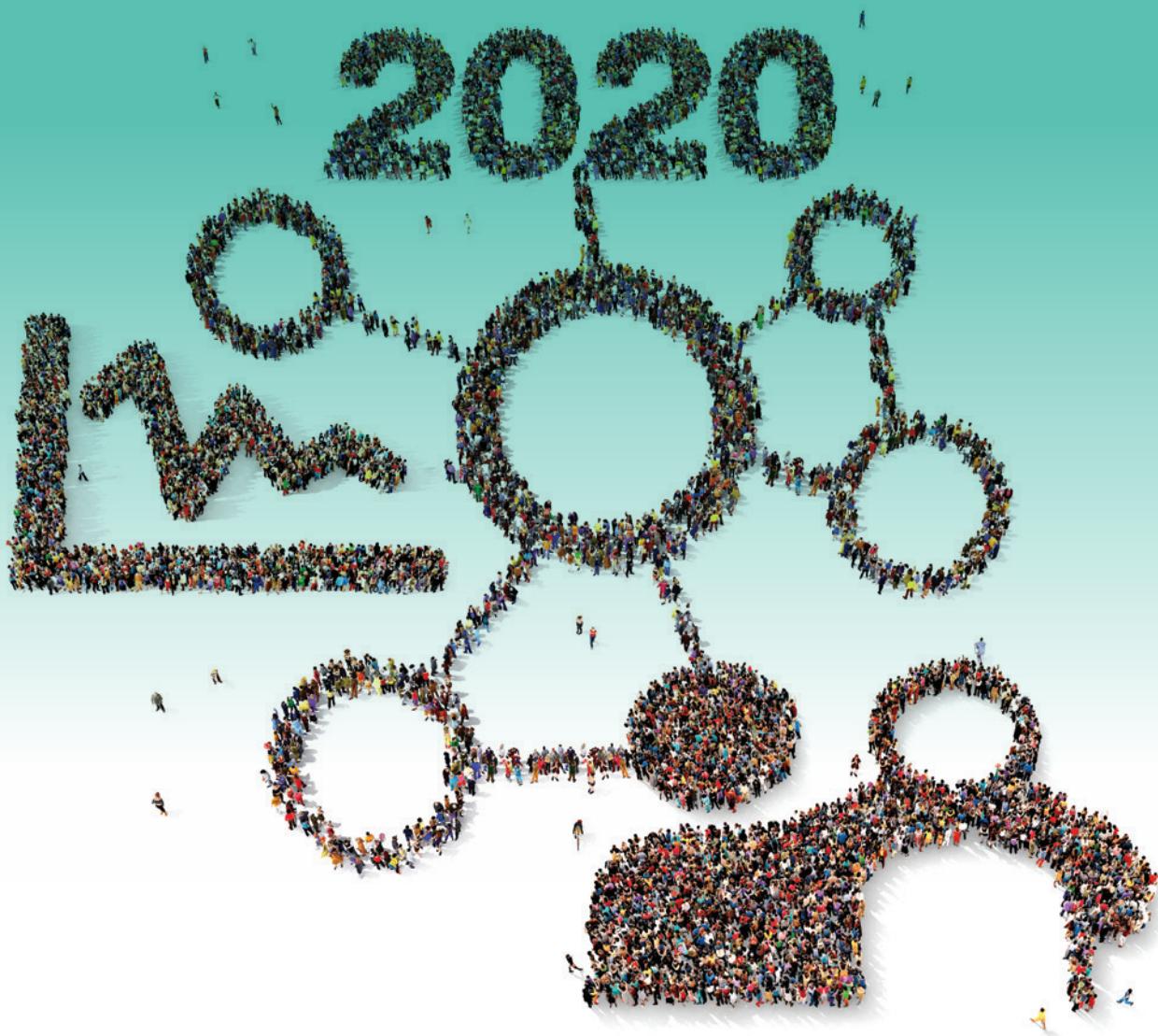




World Health
Organization
REGIONAL OFFICE FOR Europe

EUROPEAN 2018 HEALTH REPORT

More than numbers – evidence for all



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EUROPEAN HEALTH REPORT

2018

More than numbers – evidence for all



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Abbreviations

BMI	Body mass index
CAESAR	Central Asian and Eastern European Surveillance of Antimicrobial Resistance
CAH	Child and adolescent health
CIS	Commonwealth of Independent States
DALY	Disability-adjusted life year
DOH	Directorate of Health
EBP	Evidence brief for policy
EHII	WHO European Health Information Initiative
GDP	Gross domestic product
HBSC	Health Behaviour in School-aged Children
HEN	Health Evidence Network
HFA	Health for All
HLY	Healthy life years
HPC	Health-promoting community
IHME	Institute for Health Metrics and Evaluation
JMF	Joint monitoring framework
NCD	Noncommunicable disease
OECD	Organisation for Economic Co-operation and Development
PoP	Proof-of-principle
RCT	Randomized controlled trials
SDGs	Sustainable development goals
SHIELDS	Synergistic Health in Emergencies Ladder Development Scale
STEPS	STEPwise approach to Surveillance
TB	Tuberculosis
TIP	Tailoring immunization programmes
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States

Abbreviations of country names used in some figures and tables

ALB	Albania	LUX	Luxembourg
AND	Andorra	LVA	Latvia
ARM	Armenia	MAT	Malta
AUT	Austria	MDA	Republic of Moldova
AZE	Azerbaijan	MKD	The former Yugoslav Republic of Macedonia
BIH	Bosnia and Herzegovina	MNE	Montenegro
BLR	Belarus	MON	Monaco
BEL	Belgium	NET	Netherlands
BE-WAL	Belgium (Wallonia)	NOR	Norway
BE-VLG	Belgium (Flanders)	POL	Poland
BUL	Bulgaria	POR	Portugal
CRO	Croatia	ROM	Romania
CYP	Cyprus	RUS	Russian Federation
CZH	Czechia	SMR	San Marino
DEN	Denmark	SPA	Spain
DEU	Germany	SRB	Serbia
EST	Estonia	SVK	Slovakia
FIN	Finland	SVN	Slovenia
FRA	France	SWE	Sweden
GEO	Georgia	SWI	Switzerland
GRE	Greece	TJK	Tajikistan
GRL	Greenland	TKM	Turkmenistan
HUN	Hungary	TUR	Turkey
ICE	Iceland	UKR	Ukraine
IRE	Ireland	UNK	United Kingdom
ISR	Israel	GB-ENG	England
ITA	Italy	GB-SCT	Scotland
KAZ	Kazakhstan	GB-WLS	Wales
KGZ	Kyrgyzstan	UZB	Uzbekistan
LTU	Lithuania		

Foreword by the Regional Director

Shifting towards “evidence for all” to improve health and well-being in Europe



I am pleased to present the *European health report 2018*, the third in a series since Health 2020, the European policy framework for health and well-being, was adopted in the Region. Building on the last two editions of the report in 2012 and 2015, the 2018 report is closely linked to the values and requirements of the WHO Regional Office for Europe's guiding overarching policy, Health 2020. Having crossed the half-way point of the implementation period of Health 2020, this report now reflects on the effect that it has had on the Region, and outlines aspects that may be unfinished by 2020 and beyond.

Just like its predecessors, the 2018 *European health report* is an essential resource for the 53 Member States to report on progress towards the Health 2020 targets. Trends for the Health 2020 indicators are presented as well as lessons learnt from the Region on how the Regional Office and the Member States have taken effective public health action to improve the health and well-being of their populations. The report 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 to measure health and well-being in cultural and subjective contexts, and therefore give a fuller picture of Health 2020 implementation. This is particularly important in the new context of the Agenda 2030 and the sustainable development goals whose health indicators overlap significantly with Health 2020.

Member States have taken active steps to align their policies with Health 2020. This has put the core ideals of “fairness, sustainability, quality, transparency, accountability, gender equality, dignity and the right to participate in decision-making” at the centre of public health policy-making in the WHO European Region. This report gives an overview of the ground-breaking work that is underway to develop a broader approach to monitoring and reporting precisely on those core values, both quantitatively and qualitatively as well as outlining reporting strategies.

The *European health report* is a flagship publication that is published once every three years. Its assessment of the available data across all six

Health 2020 targets reveals positive developments as well as areas that need intensified public health action in our Region.

The 2015 report responded to the challenges that were identified in measuring and reporting on progress towards Health 2020, particularly in relation to measuring well-being, by outlining a two-pronged approach towards a vision for harmonized and integrated health information systems in Europe. It recognized the significance of smarter use of information from social sciences and medical humanities, making a case for new evidence for the needs of health and well-being policies in the 21st century. On the other hand, it outlined the importance of the WHO European Health Information Initiative for continued coordination of efforts in the area of health information by WHO, the Members States, international organizations and other stakeholders.

With the advent of the sustainable development goals, WHO increased its focus on new sources of qualitative evidence which can complement traditional health statistics to describe and monitor key Heath 2020 concepts: well-being, community resilience, community empowerment, life-course approach, and whole-of-society approach. I am pleased that this pioneering work by my office has made further progress and is taking practical steps to put into practice the vision of the European Member States for a fuller, more complete monitoring of the values-driven public health policy-making under Health 2020.

But population health monitoring is not only the analysis of data and indicators alongside qualitative and new sources of evidence; ensuring that health information is effectively used in the policy-making process is equally important. In the past three years, the European Region has experienced a continued

increase in the activities across the full spectrum of these two aspects of the work. The Member States defined a further strategic approach for a concerted regional action in health information, by adopting the European Action plan to improve the use of evidence, information and research in policy-making in the European Region, in 2016. This is the first of its kind, and it mandated WHO's European Health Information Initiative as its implementing mechanism. This initiative has not only grown exponentially in membership in recent years but has also demonstrated that international coordination and alignment of health information stakeholders can achieve significant results despite the complexity and number of projects, international and national efforts, and diverse policy goals and instruments.

The ambitions of the action plan are clear; health information, health research and knowledge translation must be aligned and mainstreamed into health policy-making. These three key elements, if designed well, can further interlink to provide the high quality and relevant evidence required to advance meaningful public health action. Key opportunities and challenges for achieving effective interlinkage of these systems are identified in this report. Ultimately, public health policy relies on information and evidence from other sectors, and policy-makers are increasingly taking intersectoral action for health. In this context, such interlinked information systems for health focus on the use of information in decision-making for health, building on the foundation of solid and reliable health information systems while taking a broader approach that includes data from non-health sources and technology, such as promoting innovation and the use of affordable applications for eHealth¹, telemedicine, m-health and e-learning, and respond to the increased digitization of the individual's personal life and work environments.

¹ The terms eHealth and digital health are used interchangeably in this report, reflecting their evolution and the discussion among Member States at the 71st World Health Assembly.



Primarily, the *European health report 2018* aims to show progress at the regional level which has been achieved through the implementation of Health 2020. However, I am confident that this report will also prove to be a useful information source for policy-makers throughout the Region, helping them identify areas that need further assessment and policy action at the national level. I hope it will inspire Member States and other stakeholders to join and contribute to the work under the umbrella of the WHO European Health Information Initiative; a collaboration between the WHO Regional Office for Europe, European institutions and Member States, aimed at improving the information that underpins policy. Only through broad international cooperation and bold strides in the way evidence is used in the 21st century will evidence fully inform health policy-making through intersectoral efforts, and by bringing data and information into the discussions with local communities.

It is personally satisfying to see the transformative effect that Health 2020 has had on the health of the Region, the work of my office and on policy-making in the Region, having also in many ways been ahead of its time. This is also

evident in Health 2020's continued relevance and complementarity to the sustainable development goals, and I am confident that these aspects of Health 2020 especially will continue in the regional health policy-setting agenda beyond this policy framework's end in 2020. For example, the Health 2020 targets and indicators have proven to be aligned with, and contribute significantly to the joint monitoring framework for reporting on indicators for the sustainable development goals, Health 2020 and the Global action plan for the prevention and control of noncommunicable diseases, that is currently in consultation in the Region and will be proposed for adoption at the upcoming Regional Committee in September 2018. The European Region's Members States have in many ways been trailblazers in supporting and defining a vision for a truly forward-looking principle of information systems for health, thus making data, information, research and evidence count for all of us – ensuring the availability of "evidence for all".

Zsuzsanna Jakab
WHO Regional Director for Europe

01

OVERVIEW



Health situation in the European Region

The European Region has passed the half-way point of Health 2020's implementation period. The majority of Member States have taken action to adopt and implement its principles and approaches to improve the health and well-being of citizens.

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

Alcohol consumption, tobacco use and overweight and obesity remain major public health problems in the European Region, with rates of alcohol consumption and tobacco use being the highest globally. WHO estimates of the prevalence of overweight and obesity show a rise in almost all Member States.

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

The gaps between the highest and lowest country values reported in the Region for the Health 2020 indicators linked to social determinants of health – infant mortality, life expectancy, primary school enrolment, and unemployment – have become smaller over time. Preliminary data suggest that this trend is continuing. Despite this positive trend, the absolute differences between countries remain large.

In 2014, the level of out-of-pocket payments was below the 15% threshold for strong financial protection in only 25% of Member States.

Capturing the Health 2020 core values

By adopting Health 2020, Member States explicitly put the core ideals of "fairness, sustainability, quality, transparency, accountability, gender equality, dignity and the right to participate in decision-making" at the centre of public health policy-making in the WHO European Region, almost pre-empting the value-base of the sustainable development goals (SDGs).

This values-based approach to public health, advocates people-centred health systems, promotes health throughout the life-course, and strives to achieve equity and health for all. Such

a shift has inevitably challenged traditional, quantitative methods of gathering evidence, such as routine health information or household survey data, which are not well placed to capture subjective experience.

WHO European Region Member States have recognized that painting a fuller picture of Health 2020 implementation, and reporting meaningfully and holistically on the full breadth of the health-related SDGs, requires a broader approach to monitoring and reporting. To this end, WHO has begun systematically exploring the Health 2020

values and prioritizing key concepts for which to develop both quantitative and qualitative measurement and reporting strategies.

With the help of an expert group, several priority concepts from the Health 2020 values were identified for measuring, based on some agreed-upon principles. In addition to well-being, these were community resilience, community empowerment, a life-course approach, and a whole-of-society approach.

To enhance the measurement and reporting of these concepts, it is important to consider expanding the evidence base to systematically include research from the humanities and social sciences, with a focus on mixed-methods research into the social and cultural drivers of health and well-being. Qualitative approaches from the humanities and social sciences are uniquely positioned to reveal truths beyond hard numbers and can provide valuable insights on the more intangible drivers of health and well-being.

There are a number of challenges when it comes to both measuring and reporting on well-being. Although there is an increasing interest among European Member States in capturing objective and subjective well-being data, the availability of such data continues to be variable across the Region. Another important limitation of the quantitative approach that dominates well-being measurement is the fact that the concept is shaped by cultural factors, such as values, traditions and beliefs. A better, more qualitatively informed understanding of the cultural contexts of health can therefore improve the monitoring and comparability of well-being indicators across a culturally diverse region and help governments design and implement health policies that reflect the needs of particular communities.

