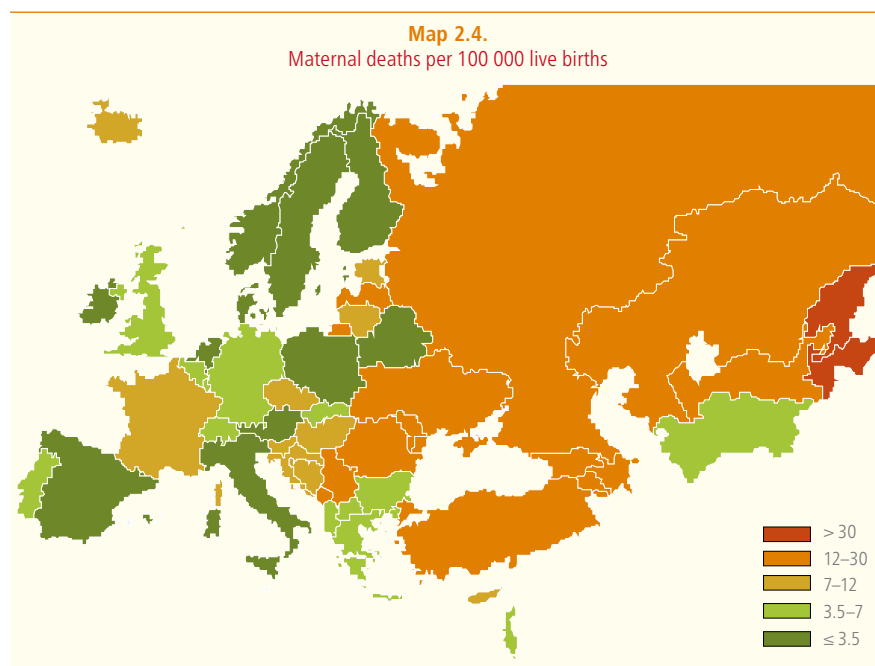
Note: the map represents the average value per country based on the three most recent years for which data were available. See Table A.4 in Annex 1 for information on the data underlying this map.

Source: European Health for All database *(11).*

Goals and targets set for health and well-being in over 50% of countries

Countries are increasingly setting national goals, targets and specific indicators to monitor their progress in improving health and well-being. In 2010 nearly 40% of countries had defined targets and an additional 35% had defined indicators without specific targets; in 2013 the proportion with defined targets increased to 56%. The number of countries planning to establish targets and indicators also increased between 2010 and 2013 (Fig. 2.22) *(61)*. This growing trend is an affirmation that the Region is progressing towards implementing the Health 2020 vision (see Box 2.9 for an inspiring example of national target-setting in Austria).

Implementation of health policies aligned with Health 2020 increasing

More and more countries are completing the three essential steps in the process of creating national health policies aligned with the overall Health 2020 vision: policy development and implementation and establishment of accountability mechanisms. Policy development is increasing rapidly in the Region: 58% of countries reported having a policy aligned with Health 2020 in 2010 and 67% of those were comprehensive health-specific policies. In 2013, one year after the adoption of Health 2020, the proportion of countries with aligned policies increased to 75%,

Fig. 2.22.
Number of countries with a process for target-setting for health and well-being, 2010 and 2013
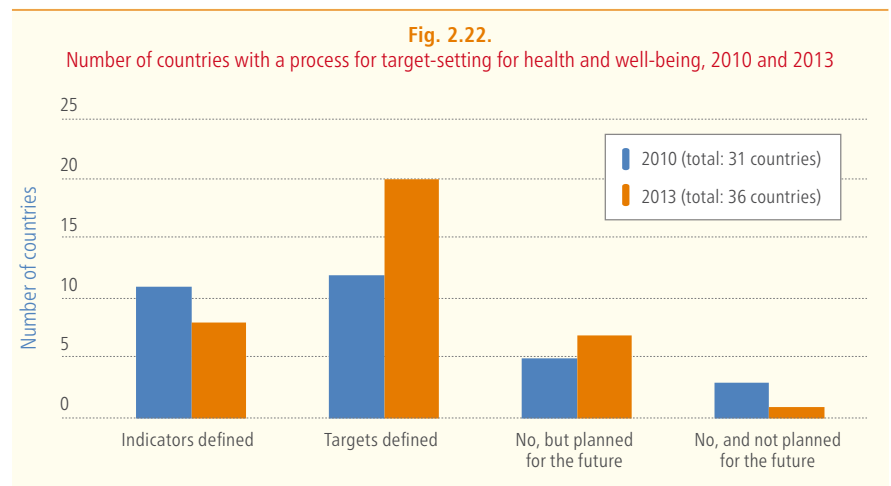
Source: Qualitative indicators for monitoring Health 2020 policy targets *(61)*.

of which 85% were comprehensive and health-specific (Fig. 2.23). A policy is considered to be aligned with Health 2020 if it includes a comprehensive national health policy or other strategy for improving universal health coverage, reducing major causes of the burden of disease, addressing major determinants of health and well-being and strengthening health systems.

As more national policies to address health and well-being are developed, so are plans to implement such policies throughout the Region. In 2010 45% of countries had an implementation plan or were in the process of developing one, and just over half of those were adopted. By 2013 50% of countries had adopted implementation plans and another 22% were in process (Fig. 2.24).

In 2010 45% of countries reported having an accountability mechanism for the policy; in 19% of reporting countries the mechanism was adopted and in 26% it was in process. In 2013 the proportion of countries with a mechanism increased to 72% (Fig. 2.25). Accountability mechanisms include setting targets, presenting progress reports to parliament or undertaking

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Box. 2.9.
Implementing national health targets for Austria

Background
The Federal Ministry of Health led an extensive process to develop 10 health targets for Austria. A committee with representatives of almost 40 public authorities at federal, regional and local levels; social insurance and social partners; and representatives of patients, children and adolescents, older people and socioeconomically disadvantaged people was set up to develop the health targets. The 10 targets, which cover a wide range of areas (health-promoting living and working conditions, health equity, health literacy, healthy childhood, physical activity, nutrition, psychosocial health, healthy environment and health care), were officially approved by the Federal Health Commission and the Austrian Council of Ministers in summer 2012. This initiated the second phase of the process, which is dedicated to defining more specific targets as well as implementation measures.

Achievements so far and future prospects
An intersectoral working group will be established for each health target. Five working groups are in place; four have already presented a (draft) final report with specific targets and binding implementation plans including the following:

- to provide health-promoting living and working conditions for all population groups through cooperation of all societal and political areas;
- to promote fair and equal opportunities in health, irrespective of gender, socioeconomic group, ethnic origin and age;
- to enhance health literacy in the population;
- to ensure conditions under which children and young people can grow up as healthy as possible.

The working group on the target to promote healthy, safe exercises and activity in everyday life through appropriate environments continues its work. The developing committee holds regular meetings to discuss key elements of progression, important milestones and results.

Implementation of the health targets will be monitored at different levels. As they address a broad range of health determinants, the monitoring concept is drafted accordingly, including process and outcome indicators. The progress of the implementation is monitored to ensure a high level of transparency, facilitate cooperation and allow necessary adaptations of further implementation.

an independent evaluation of the policy's implementation *(61)*. These steps in policy-making are an encouraging development towards achieving the Health 2020 vision for better health and well-being within the Region. Data for these indicators on national policies were collected by means of a country survey (see Box 2.6).
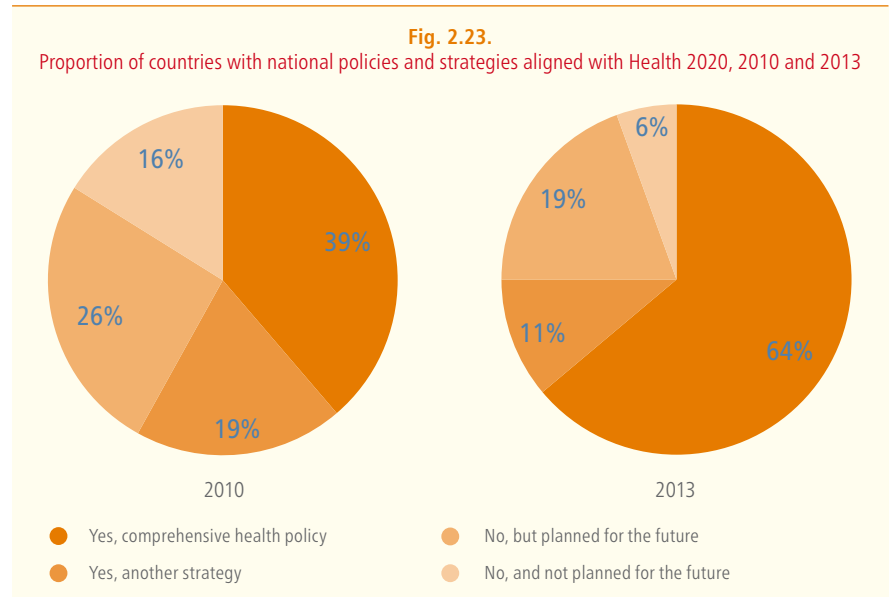
Fig. 2.23.
Proportion of countries with national policies and strategies aligned with Health 2020, 2010 and 2013

2010

- 39%
- 19%
- 26%
- 16%

2013

- 64%
- 11%
- 19%
- 6%

- ● Yes, comprehensive health policy
- ● Yes, another strategy
- ● No, but planned for the future
- ● No, and not planned for the future

Note: 31 countries provided responses in 2010 and 36 in 2013.
Source: Qualitative indicators for monitoring Health 2020 policy targets *(61).*

Fig. 2.24.
Proportion of countries with an implementation plan for national policies and strategies aligned with Health 2020, 2010 and 2013

2010

- 26%
- 19%
- 55%

2013

- 50%
- 22%
- 28%

- ● Yes, adopted
- ● Yes, in process
- ● No, and not planned for the future

Note: 31 countries provided responses in 2010 and 36 in 2013.
Source: Qualitative indicators for monitoring Health 2020 policy targets *(61).*

Fig. 2.25.
Proportion of countries with an accountability mechanism for national policies and strategies aligned with Health 2020, 2010 and 2013

2010

2013

● Yes, adopted   ● Yes, in process   ● No, and not planned for the future
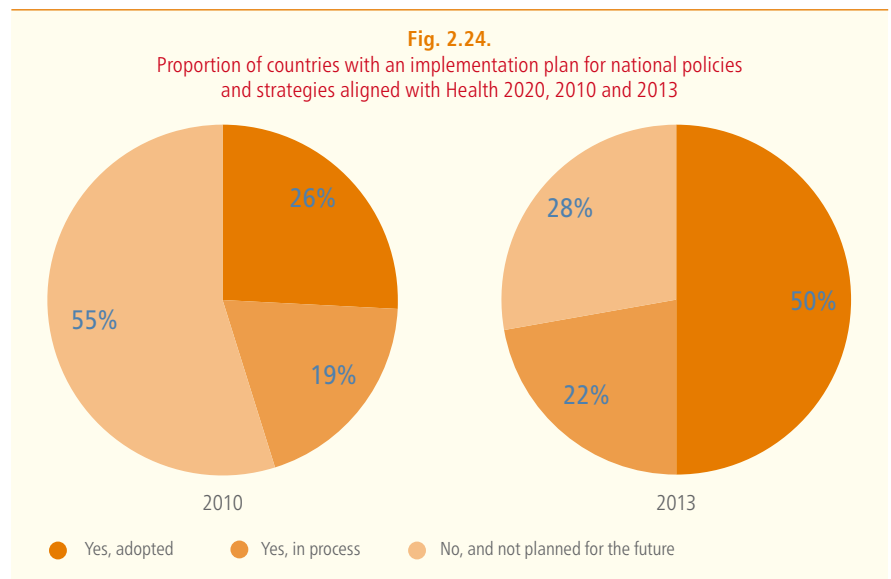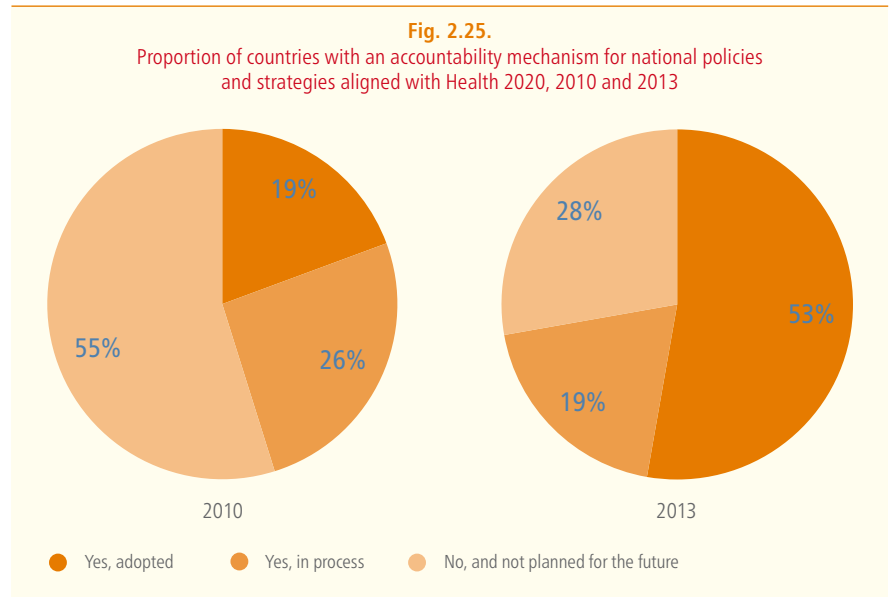
Note: 31 countries provided responses in 2010 and 36 in 2013.

Source: Qualitative indicators for monitoring Health 2020 policy targets *(61).*

03

Well-being and its cultural contexts

Key messages

By adopting Health 2020, Member States mandated the WHO Regional Office for Europe to measure and report on the well-being of the European population in a holistic manner.

Well-being is a unifying concept that is relevant to many government sectors. Engaging with well-being provides an important opportunity to take a whole-of-government approach to improving the health of the European population.

A growing body of evidence shows that:

- well-being can be reliably measured at the local and national levels;
- this shows something not captured by other metrics; and
- designing policies that take account of well-being can improve the delivery of health-related programmes, services and benefits.

Well-being is experienced at the subjective, individual level; it can also be described objectively through several indicators at the population level, such as education, income and housing. Engaging with the full complexity of subjective well-being demands a multidisciplinary, integrated health-research approach. This will require a more sustained use of different types of qualitative evidence to enhance the quantitative data available from well-being surveys.

Comparing subjective well-being data between groups from very different cultural contexts remains a challenge. Since cultural contexts strongly influence well-being, their importance to well-being and health more generally must be investigated more systematically.

A more participatory approach grounded in the local voices of communities should be adopted to communicate information about well-being. Top-down reporting frameworks are likely to miss out on the rich diversity of cultural contexts within which health and well-being are situated.

In January 2015 WHO launched a review of the cultural contexts of health (CCH), which seeks to synthesize the evidence about the impact of culture on well-being and on health more broadly. One of its longer-term objectives is to create a richer set of tools and methodologies for measuring and reporting on well-being.

Introduction

More and more governments in Europe and across the world are beginning to take an interest in understanding, measuring and improving the well-being of their populations. Drawing on decades of work in well-being research and related fields, an expanding evidence base suggests that well-being can be measured reliably; that it says something not captured by other metrics; and that designing policies which take well-being into account can improve the delivery of programmes, services and benefits in a variety of sectors.

In a world where the interconnectedness of society has become increasingly apparent, well-being is appealing, as it is a highly unifying concept. As a compass by which society can orient itself, well-being is proving to be just as relevant, for instance, to education and finance as to the arts and culture sector. The concept is critical to the way in which WHO's definition of health is being energized.

This chapter considers some of the challenges that arise when trying to quantify an inherently qualitative concept such as subjective well-being and how these can be addressed. Chief

among them are the ways in which cultural contexts affect well-being (and health more broadly). In fact, the important ways in which culture mediates perceptions of, and access to, health and health care have become increasingly clear in recent years.

The chapter concludes by explaining why it is important for WHO to explore CCH and well-being, and why this is essential given the whole-of-government and whole-of-society approaches advocated by Health 2020. It also explores how a more interdisciplinary approach to measuring and reporting on well-being (and health) can help policy-makers understand the specific health and well-being needs of culturally diverse groups of people.