Monitoring community resilience brings into focus the individuals who constitute a community (such as the informal community leaders), the formal and informal networks, and the hierarchies that exist at different levels within the local area. Importantly, however, for a measurement framework on resilience to be truly comprehensive, the analysis of meta-data across dimensions would need to be supplemented with qualitative participatory case studies to support the engagement of communities facing marginalization or high levels of adversity.

In the context of Health 2020, empowerment is the means through which people can gain greater control over decisions and actions affecting their health. Empowering people is one of Health 2020's priority areas. Although the concept of empowerment has been well studied, it is still difficult to measure and implement, and mixed-method approaches are required for a deeper understanding of the social and political dynamics through which empowerment is achieved.

Beyond just reporting on Health 2020, further efforts need to be made across the whole of WHO to consistently incorporate a mixed-methods approach into its reporting outputs, particularly at the country level. For any public health agency to be able to convince its stakeholders of the importance and validity of its data, the analysis has to be contextualized using evidence from a wide range of quantitative approaches.

These new forms of evidence will help create a more holistic understanding of health and well-being in the 21st century, and will also equip the Regional Office to support its Member States to better report on, and implement, the SDGs.

Defining the vision for harmonized and interoperable information systems for health for Europe

Reliable and timely health information is the foundation of effective public health action, working towards the goal of universal health coverage. It is imperative for countries aiming to use their limited resources wisely. Data and information are needed to inform policy decisions, in the design of programme interventions, and for monitoring and evaluation, but they may be unavailable or not fit for purpose. The rapid provision of reliable information is equally key to dealing with emergent diseases and other acute health events, ultimately saving lives.

There are three key elements that, if designed well, interlink to provide the high quality and relevant evidence required to advance meaningful public health action. These are health information, health research and knowledge translation.

WHO and its Member States are working, through its European Health Information Initiative (EHII), to encourage harmonized and interoperable information that will underpin sustainable change and achieve the goals of Health 2020 and the SDGs, thus enhancing health by improving the information that underpins policy.

Information systems for health focus on the use of information in decision-making for health, building on the foundation of solid and reliable health information systems while taking a broader approach that includes data from non-health sources and technology, such as promoting innovation and the use of affordable applications for digital health², telemedicine, m-health and e-learning. They pro-

vide a national – rather than a health – perspective, and involve other sectors (e.g. educational, economical) in relation to health in all policies.

There is widespread acknowledgement of the importance of having strong health research processes that drive national health systems towards equity and improved health. At the same time, it is understood that health research in many countries does not currently fulfil its potential. In the European Region, WHO has therefore commenced work to support countries in assessing their national health research systems, developing national strategies to strengthen the production of local evidence for local decision-making, and optimizing current interventions.

To increase its societal value and usability, research needs to be designed strategically to align with contemporary public health policy priorities. In addition, systematic reviews aid the assimilation of what is already known, enabling the better use of existing research findings.

Evidence-informed, rather than *evidence-based*, health policy acknowledges that policy-making is an inherently political process in which research evidence is only one, albeit the most important, factor that influences decision-making. Scientific evidence often has to compete with beliefs, personal interests, political considerations, traditions, past experience, and financial constraints.

WHO's work to strengthen country capacity by bridging the research–policy gap is conducted

² The terms eHealth and digital health are used interchangeably in this report, reflecting their evolution and the discussion among Member States at the 71st World Health Assembly.

primarily through the Evidence-informed Policy Network (EVIPNet). Its overarching model is that of integration, which combines various components of push, user-pull and exchange, acknowledging that the different approaches are not mutually exclusive nor meant to be considered in isolation.

The mechanisms that strengthen the three key systems – health information, research and knowledge translation – align with the implementation of the Action plan to strengthen the use of

evidence for policy-making adopted by the WHO European Region Member States in 2016. These systems should be better integrated and coordinated to reach their full potential for transforming health and well-being outcomes.

The EHII is the platform for the coordination of health information, research and knowledge translation throughout the WHO Region but systemic links need to be further enhanced and the Action plan to strengthen the use of evidence for policy-making more strategically implemented.

The unfinished agenda beyond 2020 – what do we need to do next?

Health 2020, the European policy framework for health and well-being, has been a catalyst for strengthened public health action in the European Region. It has also brought the use of information and evidence to the forefront of European public health thinking and policy-making through its accountability mechanism, the Health 2020 targets and indicators. It is well-aligned with Agenda 2030 and the SDGs.

Health 2020 also placed new emphasis on measuring health and well-being instead of merely focusing on the measurement of death, disease and disability. This accords with the WHO definition of health as not merely the absence of disease and infirmity but physical, social and mental well-being.

This reflected a paradigm shift in the approach to public health and was facilitated by the introduction of the cultural context of health in the Regional Office's work, the increased use of qualitative information and reporting using new kinds of evidence from the medical humanities, includ-

ing narratives, and the establishment of a unique multipartner EHII to coordinate and harmonize health information in the Region.

These developments are absolutely critical if the European Region is serious about reducing health inequalities and reporting on them. Reducing inequalities in health requires not only strong information systems for health at the country level but an increased use of information and evidence for policy-making.

At the same time demands for action in public health are becoming more and more intersectoral, thus also necessitating intersectoral measurement and reporting.

While societies demand higher levels of transparency for health information and the way it is used for policy-making, national authorities face increasingly stringent data privacy and protection laws. The use of local data for local decision-making, however, is highly desirable and a key element of the implemen-

tation of the Action plan to strengthen the use of evidence for policy-making in European countries.

Quantitative data, including on mortality, morbidity and disability, remain at the core of health reporting and are absolutely essential when assessing the health of a population. They do not, however, explain the full picture and describe the “what” and “how much”, rather than explaining “why” certain trends are observed.

More serious thought needs to be given to the communication of health information, far beyond the use of images or infographics. This may involve story-telling techniques and face-to-face meetings with local communities about their health experience. Such efforts would lead to a demystification of statistics into actual knowledge used by all, thus creating a new paradigm of “evidence for all”.

02

HEALTH SITUATION IN THE EUROPEAN REGION



Introduction

The European Region has passed the half-way point of the Health 2020 implementation period. In this chapter we assess the extent to which progress has been made towards the targets as defined in the Health 2020 monitoring framework. It provides an overview of progress made by the Member States towards reaching the Health 2020 targets (1) at the regional level in relation to the agreed 2010 baseline. The Health 2020 monitoring framework (Annex 1) is the backbone of this report. It has three main components: burden of disease and risk factors; healthy people, well-being and determinants; and processes, governance and health systems (1). Each area is linked to one or more targets (six in total). There are 19 core indicators and 18 additional indicators by which to measure progress on the six targets. The narratives, information and data illustrations in this chapter are organized numerically according to the Health 2020 main targets and indicators. This introduction provides a very brief summary of progress made on the Health 2020 targets but a more detailed overview is provided by target in the following sections of this chapter.

Among the many monitoring frameworks in operation in the European Region, there are three main frameworks which overlap to a significant degree: the 17 sustainable development goals (SDGs) which are part of the comprehensive Agenda 2030 (2) framing global sustainable development; the Global action plan for the prevention and control of non-communicable diseases 2013–2020 (3); and the European regional health policy framework Health 2020 (4, 5).

Measuring the impact of these commitments constitutes a vital part of the evidence-informed health policy-making cycle in the Region. It reflects the importance of setting goals and using

monitoring frameworks to focus the generation of evidence, and enables measurement of change in health and well-being and impact of policy over time. In order to address concerns raised by Member States on the high burden of reporting requirements to WHO and other international bodies, the Member States at the 67th session of the Regional Committee for Europe (RC67) agreed to adopt a joint monitoring framework (JMF) for reporting on indicators for the SDGs, Health 2020 and the Global action plan for the prevention and control of noncommunicable diseases, through the endorsement of Resolution EUR/RC67/R3 (6) in September 2017. The Division of Information, Evidence, Research and Innovation at the WHO Regional Office for Europe therefore established an expert group to propose a common set of indicators for the JMF. A total of 40 indicators were recommended by the group to go forward for a detailed web-based consultation with Member States in the spring of 2018. At the time of writing, this proposal is still in consultation with the Member States and will be proposed for adoption at the 68th Regional Committee for Europe in September 2018.

If adopted, the JMF – with a common set of indicators for the SDGs, Health 2020 and the Global monitoring framework on noncommunicable diseases (NCDs) – will help to reduce the burden of reporting and streamline data collection in the Region. In addition, the JMF will help Member States prioritize data collection efforts and align their national SDG monitoring targets with international monitoring. If adopted, the JMF will also enhance the coverage of international reporting across public health domains.

The Health 2020 framework is the central health policy for the Region, and emphasizes

a whole-of-government, whole-of-society and life-course approach to policy-making. It also calls for the measurement of these new concepts, including community resilience, empowerment and a life-course approach. A rapid and broad uptake of Health 2020 in Member States had already been observed and reported in the previous European Health Reports for 2012 and 2015, just a few years after its inception at the 62nd session of the Regional Committee in 2012 (4).

Over the past few years, the Region has maintained this progress yet is still facing a number of challenges. Premature mortality from the four major NCDs, as well as all-cause (all ages) mortality, including mortality from all external causes, continues to decline in the Region. At the same time, child vaccination rates remain at a high level. However, lifestyle-related indicators such as tobacco smoking rates, alcohol consumption levels, and the high prevalence of overweight and obesity are still presenting major challenges for a number of countries in the Region. There was considerable variation in country rates with large differences in the prevalence of overweight and obesity among adolescents, and across gender. Similarly, there are wide variations between the sexes and between the Member States in premature mortality from the four major NCDs, all-cause (all ages) mortality rates, mortality rates from all external causes and tobacco smoking rates.

Average life expectancy at birth in the European Region increased from 76.7 years in 2010 to 77.9 years in 2015 which is an average annual increase of 0.24 years. The gaps in life expectancy between the sexes and between countries are decreasing. However, the difference in life expectancy between the countries with the highest and lowest life expectancy at birth is still more than 10 years. Therefore, continued monitoring is required to ensure that the consistent improvement of current trends is maintained.

The number of countries that have implemented a policy or strategy to address inequality or social determinants increased from 29 in 2010 to 42 of the 53 countries in the Region in 2016. At the same time, the Region has experienced a significant reduction in infant mortality rates. In 2015, the regional average infant mortality was 6.8 infant deaths per 1000 live births. The Region has made some improvements in the proportion of children of official primary school age that are not enrolled in school, which decreased from 2.6% in 2010 to 2.3% in 2015, yet there is wide variation between countries.

Differences between countries in unemployment rates decreased, but there is still a wide variation. The regional unemployment rate slightly decreased from 8.9% in 2010 to 8.7% in 2015. Similarly, the regional average income inequality (Gini coefficient) has slightly decreased over the last decade from 34.3 in 2004 to 33.7 in 2015.

Considering well-being indicators, the Region has an overall life satisfaction score (subjective well-being indicator) of 6. Some countries have relatively low overall average self-reported life satisfaction scores of 5 or below and other countries, with the highest scores in the world, reach 7.6. Concerning objective well-being indicators, there is a high level of social connectedness in the Region: 81% of the population aged 50 years and above reported that they had social support through family or friends in 2015. However, there is a large variation in reported values that reflects a gradient of social connectedness across the Member States. In contrast, the percentage of people aged 65 years and above who live alone has increased from 29.9% in 2010 to 30.9% in 2016. In 2015, more than 90% of the European population had access to improved sanitation facilities and piped drinking water. Yet there were some inequalities in access between the urban and rural areas, ranging from 93.1% to 100% for

populations in urban areas and from 66.7% to 100% for populations in rural areas.

In relation to indicators on universal health coverage and the right to health, the WHO European regional average total health expenditure as a percentage of gross domestic product (GDP) steadily increased from 6.8% in 2000 to 8.5% in 2009 but then fell slightly and remained static at 8.3% in 2010 and 8.2% in 2014. At the same time, there was an increase in the proportion of private household out-of-pocket expenditure on health between 2010 (25.5%) and 2014 (26.6%).

The regional average maternal mortality rate decreased from 13 deaths per 100 000 live births in 2010 to 11 deaths per 100 000 live births in 2015. Similarly positive, the treatment success rate for new cases of pulmonary tuberculosis (TB) in the Region slightly increased from 74% in 2010 to 77% in 2015. There were, however, large differences in

treatment success rates between the Member States, which ranged from 10% to a maximum value of 100% in 2015.

By 2016, the Region had already made considerable progress in relation to Health 2020 Target 6, with 88.4% of the countries (38 out of the 43 countries in the Region that responded) reporting that they had set targets for health and well-being.

Health 2020 supports the SDGs for health with the social determinants of health and illness addressed through the targets and indicators. Similarly, prevention and control of NCDs and their risk factors are at the heart of Health 2020 policy. Accordingly, by embracing Health 2020 principles and targets, the Member States have put themselves in a strong position to meet both the SDGs of Agenda 2030 and the goals of the Global action plan for the prevention and control of NCDs 2013–2020.

Target 1. Reduce premature mortality in Europe by 2020

Introduction

Since the beginning of the millennium, Europe has maintained a consistent reduction in the risk of premature death from the four major NCDs (cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases) among people aged 30 to 70 years. Similar progress has also been made in relation to all-cause mortality rates. In fact, a 2017 review of progress has established that the WHO European Region is likely to achieve SDG Target 3.4 earlier than 2030, and will most probably exceed it significantly (7).

The most recent data, reported for 2014, reveal that Europe has been making clear progress over recent decades in reducing premature mortality from NCDs. Yet, there is a need to sustain this progress in order to reach the target. Similar progress was made in all-cause (all ages) mortality rates but there are large inequalities in mortality rates in Europe between the sexes, and between countries.

Tobacco smoking rates present a challenge for Europe as rates for the adult population are the highest of the six WHO regions though the figures varied between countries and age groups. Similarly,

despite the decreasing trend of alcohol consumption in the Region, levels of consumption among the adult population are still the highest in the world which poses a threat to population health. Differences in the levels of alcohol consumption between countries remain large.

The prevalence of overweight and obesity among adults in the European Region is high and on the rise. In most countries in the Region, the prevalence of overweight was higher among men, while the prevalence of obesity was higher among women. On the other hand, the reported prevalence of over-

weight and obesity among adolescents varied between genders, countries and age groups.

Child immunization coverage has increased since the year 2000. Nevertheless, vigilance is needed as differences between countries persist. In 2015, several countries still had vaccination rates below 90%.

There is a steady decline in the average regional mortality rates from all external causes and injuries. However, there were very wide inequalities in the death rates between the sexes and between countries.

Box 2.1. Health 2020 Target 1 and indicators

Target 1 “Reduce premature mortality in Europe by 2020” aims to reduce premature mortality related to noncommunicable diseases, selected vaccine-preventable communicable diseases and external causes.