Well-being and health

The relationship between health and well-being is fundamental and reciprocal, and the well-being of populations has important implications for the health sector for several reasons.

- Well-being offers a more integrated model of health – one that does not separate the mind from the body.
- Well-being as a concept is meaningful to the public.
- Higher levels of well-being are associated with decreased risks of disease, illness and injury, better immune functioning, speedier recovery and increased longevity *(63, 82, 83)*.
- Well-being has a predictive value. For instance, life satisfaction scores can predict behaviours such as suicide *(84)*.

In addition, just as income indicators are an insufficient proxy for the progress of society, disease and mortality figures cannot provide a holistic picture of a population's health. Evidence clearly indicates that people can live well in spite of mental illness and, conversely, that their quality of life can be poor even though they may exhibit good mental health *(85)*.

Connecting Health 2020 and well-being

Well-being has always been at the heart of WHO's definition of health, given in the preamble to the Organization's constitution as "a state of complete physical, mental and social well-being and

not merely the absence of disease or infirmity" *(86)*. Although the definition has not changed since 1948, it has proved difficult to operationalize. Over the decades WHO has made significant attempts to promote health in the holistic fashion to which the definition aspires (most notably via the Declaration of Alma-Ata and the subsequent Health for All movement, as well as the Ottawa Charter for Health Promotion *(87, 88)*). The predominant focus, however, has continued to be on reducing death, disease and disability rather than on measuring complete physical and mental well-being.

Health 2020 seeks once more to redress this imbalance. The vision is to provide a health policy framework for the WHO European Region in which all people are enabled and supported to achieve their full health and well-being potential throughout the life-course. Health 2020 crystallizes the recent insights about the role of health. The framework elaborates how maximizing health is a fundamental right for all and not a privilege for the few. It emphasizes that good health through all stages of life is an asset and a source of economic and social stability, crucial to reducing poverty and creating sustainable development. Most importantly, good health cannot be seen as an outcome of one sector alone: sustainable and equitable improvements in health and well-being are the product of effective policy across all parts of government and collaborative efforts across all parts of society.

The Health 2020 monitoring framework: measuring well-being

Understanding, measuring and reporting on well-being is fundamentally relevant to Health 2020 and, if done in culture-centred and culturally sensitive ways, will be an important contribution to the policy's successful implementation. Consequently, the monitoring framework developed in consultation with Member States included as one of its core aims the target to enhance the well-being of the European population *(3)*.

Without a robust strategy for measuring and reporting on well-being quantitatively and qualitatively, one cannot assess the degree to which concrete policy interventions to enhance well-being have been successful. Furthermore, including well-

being measurement in the monitoring framework exemplifies Health 2020's focus on a whole-of-government approach. Given the unifying nature of the concept, the very act of measuring well-being opens up opportunities for intersectoral and interagency collaboration. For WHO, this has meant opportunities to share and exchange knowledge with various agencies for culture, environment and education, including work on urban greenhouse gas emissions and well-being as part of the Healthy Cities Network *(89, 90)*.

Summary of work to date

The European health report 2012: charting the way to well-being marked the beginning of the WHO Regional Office for Europe's endeavour of engaging with well-being indicators. At the time of publication the Regional Office had begun the process of consulting with technical experts and Member States, from which one of the first outcomes was the following high-level working definition *(91)*:

> 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.

After the report's publication both subjective and objective indicators were identified through expert group meetings held in 2013–2014 *(62, 92–94)*. In recommending appropriate indicators for well-being, the expert meetings were guided by some overarching principles, chief among which were important standard criteria such as face and construct validity. Given the differing levels of capacity for reporting, however, it was decided that another core requirement for the chosen indicators had to be their routine availability across most of the 53 countries in the European Region. Thus, the expert group recommended five core objective indicators and one core subjective indicator.

Indicators for objective well-being

The core indicators chosen for objective well-being cover four domains: social connectedness, economic security and income,

natural and built environment and education. Only two of the recommendations are exclusively linked to the Health 2020 target on well-being:

- availability of social support (domain of social connectedness);
- percentage of the population with improved sanitation facilities (domain of natural and built environment).

The remaining core indicators for objective well-being are also reported on via other parts of the framework, as outlined in Chapter 2:

- GINI coefficient (domain of economic security and income);
- unemployment rate, disaggregated by age and sex (domain of economic security and income);
- proportion of children of official primary school age not enrolled (domain of education).

Three further indicators were also seen as particularly relevant to measuring objective well-being, but because available data on these are generally lacking throughout the Region they are included as additional, rather than core, indicators. These are:

- percentage of people aged 65 years and over living alone (domain of social connectedness);
- total household consumption (domain of economic security and income);
- percentage of the population having completed at least secondary education (domain of education).

Core indicator for subjective well-being

Overall satisfaction with life was recommended as the core indicator for the subjective dimension of well-being. Although it affords only a minimum coverage of the concept, the expert group expressed broad agreement that life satisfaction was the most widely available indicator, making it best suited for the purposes of regional reporting *(62)*.

Monitoring subjective well-being: some challenges

Agreeing on life satisfaction as the most appropriate indicator (at this early stage) for subjective well-being may have been straightforward. Nevertheless, many conceptual and practical issues remain regarding the implementation of subjective well-being monitoring. Moreover, scepticism persists about whether subjective well-being can ever be a meaningful and sufficiently robust construct to be included in international accounts. Since a robust representation of subjective well-being is at the core of how WHO envisages reporting on well-being in the future, acknowledging these concerns and working to better understand and overcome any limitations inherent in the data are important tasks. Without such work, the perceived usefulness of subjective well-being data for policy-makers may be limited to national trends over time.

Building on the working definition of well-being

Supplementing the new working definition of well-being, the 2012 European health report outlined further details to clarify the concept. While people across countries may generally agree on the big picture of what aspects are important to their well-being (such as their health, the natural environment, education and so on), the degree to which these are important and the way in which they are in turn constituted are matters of considerable cultural variation. Consequently, governments wanting to measure the well-being of their populations have often found it necessary to begin with a period of public consultation to better understand the national character of the well-being concept. As a result of such a consultation, Italy, for instance, included "landscape and cultural heritage" as one of the 12 domains of national well-being, a factor that is not captured in other European countries *(95)*.

Furthermore, the report pointed out that subjective well-being could be broken down into further domains beyond life satisfaction – for instance, emotional well-being (such as positive and negative affect), positive functioning (such as sense of

purpose and meaning) and social well-being (such as resilience). These concepts continue to play an important role in attempts by scholars and statistical offices to better define and capture subjective well-being. They also lead, however, to questions about the problems of comparability of data collected across different settings, given the important ways in which cultural values, beliefs and norms shape emotional responses and social expectations.

Subjectivity

One of the most basic challenges in relation to the validity of subjective well-being is the very nature of its subjectivity. As with any self-reported survey data, no factual truth exists against which an individual's subjective assessment of their own well-being can be compared; nor do externalities against which this assessment can be validated. Individuals answering the question "How satisfied are you with your life these days?" may even be unsure about the accuracy of their own responses.

The claim that subjective well-being indicators are robust may therefore seem counter-intuitive to many people. Nevertheless, the evidence from over four decades of research increasingly suggests that subjective well-being – and particularly measures of life satisfaction – can capture reliable, valid and important information that cannot be gathered by objective indicators alone *(96)*. So much attention has been focused on how respondents answer questions on subjective well-being that in many cases more is now known about the mechanisms involved and the strengths and weaknesses of the data than about the ways in which, for instance, cultural factors mediate the gathering of epidemiological data.

Comparability

One of the main challenges for WHO's purposes in measuring subjective well-being relates to the cross-country comparability of the data. Important questions remain about the degree to which subjective well-being indicators are susceptible to distortions resulting from the cultural differences between populations. The challenges for cross-cultural comparability can be categorized

into two main types: methodological (the way surveys are constructed and respondents reply) and epistemological (the way respondents' systems of belief differ).

The methodological robustness – in terms of cross-cultural comparison – of questions that attempt to measure other dimensions of subjective well-being, such as positive and negative emotions (known as "affect"), is still frequently debated by researchers. Some examples of challenges often referred to in the academic literature are listed in Box 3.1.

Careful design and rigorous translation of the surveys can address most of these methodological issues. The more difficult challenges for cross-cultural comparability tend to be epistemological, as they relate to how different cultures construct ideal personhood. Thus, several studies have shown how cultures that place a higher value on modesty influence the way respondents answer questions about subjective well-being, resulting in lower explicit measures of self-esteem *(97)*.

A general conclusion that has been drawn from research comparing individualistic cultures (often attributed to western

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Box 3.1.
Factors affecting cross-cultural comparability of subjective well-being measures

Language
Semantic and conceptual equivalence challenges must be considered. Semantic equivalence refers to the choice of terms and semantic structures to ensure the equivalence of the translation. Conceptual equivalence refers to the degree to which a concept exists in the target language, irrespective of the words used. In addition, operational difficulties may arise when using emphasis in non-Latin-based scripts (such as use of capital letters).

Cognitive challenges
The Cantril Self-Anchoring Striving Scale (see the section on target 4 in Chapter 2) has proved to be cognitively challenging in different cultural contexts, in part because the wording that introduces the concept is relatively involved. The use of metaphorical constructs may also not be equally useful in all cultures.

Contextual effects
In the case of experienced well-being, short-term events may have strong effects on scores. For example, if the reference period is a Sunday, experienced well-being ratings tend to be higher on average, although cultural variations exist: as might be expected, Friday ratings are higher for Muslim societies, since it is the day of prayer, when most people do not work.

Response bias
Some cultures may have numeric preferences on a 0–10 scale, but it is hard to tell whether this represents a genuine difference in subjective well-being levels or a culturally ingrained approach towards scales.

Item function
Some items, such as those purporting to measure life evaluations in the next five years, may not function as well in some cultures.

Summary
Good survey methodology is essential to minimize measurement error: questionnaire design and validation, adequate translation practices (such as back-translation), cognitive testing and so on. Caution must in any case be exercised when drawing international comparisons, as further research is still needed to establish the cross-cultural comparability of subjective well-being measures (96).

societies) and collectivist cultures (often considered to be found in east Asia), is that universality and cultural specificity are two facets of the same process. Thus, a universal concept such as life satisfaction is intimately connected to culturally specific determinants such as independence or interdependence. Consequently, the degree to which well-being is comparable between cultures is dependent on the degree to which ideal personhood is comparable between them *(98, 99)*.

Reporting on well-being

While in theory the use of more time-consuming (and more costly) survey methods could minimize some of the shortcomings outlined above, the current reality is that life satisfaction is the only subjective well-being indicator on which WHO can report. Adopting a very high-level definition of well-being was a necessary first step towards taking it seriously. Nevertheless, based solely on one indicator, how can WHO actually say something meaningful about "being well" in its culturally diverse European Region?

A second, perhaps more significantly challenging question, is how WHO should approach its communications on well-being. Even if there were agreement on whether subjective well-being measurements in the abstract are valid across countries, it is unlikely to be possible (or even desirable, if cultural diversity is valued) that consistent universal correlates between well-being and its determinants will ever be established. More than most concepts, well-being not only benefits from bottom-up approaches but is fundamentally defined by them.

At its worst, well-being research can be riddled with an unhelpful amount of "normative naiveté" *(100)*. Often, conventional well-being reports suggest that there is a "formula" for well-being, which those countries that rank highly in global well-being surveys have discovered. Such claims can strike sceptics as unhelpful and reductionist, seemingly championing a particular normative philosophy that may be inappropriate in other cultural contexts.

Moreover, these top-down frameworks of reporting on culture and well-being are likely to miss out on the rich diversity of cultural contexts within which health and well-being are

situated. To think of communication as a one-way information process ignores its value as a resource for building dialogues and bridges. Appropriate high-level policy should be formulated from this grassroots understanding of well-being.

Cultural contexts of subjective well-being measurement

A concept frequently invoked to explain differences between countries in relation to their subjective well-being data is "culture". This usually takes two forms: cultural bias and cultural impact. Cultural bias is a process that influences the act of responding to a survey (but also relates, to some extent, to the very act of designing or translating that survey), thus producing undesirable variations in subjective well-being data ("noise"), particularly when making cross-country comparisons. The causes of this type of noise are multiple: they might, for instance, be the result of differences in language, number use or modes of emotional expression. For example, it has been noted that some European cultures may engage in self-serving biases that help maintain self-esteem, which would result in inflated scores when compared with other cultures that do not (such as some in east Asia) *(101)*.

If cultural bias introduces noise, this must be accounted for as much as possible, either at the survey design stage or during analysis of the data. Increasingly, however, opinion seems to be converging – at least among statisticians (if not anthropologists) – that in fact meaningful cross-national comparisons are possible, and that well-being judgements are not completely relative *(102)*.

If this is the case, then arguably the focus moves away from cultural bias and towards cultural impact. Culture stops being an instrumental factor relevant only to refining survey instruments and instead becomes an inherent good – one that is causally related to the experience of well-being. For instance, if it is possible to believe the comparative data that people in Latin America consistently report higher levels of life satisfaction than those in any other region, it might well be possible to conclude legitimately that cultural attitudes play a part in creating greater resilience in the face of economic hardships.

The need for multidisciplinary approaches

The international movement to focus attention on well-being is generating new, interesting and valuable data *(103)*. Being able to provide statistical evidence to demonstrate, for instance, that some aspects of well-being are associated with increased survival is a fundamental stepping stone towards convincing health ministries to take well-being seriously. At the moment, however, a more integrated approach to understanding and measuring well-being is missing in most countries.

Evidence suggests that social cohesion factors such as trust, tolerance and solidarity are important contributors to well-being. But these are complex, culturally specific and linguistically rich terms. They have also long been the object of study by academics across a wide range of disciplines. For example, it has been argued that Denmark regularly ranks among the top five happiest countries in the world because it has high levels of social cohesion *(104)*. This kind of analysis is, however, of little value to policy-makers looking to promote specific interventions. What causes this social cohesion? What historical factors are in play? What does the cultural output of Denmark – such as its literature, architecture or media – say about the strong sense of Danish values?

To date, the big cultural narratives in relation to well-being research have come from cross-cultural psychology. They have revolved mainly around the idea that collectivist cultures (defined by the literature as those often considered to be found in east Asia) emphasize family, community and group values, while individualist cultures (often attributed to western societies) emphasize personal achievement and individualistic expression *(105)*. This in turn affects how well-being is both perceived and articulated. There is, however, a vast literature in cross-cultural psychology that has proposed other constructs (such as indulgence versus restraint, universalism versus particularism, achievement versus ascription and so on) *(106–108)*. The literature on culture and subjective well-being has engaged with these ideas only sparingly. To get a more rounded understanding of well-being (and especially the emotions that affect it), scholars argue for the importance of the need not only to move beyond the individualist/collectivist dichotomy but also to address

well-being in cultural contexts other than the arbitrary fault line that divides societies into eastern and western ones *(109)*.

Beyond cross-cultural psychology, the impact of other disciplines on the well-being literature has been less visible. Anthropologists in particular have remarked that important anthropological research on the presentation of self and the value of affective behaviours at local levels remains largely ignored *(110)*. Similarly, communication scholars have highlighted the idea of culture as the basis for the ways in which meanings of health and well-being are defined *(111)*. For a movement that is avowedly interdisciplinary, there is of yet little reference to, or input from, well-being research in a wider array of disciplines beyond sociology, psychology and economics. And yet, in claiming that historical events, the meanings of words or shared conventions and practices affect the way countries, communities and individuals report on and experience life satisfaction (or indeed individual health), scholars with expert cultural knowledge of the societies whose well-being is being examined and compared should clearly be consulted *(112)*.

At least in part, the reason for the limited interaction between those who analyse data (sociologists, economists, statisticians) and those who analyse context (literature and communication scholars, historians, anthropologists) stems from the definitional challenges. In order for culture to be quantifiable in relation to well-being it needs to be sharply defined. Anthropologists and humanities scholars would argue, however, that a sharply defined idea of what culture means ignores the inherently dynamic, changeable and porous nature of the concept. Anthropologists in particular have become resistant to the idea of talking in terms of "Russian" or "Spanish" culture, or even "eastern" and "western" cultures, preferring instead to think along the lines of cultural tendencies that are socially constructed *(113–115)*. The realities, however, of having to measure very complex behaviour constantly force analysts towards a reductionist concept of culture, highlighting all the variables related to phenomena that are easier to measure and pushing into the background anything that is difficult to define, imprecise or related to immaterial and universal aspects of culture *(116)*.