This Health 2020 target has two quantifications, each measured with one or more core indicators:

- A 1.5% relative annual reduction in overall (four causes combined) premature mortality from cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases by 2020.
- Achieved and sustained elimination of selected vaccine-preventable diseases (poliomyelitis (polio), measles and rubella) and prevention of congenital rubella syndrome.

The core indicators are:

1. Age-standardized overall premature mortality rate (from 30 to under 70 years old) for four major noncommunicable diseases.
2. Age-standardized prevalence of current (includes both daily and non-daily or occasional) tobacco use among people aged 18 years and over.
3. Total (recorded and unrecorded) per capita alcohol consumption among people aged 15 years and over within a calendar year (litres of pure alcohol).

Box 2.1 contd.

4. Age-standardized prevalence of overweight and obesity in people aged 18 years and over (defined as a body mass index (BMI) $\geq 25 \text{ kg/m}^2$ for overweight and $\geq 30 \text{ kg/m}^2$ for obesity).
5. Percentage of children vaccinated against measles (one dose by second birthday), polio (three doses by first birthday) and rubella (one dose by second birthday).
6. Age-standardized mortality rates from all external causes and injuries.

There are a number of additional indicators for this target:

1. Standardized mortality rate from all causes.
2. Prevalence of weekly tobacco use among adolescents.
3. Heavy episodic drinking (60 g of pure alcohol or around six standard alcoholic drinks on at least one occasion weekly) among adolescents.
4. 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).
5. Age-standardized mortality rates from:
 - a. motor vehicle traffic accidents
 - b. accidental poisoning
 - c. alcohol poisoning
 - d. suicide
 - e. accidental falls
 - f. homicides and assaults.

Box 2.2. WHO STEPwise approach to Surveillance (STEPS) in Europe

Surveillance of the main noncommunicable diseases (NCDs) and their risk factors is essential for policy-making, including planning, monitoring and assessing the impact of specific interventions and policies to limit the negative effects of NCDs. An important challenge for NCD monitoring is the multiplicity of behavioural and biological risk factors involved and the difficulties for their capture by traditional surveillance systems. The WHO STEPS survey is an internationally comparable, highly standardized, integrated tool that European countries are implementing for the surveillance of NCD risk factors (8). STEPS survey data are helping policy-makers and health professionals to determine the national prevalence and patterns of risk factors, allowing them to define policies and programmes for the prevention and control of NCDs. The repeated utilization of survey data also enables countries to monitor trends and evaluate the effectiveness of public health and health care management interventions. The STEPS survey implementation allows them to further develop their national capacity for NCD monitoring and surveillance, thereby meeting several of the United Nations time-bound targets for improving capacities and response to these diseases.

STEPS collected data, in many cases for the first time, on tobacco use, harmful use of alcohol, unhealthy diet, insufficient physical activity, overweight and obesity, raised blood pressure, raised blood glucose, abnormal blood lipids and average population salt/sodium intake. WHO has sponsored and technically supported the implementation of 11 STEPS surveys in eastern European and central Asian countries. In addition, other countries have plans to complete STEPS survey for the first time, while Azerbaijan, Kyrgyzstan, Republic of Moldova, Turkmenistan and Uzbekistan will conduct a second round in 2017–2018. Overall, by the end of 2018, these surveys will have included more than 40 000 people aged 18 to 69 years, who have been interviewed, physically measured and their blood and urine chemically examined, thus increasing NCD surveillance to cover nearly 200 million people in Europe (approximately 25% of the population of the WHO European Region).

To date, results from these surveys have shown high levels of different behavioural and biological clusters of three to five risk factors among individuals, which tend to be more common among men than women, and increase rapidly with age. These results call for increasing preventive policies and measures to reduce such factors at the population level. In addition, other health care-related results also helped to determine whether people with raised blood pressure, sugar and cholesterol levels know of their situation, are on treatment and effectively managed. In general, less than 30% of those with raised physical and biochemical levels are on specific medication. Furthermore, between 10 and 20% of people aged 40 years and over have a 30% or higher cardio-metabolic risk score of having an acute myocardial infarction or stroke in the next 10 years. However, over half of them are already on treatment or receiving counselling to reduce their risk of such events. This means that health care systems are already working to reduce the occurrence of disease by tackling the needs of high-risk individuals, although there is still room to further improve health care management.

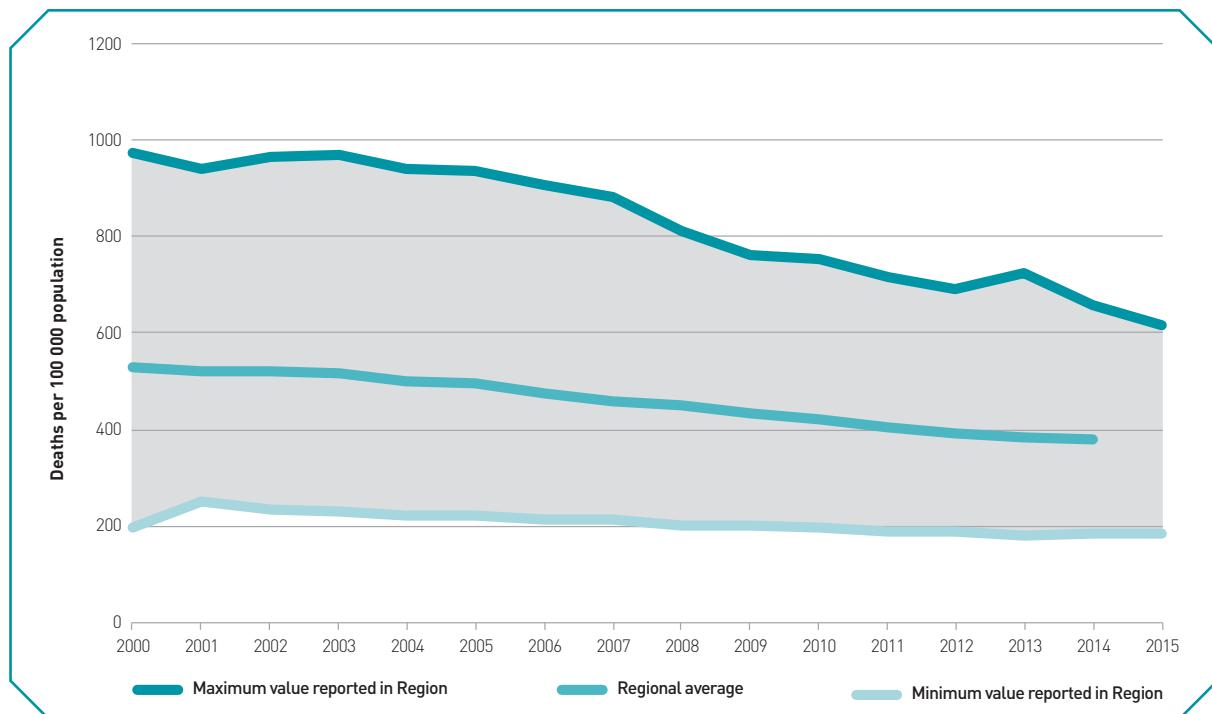
Summary of progress: Reduction of premature mortality from the four major NCDs

Europe needs to sustain progress made so far to reach the target

In 2014, the age-standardized overall premature mortality rate for the four major NCDs (cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases) in the WHO European Region was 379 per 100 000 (see Fig. 2.1).

This is lower than the reported baseline regional average in 2010 of 421 per 100 000. This represents an average annual reduction of around 2% between 2010 and 2014 which indicates that the WHO European Region is on track to achieve the policy target of a 1.5% relative annual reduction in overall premature mortality from the four major NCDs by 2020. With available data from only 40 countries in the Region for 2014, however, this should be regarded as a preliminary estimate, which will need to be assessed again once the remaining data are received.

Figure 2.1. Age-standardized overall premature mortality rate (from 30 to under 70 years old) for four major noncommunicable diseases (cardiovascular diseases, cancer, diabetes mellitus and chronic respiratory diseases), deaths per 100 000 population



Source: Health for All database on the WHO European Health Information Gateway (9).

Note: The European regional average is calculated for those years when more than 26 countries (50% of 53 Member States) reported in that year. See Annex 2 for detailed notes.

There is a wide variation in the age-standardized overall premature mortality rates for the four major NCDs between the sexes and across the Member States. The average regional rate in 2014 was still much higher for males (524 per 100 000) than for females (255 per 100 000). In the same year, the rates ranged from 211 per 100 000 in the Nordic countries to 618 per 100 000 in the countries of the Commonwealth of Independent States (CIS). These differences are even more pronounced at the country level where there is a very wide variation between the maximum (656 per 100 000) and minimum (183 per 100 000) age-standardized premature mortality rates reported for 2014.

Caution is needed, however, in interpreting trends in the maximum and minimum age-standardized premature mortality rates because these represent the highest and lowest values reported in the Region in a given year. They may be, in some cases, influenced by gaps or delays in national reporting.

Continued decline in all-cause mortality rates in Europe with a wide variation between gender and countries

An additional indicator for this target is the overall age-standardized mortality rates (1) from all causes (all ages). This continued to decline in the WHO European Region, reaching 715 deaths per 100 000 in 2015 (see Fig. 2.2). It is lower than the reported baseline regional average in 2010 of 786 per 100 000, and much lower than the mortality rate reported at the beginning of the millennium (in 2000) of 949 deaths per 100 000 (see Fig. 2.2).

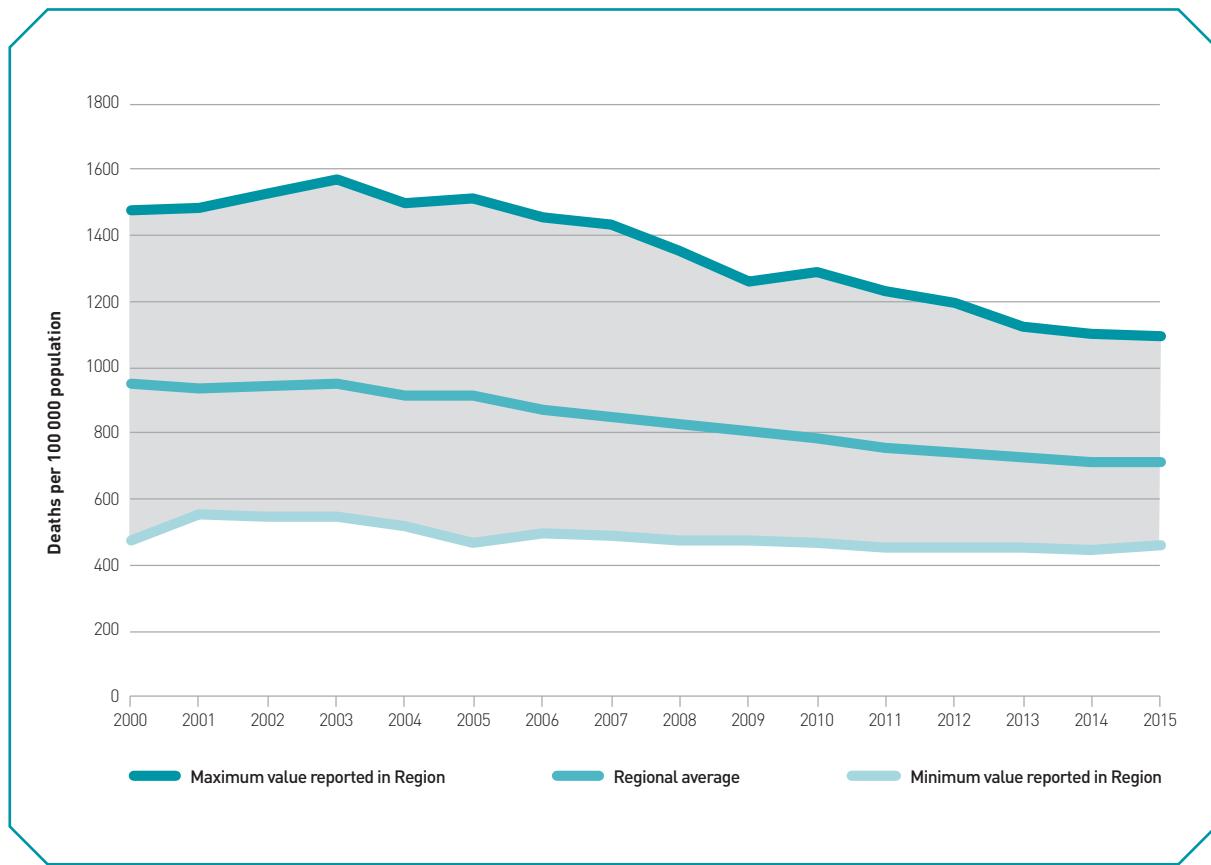
However, as for the previous indicator, complete data are not available as only 27 countries reported data for 2015. Therefore, mortality rates might change once more data are received.

As for premature mortality rates, there is a wide variation in all-cause, all-age mortality rates between the sexes and across the Member States.

The gender gap for this mortality indicator has steadily reduced since 2000. Yet, the latest available data (2015) show that the regional average mortality rate for males (930 per 100 000 population) is still higher than for females (551 per 100 000).

Similarly, there is a very wide variation in age-standardized mortality rates from all causes (all ages) between the Member States. The reported maximum and minimum mortality rates were 1095 per 100 000 and 460 per 100 000 in 2015 (see Fig. 2.2).

Figure 2.2. Age-standardized mortality rate from all causes, all ages, deaths per 100 000 population



Source: Health for All database on the WHO European Health Information Gateway (9).

Note: The European regional average is calculated for those years when more than 26 countries (half of the 53 Member States) reported in that year. See Annex 2 for detailed notes.

Tobacco smoking rates present a main challenge for the Region

A core indicator for this target is age-standardized prevalence of current tobacco use among people aged 18 years and over (1). “Tobacco use” is defined as including cigarettes, cigars, pipes or any other tobacco products. “Current use” includes both daily and non-daily or occasional use. However, the definition applied in the source from

which the data in this subsection were taken is not completely identical (tobacco “smoking” instead of tobacco “use” and in people aged 15 years and over instead of in people aged 18 years and over).

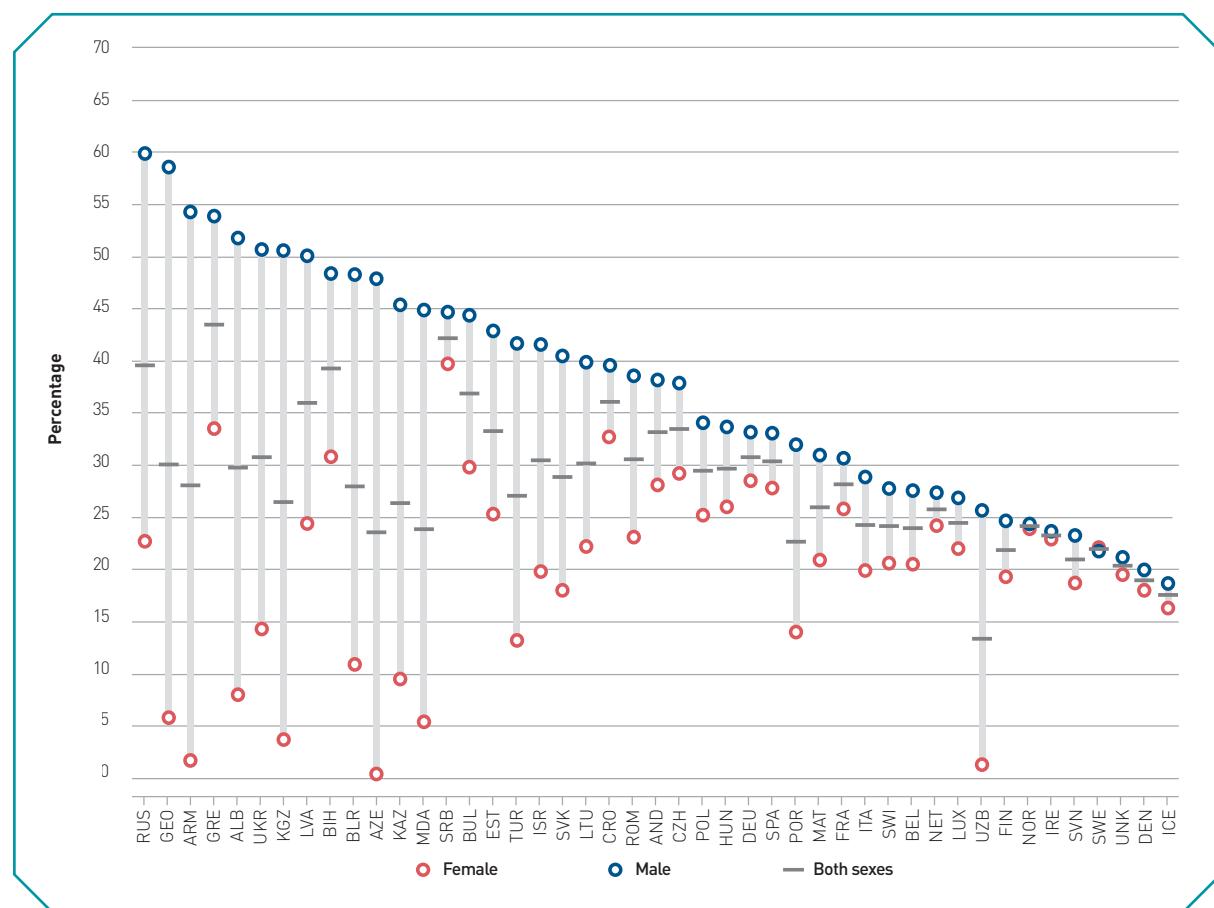
It should be noted that the data presented here are WHO estimates, and not official statistics reported by countries to WHO (10). WHO uses standard methods to calculate estimates to maximize cross-country comparability. These data

may therefore differ from the official statistics of Member States (10).

WHO estimates (based on data from 45 countries) show the age-standardized prevalence of current tobacco smoking among people aged 15 years and above was 29% in 2013.

The prevalence of tobacco smoking in 2013 among males (38.5%) was higher than that for females (20.7%). The highest and lowest national rates for smoking any tobacco product were 59.8% and 18.6% among males and 39.7% and 0.4% among females (see Fig. 2.3). These estimates are the highest of the six Regions of WHO.

Figure 2.3. Age-standardized prevalence of current tobacco smoking among people aged 15 years and over (WHO estimates) (%), 2013



Source: Health for All database on the WHO European Health Information Gateway (9).

Note: Data unavailable for eight countries (AUT, CYP, MON, MNE, SMR, TJK, MKD, TKM).

Prevalence of weekly tobacco use among adolescents: Large differences between countries, age groups and gender

Another additional indicator for this target is the prevalence of weekly tobacco use among adolescents. “Tobacco use” includes cigarettes, cigars, pipes or any other oral tobacco and snuff products (1).

Data from the Health Behaviour in School-aged Children (HBSC) study have been used in this subsection.

According to that study (11), on average, only 1.6% and 0.7% of male and female 11-year-olds in the Region reported in 2014 that they smoked at least once per week. However, the percentages increased to 4.2% and 3.7% among male and female 13-year-olds. These values varied between countries and between age groups (see Fig. 2.4–2.5).

Among 11-year-olds, the highest smoking rates in the Region were 9% for males and 2–3% for females, respectively, in Greenland and Israel (see Fig. 2.4), and the lowest smoking rates were 0% for both sexes in England, Finland, Greece, Iceland, the Netherlands, Scotland, Slovenia, Spain and Sweden (see Fig. 2.4).

Similarly, for 13-year-olds, the highest smoking rates in the Region were in Greenland: 15% for males and 25% for females (see Fig. 2.5), and the lowest smoking rates were 1% for males in Sweden and 0% for females in Norway and Armenia (see Fig. 2.5).

Box 2.3. Health Behaviour in School-aged Children study

The Health Behaviour in School-aged Children (HBSC) is a WHO collaborative cross-national study which, for over 30 years, has collected data providing insight into European adolescents' well-being, behaviour and social context. The survey began in three countries and is currently conducted in 42 countries, covering four out of every five Member States (79%) in the European Region. The latest international report, launched in 2016, remains the most downloaded report on the Regional Office's website. Data from the HBSC is available via the European Health Information Gateway (<https://gateway.euro.who.int/en/datasets/hbsc/>).

Country orientations organized by the WHO Regional Office for Europe, in coordination with the HBSC study centre, have increased regional momentum by connecting researchers with national stakeholders trying to collect systematic data to inform policies and programmes affecting adolescents. Armenia shared their experience of adopting the survey and their efforts to support adoption of the HBSC in central Asian countries in a recent story published online (13). Five countries are in the process of adopting the HBSC survey.

Member countries of Health Behaviour in School-aged Children (HBSC) in 2018

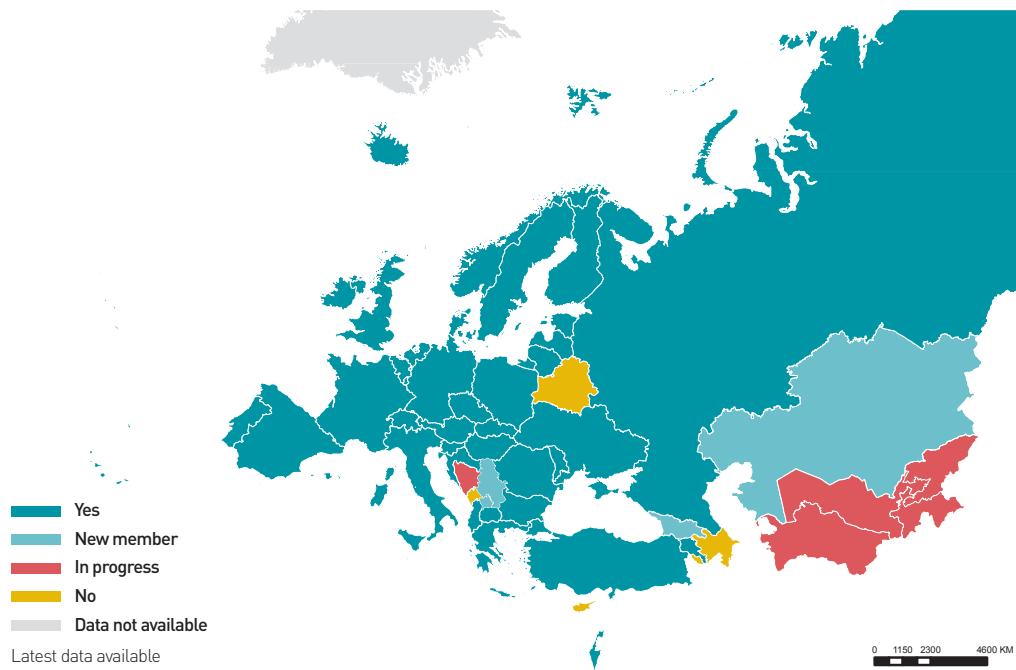
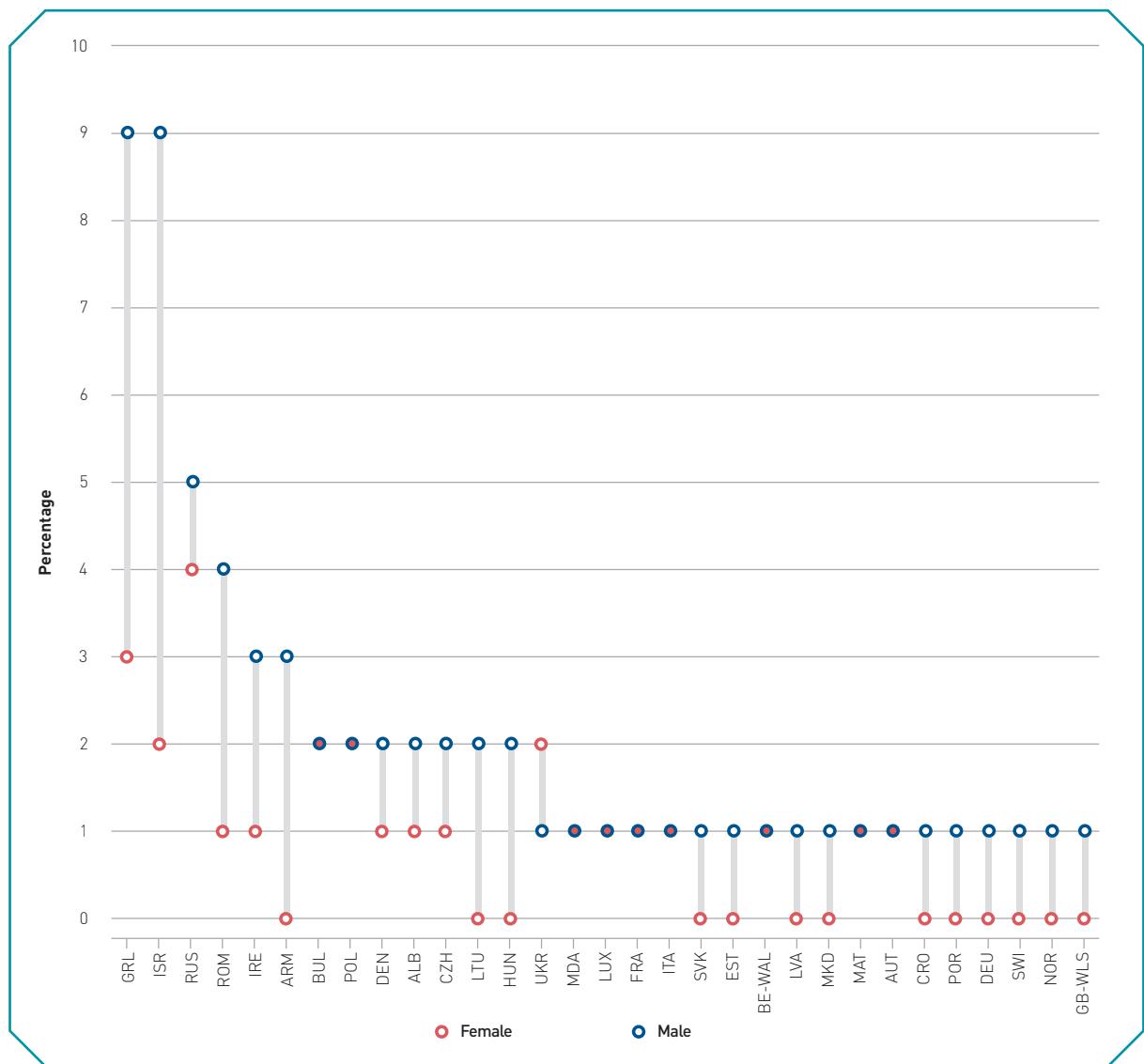
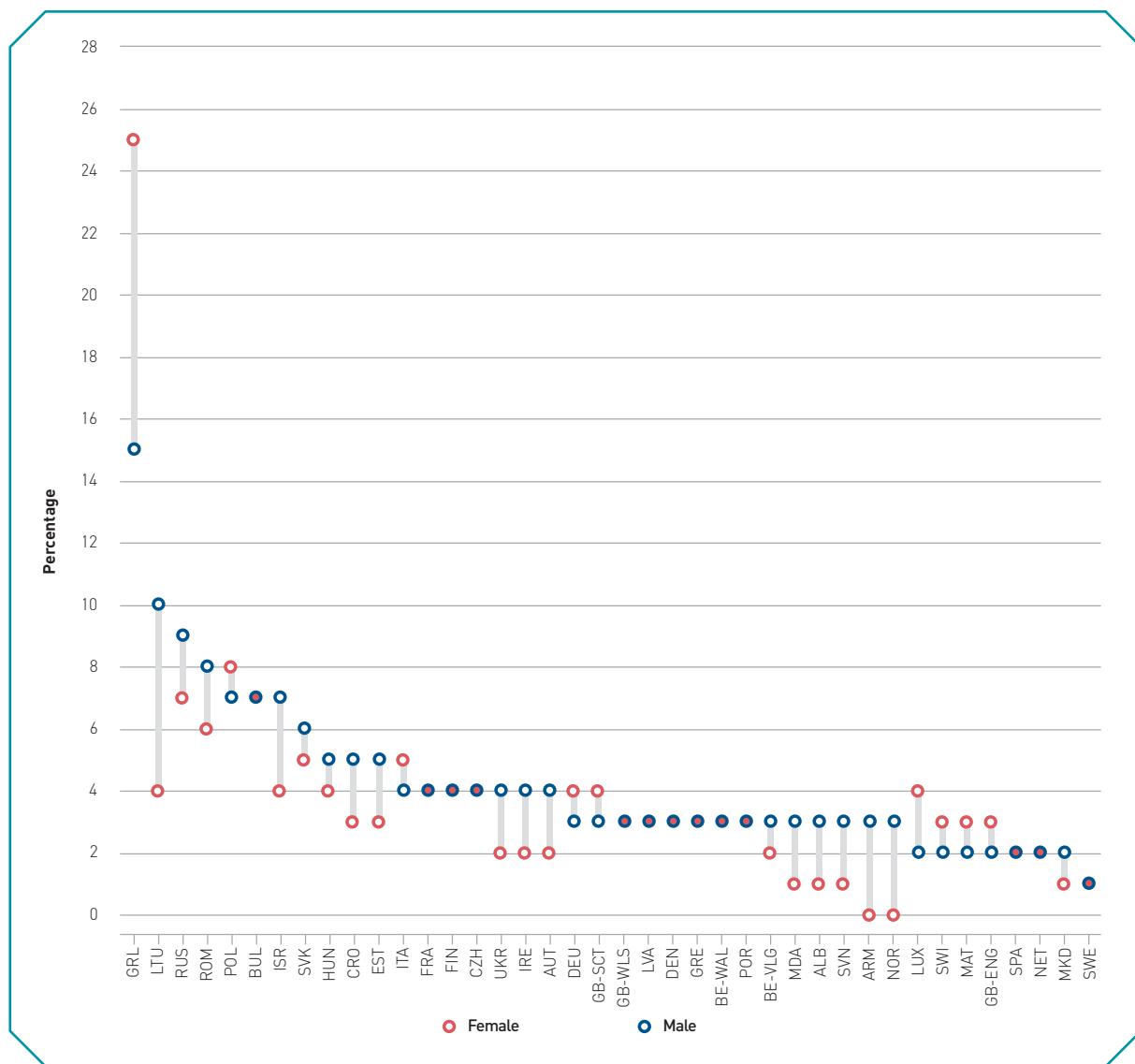


Figure 2.4. Prevalence of weekly tobacco use among adolescents (proportion of young people who smoke at least once a week), 11 years old, by sex, 2014



Source: HBSC data on the WHO European Health Information Gateway (12).