WHO's review of CCH

In the last decade a growing number of initiatives related to medicine and public health prepared the ground for a re-examination of the importance of cultural contexts in relation to health. The concept of culture is firmly embedded, for instance, in the post-2015 development agenda, and a recent concept note published by the United Nations Development Group highlights the significant contribution cultural dynamics can make in improving people's health *(117)*. In late 2014 *The Lancet* published an extensive commission report on culture and health, in which the claim is made that the neglect of culture is the single biggest obstacle to developing equitable health care *(118)*. Funders, as well as research councils, are ramping up support for a more multidisciplinary, integrated health-research approach (via the medical humanities, for instance). Together, these initiatives might be characterized as examples of what has been described as a "fifth wave" *(119)* in public health – a phase which seeks to engage public health with the full complexity of the subjective, lived experience.

As this chapter has tried to demonstrate, understanding, measuring and reporting on the well-being of populations is strongly influenced by cultural contexts; a better understanding of these contexts is thus vital if WHO is to carry out its mandate of improving well-being within the European Region. To help WHO think through some of the challenges involved, as well as to make suggestions on how they might be overcome, the WHO Regional Office for Europe launched a review of CCH and established an expert group that met for the first time in January 2015. The group comprises 21 advisors from a variety of disciplinary and professional backgrounds, including epidemiologists, statisticians and public health experts, but also academics from cultural studies, history, philosophy, anthropology, communication, geography, medical humanities and cultural psychology.

The expert group began its work by adopting the definition of culture published in the 2001 UNESCO Universal Declaration on Cultural Diversity *(120)*, which reaffirmed that:

> culture should be regarded as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and

that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs.

In addition, the expert group recommended that WHO should:

- identify existing quantitative and qualitative research and narrative case studies that illustrate the impact of culture on health and well-being, as well as useful policy interventions;
- encourage more research into the cross-cultural measurement and comparability of subjective well-being data;
- enhance current well-being and health reporting through the use of new types of evidence, particularly qualitative and narrative research from a larger variety of academic disciplines and from a wide array of cultural contexts;
- explore culture-centred, participatory approaches that engage local communities in sensitive and measured ways to investigate what it means to be well and healthy, and foster avenues of communication for sharing cultural resources of well-being and health.

Incorporating narrative forms of health information

An innovative recommendation of the expert group was to encourage WHO to consider using other forms of evidence from a wider array of disciplinary perspectives to supplement its regional reporting on well-being. For example, systematically analysing historical records, anthropological observations or other forms of cultural output can yield a substantial amount of health information about the well-being of groups, communities and even nations. The preconception that this kind of information is too "soft" for the public health sphere must first be overcome, however. Instead, the focus needs to be on validity, as it would be with more conventional forms of data.

When WHO reports on well-being, taking advantage of a more multidisciplinary approach – one that benefits from the methodologies employed by historians, anthropologists and other cultural commentators – might have several advantages. First, such an approach could allow for more compelling, and more localized well-being narratives, which could provide an important complement to findings from existing, international data sources, especially where developing and implementing resource-intensive

country-specific well-being surveys is not an option. This is crucially important to the Regional Office because European Member States have already expressed concern about the current burden of reporting.

Second, the use of more culturally specific sources of evidence (gathered from, for instance, traditions, rituals or narratives) can help give a voice to those people whose views are systematically left out of national and global well-being surveys because they belong to groups that are hard to reach for survey purposes (Box 3.2). For example, many of the current instruments for measuring well-being are based on self-reporting and so disenfranchise those who have no voice. This applies particularly to younger children, whose well-being is essential for future public health in a life-course approach.

Finally, an integrated multidisciplinary approach – one open to insights from the human and wider social sciences – can help to encourage a more balanced discussion about well-being. Working between disciplines exposes the systems of values in which academics operate and encourages the kind of reflexivity that builds understanding, for instance, of how all the attention on well-being (and happiness) is producing its own cultural

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Box 3.2.
Narrative sources of evidence

Narrative sources of evidence offer policy-making communities several forms of situated and experiential knowledge not currently captured well through the leading sources of evidence in the conventional hierarchy (such as routine health information or household survey data). Although quantitative data are essential, they are often inadequate in promoting the acceptance of evidence-based practices and policies. For instance, in the policy debates about measles vaccinations, opponents of evidence-informed guidelines invariably draw on emotive narratives to promote their position. This frequently gives their narratives the edge, in spite of contravening the scientific evidence *(122)*.

Narratives reveal and explore complexity and variation. This includes hidden contradictions, tensions and disagreements within what appears an uncontroversial or unitary set of policy interests or practices. They can indicate influence from and interaction with the wider context and history, along with possible unintended consequences of policy action. Moreover, narratives may challenge the underlying assumptions or framing of any given policy approach *(123)*. Finally, narrative approaches facilitate "a progressive evidence-based policy agenda that incorporates the views of the public", in that participants may be enabled to control both the issues and the framing within which they are discussed *(124)*.

For instance, in the specific context of migrant population health, studies have indicated that these narrative forms allowed migrants to define well-being (among other categories) in a way that is relevant to their own experience. The resulting narratives show how, as a migrant population group, they tended to be represented as "minority other", "culturally determined" and, at times, "backward". The authors emphasize the importance of not pre-determining the essential characteristics of migrant populations. This "non-essentializing" approach challenges stereotypes and highlights the fluidity inherent in culture *(124)*.

dynamics – dynamics that might themselves have negative side-effects *(121)*.

Reporting and communicating about well-being

Because communication on well-being initiatives is fundamentally a two-way process, the expert group recommended that policy initiatives should be participatory and interactive, allowing room for personal choice and creativity. Well-being reports should be empowering, giving people data at the local level that informs their interactions with local services. To facilitate this, communication pathways need to be fostered to create opportunities for communities to share their stories of well-being. In short, a more culture-centred approach is essential to better report on and communicate about well-being (see Box 3.3).

Thus, the expert group recommended that WHO should explore ways to make well-being data available via its health information and evidence portal for Europe (see Chapter 4 for further details) in ways that are participatory and empowering for local communities. This might include individuals' and groups' personal stories of well-being and resilience, drawing on narrative or qualitative accounts, and encouraging people to share what well-being means to them. Connecting available well-being data with community-grounded narratives creates a space where two-way conversations can take place, thus highlighting diverse accounts of the relationship between culture and well-being.

Finally, the group suggested that it may be useful to focus on case studies of cultural practices in particular countries or communities that are linked to increased resilience. The important question, from a policy perspective, is whether these case studies may discover factors, skills, values or policy interventions that are transferable to other cultures and communities. To create spaces for acknowledging the positive role of culture in health and well-being, communication about culture and health needs to examine the structural limitations that disenfranchise cultural articulations of health.

Moving the well-being research and development agenda forward

Supported by the expert group, the CCH review will be conducted along three strands:

- advocacy: clarifying the concepts behind CCH and making the case for their importance;
- research: commissioning policy-relevant research that elaborates the influence of cultural contexts in specific public health initiatives, such as well-being measurement;
- reporting: developing a culture-centred approach to reporting on well-being.

An important outcome of this work will be a concise conceptual framework to explain how the UNESCO definition of culture can be understood and operationalized in the context of health. This framework will permit the identification of case studies that illustrate the impact of cultural contexts on health and well-being, allowing for potential policy options to be identified. The framework should also make the case for how research from the humanities and social sciences can add important value by

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Box 3.3.
Culture-centred approaches to communication

The culture-centred approach suggests that voices of communities need to be foregrounded in health decision-making to develop solutions that are meaningful to these communities and responsive to local challenges. With an emphasis on listening to the voices of communities, the culture-centred approach emphasizes the concepts of dialogue, authenticity and reflexivity. Several basic points can be made.

- Opportunities for two-way communication are vital to hear voices and views that are otherwise silenced or ignored.
- Authentic communication about health must be rooted in truthfulness, transparency and the acceptance of cultural differences in understandings of health and well-being.

- Communication creates culture as much as it is constituted by it, via dynamic and ever-changing interactions. Therefore, communication about culture and health needs to examine the culturally defined parameters that set out how health can be articulated.

Rooted in this close examination of structures, emphasis needs to be placed on creating cultural networks of communication at the grassroots level that allow diverse understandings of culture, health and well-being to be voiced. Local communication platforms and infrastructures need to be created and sustained to enable the sharing of cultural stories of health and well-being *(111)*.

One example of the culture-centred communication platform is the photovoice method, which draws upon the life experiences of local community members to inform health policy *(125)*. Photovoice is a participatory action research method that involves placing cameras in the hands of community members so they may visually represent and communicate their lived experiences to internal and external stakeholders. With its emphasis on providing venues for voices that are typically silenced in the mainstream discourse, the photovoice method enables participants to share their emotions, eelings and insights about issues that are important to them through photographs.

providing a way of integrating subjective accounts of personal experiences into narratives of well-being and health.

The longer-term objective will be to create a richer set of tools and methodologies for WHO's reporting on well-being. Thus, in addition to the data already collected via the subjective and objective well-being indicators, future reports should be augmented by case studies examined from multidisciplinary perspectives and communicated using a culture-centred approach. If successful, this form of reporting may eventually be encapsulated in guidance documentation that countries can use to help them understand, report on and improve the well-being of their populations.

04

New frontiers in health information and evidence

Key messages

Some of the main problems with data collections used to inform the Health 2020 monitoring framework relate to data quality, regularity of collection and timeliness of reporting. Improvements in certification and coding practices will significantly strengthen the quality of cause-of-death data. Compliance by all Member States with the recommended level of detail of reporting to WHO would further increase the utility and comparability of indicators based on these data.

WHO and many countries have experienced a paradigm shift in public health from focusing on death and disease to focusing on health and well-being. More weight should be given in health information to subjective and qualitative data to ensure that it reflects this shift.

Exploring non-traditional sources of health information should be considered to improve reporting on health and well-being across the European Region. Historical records and anthropological observations may be useful sources of information on well-being. Data sources such as social media, mobile phone data and electronic health records can add new insights to regular health statistics.

Health 2020 monitoring should be optimized by looking beyond the usual indicators and broadening its scope to include concepts such as community resilience, empowerment and sense of belonging.

Broad international cooperation is required to tackle current health information challenges efficiently and sustainably. Countries should drive the priority-setting for such international research and development activities.

The European Health Information Initiative is a WHO network of stakeholders, including Member States, committed to enhancing health in the Region by improving the information that underpins policy. It supports the development of a single European health information system, as outlined in the Joint Declaration (126) adopted by the WHO Regional Office for Europe and the European Commission in 2010.

Introduction

WHO is responsible for providing leadership on global health matters, shaping the health-research agenda, setting norms and standards, articulating evidence-informed policy options, providing technical support to countries and monitoring and assessing health trends *(127)*. Thus, monitoring health is an explicit part of WHO's mandate, and the Organization has always had a strong focus on improving, collecting and disseminating health information. On closer examination, however, WHO has so far clearly focused on monitoring not health but death and disease and their determinants, as have other health information stakeholders. The focus on mortality and morbidity was the prevailing public health paradigm, but this is now shifting. The European Region is faced with an ageing population and will have to deal with rising prevalence of chronic diseases and comorbidity, meaning that questions related to issues such as self-reliance, disease management, quality of life, well-being and their determinants are becoming more pressing.

The shift in focus in public health is not only a consequence of an ageing population. The way health is conceived has changed considerably over the last few decades: it is now seen as an

element in a complex interplay of broad societal aspects, rather than an isolated outcome of "narrow" health policies. For example, it is increasingly acknowledged that improving health requires comprehensive policy action, focusing on improving not only health per se but also the broader determinants of health. The monitoring framework for Health 2020 reflects these current views on health by incorporating explicit targets and indicators on well-being and inequities in health associated with social determinants. Other initiatives have also emphasized the need for such a focus; for example, recommendation 4(c) of the European review of social determinants and the health divide is: "undertake regular reporting and public scrutiny of inequities in health and its social determinants at all governance levels, including transnational, country and local" *(128)*.

While the paradigm shift in how health is viewed is now well established, the subsequent shift in focus in population health monitoring still lags behind. Developing solid indicators and identifying suitable data sources for new concepts such as well-being is methodologically challenging: such processes require time, especially because of the need to focus on subjective measures and qualitative data – these issues are not entirely familiar in regular health monitoring and give rise to a number of challenges. Health 2020 also contains other concepts that have not previously been measured routinely, such as community resilience and empowerment – substantial development work is required to operationalize these for monitoring purposes. Quantifying these concepts and measuring their development over time are important for a comprehensive understanding of the success of Health 2020 implementation.

Operationalizing new concepts for monitoring is not something that can be done quickly, and incorporating conceptual changes into population monitoring will take time. Nevertheless, while describing the progress towards the Health 2020 targets in this report it became clear that there is also room for improvement in existing data collections monitoring the standard indicators, such as those on mortality and risk factors. This chapter addresses these challenges and areas for future work, both in the context of Health 2020 and beyond, making links with existing work and initiatives by WHO and other health information stakeholders.

Monitoring the Health 2020 indicators on mortality and risk factors

Timeliness of reporting

Chapter 2 looked at the progress made towards the Health 2020 targets using 2010 data as a baseline. One of the main findings was that only a limited number of countries have yet reported data for several of the core indicators. For example, the average premature mortality rate for 2011 is based on data from 35 countries and the rate for 2012 on data from 28. At the time of writing only one country had reported 2013 mortality figures to WHO. These figures reflect a considerable delay between data collection and reporting.

This has a knock-on effect on the comprehensiveness of WHO databases and the robustness of regional averages. WHO is working with countries to improve timeliness of reporting; timely information is important not only for mortality rates but also for a wide range of other data, including those on infectious diseases and their incidence.

Data quality and availability

In addition to concerns over the timeliness of reporting of mortality data, quality issues are also evident. These include the appropriate use of coding for causes of death and the need to provide adequate levels of detail. Not all countries report mortality data to WHO according to the required three- or four-character ICD-10 coding. Two countries use the ninth and not the most recent (tenth) revision of ICD to report causes of death; others have implemented ICD-10 but fail to report the data with an adequate level of detail, which limits analytical possibilities. Further, in many countries substantial proportions of medically certified deaths are assigned to either ill-defined (ICD-10 codes from chapter XVIII) or nonspecific codes, which have little or no public health meaning. WHO is also working with countries to improve data quality. More information about quality issues related to mortality data is provided in Annex 1.

Another data availability problem identified in Chapter 2 relates to countries' reporting of risk factors, including tobacco use, alcohol consumption and overweight/obesity. This report uses WHO estimates for these indicators as data are scarce in the European Health for All database. This probably results from delays in country reporting to WHO, as well as a lack of availability of regular data at the national level. Although estimates in themselves are a valuable source of information, such data are usually calculated for one or a few time points and cannot therefore be used to monitor longer-term time trends. Solid and timely trend data are needed for a longer-term policy such as Health 2020 so that its impact can be monitored. This is especially true for risk factors: risk factor data show the quickest response to policies and change long before changes in mortality, for instance, can be detected. National health information strategies should therefore encompass regular health interview surveys, and health information systems should be equipped to perform these and analyse their results.

Monitoring health inequities

Monitoring of health inequities encompasses two kinds of activity. The first is the calculation of overarching health inequity indicators, such as income distribution or the percentage of the population not educated at secondary school. The other is the disaggregation of indicators on mortality, morbidity, risk factors and so on. Such indicators are broken down into smaller components using inequity stratifiers such as age, sex, education level and income. Geographical stratification of data can also be useful in assessing health inequities.[3]

This dual approach – using both overarching and disaggregated indicators – is applied to monitoring progress towards the Health 2020 target to reduce health inequities related to social determinants in the Region. Disaggregated data are scarce, however, at the international level.

[3] See, for example, the WHO equity in health atlases (129).

Disaggregated data and linking of data sources

The lack of disaggregated data in international databases for monitoring health inequities is problematic, but obtaining such data is quite demanding. For example, problems exist with the frequency and regularity of national health interviews. These contain information on health and background variables for each respondent, and as such are an important source for disaggregated indicators.