Figure 2.5. Prevalence of weekly tobacco use among adolescents (proportion of young people who smoke at least once a week), 13 years old, by sex, 2014



Source: HBSC data on the WHO European Health Information Gateway (12).

Heavy episodic drinking among adolescents varies greatly between countries in the Region

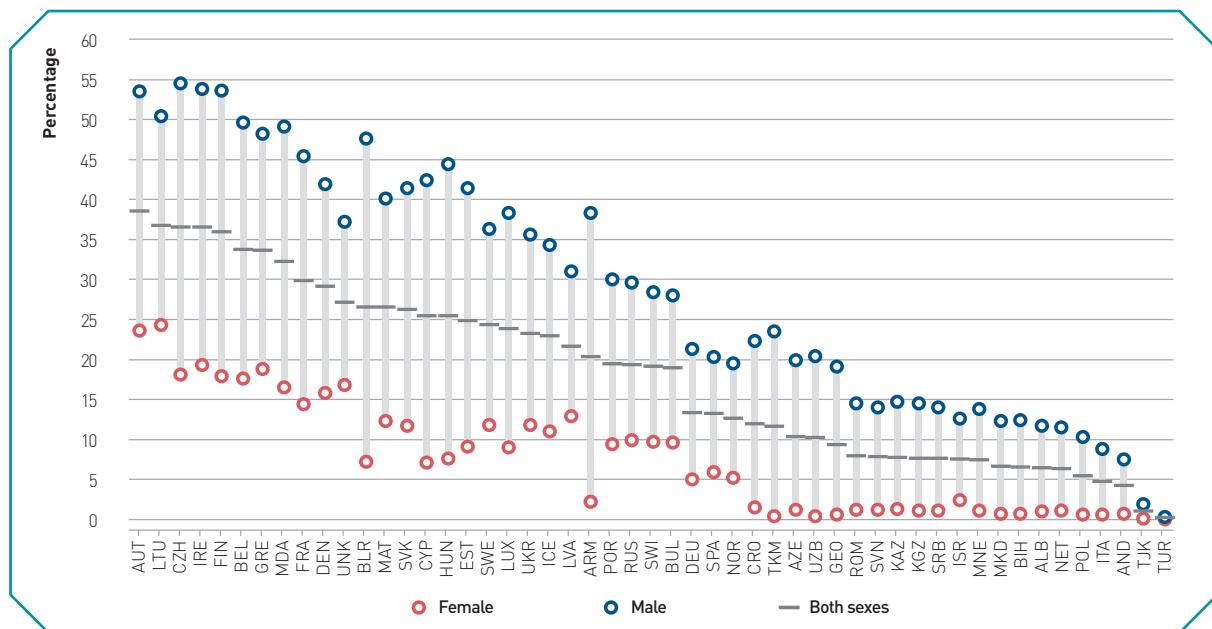
Another additional indicator for this target is the heavy episodic drinking (60 g of pure alcohol or around six standard alcoholic drinks on at least one occasion weekly) among adolescents (15 years and over) (1).

However, due to data availability, WHO estimates (14) for heavy episodic alcohol drinking in the past 30 days have been used here. Accordingly, age-standardized heavy episodic drinking is defined for the purposes of this subsection as the proportion of adults (aged 15 years and over) who have consumed at least 60 g of pure alcohol on at least one occasion in the past 30 days.

Reported values for heavy episodic alcohol drinking in the past 30 days varied between countries in the Region in 2010 (see Fig. 2.6). The highest rates for both sexes were 38.5% in Austria and 36.7% in Lithuania, and the lowest rates for both sexes were 0.2% and 1% in Turkey and Tajikistan (see Fig. 2.6).

In 2010, the national rates of heavy episodic drinking (see Fig. 2.6) among males were higher than those for females. The highest and lowest national rates among males were 54.5% (Czechia) and 0.3% (Turkey), respectively, in 2010 (see Fig. 2.6). The highest and lowest national rates among females were 24.3% (Lithuania) and 0% (Turkey), respectively, in 2010 (see Fig. 2.6).

Figure 2.6. Alcohol, heavy episodic drinking (population) past 30 days (%), age-standardized, 2010



Source: WHO Global Health Observatory (15).

Note: Data were not available for Monaco and San Marino in 2010.

High variation in the levels of alcohol consumption between countries in the Region

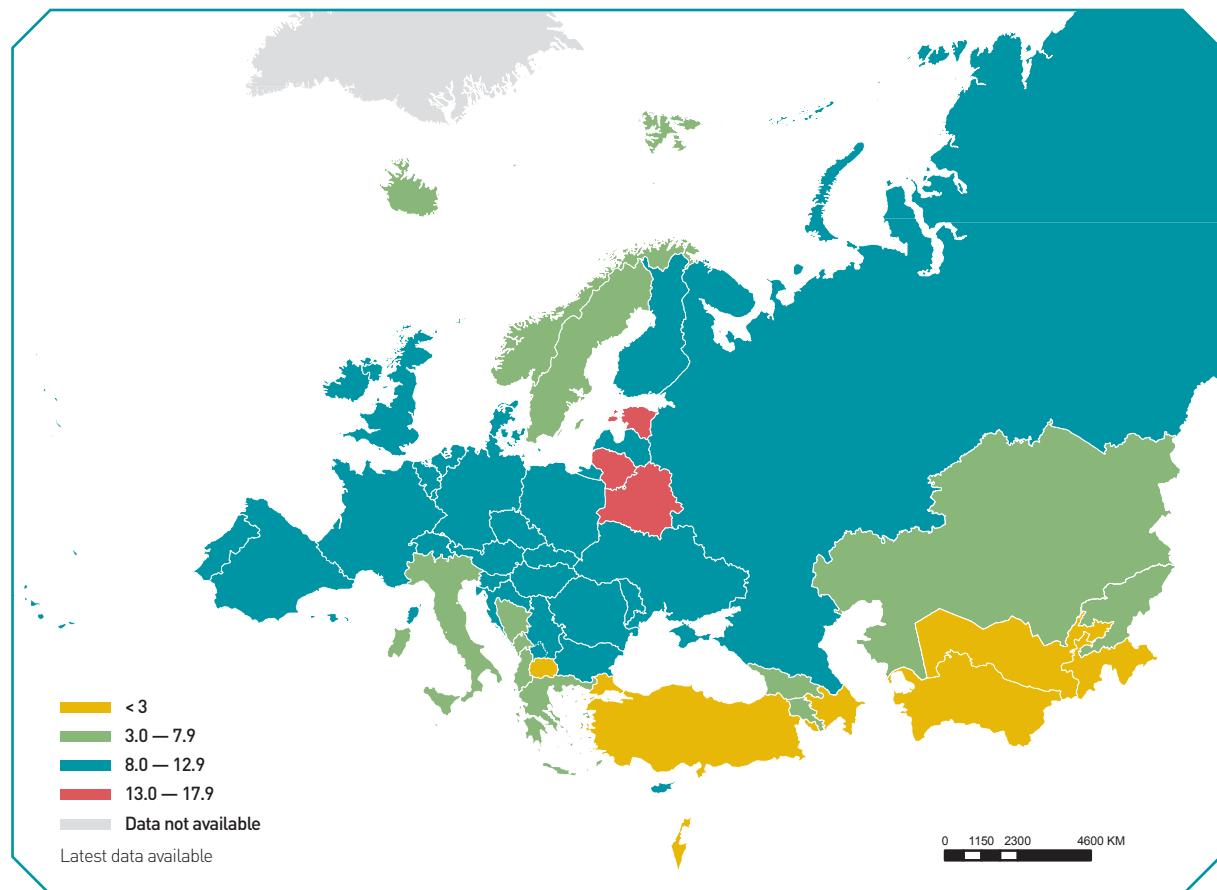
The total (sum of recorded and unrecorded) adult per capita consumption of pure alcohol is the amount of alcohol consumed per adult (aged 15 years and over) within a calendar year, expressed in litres of pure alcohol (1).

In 2014, the regional average per capita alcohol consumption among people aged 15 and over

within a calendar year was 8.6 litres of pure alcohol (see Fig. 2.7). This was only 3.4% lower than the reported baseline regional average in 2010 of 8.9 litres per capita indicating that little progress is being made in this area.

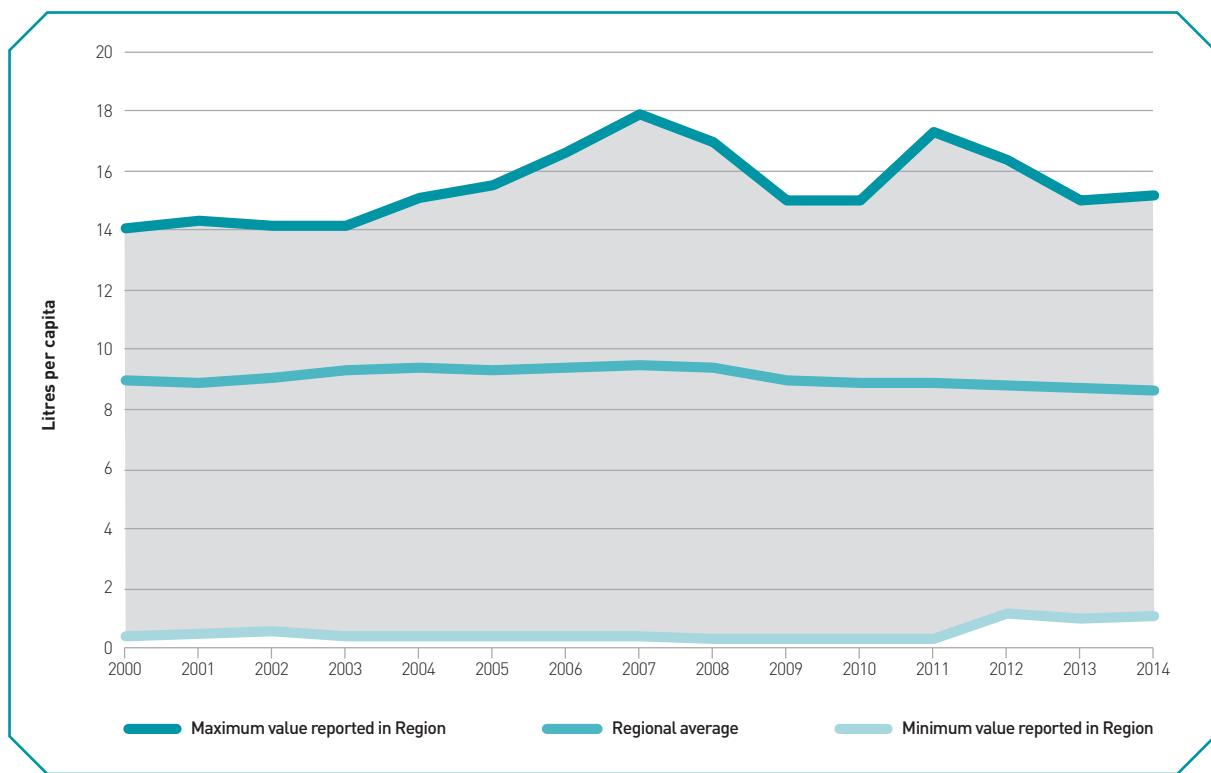
Differences in the levels of alcohol consumption between countries in the Region remain large (see Map 2.1). The maximum and minimum reported national values slightly increased from 15 and 0.3 litres per capita in 2010 to 15.2 and 1.1 litres per capita in 2014 (see Fig. 2.7).

Map 2.1. Recorded pure alcohol consumption among people aged 15 and over within a calendar year, litres per capita, latest available data



Source: Health for All database on the WHO European Health Information Gateway (9).

Figure 2.7. Recorded pure alcohol consumption among people aged 15 and over within a calendar year, litres per capita (litres of pure alcohol)



Source: Health for All database on the WHO European Health Information Gateway (9).

High prevalence of overweight and obesity continues in the Region

This section describes the percentage of a defined population aged 18 years and over with overweight or obesity (defined as a BMI $\geq 25 \text{ kg/m}^2$ for overweight and $\geq 30 \text{ kg/m}^2$ for obesity) (1).

The prevalence of overweight and obesity has been steadily increasing in the WHO European Region over recent years (see Fig. 2.8–2.9). The rate increased from 55.9% in 2010 to 58.7% in

2016 for overweight, and from 20.8% in 2010 to 23.3% in 2016 for obesity (see Fig. 2.8–2.9).

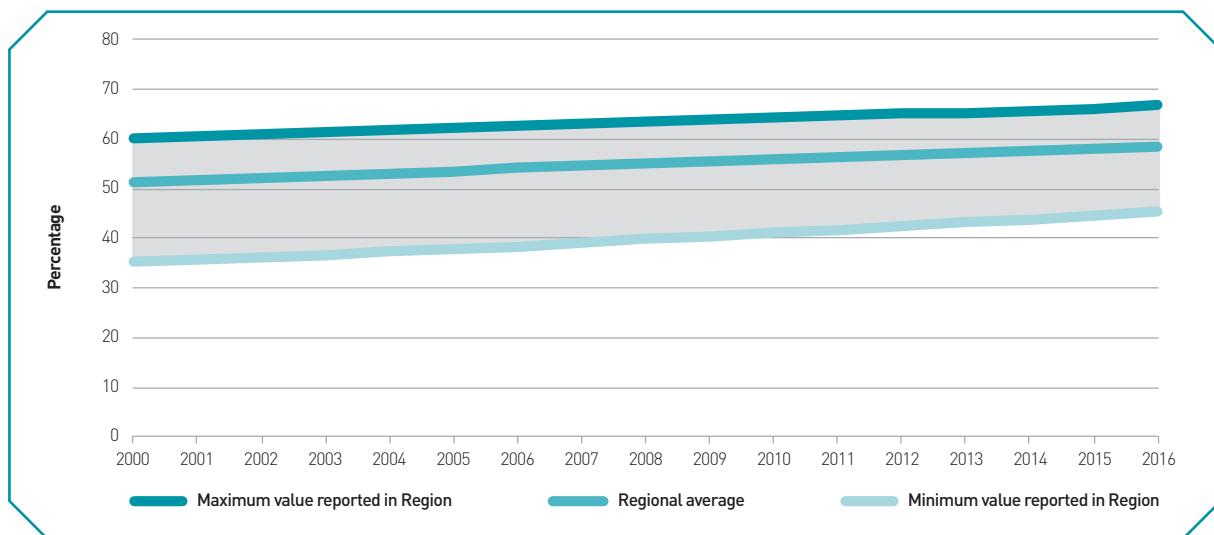
The prevalence of overweight and obesity varies considerably between Member States in the Region (see Fig. 2.8–Fig. 2.9). In the 2000s, the difference between the highest and lowest rates for overweight and obesity in countries in the Region has been, on average, between 23.6 and 25 percentage points for overweight and between 15.1 and 16.7 percentage points for obesity (see Fig. 2.8–2.9). In 2010, however, the difference between the highest

and lowest rates for overweight in the Region was slightly reduced to 23.3 percentage points, and it was further reduced to 21.5 percentage points in 2016 (see Fig. 2.8); the lowest rate in the Region was 45.3%, and the highest rate was 66.8% in 2016.

Yet, the opposite trend has been observed for obesity, as the difference between the highest and lowest rates in the Region had slightly increased to 16.9 percentage points in 2010, and further increased to 17.9 percentage points in 2016 (see Fig. 2.9); the lowest rate in the Region was 14.2%, and the highest rate was 32.1% in 2016.

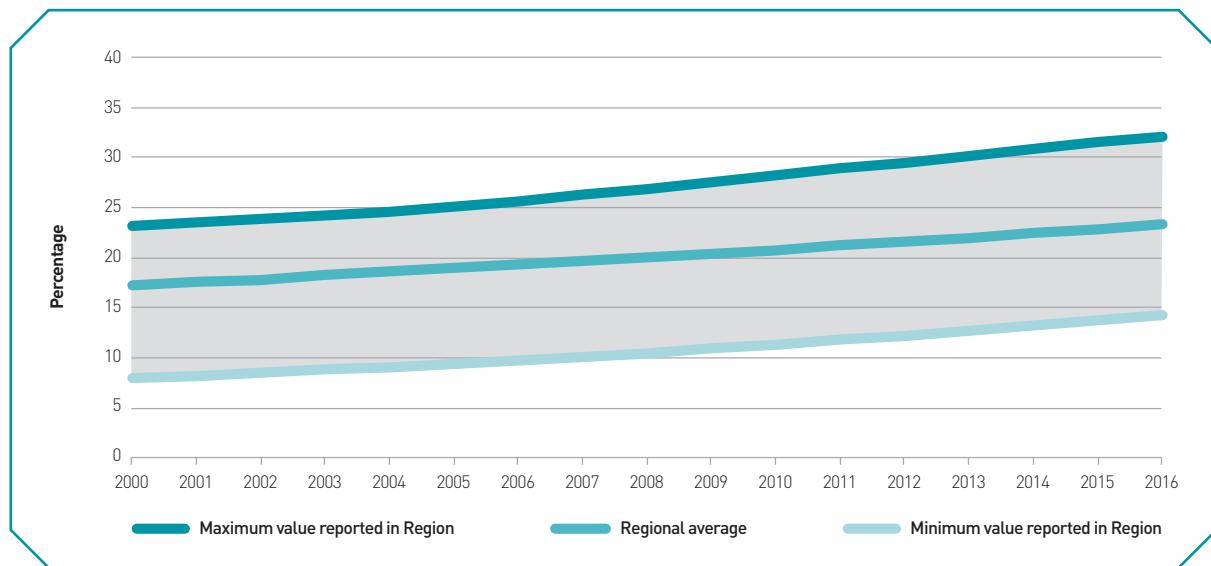
In 2016, the rates for overweight and obesity were 63% and 21.9% among men and 54.3% and 24.5% among women. These rates were higher than the reported values in 2010: the rates for overweight and obesity were 59.7% and 18.8% among men and 52.1% and 22.5% among women. Overall, national-level data for 2016 showed that, in most countries in the European Region, overweight was more prevalent among men, while obesity was more prevalent among women.

Figure 2.8. Age-standardized prevalence of overweight (defined as BMI $\geq 25 \text{ kg/m}^2$) in people aged 18 years and over, WHO estimates (%)



Source: Health for All database on the WHO European Health Information Gateway (9).

Figure 2.9. Age-standardized prevalence of obesity (defined as $\text{BMI} \geq 30 \text{ kg/m}^2$) in people aged 18 years and over, WHO estimates (%)



Source: Health for All database on the WHO European Health Information Gateway (9).

Large differences in the prevalence of overweight and obesity among adolescents between countries, age groups and gender

An additional indicator for this Health 2020 target is the prevalence of overweight and obesity among adolescents (1) (defined as a BMI-for-age value above +1 Z-score and +2 Z-score³ relative to the 2007 WHO growth reference median (16)).

Data from the HBSC study (11) have been used here. The prevalence of overweight and obesity among young people (11, 13 and 15 years old) varied between countries, gender and age groups (see Fig. 2.10–2.12). According to the

study (11), in 2014, on average, nearly 17.5% and 26.8% of female and male 11-year-olds in the Region were overweight. The percentages were 15% and 23.4% among female and male 13-year-olds. These values were lower for female (12.4%) and male (21.6%) 15-year-old adolescents.

In the three age groups (11, 13 and 15 years old), the highest prevalence of overweight in the Region was reported for Greenland, Greece, Italy and Malta, while young people (11, 13 and 15 years old) in Denmark had one of the lowest reported prevalence of overweight and obesity in the Region (see Fig. 2.10–2.12).

³ The Z-score indicates how many units (of the standard deviation) a person's BMI is above or below the average BMI value for their age group and sex.

Box 2.4. FEEDCities Project – Eastern Europe and Central Asia

Unhealthy diet is major risk factor for noncommunicable diseases (NCDs). Salt, sugar and trans fatty acids (TFAs) are some of the dietary constituents connected with heart disease, cancer and diabetes. Urbanization and globalization of the food industry brought significant nutritional changes to the WHO European Region. These changes include a drop in the consumption of fibre and more frequent intake of processed foods, which are likely to contain more fats, sugar and salt and are known to be associated with weight gain and NCDs. More specifically, industrially produced TFAs and sodium heighten the risk for cardiovascular diseases. WHO is advocating complete elimination of TFAs from the global food supply and also calling for a significant reduction in sodium intake (most of it comes from salt and processed foods).

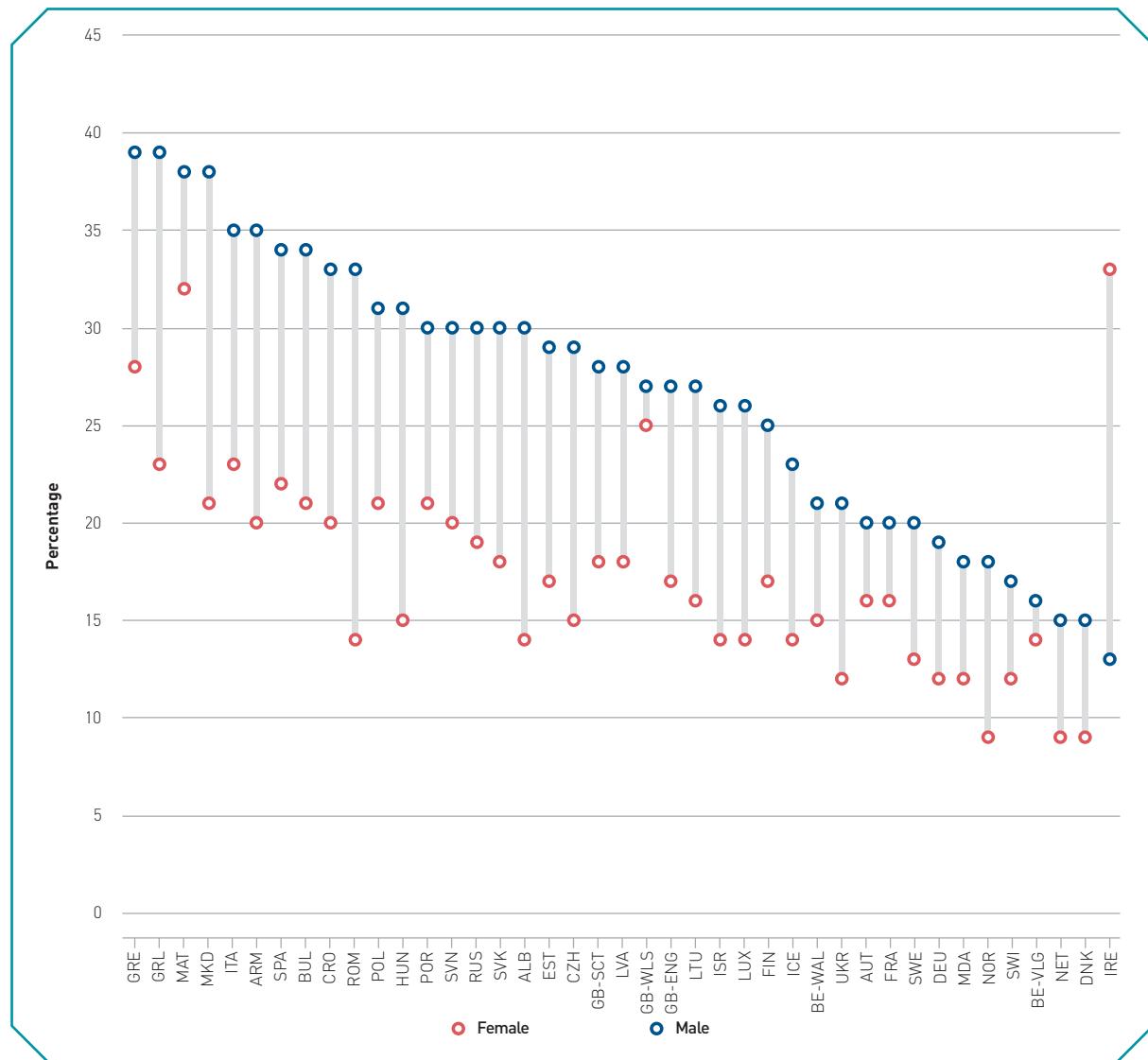
The WHO Regional Office for Europe launched the FEEDCities project to describe the street food environment and assess the food's nutritional value in several capital cities in central Asia and eastern Europe. This innovative initiative aims to evaluate the presence of harmful components like trans fats and salt in common foods. This system for assessing the composition of foods sold in markets in central Asia and other eastern European countries has already been implemented in Tajikistan, Turkmenistan, Kazakhstan, Kyrgyzstan, Republic of Moldova and Bosnia and Herzegovina. Historically, street trade has been a well-developed activity in this part of the world, with street food commonly sold in the central Asian bazaars; local dietary habits certainly reflect this. The project is based on a cross-sectional evaluation of street food vending sites, including an analysis of food composition and the characterization of customers and items purchased, along with food product advertising in public spaces.

Bromatological analyses in all countries involved show that the quantities of sodium and TFAs in a single serving (i.e. the average portion usually sold) of some of the most readily available homemade and mass-produced foods far exceed the maximum recommended daily intake. WHO has jointly launched the results of the initiative in the countries involved and advised on actions to be taken. As a result, trans fat bans and other food regulations, notably limiting salt in food, are in the making. Where no national nutrition survey is currently available – this is the case for more than one third of the 53 Member States of the WHO European Region – FEEDCities can be adapted to serve as a valuable tool for data collection and monitoring of dietary habits. So far, the FEEDCities project has collected data on a vast array of topics, from geographical coordinates of street vendors to visual records (pictures and videos) and the dietary composition of food items, providing useful information for policy-makers and regulators for the first time in the involved countries.

Box 2.5. Country profiles of child and adolescent health-related policies: Investing in children – the European child and adolescent health strategy (CAH) (2015–2020)

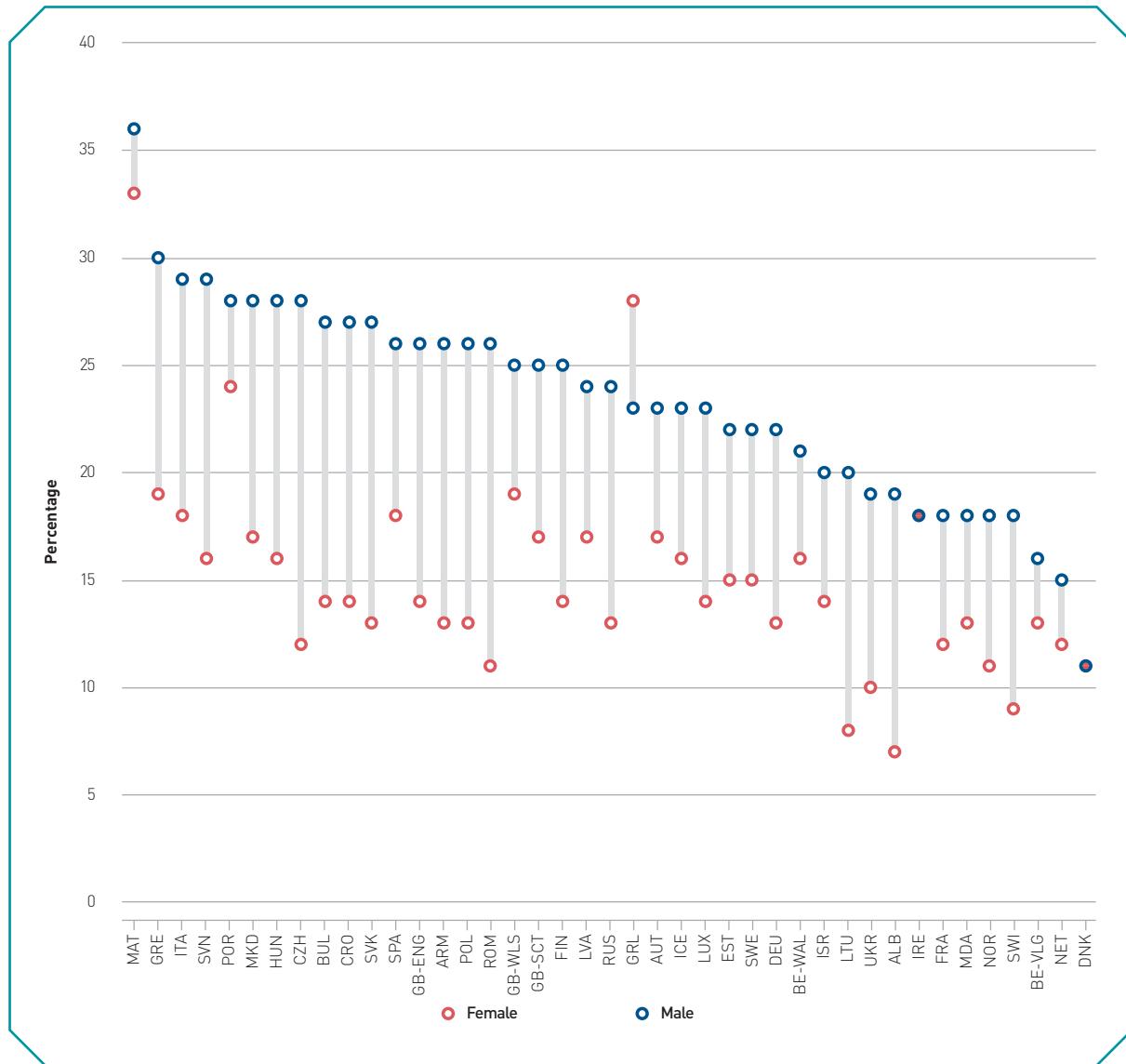
The strategy, which aims to “make children’s lives visible”, led to the development of country profiles that provide Member States with a view of the status of children and young people in their countries through indicators, including data from the Health Behaviour in School-aged Children survey, directly linked to the strategy’s priorities. The profiles, available through the WHO European Health Information Gateway (12) were sent in 2016 to Member States with a complementary survey to capture the state of CAH and related policies in the Region since the strategy’s adoption. A summary report presented to the Regional Committee in September 2018 highlights areas where the Region thrives and where there are gaps in policy. A final report on the strategy’s implementation will be presented in 2020. National survey findings led to the development of country feedback reports shared by the Regional Office with country representatives in the relevant country or during visits of country delegations to the WHO Regional Office for Europe. The feedback report provides country-specific achievements in CAH and possible areas for action. These tools support the regional commitment embedded in the strategy and the implementation of national programmes to achieve optimal health for European children and young people.