In addition to self-reported data, other information – such as hospital or primary care data – should be disaggregated to ensure comprehensive monitoring of health inequities. This requires linking the data sources at the individual level with other sources containing the necessary background variables for disaggregation. Much work is required if national health information systems are to achieve this. A unique, broadly applied personal identification number should be used for preference, allowing for easy linkage across data sources. If this is not feasible, other identifiers – such as date of birth or postcode – could be used to link information held in different databases. This requires systematic collection of identifiers with high levels of coverage.

A workable legal framework should be in place alongside these technical requirements. Public health experts have stressed that the current revision of the relevant EU legislation could seriously jeopardize the ability to link large data sets for population health monitoring at the individual level. Concerns were raised in response to amendments adopted by the European Parliament to the first Commission proposal for a new EU general data protection regulation *(130)*. The revision process continues and a final decision was pending at the time of writing.

Countries can learn much from each other by sharing good data linkage practices. In particular the Nordic countries, with their long history of registry-based research, can be an important source of knowledge. A recent HEN synthesis report recommended further international exchange about best practices, related not only to data linkage but also to aspects of the broader integration of health information systems, such as the integration of data and information across policy domains at the national level *(131)*.

The expert group advising on the indicators for the Health 2020 targets recommended that, whenever available, indicator data should be disaggregated by ethnicity and vulnerable groups *(132)*. Gathering and monitoring health data for specific groups usually outside the scope of health systems, such as undocumented migrants, is very challenging; such data are not yet part of regular international data collections. The WHO Regional Office for Europe Public Health Aspects of Migration in Europe project contributes to filling the current information gap by collecting health data on migrant populations. For instance, it is collaborating with Italian partners to monitor data on health behaviours in the resident migrant health population in Italy *(133)*. Box 3.2 gives an example of how narrative sources of data can be used to enable migrant populations to articulate their well-being.

Innovative solutions should be put in place to reach and monitor population groups in vulnerable situations. In this respect, close collaboration with other sectors (such as social affairs), non-state actors and different government levels (such as local authorities) is needed, given their greater proximity to migrant populations.

Monitoring well-being

The definition of well-being used by WHO has both objective and subjective dimensions, as described in Chapter 3. Each presents challenges. Collecting data on objective well-being raises the issues and problems outlined earlier in this chapter in relation to other objective indicators. Measuring subjective well-being, on the other hand, presents different challenges, some of which were also described in Chapter 3. Chief among these is that the current Health 2020 monitoring framework only includes one subjective well-being indicator (life satisfaction). This indicator is a starting point to describe a very complex and rich topic. It is not part of regular WHO data collection, which means that WHO is dependent on obtaining information from a third party.

One important way to improve subjective well-being monitoring would be to investigate other forms of evidence from a wider array of disciplinary perspectives. A great deal of rich health information can be gathered about the well-being of groups,

communities and even nations by systematically analysing historical records, anthropological observations or other forms of cultural output.

Monitoring the broader impact and success of Health 2020

As outlined in Chapter 1, to monitor the implementation of the Health 2020 policy and its impact a framework was developed that includes targets and indicators (see Annex 1 for more details). The indicators represent commonly applied measurements such as premature mortality, life expectancy and lifestyle factors including tobacco use. Crucial to Health 2020, however, is its innovative approach, which incorporates the many recent societal changes in the Region that have given rise to the reframing of concepts of and approaches to health described earlier. Consequently, Health 2020 contains many concepts – or outcome measures – that have not previously been measured routinely, such as:

- transparency
- community resilience
- supportive environments
- enabling environments
- sense of belonging
- sense of control
- whole-of-society approach
- participatory governance
- responsible governance
- accountability
- life-course approach
- empowerment
- people-centred health systems
- fit-for-purpose health systems
- adaptive policies.

Painting a full picture of Health 2020 implementation and its impact requires looking beyond the usual indicators and broadening the scope of monitoring. Future challenges include

measuring whether communities in the European Region are resilient or how the sense of belonging experienced by populations in Europe changes over time.

Defining concepts

An inventory needs to be assembled of new concepts, including existing definitions and concepts that remain unclear – at a minimum for qualitative reporting purposes but where possible also for quantitative measurement. This requires the involvement of experts from numerous disciplines, who should also discuss the centrality of each concept to implementation success; this may lead to prioritizations within the list. All concepts may not be equally important and they are certainly not equally measurable.

Comprehensive mapping of all the relevant work related to defining and measuring these concepts will be an important first step. Some is carried out by other agencies, such as the work on resilient communities by the RAND Corporation *(134)*. Other concepts, such as "accountability", are partially measured through the WHO Regional Office for Europe survey on Health 2020 in the context of target 6 (see Box 2.6). WHO is also engaged in work on operationalizing empowerment *(135)*, and is embarking on further implementation of the life-course approach in the context of Health 2020: in October 2015 a European ministerial conference will be held in Belarus to address questions such as the following.

- What exactly is meant by a life-course approach?
- What goals does this approach aim to achieve?
- Which interventions can be used to achieve these goals?
- How can the process and outcome be measured and monitored?

Despite these open questions, a stronger focus on a life-course approach will clearly require more and better data disaggregated by all age groups of the population and by sex; these areas need to be strengthened in both national and international health information systems.

Following this, suitable indicators or qualitative measures that are both meaningful in a Health 2020 context and applicable at the regional level need to be defined and data sources identified

to fill them. The current work on the development of well-being measures described in Chapter 3 clearly shows that this is not a trivial task. Where existing data are not available, discussion of further data collections may be necessary. Instead of overburdening countries with multiple new data collections, relevant types of existing evidence need to be identified that facilitate the assessment of implementation. This would include previously uncharted territory from other disciplines, including qualitative measures and narrative research approaches, which need to be appraised for their suitability. Such work needs to be conducted for all concepts outlined in Health 2020 that have not previously been measured routinely. The results will be better descriptions and potential quantifications of these concepts and further understanding of how they interrelate and the effects of these interrelationships. The Regional Office is developing a proposal for Member States on a mechanism and roadmap to monitor all concepts enshrined in the Health 2020 policy.

Monitoring beyond Health 2020

Health 2020 is the overarching health policy for the European Region. As such, its monitoring framework takes a central place in both WHO's health information activities and those of many countries. Nevertheless, a broader and more detailed scope is needed to ensure comprehensive public health monitoring. The Health 2020 indicators should be viewed as a core set of markers to be combined with other indicators for topics not covered by the monitoring framework. Equally, more detailed indicators for certain topics can help to provide an understanding of situations in individual countries. In addition, monitoring frameworks are not static: indicators on emerging diseases or newly detected risk factors, for example, may need to be added to existing indicator sets. When working to ensure the best evidence-informed policy, health reporting and knowledge translation are essential aspects of monitoring, alongside data collection and analysis. Various areas for development in health information can be identified for monitoring beyond Health 2020; some of the most relevant and urgent are addressed below.

Disease prevalence and incidence data

The lack of comparable data on chronic disease prevalence and incidence at the international level is a well known issue; it is the main reason for the absence of morbidity indicators in the Health 2020 framework. Calculating solid incidence and prevalence figures at the national level is challenging as it generally requires modelling efforts and the linkage of different data sources. Regular and reliable country incidence and prevalence figures are therefore scarce, and those available are often unable to be compared as they reflect differences at the national level in health care organization and availability and usability of data sources.

Biomarkers and data on burden of disease

Two other important health information areas that require further developmental work, and that are linked to the need for comparable incidence and prevalence data described above, are data on biomarkers and burden of disease.

Biomarker data are gained from objectively measured biological parameters following health examinations. An example would be data on glycated haemoglobin taken from blood samples to infer the prevalence of diabetes mellitus in the general population. While routine administrative sources or health interview surveys can be used to look at the prevalence of diagnosed cases, population-representative blood samples can determine the prevalence of cases not diagnosed.

Burden-of-disease studies provide valuable public health insights that cannot be gained from assessment of single sources of mortality or morbidity data alone. They entail the calculation of disability-adjusted life-years, which combine years of life lost due to premature mortality and years lived with disability. This enables the burden of ill health across diseases and risk factors to be compared at different time points and locations. Carrying out such a study is challenging, however, and calculating burden-of-disease measures requires extensive data and specific expertise. The experiences of several countries now developing their own burden-of-disease studies may help to inform the generalized application of such studies throughout the Region.

The WHO Regional Office for Europe supports countries in this regard by working closely with the Institute of Health Metrics and Evaluation in Seattle, United States of America, facilitating capacity-building activities, reviewing the data sources and results obtained and promoting the use of such results for policy-informed decision-making.

Health reporting and knowledge translation

Health monitoring is not only the analysis of data and indicators; ensuring that health information is used effectively in the policy-making process is equally important. The way health information is reported is a significant element in this, including the process of content creation, writing style and design. Although consensus is growing on what constitutes effective health reporting, a sound centralized evidence base is still frequently lacking. To overcome this, much could be gained if country experiences were shared more systematically and widely. For example, Sweden has achieved a very successful subnational reporting cycle on health care quality, which has resulted in rapid, effective policy responses (see Box 4.1).

In the field of knowledge translation, significant capacity remains for establishing sustainable mechanisms in countries to increase the systematic use of health-research evidence in policy-making (see the information on the Evidence-informed Policy Network later in this chapter).

Forecasting

Forecasting or foresight exercises require multiple data sources, integrative models and qualitative scenarios based on discussions with policy-makers, members of the public and other stakeholders, as well as targeted reporting. According to policy-makers a forward-looking approach is an important criterion for health reports *(136)*, yet they often lack this kind of information because producing solid and meaningful prognoses is very resource-intensive and requires specialist expertise. Considerable scope therefore exists for combining forces and exchanging experiences in the Region in relation to forecasting, such as the innovative work on qualitative scenario exercises in the Netherlands (see Box 4.2).

Working towards a single health information system for Europe

The WHO Regional Office for Europe, European Commission and OECD have separate health information mandates and activities, but these activities partly overlap, and the three organizations cooperate closely to improve harmonization. A joint data collection project on non-monetary health care statistics is a good example of their close collaboration. In 2010 the intention to strengthen international cooperation in the field of health information was formally endorsed in the Joint Declaration, in which the Regional Office and European Commission agreed to work towards a single integrated health information system for Europe *(126)*. This initiative was joined by OECD in 2012.

Since the Joint Declaration, steps towards creating this system have been taken and the agencies have created a joint roadmap, including the mapping of different and overlapping health

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Box 4.1.
Improving quality of care through public subnational reporting in Sweden

Background

The National Board of Health and Welfare is responsible for the transparent publishing of indicator-based evaluations of compliance with national guidelines and subnational comparisons of quality and efficiency of health care in Sweden. For nearly 10 years Sweden has produced reports on health care, public health and social care, and made them available in the public domain in order to improve performance. Subnational comparisons are made in cooperation with the Swedish Association of Local Authorities and Regions; they are updated and published annually. In Sweden, counties and municipalities are responsible for financing and managing health care and social services. Conditions that have been crucial for the development of public reporting include use of a personal identification number for each patient in every registry

and access to data: both to mandatory health data and social data registries and to non-mandatory, professionally developed registries on quality of care. These quality of care registries have received substantial funding from the government over the last few years, increasing their utilization.

Key success factors

Thus far the public reporting efforts have been successful. Quality and improvement are on the health agenda, and the results measured by the indicators have improved over time. Several key success factors have been identified, including:

- trust between the actors;
- acceptance of the reported outcomes by professionals;
- awareness that establishing such a reporting cycle is a complex and time-consuming task;

- focusing on quality, guidelines, evidence-based medicine, equity and improvement of work rather than financial incentives;
- involvement and acceptance by counties and municipalities;
- local organizations' use of data to start improvement work.

Public reporting demands extensive communication and networking to create trust and acceptance. A focus on quality issues, improvement efforts and access to data is important, while use of indicators for financial incentives is not recommended. The counties, municipalities and local caregivers need to be involved and have knowledge about improvement techniques and data utilization to implement improvement initiatives. Public reporting is one of many useful tools to improve health information; it should be combined with other tools such as qualitative methods.

information activities. The next phase should encompass the concrete harmonization of these activities. International cooperation is greatly welcomed by countries, which have long been calling for a reduced reporting burden, more efficient use of health information resources and fewer discrepancies between statistics held in the different international databases.

While the intention is to move towards a more integrated system for Europe, this does not mean that all health information activities by the three organizations will be fully integrated; each has its specific mandate and needs to perform activities accordingly. Nevertheless, a fully harmonized set of core indicators, based on a joint data collection and common methods, seems to be a reasonable first step towards this goal. In the short and medium term there is also considerable room for further cooperation and harmonization in knowledge sharing and developmental work in the field of health information, as well as in health reporting activities.

Box 4.2.
A foresight example from the Netherlands: perspectives on future health

In 2014 the National Institute for Public Health and the Environment in the Netherlands (RIVM) published a public health status and foresight report called A healthier Netherlands. To inform this, a trend or business-as-usual scenario was developed, projecting the most important future public health trends, assuming no new or intensified policies. The scenario showed increasing health expenditure, rising numbers of people with long-term illnesses and persistent health inequities. Understanding that prioritizing these issues depends on political and societal values and norms, RIVM initiated an elaborate participation process to draw collective intelligence from stakeholders and experts. This produced four societal challenges for future Dutch public health and health care:

- to keep people healthy as long as possible and to cure illness promptly;
- to support vulnerable people and enable social participation;
- to promote individual autonomy and freedom of choice;
- to keep health care affordable.

These formed the basis of four perspectives on health that provide short narratives of these normative views on future health, each centring on one of the four challenges, entitled "in the best of health", "everyone participates", "taking personal control" and "healthy prosperity". The four perspectives make explicit the diversity in visions that exist, showing that notions such as "health", "prevention" and "health care" have different meanings in each. In the first perspective, for example, health is understood mainly as the absence

of disease, whereas in the second, clinical diagnosis is of less importance since social participation is the vital concern.

To identify potential interrelationships between the four perspectives RIVM organized four expert meetings to explore how engagement based on each would affect the other three societal challenges. This approach was designed to clarify areas in which positive spin-offs could occur and productive links be created between perspectives. It would also identify areas in which negative side-effects could arise and where political and other choices or more intensive efforts would be necessary. Taking these anticipated synergies and controversies into consideration, strategic opportunities and options for Dutch public health and health care policies were identified *(137)*.

New approaches to health information and evidence

To optimize monitoring for Health 2020 and beyond, problems related to both existing data collections and new information and evidence requirements must clearly be addressed. Populations are changing, public health concepts are evolving and policies are moving: health information systems need to accommodate these societal shifts. To meet the health information and evidence demands of the 21st century, solid, balanced and integrated systems that produce timely and regular basic health statistics efficiently are required.

At the same time, these systems should be flexible enough to adapt to new policy needs and incorporate non-traditional approaches towards health information and evidence. These seem crucial to meeting the new requirements addressed in this chapter: measuring health and well-being uses subjective measures and qualitative data rather than the traditional quantitative, register-based data used for basic health statistics. This may mean that new data collections need to be developed to meet these new information requirements; perhaps more importantly it also underlines the need to explore non-traditional data sources and new approaches to assessing and interpreting existing data. As illustrated in Chapter 3, the potential of these innovative approaches for unlocking information about the well-being of a population is very promising. Moreover, they may deepen the understanding of morbidity patterns and health behaviours, for example, by adding new angles and additional insights to basic health statistics (see Box 4.3).

The advent of new methods of gathering and analysing health information and evidence is closely linked to the development of information and communication technologies that underpin improvements in clinical care, enable increased access by patients to their own clinical data and extend the reach of health care services to a broader population base. Such technologies are often broadly referred to as e-health. In particular, a growing number of mobile and remotely delivered health (m-health and telehealth) initiatives in Europe are defining new channels for the delivery of health care services and driving new levels of accessibility

to the health care system. To facilitate development of national m-health implementation, WHO and the International Telecommunication Union formed the m-health for NCDs initiative "Be He@lthy, Be Mobile" *(139)*, a landmark joint partnership to scale up successful and cost-effective mobile technologies for NCDs and make them available in different national settings. The initiative focuses on the use of mobile and wireless technology as a platform for delivery of one or more NCD initiatives selected as priority by the country (focusing on, for example, tobacco cessation, diabetes, wellness and diet), and is having a positive and measurable impact on reaching different population groups.