Figure 2.10. Prevalence of overweight or obesity among adolescents, 11 years old, by sex



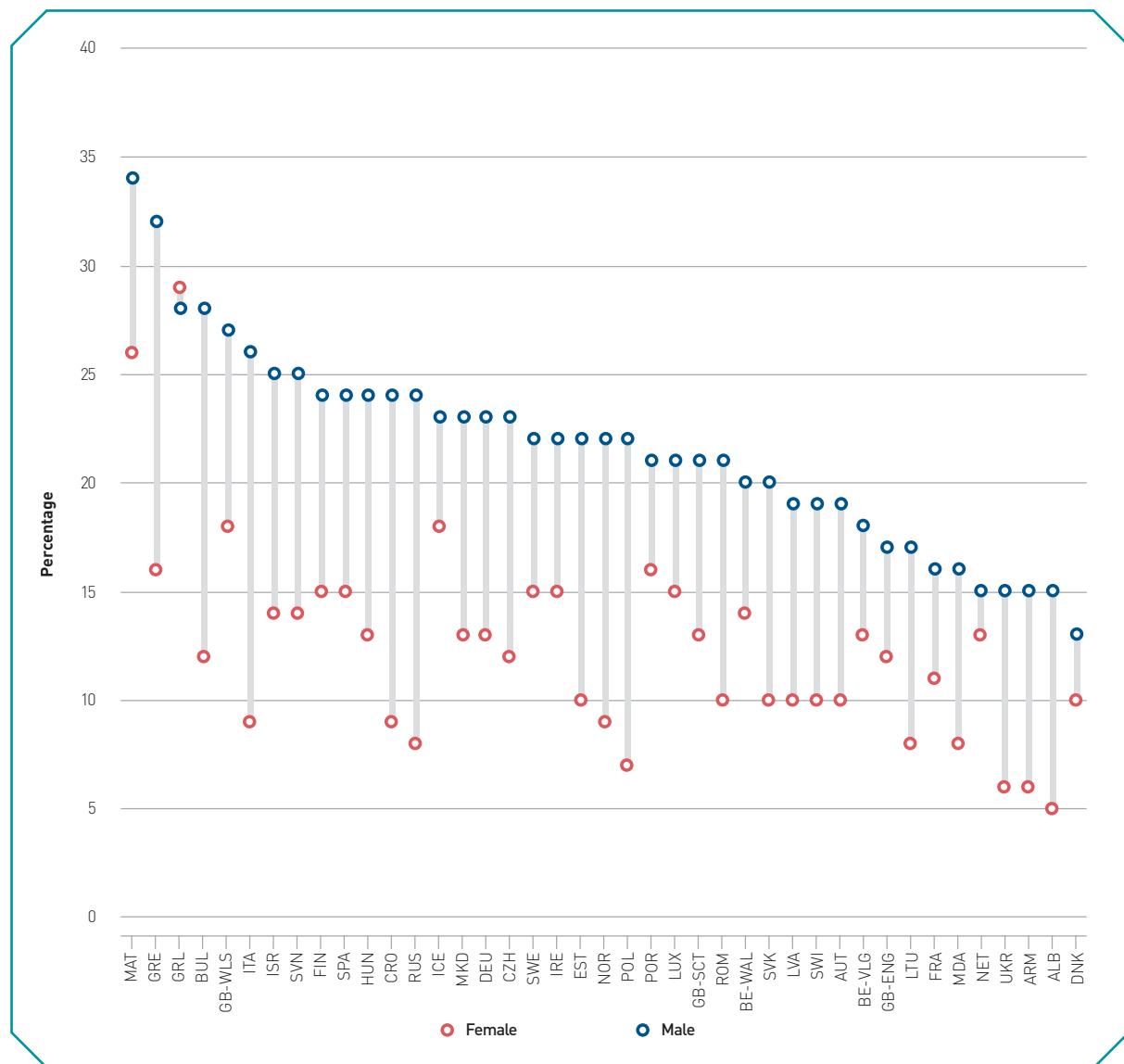
Source: HBSC data on the WHO European Health Information Gateway (12).

Figure 2.11. Prevalence of overweight or obesity among adolescents, 13 years old, by sex



Source: HBSC data on the WHO European Health Information Gateway (12).

Figure 2.12. Prevalence of overweight or obesity among adolescents, 15 years old, by sex



Source: HBSC data on the WHO European Health Information Gateway (12).

Summary of progress: Vaccine-preventable diseases

High levels of child vaccination rates, yet cautious monitoring and compliance is needed

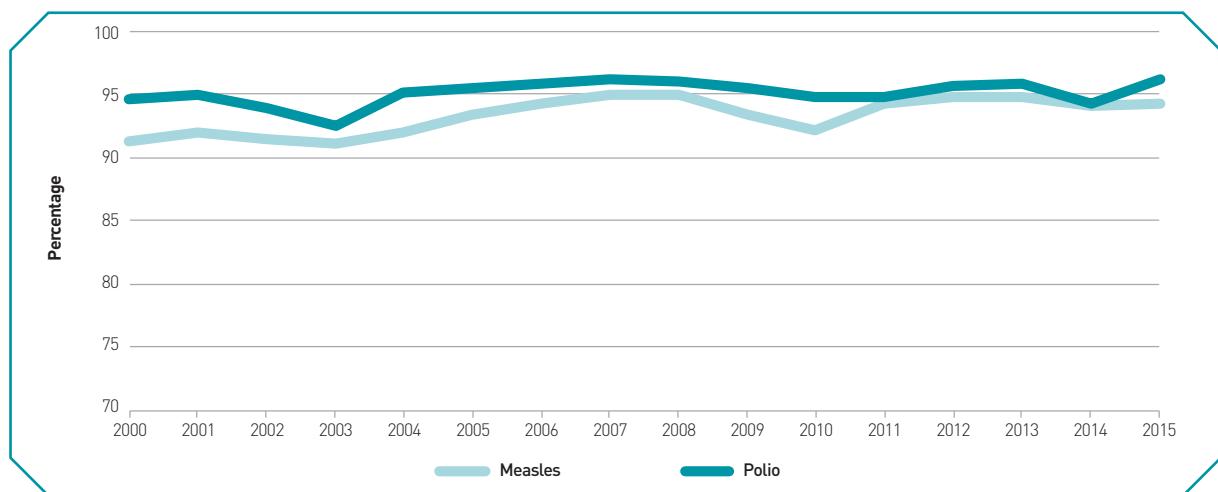
During the last decade, the average regional vaccination coverage rates increased or remained almost static for the three childhood vaccines against measles⁴, polio⁵ and rubella⁶.

Child immunization⁷ coverage has increased since the year 2000 to 94.3% and 96.1% for measles and polio, respectively, in 2015 (see Fig. 2.13).

These values are slightly higher than the reported baseline regional averages in 2010 of 92.2% for measles and 94.8% for polio.

Most recent data indicate that there were still considerable differences in vaccination rates between countries, with some having vaccination rates below 90%. In 2015, 10 countries had vaccination rates of less than 90% against measles, while five countries had vaccination rates of less than 90% against polio, leaving communities vulnerable to outbreaks.

Figure 2.13. Percentage of children vaccinated against measles and polio (%)



Source: Health for All database on the WHO European Health Information Gateway (9).

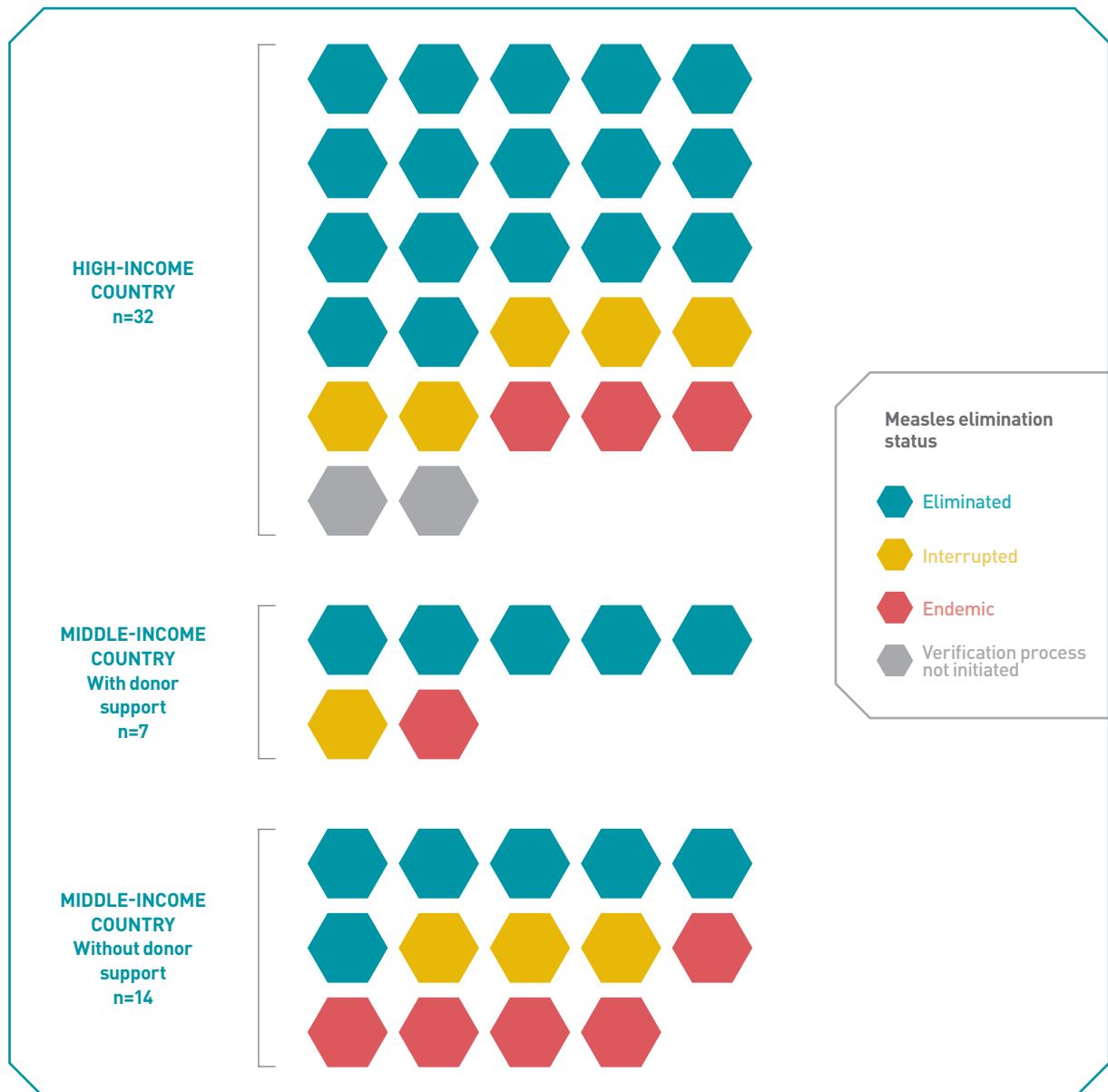
- 4 The percentage of children vaccinated against measles is the proportion of children reaching their second birthday who have been fully vaccinated against measles (one dose).
- 5 The percentage of infants vaccinated against polio is the proportion of infants reaching their first birthday in the given calendar year who have been fully vaccinated against polio (three doses).
- 6 The percentage of infants vaccinated against rubella is the proportion of children reaching their second birthday in the given calendar year who have been fully vaccinated against rubella (one dose).
- 7 WHO stopped reporting separately on coverage for rubella vaccination in 2010, as nowadays rubella vaccination is always given in combination with vaccination for measles and mumps (MMR). Therefore, as of 2010, data on vaccination coverage for measles should be interpreted as vaccination coverage for measles and rubella.

Middle-income countries lagging behind in interrupting endemic measles and rubella transmission in the WHO European Region

The number of Member States in the WHO European Region that have interrupted measles since 2013 has doubled and progress against rubella elimination is also very promising (17). By the end of 2016, endemic measles and rubella transmission had been interrupted for more than 12 months in 79% and 70% of the countries, respectively. While the WHO European Region as a whole has made steady progress towards measles and rubella elimination in the last few years, stratifying the remaining endemic countries (nine for measles and 14 for rubella) by World Bank income level suggests that most of them are middle-income countries (Fig. 2.14).

Of the nine measles-endemic countries in the WHO European Region, six (67%) of them are middle-income countries, and of particular note, 55% of the measles-endemic countries in the Region are middle-income countries without any donor support. In 2015, 70% of the infants that did not receive the third dose of diphtheria–tetanus–pertussis vaccine resided in these middle-income countries without donor support. These countries in particular continue to face significant challenges to the financial and operational sustainability of their immunization programmes. These factors contribute significantly towards a declining trend in vaccination coverage, including with the measles-containing vaccine, leading to susceptible pockets of the population that are not protected from measles and rubella. In order to achieve the measles and rubella target outlined in the European vaccine action plan 2015–2020 (18), it is essential that these middle-income countries develop context-specific, tailored immunization interventions.

Figure 2.14. Measles elimination status in the WHO European Region, by World Bank income group, 2016



Source: Sixth meeting of the European regional verification commission for measles and rubella elimination (RVC) (17).

Note: For definition of high- and middle-income countries, see World Bank Country and Lending Groups (19).