Evidence shows that e-health services are rapidly becoming part of the mainstream across European countries, with several examples of the deployment of technologies for remote treatment and monitoring of patients in their homes, for targeted health promotion activities and as a communication platform for citizen engagement with the health care sector. With the adoption of these new models of health care service delivery come new opportunities

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Box 4.3.
The potential of big data for NCD monitoring

Background
Big data is one of several recent technology-based innovations in health that has demonstrated a potential to derive knowledge through a process of discovery based on inputs from traditional and non-traditional information sources. The term "big data" usually refers to data defined by the "four Vs": data of exceedingly high volume that stream in at high velocity in a variety of structured and unstructured formats and are characterized by variable veracity. A technical meeting on the use of big data and social media for NCD surveillance was co-hosted by the WHO Regional Office for Europe and United Nations Global Pulse in September 2013. The goal was to explore the potential application of new data sources – in particular social media, digital trails of daily activities and mass anonymized electronic health record data –

to supplement the traditional means of data collection for NCD surveillance.

Outcomes
Social-media data offer the potential of assessing health-related attitudes and behaviours pertaining to NCDs and their risk factors, which can be helpful in measuring trends and shedding light on the public's views on important topics to inform policies and public health campaigns. Data from digital trails (such as mobile phone data, supermarket data and records of credit-card transactions) can offer new insight into aspects of existing health data (including food or other goods purchasing patterns and their changes) and provide access to information on population segments that may otherwise be difficult to survey using traditional health-surveillance methods. Electronic health record systems provide

passive, time-continuous data, allowing the observation of short-term medical outcomes and long-term disease trends for near real-time monitoring. Common caveats and restrictions related to the use of big data are privacy and data ownership issues, population biases, a lack of standardization and restrictions regarding the extent to which causal relationships can be established in the data.

Conclusions
Big data from social media, digital trails and other emerging sources have shown their potential as a supplementary source of NCD data, including the capacities for efficient collection and for reaching different population groups. Nevertheless, they should be considered not a replacement for traditional health-surveillance sources but complementary sources of information *(138)*.

for deriving and analysing health information, as well as new demands for greater availability, security and privacy and integration of the information needed in support of clinical care.

The need for international cooperation

Clearly, broad international cooperation is required to efficiently and sustainably address the health information challenges described in this report. Harmonization, cooperation and the sharing of knowledge, experiences and good practices are essential. These will strengthen national health information systems, which in turn will lead to improved data collections at the international level.

The WHO Regional Office for Europe, the European Commission and OECD, by working to develop the single integrated health information system for Europe, acknowledge this need for international cooperation. Nevertheless, countries must steer the development of this endeavour, which will inform policy at the national as much as the international level. In addition to governmental authorities, expert input from public health institutes, statistical offices and academia is essential.

European Health Information Initiative (EHII)

EHII is a WHO network committed to improving the health of people in the European Region by improving the information that underpins policy. With the Ministry of Health, Welfare and Sport in the Netherlands, the WHO Regional Office for Europe launched EHII in 2012 to develop the broad stakeholder base throughout the Region. EHII members include Member States, WHO collaborating centres, health information networks and other stakeholders. In addition, the European Commission and OECD support EHII and attended the first meeting of its steering group in March 2015.

EHII works in six key areas, described further in the following subsections:

- development of information for health and well-being, with a focus on indicators;

- enhanced access to and dissemination of health information;
- capacity building;
- strengthening of health information networks;
- support for health information strategy development;
- communication and advocacy.

1. Development of information for health and well-being, with a focus on indicators

Chapter 3 of this report is devoted to outlining priorities for the first of these important key areas. In addition, quantifiable measures for Health 2020 concepts that have not previously been measured routinely need to be addressed, such as resilient communities, empowerment and supportive environments. Alongside this innovative work, EHII also supports work on existing data collections and has planned an evaluation of the European Health for All database.

2. Enhanced access to and dissemination of health information

A major tool for this area is the WHO health information and evidence portal on the WHO Regional Office for Europe website (see Fig. 4.1). It is a one-stop-shop for easy access to European health information and policy-relevant evidence. While the basic technical infrastructure of the portal is in place, links need to be established with expert networks and research groups to create co-ownership for specific content parts of the portal. Keeping the content up to date – always the main challenge for such an initiative – cannot be achieved without the involvement of the Region's leading groups of public health experts.

Facilitating the exchange of national experiences should also be prioritized when developing this second key area. One way this will be achieved is through the Regional Office's new public health and policy journal, *Public Health Panorama*. This focuses on sharing countries' experiences of health policy development and implementation, facilitating an exchange of ideas between the western and eastern parts of the Region. Contributions are accepted in both Russian and English and all papers are published in both languages.

HEN is another key platform for enhancing access and disseminating health information. HEN provides evidence in multiple formats, such as synthesis reports and policy briefs, to aid decision-making *(28)*.

3. Capacity building

The annual WHO Autumn School on Health Information and Evidence for Policy-making (see Fig. 4.1) is an important first step in this key area towards improving health information knowledge and skills in countries in the Region. A considerable need for more training and support exists, however – for example, in relation to coding and quality assessment of cause-of-death data and in monitoring health inequities. To meet such needs WHO will continue to develop multicountry workshops in close consultation with Member States. These should target specific learning needs and continue to support individual countries through the bilateral country agreements.

Another essential activity to stimulate capacity building is the development of high-quality training materials and teaching modules that can be shared via the WHO health information and evidence portal to expand expertise. Health information staff can work with the materials directly, and WHO workshop attendees can use them to organize subsequent workshops in their countries. The materials will be produced in English and Russian, as a minimum, to enhance their usability throughout the Region.

4. Strengthening of health information networks

EHII is committed to supporting the establishment of more multicountry networks; these facilitate sharing experiences and joining forces while tackling common health information problems. As such, they contribute to the improvement and sustainability of both national and international health information systems. One example is the Central Asian Republics Health Information Network (CARINFONET), which was re-established in June 2014 and is supported by the WHO Regional Office for Europe. CARINFONET will improve the collection, use and distribution of accurate and timely information. It will assist health policy-makers within and across central Asian countries in monitoring trends in health, disease and well-being. The activities

of such networks should be aligned with other EHII key areas to achieve maximum efficiency and harmonization of health information activities across the Region.

The Evidence-informed Policy Network (EVIPNet) is another key network underpinning the EHII, promoting the systematic use of health-research evidence in policy-making. Launched in the European Region in October 2012, it encourages the development of country-level teams comprising policy-makers, researchers and representatives of civil society. These teams facilitate policy development and implementation through the use of the best available global and local evidence. EVIPNet builds capacity in countries to establish mechanisms to translate evidence into policy, such as through the development and use of evidence briefs for policy and policy dialogues. At the time of writing the EVIPNet Europe network consisted of 13 European Region countries in eastern Europe and central Asia, four of them piloting its methodology. Since evidence-informed policy-making is needed across the Region, an important goal of EVIPNet Europe and EHII will be to expand the network, especially to western EU countries, thus creating an opportunity for them to learn from the experiences of the pilot countries.

5. Support for health information strategy development

The fifth EHII key area is support for system assessments and strategy development. National health information systems are not commonly underpinned by a dedicated, broadly supported strategy; instead, they tend to reflect a conglomerate of different activities and stakeholders without a common vision and development agenda. This can mean that decisions regarding the downsizing or development of health information activities are taken on an ad hoc basis, rather than guided by a comprehensive strategy that outlines the priorities for current and future activities. Moreover, many health information needs may place significant demands on systems, making it hard to get an overview of the whole picture and prioritize.

To improve this situation the WHO Regional Office for Europe and a dedicated group of experts developed a support tool for countries (see Fig. 4.1) (140). Based on work by the WHO Health Metrics Network, the tool aids countries in assessing

health information systems and developing and strengthening strategies. As they gain experience in using the tool, countries will play a key role in shaping and updating it, as well as populating it with examples of good practice. The WHO health information and evidence portal would be an excellent way of disseminating these supplementary tools.

Fig. 4.1.
The EHII key areas and examples of finalized and ongoing activities within each

Guiding principles

1. A focus on the use of innovative approaches and the stimulation of research and development work

2. A focus on the development of practical tools

Underlying values

Maintaining compatibility with existing monitoring frameworks, including global ones

Applying the life-course perspective

Aiming to reduce inequalities

Enhancing interagency collaboration

Enhancing intersectoral collaboration

EHII key areas

1. Development of information for health and well-being with a focus on indicators

2. Enhanced access to and dissemination of health information

3. Capacity building

4. Strengthening of health information networks

5. Support for health information strategy development

6. Communication and advocacy

Examples of finalized and ongoing EHII activities

1. Development of information for health and well-being, with a focus on indicators
- Development of the Health 2020 monitoring framework
- Development work on well-being measurements, with a focus on the cultural contexts of health and well-being

2. Enhanced access to and dissemination of health information
- Development of the WHO health information and evidence portal
- Support for the new WHO Regional Office for Europe bilingual journal *Public Health Panorama* (in English and Russian)
- Production of evidence syntheses in different formats under the umbrella of WHO's HEN

3. Capacity building
- Organization of the annual Autumn School on Health Information and Evidence for Policy-making

4. Strengthening of health information networks
- Relaunch of CARINFONET
- Launch of EVIPNet Europe

5. Support for health information strategy development
- Development of a support tool for countries to assess health information systems and develop and strengthen health information strategies

6. Communication and advocacy
- Development of a communication and advocacy strategy

6. Communication and advocacy

The last key area includes communication about both EHII outputs to optimize their use and EHII itself to inform health information stakeholders and enhance the network. A communication and advocacy strategy covering both these elements is being developed. It will include activities such as setting up an EHII website, developing a plan for the structural use of the WHO health information and evidence portal as a central means of disseminating EHII products, and presenting EHII at various events.

The health information research and development agenda: next steps

Ensuring that health information systems are fit for the 21st century requires renewed effort. Existing data collections need to be strengthened and improved, and innovative measures and approaches developed. Action is needed across the six EHII key areas and at different levels – for example, bilaterally between WHO and Member States, in multicountry networks and in collaborative efforts between international stakeholders. Existing work in this area will be built on.

Member States, with the WHO Regional Office for Europe and other stakeholders, need to determine the priorities of the health information research and development agenda for the European Region over the next few years. EHII should be the key driver in this, ensuring coherence and coordination between different health information activities in the Region and linking them to the development of the single European health information system.

Momentum for EHII is growing, but more members are needed to strengthen the network and increase its capacity to ensure that health information activities in the Region are improved across all its six key areas. Only by joining forces and sharing knowledge and experiences can health information be improved in an efficient, sustainable and coherent way.

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Annex 1. Technical background information for the data and indicators used in the report

This annex outlines how the indicators to monitor the Health 2020 framework were chosen and describes the methods used to inform the analysis presented in the European health report, as well as some of the data limitations.

The Health 2020 monitoring framework

Health 2020 supports action through the whole of government and society to improve significantly the health and well-being of populations, reduce health inequities, strengthen public health and ensure people-centred health systems that are universal, equitable, sustainable and of high quality. Health 2020 is the product of an extensive two-year consultation process across the Region and beyond; during the sixty-second session of the WHO Regional Committee for Europe in September 2012 the 53 Member States in the Region adopted it and its six overarching regional targets:

1. reduce premature mortality in Europe;
2. increase life expectancy in Europe;
3. reduce inequities in Europe;
4. enhance the well-being of the European population;

5. universal coverage and the right to health;
6. national targets or goals set by Member States.

Following nominations from Member States, two expert groups were established to undertake detailed development of indicators to measure progress within these targets – one focusing on measurement and target-setting for well-being and one on development of indicators for Health 2020. Through a series of meetings *(1–5)*, both groups recommended a set of core and additional indicators for approval by the Regional Committee. The idea was that the core indicators would be used inform the Health 2020 monitoring process at the regional level, while additional indicators could be used alongside them to inform national target-setting and monitor progress at the national level in a more comprehensive way. The full list of indicators was adopted by all 53 Member States in September 2013 at the Regional Committee *(6)* and the final version of the monitoring framework was published in April 2014 *(7)*. The monitoring framework contains a total of 37 indicators: 19 core (some of which serve more than one target) and 18 additional indicators. Table A.1 gives an overview of the areas, targets, quantifications and core indicators in the Health 2020 monitoring framework.

The expert groups agreed a set of criteria to narrow down the list of indicators to a compact size that was practical to use for the monitoring framework. This included the principle not to repeat targets and indicators already part of existing WHO or other policy frameworks, to keep the Health 2020 framework concise and prevent duplication. One exception was made: the first quantification for target 1 (see Table A.1) is also part of the global NCD monitoring framework *(9)*. As reducing premature mortality was seen as essential to the Health 2020 monitoring framework, these indicators were included and aligned with the global framework. Another key criterion applied – specifically to the set of core indicators – was that data should be readily available from existing sources in the majority of countries, to ensure adequate data coverage for reporting on progress at the regional level and to reduce the administrative reporting burden for countries.

Although very valid, these criteria limit the scope of the Health 2020 monitoring framework. For example, environmental health indicators were not included because these are already

Table A.1.
The Health 2020 monitoring framework and indicators used for this report

Area		
Area: burden of disease and risk factors	Target 1	Reduce premature mortality in Europe
	Quantification 1.1	A 1.5% relative annual reduction in overall (four causes combined) premature mortality from cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases
	Core indicators	Age-standardized overall premature mortality rate (from 30 to under 70 years) for four major NCDs (cardiovascular diseases (ICD-10 codes I00–I99), cancer (ICD-10 codes C00–C97), diabetes mellitus (ICD-10 codes E10–E14) and chronic respiratory diseases (ICD-10 codes J40–47))[a]
		Age-standardized prevalence of current (includes both daily and non-daily or occasional) tobacco use among people aged 18 years and over
		Total (recorded and unrecorded) per capita alcohol consumption among people aged 15 years and over within a calendar year (litres of pure alcohol)
		Age-standardized prevalence of overweight and obesity in people aged 18 years and over (defined as a BMI $\geq$ 25 kg/m^2 for overweight and $\geq$ 30kg/m^2 for obesity)
	Additional indicator used for this report	Prevalence of overweight and obesity among adolescents (defined as BMI-for-age value above +1 Z-score and +2 Z-score relative to the 2007 WHO growth reference median, respectively)
Area: burden of disease and risk factors	Quantification 1.2	Achieved and sustained elimination of selected vaccine-preventable diseases (polio, measles and rubella) and prevention of congenital rubella syndrome
	Core indicator	Percentage of children vaccinated against measles (1 dose by second birthday), polio (3 doses by first birthday) and rubella (1 dose by second birthday)[b]
Area: Burden of disease and risk factors	Quantification 1.3	Reduction of mortality from external causes
	Core indicator	SDRs from all external causes and injuries (ICD-10 codes V01–V99, W00–W99, X00–X99 and Y00–Y98)
	Additional indicators used for this report	SDRs from a) motor vehicle traffic accidents (ICD-10 codes V02–V04, V09, V12–V14, V19–V79, V82–V87 and V89; b) accidental poisoning (ICD-10 codes X40–X49); c) alcohol poisoning (ICD-10 code X45); d) suicides (ICD-10 codes X60–X84); e) accidental falls (ICD-10 codes W00–W19); and f) homicides and assaults (ICD-10 codes X85–Y09)
Area: healthy people, well-being and determinants	Target 2	Increase life expectancy in Europe
	Quantification 2.1	Continued life expectancy at current rate (the annual rate during 2006–2010), coupled with reducing differences in life expectancy in the European Region
	Core indicator	Life expectancy at birth
	Additional indicator used for this report	Life expectancy at ages 1, 15, 45 and 65[c]
Area: healthy people, well-being and determinants	Target 3	Reduce inequities in Europe
	Quantification 3.1	Reduction in the gaps in health status associated with social determinants within the European population
	Core indicators	Infant mortality per 1000 live births
		Life expectancy at birth
		Proportion of children of official primary school age not enrolled
		Unemployment rate
		National and/or subnational policy addressing the reduction of health inequities established and documented
		GINI coefficient (income distribution)[d]

	Table A.1. contd	

Area: healthy people, well-being and determinants	Target 4	Enhance the well-being of the European population
	Quantification 4.1	To be set
	Core indicators	Life satisfaction
		Availability of social support[e]
		Percentage of population with improved sanitation facilities[f]
		GINI coefficient (income distribution)[d]
		Unemployment rate
		Proportion of children of official primary school age not enrolled
Area: processes, governance and health systems	Target 5	Universal coverage and the right to health
	Quantification 5.1	Moving towards universal coverage[g]
	Core indicators	Private household out-of-pocket expenditure as a proportion of total health expenditure
		Percentage of children vaccinated against measles (1 dose by 2nd birthday), polio (3 doses by 1st birthday) and rubella (1 dose by 2nd birthday)[b]
		Total expenditure on health (as a percentage of GDP)[h]
	Additional indicator used for this report	Maternal deaths per 100 000 live births[i]
Area: processes, governance and health systems	Target 6	National targets/goals set by Member States
	Quantification 6.1	Establishment of processes for the purpose of setting national targets (if not in place already)
	Core indicators	Establishment of a process for target-setting documented
		Evidence documenting: (a) establishment of national policies aligned with Health 2020; (b) implementation plan; (c) accountability mechanism (mode of "documentation" to be decided by individual countries)

[a] In this report, data on premature mortality from the four diseases are also presented separately. While not Health 2020 indicators, it was deemed important to also show these disaggregated data to better inform policy-making.

[b] WHO's centralized information system for infectious diseases stopped reporting separately on coverage for rubella vaccination in 2010, as it is usually given in combination with vaccination for measles and mumps. As of 2010, therefore, data on vaccination coverage for measles should be interpreted as vaccination coverage for measles and rubella.

[c] Only life expectancy at age 65 is used in the report.

[d] Data for this indicator are available in the World Bank and Eurostat databases. To achieve adequate coverage, data from both sources would need to be combined. Where national data are available in both sources, however, the estimates show such large differences that combining them does not seem valid; hence, this core indicator is not presented in the report.

[e] The name of the Gallup World Poll indicator used is "social connectedness".

[f] For comprehensiveness the report also addresses the percentage of population with access to piped water on premises (the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation covers access to both water and improved sanitation facilities).

[g] According to the WHO definition (8), universal coverage is equitable access to effective and needed services without financial burden.

[h] European Health for All database data used for this report are estimates (based on system of health accounts methodology), and not country-reported data.

[i] To account for the fact that maternal mortality rates can differ considerably from year to year, especially in smaller countries, a 3-year average was computed to assess the latest available mortality rate for each country in this report.

monitored through the Parma Declaration on Environment and Health (10) and the related European Environment and Health Information System. Owing to a lack of comparable data at the regional level, indicators on morbidity also could not be included. Nevertheless, the Health 2020 framework was developed to inform Health 2020 monitoring in a concise, efficient way, and not necessarily to cover a fully comprehensive public health scope or to flag data gaps.

The expert groups recommended that WHO and other United Nations databases should be the preferred sources for the Health 2020 indicators because they offer optimal regional coverage, with the proviso that if data are not available in these then alternative international sources should be used. They also proposed that all rates reported for indicators should be age-standardized and, where possible and available, that data should be disaggregated by sex, age, ethnicity, socioeconomic strata, vulnerable groups and subnational regions.

Indicators, data sources and calculation methods used

Chapter 2 set out all the Health 2020 core indicators except the indicator on income distribution – the GINI coefficient. Data sources for national GINI coefficients in countries across the Region are the World Bank and Eurostat statistical databases. The methodology used to populate the two databases is too different to yield comparable data, however, and therefore this indicator is not included in the report. Chapter 2 also included a limited number of additional indicators to provide a more comprehensive picture of the public health situation for certain topics (see Table A.1 for more details).

WHO sources were used wherever possible, in line with the stipulated criteria for the Health 2020 monitoring framework. These contain either data reported by countries or official WHO estimates. The 2014 WHO global status report on NCDs was a key source for estimates used in this report: it contains further information about the methodology used to calculate these (11). Where data were not available in WHO databases, other sources were used, with preference given to those of other United Nations agencies (for example, UNESCO data were used for the indicator on primary school enrolment). Data collected by the Gallup World Poll and published by other agencies and organizations were used for two of the Health 2020 indicators on well-being, as these data are not regularly collected by WHO or other United Nations agencies. For the qualitative indicators on the availability and implementation of national policies, information was gathered by means of a dedicated country survey and published at an

aggregated level, as agreed with Member States (see Box 2.6 in the section on target 6). Table A.2 lists all the regular WHO data sources used to inform the quantitative core indicators; Table A.3 provides an overview of the data sources used for the remaining quantitative core indicators and for the additional indicators.

Most of the data in this report came from the WHO European Health for All, mortality and detailed mortality databases. In the European Health for All and mortality databases, weighted regional averages are calculated only when data are available for a given year for at least half of the countries, irrespective of population size, with imputation of missing data using basic extrapolation and interpolation. The European detailed mortality database is the main source of data for the Health 2020 indicator on premature mortality. It does not contain regional averages, so to inform this report weighted regional averages for the premature mortality indicators were calculated in the same way as for the other databases.

The number of maternal deaths is very low in most European countries and most year-to-year variation seen at the national level is random, particularly when the number of live births is small. For these reasons the maternal mortality ratios presented in Map 2.4 were calculated using an average from the last three years for which data were available (see Table A.4).

As the WHO databases are updated annually, the data presented in this report are only a snapshot of the most recent data available at the time of writing. The regional averages and minimum and maximum values in the Region for several indicators may change after publication as more countries provide data to WHO. These should all therefore be interpreted with caution, especially for the most recent years, for which data coverage has the most gaps. As seen in Chapter 2, this limits the ability to draw conclusions on progress towards the Health 2020 targets since the 2010 baseline. For a full overview of the data used in this report based on WHO sources for the core indicators since 2010, see Table A.2.

Table A.2.
Quantitative core indicators for Health 2020: WHO data sources and data

Indicator	Age-standardized overall premature mortality rate (from 30 to under 70 years) per 100 000 for cardiovascular diseases. cancer. diabetes mellitus and chronic respiratory diseases			Age-standardized prevalence of current tobacco smoking among adults in Europe (WHO estimates) (%)					
Data source	European detailed mortality database			Global status report on noncommunicable diseases 2014					
				2010			2012		
Country	2010	2011	2012	Males	Females	Both	Males	Females	Both
Regional average	420.8	407.4	404.3	–	–	–	–	–	–
Albania	–	–	–	51.9	9.1	30.6	50.9	8.7	29.6
Andorra	–	–	–	39.0	28.6	33.8	38.0	28.2	33.1
Armenia	475.8	461.1	508.5	–	–	–	–	–	–
Austria	259.7	254.8	247.6	–	–	–	–	–	–
Azerbaijan	–	–	–	–	–	–	–	–	–
Belarus	–	715.7	–	51.6	11.4	33.3	49.3	11.2	28.6
Belgium	264.4	–	–	29.8	22.8	26.4	29.5	22.8	26.1
Bosnia and Herzegovina	–	407.3	–	50.2	31.9	41.3	48.7	31.2	39.7
Bulgaria	589.9	572.0	563.1	47.3	32.2	40.0	45.3	31.0	37.9
Croatia	410.4	405.3	401.0	39.2	30.3	35.0	38.9	30.5	34.5
Cyprus	204.7	187.3	201.5	–	–	–	–	–	–
Czech Republic	385.0	376.6	364.0	37.5	28.8	33.3	36.4	28.3	32.3
Denmark	273.9	261.7	260.9	24.0	21.1	22.6	22.0	19.4	20.7
Estonia	448.6	427.7	414.9	45.0	25.9	36.3	43.4	25.6	33.6
Finland	255.9	248.2	239.6	26.2	20.6	23.5	25.0	19.9	22.4
France	238.2	237.6	–	33.9	26.9	30.6	33.6	27.4	30.3
Georgia	262.5	314.8	338.0	58.3	5.9	34.3	57.1	5.8	29.3
Germany	269.5	264.4	258.5	35.3	30.4	32.9	35.1	30.9	32.9
Greece	226.4	230.1	–	56.5	36.6	46.8	54.8	35.7	45.1
Hungary	587.9	583.3	562.7	36.2	28.6	32.6	34.4	27.6	30.8
Iceland	–	–	–	20.7	18.5	19.6	19.3	17.4	18.3
Ireland	252.8	–	–	25.2	23.9	24.5	23.8	22.6	23.2
Israel	204.3	196.8	–	41.0	20.5	31.0	40.2	20.2	30.0
Italy	220.2	222.0	–	29.5	19.9	24.9	28.7	19.8	24.0
Kazakhstan	754.7	–	648.3	47.3	10.1	29.7	45.4	9.8	26.6
Kyrgyzstan	659.5	665.1	626.6	49.5	3.9	27.4	49.1	3.8	25.8
Latvia	593.9	590.5	563.1	50.2	24.2	38.6	49.1	24.1	35.3
Lithuania	549.2	546.2	524.6	42.1	21.5	32.8	40.3	21.7	30.1
Luxembourg	232.4	237.6	227.2	–	–	–	–	–	–
Malta	245.7	245.1	260.0	32.4	22.5	27.5	31.2	22.0	26.6
Monaco	–	–	–	–	–	–	–	–	–
Montenegro	–	–	–	–	–	–	–	–	–
Netherlands	260.1	252.6	248.8	31.1	27.9	29.5	30.4	27.7	29.0
Norway	225.3	215.0	211.5	28.3	27.9	28.1	26.5	26.2	26.4
Poland	436.4	421.7	427.7	36.1	27.8	32.1	34.2	26.5	30.1
Portugal	241.9	241.0	235.6	32.5	14.3	23.8	31.6	14.0	22.4
Republic of Moldova	715.7	637.1	619.2	43.6	5.4	25.7	43.8	5.3	23.3
Romania	535.2	506.6	501.0	41.9	24.5	33.5	39.9	24.0	31.7
Russian Federation	744.2	697.5	–	61.0	22.1	43.3	59.3	22.0	38.8
San Marino	–	–	–	–	–	–	–	–	–
Serbia	545.0	528.3	498.8	–	–	–	–	–	–
Slovakia	457.1	–	–	39.6	18.7	29.5	38.6	18.4	28.1
Slovenia	289.0	–	–	24.6	19.3	22.0	23.7	18.9	21.3
Spain	228.4	224.7	221.2	35.4	28.7	32.1	33.8	28.3	31.0
Sweden	207.3	204.6	200.4	23.7	24.5	24.1	22.1	22.9	22.5
Switzerland	197.5	–	–	31.9	24.6	28.3	32.0	25.1	28.5
Tajikistan	–	–	–	–	–	–	–	–	–
The former Yugoslav Republic of Macedonia	491.2	–	–	–	–	–	–	–	–
Turkey	316.5	317.2	–	45.2	14.5	30.3	43.2	13.8	28.1
Turkmenistan	–	–	–	–	–	–	–	–	–
Ukraine	709.5	672.2	667.2	52.5	14.4	35.2	50.9	14.1	30.8
United Kingdom	264.2	–	–	23.4	21.3	22.3	22.1	20.2	21.1
Uzbekistan	–	–	–	26.1	1.4	13.9	25.2	1.4	13.1
Number of countries for which data are available	41	35	28	41	41	41	41	41	41

Table A.2 contd

Indicator	Total per capita alcohol consumption among people aged 15 years and over within a calendar year (litres of pure alcohol)			Age-standardized prevalence of overweight (BMI ≥ 25) in people aged 18 years and over (WHO estimates) (%)					
Data source	European Health for All database			Global status report on noncommunicable diseases 2014. WHO					
Country	2010	2011	2012	2010			2014		
				Males	Females	Both	Males	Females	Both
Regional average	9.8	–	–	–	–	–	–	–	–
Albania	5.0	–	–	54.5	46.5	50.5	57.5	47.9	52.7
Andorra	13.3	–	–	70.2	60.3	65.2	72.0	61.9	66.9
Armenia	3.9	–	–	52.6	53.2	52.9	56.3	54.7	55.5
Austria	12.1	11.9	–	59.3	43.8	51.3	61.1	45.4	53.1
Azerbaijan	1.4	–	–	52.7	55.7	54.2	57.4	58.7	58.1
Belarus	14.4	–	–	57.2	53.3	55.1	61.2	55.2	58.0
Belgium	10.6	9.8	9.8	63.8	46.9	55.2	65.7	48.4	56.9
Bosnia and Herzegovina	4.3	–	–	53.0	48.1	50.5	55.4	48.5	51.8
Bulgaria	10.2	–	–	61.6	52.8	57.1	64.1	54.4	59.1
Croatia	10.7	–	–	61.7	52.4	56.9	64.4	53.6	58.8
Cyprus	8.7	–	–	62.0	55.3	58.7	63.6	56.9	60.3
Czech Republic	12.7	–	–	67.7	56.6	62.1	69.6	57.3	63.4
Denmark	10.4	10.0	8.9	62.6	44.3	53.4	64.4	46.2	55.2
Estonia	11.4	11.6	–	59.1	51.7	55.1	61.7	52.3	56.7
Finland	9.7	9.8	–	60.2	47.3	53.6	62.1	48.6	55.2
France	11.7	–	–	65.2	52.6	58.7	67.1	54.7	60.7
Georgia	5.3	–	–	51.5	53.8	52.8	54.3	56.0	55.2
Germany	11.2	11.0	11.0	60.7	45.8	53.1	62.7	47.2	54.8
Greece	7.9	–	–	64.2	54.0	59.1	65.8	55.2	60.5
Hungary	10.8	11.4	–	64.6	52.4	58.2	66.6	53.3	59.6
Iceland	6.3	–	–	63.2	49.2	56.3	65.2	50.5	57.9
Ireland	11.9	–	–	64.6	52.0	58.3	66.2	54.6	60.3
Israel	2.7	–	–	66.2	57.6	61.8	68.2	59.0	63.5
Italy	6.1	–	–	62.7	52.0	57.2	64.3	53.7	58.8
Kazakhstan	6.6	–	–	57.0	55.4	56.2	60.5	57.1	58.8
Kyrgyzstan	–	–	–	42.7	46.9	44.8	45.2	49.1	47.2
Latvia	9.8	10.2	10.2	59.0	53.9	56.2	62.0	54.5	57.9
Lithuania	12.9	12.7	–	59.5	56.5	57.9	62.6	57.9	60.1
Luxembourg	11.4	–	–	65.3	46.4	55.8	67.8	48.3	58.0
Malta	7.6	–	–	66.4	57.9	62.1	68.5	59.6	64.0
Monaco	–	–	–	–	–	–	–	–	–
Montenegro	6.6	–	–	59.5	49.2	54.3	61.7	50.1	55.8
Netherlands	9.3	–	–	61.2	46.4	53.7	63.6	48.2	55.9
Norway	6.6	6.6	–	63.2	50.9	57.1	65.2	51.8	58.5
Poland	10.7	10.2	–	63.4	55.2	59.2	65.8	56.7	61.1
Portugal	10.8	–	–	59.3	48.5	53.7	61.4	50.2	55.6
Republic of Moldova	6.1	–	–	43.4	45.3	44.4	46.4	46.7	46.6
Romania	9.0	9.1	–	60.3	51.9	56	62.7	52.7	57.6
Russian Federation	11.1	11.2	–	57.2	55.6	56.4	60.9	56.8	58.7
San Marino	–	–	–	–	–	–	–	–	–
Serbia	9.7	–	–	57.6	47.7	52.5	59.9	49.2	54.5
Slovakia	11.0	–	–	63.6	54.6	58.9	66.1	56.2	61.0
Slovenia	10.3	–	–	64.1	54.0	59	66.1	55.1	60.6
Spain	9.8	–	–	64.6	54.0	59.2	66.2	55.7	60.9
Sweden	7.3	–	–	60.8	47.1	53.9	63.1	48.8	55.9
Switzerland	10.0	10.0	–	61.5	45.2	53.2	63.3	46.4	54.7
Tajikistan	–	–	–	38.6	46.6	42.6	41.0	48.8	44.9
The former Yugoslav Republic of Macedonia	–	–	–	57.5	49.5	53.5	59.8	50.5	55.2
Turkey	1.4	1.5	1.5	61.1	66.5	63.8	64.1	68.5	66.3
Turkmenistan	2.2	–	–	50.7	53.0	51.9	54.6	55.7	55.2
Ukraine	8.4	–	–	53.3	51.5	52.3	56.3	52.4	54.2
United Kingdom	10.3	10.6	–	65.9	56.8	61.3	68.1	58.8	63.4
Uzbekistan	–	–	–	43.8	48.6	46.2	46.6	51.4	49.0
Number of countries for which data are available	47	16	5	51	51	51	51	51	51

Age-standardized prevalence of obesity (BMI ≥ 30) in people aged 18 years and over (WHO estimates) (%)						Percentage of children vaccinated against measles (1 dose by second birthday)			Percentage of children vaccinated against polio (3 doses by first birthday)		
Global status report on noncommunicable diseases 2014						European Health for All database			European Health for All database		
2010			2014			2010	2011	2012	2010	2011	2012
Males	Females	Both	Males	Females	Both						
–	–	–	–	–	–	93.4	93.7	94.6	94.7	94.4	95.4
14.6	17.5	16.1	16.5	18.7	17.6	98.9	99.0	98.5	99.0	99.0	98.9
26.1	28.8	27.5	28.5	30.5	29.5	98.9	99.0	98.0	99.3	99.0	99.0
15.1	20.7	17.8	17.2	22.0	19.5	97.0	97.0	97.2	96.0	96.0	96.3
18.5	15.0	16.7	20.5	16.3	18.4	76.0	76.0	76.0	83.0	83.0	83.0
15.5	23.2	19.4	19.0	26.1	22.5	97.9	98.0	97.3	95.7	98.0	95.9
18.1	23.6	21.0	21.0	25.5	23.4	98.6	99.0	97.9	98.8	99.0	97.8
20.6	16.9	18.7	22.3	18.2	20.2	94.0	95.0	96.0	99.0	98.0	99.0
14.5	19.0	16.8	16.3	19.4	17.9	92.2	89.0	91.4	90.7	89.0	87.9
19.5	22.7	21.2	21.8	24.5	23.2	96.5	94.0	93.7	95.6	95.0	95.3
20.1	22.7	21.4	22.5	24.1	23.3	96.0	96.0	94.8	97.0	96.0	95.8
20.0	24.2	22.0	21.9	25.7	23.8	87.0	87.0	86.0	99.0	99.0	99.0
24.2	26.3	25.3	26.2	27.3	26.8	98.0	98.0	98.0	99.3	99.0	99.3
20.0	15.5	17.7	21.7	17.0	19.3	85.0	87.0	87.0	90.0	91.0	91.0
20.0	22.3	21.2	22.2	22.9	22.6	95.1	94.0	93.6	93.7	93.0	94.2
19.8	18.3	19.0	21.6	19.6	20.6	98.0	97.0	97.0	99.0	99.0	99.0
21.8	22.3	22.0	23.8	24.0	23.9	90.1	89.0	89.4	98.6	98.0	98.7
15.0	21.8	18.6	17.2	24.0	20.8	88.0	94.0	88.0	83.0	91.0	87.0
19.9	17.2	18.5	21.9	18.5	20.1	96.0	96.0	96.6	95.0	94.0	94.7
20.0	22.6	21.3	21.9	23.8	22.9	99.0	99.0	99.0	99.0	99.0	99.0
22.1	22.8	22.5	24.0	23.9	24.0	99.9	99.0	99.0	99.9	99.0	99.0
22.4	20.2	21.3	24.1	21.5	22.8	94.0	94.0	90.0	90.0	95.0	89.0
23.3	22.8	23.1	25.9	25.3	25.6	90.0	92.0	92.0	94.0	95.0	95.0
21.5	25.5	23.5	23.5	27.0	25.3	97.0	98.0	96.0	95.0	94.0	95.0
18.8	20.3	19.6	20.4	21.6	21.0	91.0	90.0	90.0	96.0	96.0	97.0
18.8	23.4	21.2	21.6	25.0	23.4	99.0	99.0	95.9	97.9	99.0	98.5
10.1	15.7	13.0	11.5	17.3	14.4	98.9	97.0	98.0	88.0	94.0	94.0
19.6	24.4	22.2	22.0	25.1	23.7	90.1	99.0	90.3	92.2	94.0	92.1
20.3	26.7	23.8	23.1	28.3	25.9	96.1	94.0	93.4	95.0	92.0	92.8
23.9	17.9	20.8	26.6	19.7	23.1	96.2	96.0	96.0	99.1	99.0	99.0
22.6	26.9	24.7	24.6	28.5	26.6	72.6	84.0	92.7	76.0	96.0	98.7
–	–	–	–	–	–	99.0	99.0	99.0	99.0	99.0	99.0
17.7	19.8	18.7	19.3	20.7	20.0	90.0	91.0	90.3	93.1	95.0	94.2
19.4	16.7	18.0	21.4	18.3	19.8	95.9	96.0	96.1	97.0	97.0	96.7
22.4	20.7	21.6	24.6	21.7	23.1	93.0	93.0	94.0	93.0	94.0	95.0
21.0	25.1	23.1	23.5	26.7	25.2	98.2	98.0	97.9	95.6	96.0	95.3
17.8	18.9	18.4	19.8	20.3	20.1	96.0	97.0	97.0	97.0	97.0	98.0
10.0	16.9	13.6	11.4	17.9	14.9	97.1	91.0	93.6	97.4	96.0	92.0
18.5	21.7	20.2	20.5	22.7	21.7	95.0	93.0	94.0	94.0	89.0	92.0
17.6	26.2	22.2	20.3	27.4	24.1	98.3	98.0	98.1	97.9	98.0	97.6
–	–	–	–	–	–	68.2	83.0	87.1	74.9	86.0	96.2
16.7	19.1	17.9	18.6	20.5	19.5	95.0	93.0	90.3	91.0	94.0	94.6
21.8	24.9	23.4	24.6	26.7	25.7	98.5	98.0	99.0	99.1	99.0	98.7
22.2	24.2	23.2	24.6	25.5	25.1	95.0	96.0	95.0	96.0	96.0	96.0
21.1	23.1	22.1	22.8	24.7	23.7	95.1	97.0	97.4	96.6	97.0	96.7
20.4	17.2	18.8	22.5	18.6	20.5	96.5	96.0	97.0	98.0	98.0	98.0
20.2	15.5	17.8	22.3	16.5	19.4	90.0	92.0	92.0	95.0	95.0	96.0
8.6	15.6	12.1	9.9	17.3	13.6	94.0	98.0	94.5	95.0	97.0	96.4
16.5	19.9	18.2	18.3	20.9	19.6	98.1	97.0	96.1	94.8	97.0	96.9
20.4	33.4	27.0	22.9	35.8	29.5	97.0	98.0	98.0	97.0	97.0	97.0
14.4	20.6	17.6	17.1	23.1	20.1	99.3	99.0	98.8	95.9	97.0	97.8
15.3	21.7	18.7	17.1	22.6	20.1	56.1	67.0	79.2	57.3	58.0	73.5
24.1	26.8	25.5	26.9	29.2	28.1	93.0	90.0	92.0	98.3	95.0	95.0
10.5	16.8	13.6	12.1	18.9	15.5	98.3	99.0	99.9	98.9	99.0	99.8
51	51	51	51	51	51	53	53	53	53	53	53

Table A.2 contd

Indicator	SDRs for all ages per 100 000 from all external causes of injury and poisoning								
Data source	European Health for All database								
Country	2010			2011			2012		
	Males	Females	Both	Males	Females	Both	Males	Females	Both
Regional average	100.2	27.7	60.9	99.2	27.4	60.2	–	–	–
Albania	–	–	–	–	–	–	–	–	–
Andorra	–	–	–	–	–	–	–	–	–
Armenia	–	–	–	–	–	–	72.4	19.7	44.1
Austria	57.1	20.2	37.4	55.2	20.7	36.9	–	–	–
Azerbaijan	–	–	–	–	–	–	–	–	–
Belarus	–	–	–	–	–	–	–	–	–
Belgium	65.5	30.3	47.3	–	–	–	–	–	–
Bosnia and Herzegovina	–	–	–	48.3	10.1	28.1	–	–	–
Bulgaria	57.1	14.8	35.0	53.0	13.8	32.7	–	–	–
Croatia	77.6	30.0	52.7	71.4	27.7	48.3	78.8	27.7	52.0
Cyprus	46.1	16.4	30.4	43.2	14.7	28.1	–	–	–
Czech Republic	74.8	23.4	48.1	73.2	23.4	47.2	70.9	22.6	45.7
Denmark	–	–	–	43.5	18.2	30.5	–	–	–
Estonia	133.7	28.7	76.3	135.8	27.8	77.2	–	–	–
Finland	92.4	30.6	60.5	88.8	28.4	57.3	–	–	–
France	63.2	25.5	43.2	–	–	–	–	–	–
Georgia	39.0	7.1	21.9	–	–	–	–	–	–
Germany	40.8	17.0	28.5	40.2	16.1	27.7	38.2	16.4	26.9
Greece	44.1	10.5	27.2	41.9	10.9	26.3	–	–	
Hungary	90.4	29.2	57.4	84.9	28.3	54.1	82.1	27.0	52.2
Iceland	–	–		–	–	–	–	–	–
Ireland	50.7	20.1	35.2	–	–	–	–	–	–
Israel	38.3	14.5	26.0	36.5	13.9	24.7	–	–	–
Italy	37.1	14.3	25.3	–	–	–	–	–	–
Kazakhstan	198.1	48.9	116.4	–	–	–	–	–	–
Kyrgyzstan	144.9	34.3	86.8	–	–	–	–	–	–
Latvia	148.8	32.2	84.9	138.6	30.3	79.2	141.0	32.5	82.0
Lithuania	197.9	42.9	113.1	–	–	–	–	–	–
Luxembourg	60.5	25.4	41.6	54.3	27.2	40.4	–	–	–
Malta	41.1	10.3	24.9	32.0	7.8	19.5	–	–	–
Monaco	–	–	–	–	–	–	–	–	–
Montenegro	–	–	–	–	–	–	–	–	–
Netherlands	35.4	18.0	26.3	34.6	18.6	26.3	–	–	–
Norway	54.0	26.6	40.0	54.9	26.1	40.3	48.7	23.5	35.9
Poland	93.5	20.7	55.6	92.4	20.4	54.9	–	–	–
Portugal	50.6	17.1	32.7	46.1	14.3	29.2	–	–	–
Republic of Moldova	172.6	43.1	103.1	146.1	32.7	85.1	139.8	38.3	85.1
Romania	87.1	22.2	53.3	–	–	–	–	–	–
Russian Federation	246.3	57.3	140.8	–	–	–	–	–	–
San Marino	–	–	–	–	–	–	–	–	–
Serbia	60.9	17.6	38.3	59.8	17.5	37.6	59.9	16.4	37.1
Slovakia	84.3	19.5	50.1	–	–	–	–	–	–
Slovenia	87.0	28.7	56.3	–	–	–	–	–	–
Spain	34.7	12.1	23.0	33.5	12.2	22.6	–	–	–
Sweden	50.7	21.1	35.4	–	–	–	–	–	–
Switzerland	45.6	20.4	32.4	–	–	–	–	–	–
Tajikistan	–	–	–	–	–	–	–	–	–
The former Yugoslav Republic of Macedonia	41.9	15.5	28.3	–	–	–	–	–	–
Turkey	30.5	12.7	21.3	29.7	11.7	20.3	–	–	–
Turkmenistan	–	–	–	–	–	–	–	–	–
Ukraine	154.4	33.2	88.4	149.0	31.9	85.1	145.2	31.8	83.5
United Kingdom	36.8	16.1	26.3	–	–	–	–	–	–
Uzbekistan	–	–	–	–	–	–	–	–	–
Number of countries for which data are available	39	39	39	25	25	25	10	10	10

	Life expectancy at birth (years)									Infant mortality per 1000 live births		
	European Health for All database									European Health for All database		
	2010			2011			2012			2010	2011	2012
	Males	Females	Both	Males	Females	Both	Males	Females	Both			
	73.0	80.2	76.6	73.1	80.3	76.8	–	–	–	7.0	7.0	–
	–	–	–	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	71.3	77.8	74.6	11.4	11.7	10.8
	78.0	83.6	80.9	78.4	84.0	81.3	–	–	–	3.9	3.6	–
	–	–	–	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–	–	–	–
	77.5	83.0	80.3	–	–	–	–	–	–	3.6	–	–
	–	–	–	74.2	79.0	76.7	–	–	–	–	5.8	–
	70.3	77.4	73.8	70.8	77.9	74.3	–	–	–	9.4	8.5	7.8
	73.6	80.0	76.9	74.0	80.4	77.3	74.0	80.7	77.4	4.4	4.7	3.6
	79.9	84.5	82.2	80.1	83.9	82.0	–	–	–	2.9	2.8	–
	74.6	81.0	77.8	74.9	81.2	78.1	75.1	81.3	78.2	2.7	2.7	2.6
	–	–	–	78.0	82.1	80.1	–	–	–	3.4	3.4	–
	70.7	80.8	76.0	71.3	81.4	76.6	–	–	–	3.3	2.4	–
	77.0	83.7	80.3	77.5	84.0	80.8	–	–	–	2.3	2.4	–
	78.4	85.4	82.0	–	–	–	–	–	–	3.5	–	–
	70.2	79.0	74.7	–	–	–	–	–	–	11.2	–	–
	78.1	83.1	80.6	78.5	83.4	81.0	78.7	83.4	81.1	3.4	3.6	3.3
	78.5	82.9	80.7	78.6	83.2	80.9	–	–	–	3.8	3.4	–
	70.8	78.6	74.8	71.3	78.8	75.2	71.7	78.8	75.3	5.3	4.9	4.9
	–	–	–	–	–	–	–	–	–	–	–	–
	78.5	83.0	80.8	–	–	–	–	–	–	3.8	–	–
	80.2	84.1	82.2	80.4	84.1	82.3	–	–	–	3.7	3.5	–
	79.8	85.0	82.5	–	–	–	–	–	–	3.4	–	–
	63.7	73.5	68.6	–	–	–	–	–	–	16.5	–	–
	65.5	73.7	69.5	–	–	–	–	–	–	22.3	–	–
	68.6	78.4	73.7	68.6	78.8	73.9	68.9	79.0	74.1	5.7	6.6	6.3
	68.0	79.0	73.6	–	–	–	–	–	–	4.3	–	–
	78.8	83.9	81.5	79.2	83.9	81.7	–	–	–	2.7	2.8	–
	79.3	83.6	81.5	78.8	83.1	81.0	–	–	–	5.5	6.3	–
	–	–	–	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–	–	–	–
	79.1	83.1	81.2	79.5	83.2	81.5	–	–	–	3.8	3.6	–
	79.1	83.5	81.3	79.3	83.7	81.5	79.7	83.6	81.7	2.6	2.3	2.5
	72.3	80.8	76.6	72.7	81.2	77.0	–	–	–	5.0	4.7	–
	76.8	83.3	80.1	77.4	83.9	80.7	–	–	–	2.6	3.1	–
	64.9	73.5	69.1	66.8	75.1	71.0	67.2	75.1	71.1	11.8	11.0	9.8
	70.2	77.6	73.8	–	–	–	–	–	–	9.8	9.4	–
	63.1	75.0	69.0	–	–	–	–	–	–	7.6	–	–
	–	–	–	–	–	–	–	–	–	–	–	–
	71.8	77.0	74.4	72.0	77.3	74.6	72.4	77.5	74.9	6.7	6.3	6.2
	71.8	79.4	75.7	–	–	–	–	–	–	5.7	–	–
	76.6	83.2	80.0	–	–	–	–	–	–	2.5	–	–
	79.2	85.4	82.3	79.4	85.5	82.5	–	–	–	3.2	3.2	–
	79.7	83.7	81.8	–	–	–	–	–	–	2.5	–	–
	80.4	85.0	82.8	–	–	–	–	–	–	3.8	–	–
	–	–	–	–	–	–	–	–	–	–	–	–
	73.0	77.3	75.1	–	–	–	–	–	–	7.6	–	–
	74.4	79.6	77.0	74.5	80.0	77.2	–	–	–	12.0	11.7	–
	–	–	–	–	–	–	–	–	–	–	–	–
	65.2	75.3	70.3	66.0	76.0	71.1	66.2	76.2	71.3	9.2	9.0	8.4
	78.8	82.7	80.8	–	–	–	–	–	–	4.3	–	–
	–	–	–	–	–	–	–	–	–	–	–	–
	39	39	39	25	25	25	10	10	10	41	27	11

Table A.2 contd

Indicator	Percentage of population with access to improved sanitation facilities (%)								
Data source	WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation								
	2010			2011			2012		
Country	Urban	Rural	National	Urban	Rural	National	Urban	Rural	National
Regional average	94.3	88.4	92.5	94.3	88.5	92.6	94.3	88.5	92.6
Albania	95.2	84.6	90.1	95.2	85.5	90.7	95.3	86.3	91.2
Andorra	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Armenia	95.8	80.2	90.2	95.9	80.5	90.4	95.9	80.9	90.5
Austria	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Azerbaijan	85.9	77.5	82.0	85.9	77.5	82.0	85.9	77.5	82.0
Belarus	94.0	95.7	94.4	94.0	95.5	94.4	94.0	95.3	94.3
Belgium	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bosnia and Herzegovina	98.8	92.2	95.4	98.8	92.2	95.4	98.9	92.1	95.4
Bulgaria	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Croatia	98.6	97.6	98.2	98.6	97.6	98.2	98.6	97.6	98.2
Cyprus	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Czech Republic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Denmark	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Estonia	95.8	93.8	95.2	95.8	93.8	95.2	95.8	93.8	95.2
Finland	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
France	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Georgia	95.7	91.3	93.6	95.6	91.0	93.4	95.5	90.7	93.3
Germany	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Greece	99.4	97.5	98.6	99.4	97.5	98.6	99.4	97.5	98.6
Hungary	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Iceland	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Ireland	99.6	97.9	99.0	99.6	97.9	99.0	99.6	97.9	99.0
Israel	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Italy	–	–	–	–	–	–	–	–	–
Kazakhstan	96.9	97.9	97.4	97.0	98.0	97.4	97.0	98.0	97.5
Kyrgyzstan	91.9	91.7	91.8	91.9	91.7	91.8	91.9	91.7	91.8
Latvia	–	–	–	–	–	–	–	–	–
Lithuania	98.2	83.7	93.4	98.4	84.6	93.9	98.7	85.4	94.3
Luxembourg	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Malta	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Monaco	100.0	–	100.0	100.0	–	100.0	100.0	–	100.0
Montenegro	91.9	86.8	90.0	91.9	86.8	90.0	91.9	86.8	90.0
Netherlands	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Norway	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Poland	95.7	–	–	95.7	–	–	95.7	–	–
Portugal	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Republic of Moldova	88.8	82.3	85.4	89.0	83.4	86.1	89.2	84.4	86.7
Romania	–	–	–	–	–	–	–	–	–
Russian Federation	74.4	59.3	70.4	74.4	59.3	70.4	74.4	59.3	70.5
San Marino	–	–	–	–	–	–	–	–	–
Serbia	98.3	95.5	97.1	98.5	95.6	97.2	98.6	95.7	97.3
Slovakia	99.9	99.6	99.7	99.9	99.6	99.7	99.9	99.6	99.7
Slovenia	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Spain	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sweden	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Switzerland	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Tajikistan	93.4	93.8	93.7	93.5	94.2	94.0	93.6	94.6	94.4
The former Yugoslav Republic of Macedonia	96.5	83.4	91.1	97.0	83.1	91.3	97.2	82.8	91.4
Turkey	97.2	75.5	90.8	97.2	75.5	91.0	97.2	75.5	91.2
Turkmenistan	100.0	98.2	99.1	100.0	98.2	99.1	100.0	98.2	99.1
Ukraine	96.5	89.4	94.3	96.5	89.4	94.3	96.5	89.4	94.3
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Uzbekistan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of countries for which data are available	49	47	48	49	47	48	49	47	48

Unemployment rate (%)			Private households' OOPs on health as a proportion of total health expenditure			Total expenditure on health as a percentage of GDP (WHO estimates)		
European Health for All database			European Health for All database			European Health for All database		
2010	2011	2012	2010	2011	2012	2010	2011	2012
9.2	8.8	9.3	24.3	24.4	24.2	8.4	8.2	8.3
–	–	–	54.5	51.9	52.2	5.5	6.0	6.0
–	–	–	19.6	19.5	17.5	7.2	7.2	8.3
6.9	6.2	17.3	55.9	47.1	54.6	4.6	3.7	4.5
4.4	4.2	4.3	15.2	15.3	15.2	11.6	11.3	11.5
0.9	–	–	69.2	69.8	69.0	5.3	5.0	5.4
0.7	0.6	0.5	19.9	26.6	19.5	5.6	4.9	5.0
8.3	7.2	7.6	20.7	19.7	19.7	10.5	10.5	10.8
27.2	27.6	–	28.3	27.8	27.8	9.8	9.9	9.9
10.2	11.3	12.3	42.9	43.3	42.3	7.6	7.3	7.4
11.8	13.4	15.8	14.6	13.8	13.9	7.8	6.8	6.8
6.2	7.9	11.8	49.4	49.4	49.5	7.4	7.4	7.3
7.3	6.7	7.0	14.9	14.7	14.2	7.4	7.5	7.7
6.0	7.6	6.1	13.2	12.8	12.6	11.1	10.9	11.2
16.9	12.5	10.2	18.7	17.8	18.4	6.3	5.8	5.9
8.4	7.8	7.7	19.8	18.6	18.6	9.0	9.0	9.2
9.3	9.2	9.9	7.4	7.5	7.4	11.7	11.6	11.8
–	–	–	69.1	64.9	64.7	10.1	9.4	9.2
7.1	5.9	–	11.9	12.0	12.1	11.6	11.3	11.3
12.5	17.7	–	29.2	31.0	29.7	9.4	9.0	9.3
11.2	10.9	10.9	26.3	26.0	27.1	8.0	7.9	7.8
7.6	7.1	6.0	17.9	18.0	17.9	9.4	9.2	9.1
13.6	14.4	–	12.9	14.0	15.0	9.3	8.8	8.1
6.6	5.6	6.9	25.0	25.3	25.0	7.6	7.6	7.5
8.4	8.4	10.7	19.9	20.5	20.2	9.4	9.2	9.2
5.8	5.4	5.3	40.4	41.5	41.7	4.3	3.9	4.2
2.6	2.5	–	38.7	34.5	34.8	6.7	6.2	7.1
19.5	16.2	15.0	34.9	37.1	37.4	6.5	6.0	6.0
17.8	15.4	13.4	26.4	27.9	28.5	7.1	6.7	6.7
4.4	4.9	–	10.0	11.5	11.2	7.2	6.7	6.9
6.9	6.5	6.4	33.4	33.8	32.3	8.5	8.8	9.1
–	–	–	7.0	7.0	7.0	4.4	4.4	4.4
19.7	19.7	19.7	38.0	38.1	36.7	7.2	7.2	7.6
4.5	4.4	5.3	5.3	5.5	5.6	12.1	11.9	12.4
3.7	3.3	3.2	13.6	13.4	13.4	10.0	9.9	9.0
12.4	12.5	13.4	22.2	22.4	22.8	7.0	6.8	6.7
10.8	12.7	15.7	25.8	27.3	31.7	10.8	10.2	9.5
4.0	3.6	2.8	44.9	45.1	45.3	11.7	11.4	11.7
7.0	7.4	7.0	19.2	20.3	21.8	6.0	5.6	5.1
7.5	6.6	–	36.4	35.3	34.3	6.3	6.1	6.3
–	4.8	–	14.3	13.6	12.3	5.3	5.5	6.5
20.0	23.6	24.6	36.4	36.2	37.1	10.7	10.3	10.5
14.4	13.5	14.0	25.7	22.5	22.8	9.0	7.9	7.8
7.3	8.2	8.9	12.2	11.8	11.9	8.9	8.9	8.8
20.1	21.6	25.0	19.8	20.7	20.3	9.6	9.3	9.6
8.4	7.6	7.7	16.4	16.2	16.1	9.5	9.5	9.6
4.5	4.1	–	25.1	25.8	28.1	10.9	11.0	11.3
–	–	–	66.5	60.1	60.1	6.0	5.8	5.8
32.0	31.4	31.0	36.2	36.4	35.9	7.0	6.9	7.1
11.9	9.8	9.3	16.1	17.6	16.8	6.8	6.1	6.3
–	–	–	43.7	36.2	36.8	2.1	2.1	2.0
8.1	–	–	40.5	41.5	42.4	7.8	7.3	7.6
7.8	8.0	–	9.4	9.8	9.9	9.6	9.4	9.4
–	–	–	45.2	46.2	44.1	5.4	5.6	5.9
45	44	34	53	53	53	53	53	53

Comments on data quality and comparability

More details about data quality and comparability can be found in the metadata sections of the sources used. In addition, some issues related to coding of cause-of-death data and sources for vital statistics data are highlighted below because they are critical to improving monitoring of the Health 2020 indicators related to mortality.

A large number of Health 2020 indicators rely on cause-of-death data, and several common issues affect all the indicators derived from these. First, although the European Region has the highest data coverage among all WHO regions, completeness and coverage are estimated to be less than 100% in several European countries *(13)*. Second, in some countries a substantial proportion of medically certified deaths are assigned to either ill-defined (ICD-10 codes from chapter XVIII) or nonspecific codes with limited relevance to public health. The nonspecific codes frequently relate to the mode of dying instead of the underlying disease (for example, relating to septicaemia but not to the lung infection causing septicaemia) *(14, 15)*. Third, the ICD used to classify

Table A.3.
Non-WHO data sources for quantitative core indicators
and sources for the additional indicators in Chapter 2

Indicator	Data source
Core	
Proportion of children of official primary school age not enrolled	UNESCO Institute for Statistics
Life satisfaction	Gallup World Poll (through UNDP)
Availability of social support	Gallup World Poll (through HelpAge International)
Additional	
Proportions of adolescents with a BMI greater than one standard deviation above the average WHO reference BMI for their age	HBSC study: international report from the 2009/2010 survey
Age-standardized mortality rates from (a) motor vehicle traffic accidents; (b) accidental poisoning; (c) alcohol poisoning; (d) suicides; (e) accidental falls; (f) homicides and assaults	European Health for All database
Life expectancy at birth and at age 65 years	European Health for All database
Maternal deaths per 100 000 live births	European Health for All database

Table A.4.

Three-year averages used for maternal mortality rates in Map 2.4

Country	Maternal deaths per 100 000 live births: average based on 3 most recent years	Years used to compute average
Albania	3.9	2009–2011
Andorra	0.0	2010–2012
Armenia	15.4	2010–2012
Austria	1.7	2010–2012
Azerbaijan	15.3	2010–2012
Belarus	0.9	2010–2012
Belgium	5.7	2008–2010
Bosnia and Herzegovina	7.8	2011, 2012[a]
Bulgaria	5.0	2010–2012
Croatia	8.7	2010–2012
Cyprus	10.8	2006, 2008, 2010
Czech Republic	7.8	2010–2012
Denmark	2.7	2010–2012
Estonia	9.0	2010–2012
Finland	2.2	2009–2011
France	8.2	2008–2010
Georgia	23.7	2010–2012
Germany	5.0	2010–2012
Greece	4.1	2009–2011
Hungary	11.9	2010–2012
Iceland	7.4	2009–2011
Ireland	2.7	2010–2012
Israel	4.4	2010–2012
Italy	2.8	2008–2010
Kazakhstan	18.1	2010–2012
Kyrgyzstan	57.6	2009–2011
Latvia	17.1	2010–2012
Lithuania	7.4	2010–2012
Luxembourg	11.2	2010–2012
Malta	8.3	2010–2012
Monaco	0.0	2012[b]
Montenegro	17.7	2001, 2007[a]
Netherlands	2.4	2010–2012
Norway	3.3	2010–2012
Poland	2.1	2009–2011
Portugal	6.7	2009–2011
Republic of Moldova	30.1	2010–2012
Romania	20.3	2010–2012
Russian Federation	20.0	2008–2010
San Marino	0.0	2005, 2010[a]
Serbia	14.4	2010–2012
Slovakia	4.5	2010–2012
Slovenia	11.2	2007–2009
Spain	3.5	2009–2011
Sweden	2.6	2010–2012
Switzerland	3.8	2009–2011
Tajikistan	37.2	2010–2012
The former Yugoslav Republic of Macedonia	5.6	2010–2012
Turkey	16.0	2010–2012
Turkmenistan	5.5	2010–2012
Ukraine	17.6	2010–2012
United Kingdom	6.8	2008–2010
Uzbekistan	21.4	2010–2012

[a] Data only available for two years.

[b] Data only available for one year.

Source: European Health for All database *(12)*.

underlying causes of death undergoes continuous updates and periodic revisions of both coding rules and available disease categories, making it difficult to monitor trends over time *(15–17)*. Lastly, there is substantial variation in inter- and intra-coder agreement (consistency of judgement by one coder on different occasions and in comparison with other coders) and reliability of ICD coding in different European countries *(18–20)*; such agreement may be lower than 60% at three-digit ICD code level. Reporting at the three- or four-digit code level is recommended, but several countries instead use mortality tabulation list 1 *(21)*, which reduces the level of detail and limits analytical possibilities. Two countries in the Region use the ninth and not the most recent (tenth) revision of ICD to report causes of death.

The issue of data completeness and coverage is particularly relevant when assessing infant and child mortality. Several countries do not have fully functioning civil registration and vital statistics systems, and hence do not capture all births and deaths. Since underreporting of both deaths and births is more common when deaths occur close to the point of birth, resulting in births not being registered at all or reported as stillbirths or miscarriages, these countries may report inaccurately low infant mortality rates. In general, registration is less common for births occurring outside the health sector. In addition, several countries in the Region have historically used or still use the old Soviet definition of live birth or its derivatives; these are not comparable to the international live birth definitions recommended by WHO *(21)*. This has been shown to result in an underestimation of infant mortality rates by approximately 20–25% *(22)*.

The WHO Regional Office for Europe databases mainly contain official data reported by ministries of health, which are the preferred source of data for the Health 2020 indicators. WHO does not correct, adjust or redistribute the data provided by individual countries, so all the limitations described above apply to the mortality data used to monitor the Health 2020 indicators.

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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.
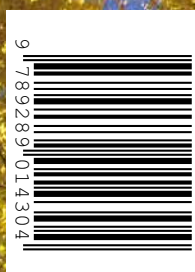
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Georgia	Sweden
Germany	Switzerland
Greece	Tajikistan
Hungary	The former
Iceland	Yugoslav
Ireland	Republic of
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The publication of the European health report every three years is an opportunity to focus on progress towards genuine health and well-being for all. Whether the reader is a policy-maker, a politician, a public health specialist or journalist, the report gives a vital snapshot of health in the WHO European Region. It shows trends and progress towards the goals of Health 2020, the European health policy, and reveals some gaps in progress, inequalities and areas of concern and uncertainty, where action must be taken.

The 2015 report shows that improvements in health continue throughout the European Region, and some of the inequalities in health between countries, notably in life expectancy and infant mortality, have decreased in recent years. In real terms, however, these differences still amount to 11 years of life and 20 healthy babies per 1000 live births between the best- and worst-performing countries. Absolute differences between countries remain unacceptably large, especially for indicators linked to social determinants of health. In addition, the report clearly shows that the European Region still has the highest rates of alcohol consumption and tobacco smoking in the world.

The 2012 report introduced the concept of well-being within the Health 2020 framework, and the 2015 report continues the discussion. It presents the first results on subjective and objective well-being in the context of Health 2020, and explores innovative ways policy-makers can address the challenge of measuring it; examines how culture may influence health and well-being; and looks at how WHO could use information from non-traditional sources – for example, drawing on history and anthropology – to gain a more complete picture of well-being in Europe. Health 2020 includes notions such as community resilience and a sense of belonging and empowerment, and requires fresh thinking about health information to ensure that the evidence collated meets the needs of the policy.

The entirety of the information chain is fraught with challenges: from data collection to analysis, interpretation and reporting, and the use of information in policy-making. This report calls for broad international cooperation to focus attention and effort on harmonizing, setting standards for and creating evidence fit for use in the 21st century.

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