Box 2.6. Facing vocal vaccine deniers

Measles and rubella are highly contagious diseases. Therefore, at least 95% immunization coverage of each annual cohort is needed to achieve community protection and eliminate the diseases. Immunization coverage in the WHO European Region is generally high, however, among other challenges, the spread of misinformation about vaccines has resulted in a relatively low level of confidence in the safety of vaccines in some countries. This is a serious concern that all immunization stakeholders must continue to address. Together with partners and Member States, the Regional Office for Europe works to build and maintain public confidence in vaccines and the authorities delivering them.

As part of this work, in 2017, the Regional Office further developed and refined a guidance document for health spokespersons facing vocal vaccine deniers (www.euro.who.int/vaccinedeniers). The guide was originally developed based on a review of peer-reviewed journal articles in the relevant fields, which revealed the five key topics and the five key techniques that are most commonly used by vaccine deniers, and presents a set of appropriate responses that can be used to debunk the misperceptions of the denier and win over the attention and trust of the audience. The document includes sections on the psychological mechanisms of the target audiences, embracing techniques, religious concerns, addressing fake experts and unfavourable interview conditions.

The training programme developed for the area offers a variety of plenary presentations and case-based group work, placing particular emphasis on practical exercises and simulations of a public debate with a vocal vaccine denier. Subregional training workshops were conducted in 2017 for immunization programme managers from Albania, Austria, Bosnia and Herzegovina, Croatia, Germany, Montenegro and Serbia. A video from a December 2016 training session was launched in 2017 and is available online (20).

Box 2.7. Addressing health inequality through tailored immunization services

Closing immunization gaps and equitably extending the benefits of vaccination to all are crucial if the Region is to meet the goals of eliminating measles and rubella and maintaining the polio-free status it has enjoyed since 2002. The reasons for insufficient coverage differ per country and are diverse within each country, often including both supply challenges and insufficient uptake of offered vaccines. To address the latter it is imperative for health authorities to understand the factors influencing vaccination intentions, decisions and behaviours.

The WHO Regional Office for Europe developed a *Guide to tailoring immunization programmes* (TIP) in 2014 in response to this need. Based on experience in several countries and an external review conducted in 2016, the approach was refined in 2017. It provides a logical pathway for all TIP projects, including a structured process from initial data collection and analysis to intervention planning, implementation and evaluation.

To build capacity for implementing the approach, the WHO Regional Office for Europe, in collaboration with the University of Erfurt, Germany, organized a one-week Behavioural Insights Summer School in September 2017 with participation from PhD students and immunization programme managers and staff from Bosnia and Herzegovina, France, Finland, Germany, Republic of Moldova, Serbia and Sweden.

TIP projects are currently underway in Armenia, Bosnia and Herzegovina, and Serbia, focusing in part on identifying health workers' barriers and needs, and in Romania, where a rapid survey was conducted to understand the barriers to vaccination among families affected by measles. A peer-reviewed publication on the external review results and recommendations was published in the journal *Vaccine* (21).

Summary of progress: Mortality from external causes

Steady decline in death rates from all external causes, including injuries and poisoning

In 2015, deaths due to external causes, including injuries and poisoning, constituted the third leading cause of death in Europe, accounting for

7% of all deaths, after diseases of the circulatory system (44%) and malignant neoplasms (21%). The regional average age-standardized death rate from external causes consistently decreased from 82 deaths per 100 000 in 2000 to 57 per 100 000 in 2010 and 50 per 100 000 in 2015 (see Fig. 2.15). Still, there were very wide inequalities in the death rates between the sexes, and across countries. The regional average death rate among males was 3.5 and 3.3 times higher than for females in 2010 and 2015, respectively.

The differences in death rates from all external causes between countries have decreased considerably over time. The gap between the highest and lowest death rates in the Region has narrowed from 118 deaths per 100 000 in 2010 to 73 per 100 000 in 2015 though recent values for 2015 indicate that the remaining differences between countries are still large. In 2015, the highest rate in the Region was 95 deaths per 100 000 and the lowest 22 per 100 000, yet only 27 countries reported data for 2015.

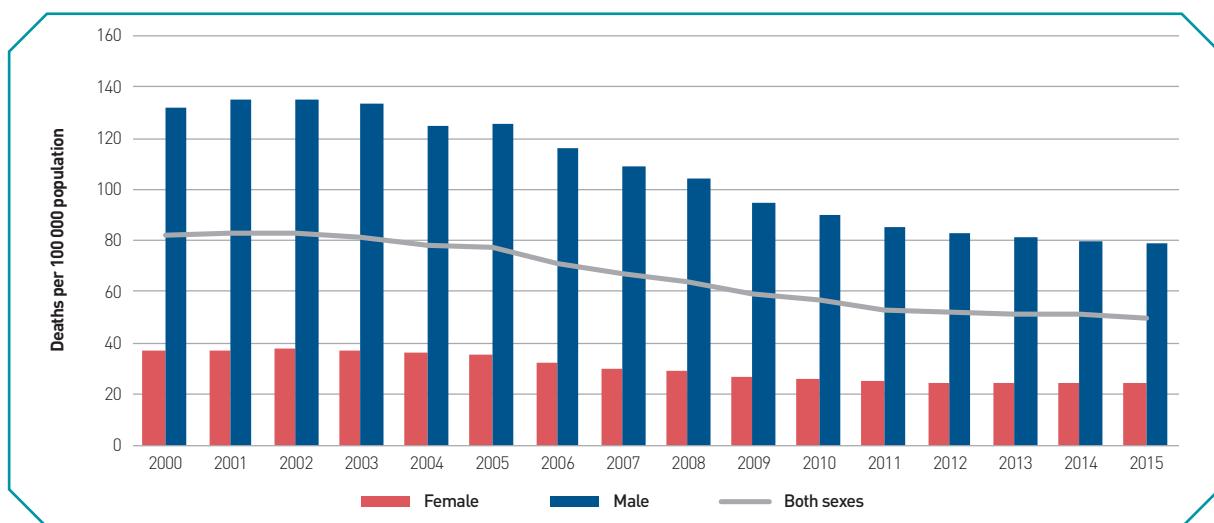
There are six additional indicators linked to this core indicator: motor vehicle traffic accidents; accidental falls; accidental poisoning; accidental poisoning by alcohol; suicide and intentional self-harm; and homicide and assault. This subsection examines the pattern and trend of deaths by cause for the period between 2000 and 2015 (see Fig. 2.16).

Suicide and self-inflicted injury, along with motor vehicle traffic accidents, were the leading external causes of death in 2014 (21% and 15%, respectively, of all external causes of death and injury combined). In 2015, suicide and self-inflicted injury was the leading external cause of death (constituting 21% of all external causes of death and injury combined).

Moreover, over the same period, there was a wide variation between countries for each separate cause.

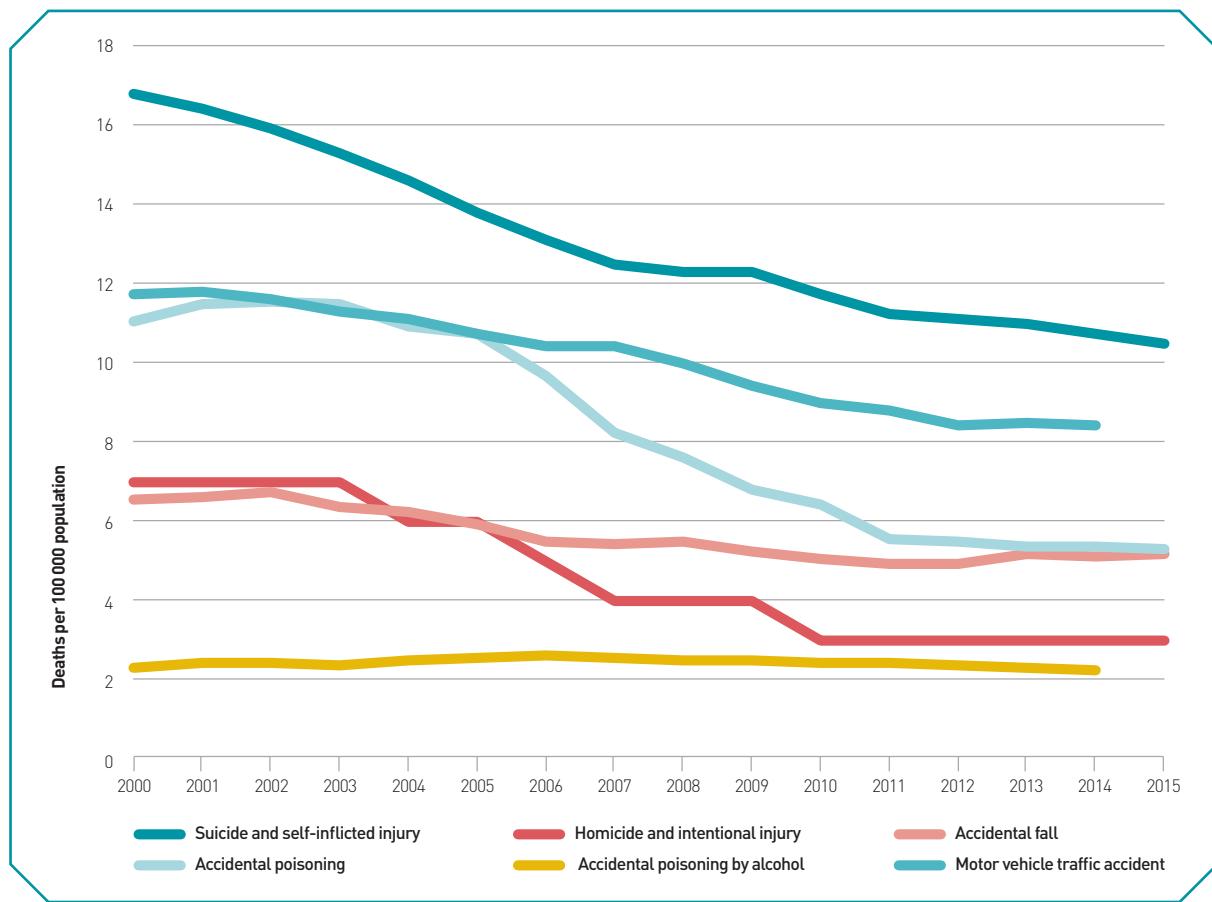
To conclude, in 2015, deaths due to external causes were the third leading cause of death in the Region, accounting for 7% of all deaths, which continues to represent a major public health problem. Despite an overall decline in associated trends over recent decades, there were wide differences in death rates between the sexes and countries in the Region.

Figure 2.15. Standardized death rates from all external causes, including injuries and poisoning, overall and by sex



Source: Health for All database on the WHO European Health Information Gateway (9).

Figure 2.16. Regional average standardized death rates from external causes, by cause



Source: Health for All database on the WHO European Health Information Gateway (9).

Target 2. Increase life expectancy in Europe

Introduction

The regional average life expectancy has steadily increased over recent years and the gaps in average life expectancy between the sexes and between countries are getting narrower. However, there are still considerable differences which require continued monitoring to ascertain consistent improvement. In 2015, the difference between countries with the highest life expectancy and the lowest was more than a decade. Women still live longer than men at all ages.

Despite increase in life expectancy at birth, the difference between countries with the highest and lowest life expectancy in the Region is still more than a decade

The aim for this Health 2020 target is to increase overall life expectancy while reducing differences in life expectancy between countries (1).

Box 2.8. Health 2020 Target 2 and indicators

Target 2 "Increase life expectancy in Europe" is linked to Health 2020 policy area 2 "Healthy people, well-being and determinants".

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 for this target is life expectancy at birth.

There are two additional indicators for this target: quantification of life expectancy at ages 1, 15, 45 and 65 years, and healthy life years at age 65.

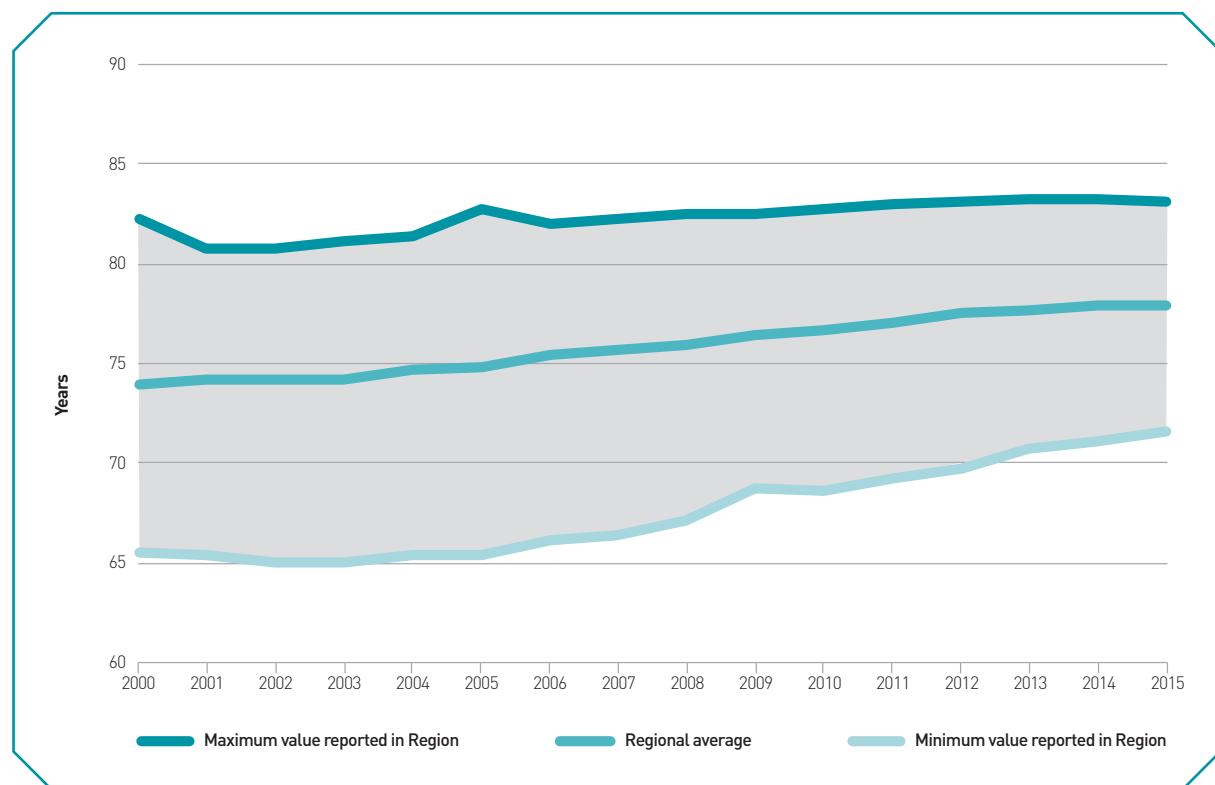
According to the WHO definition, life expectancy at birth is the average number of years that a newborn is expected to live if current mortality rates continue to apply.

The regional average life expectancy has steadily increased over recent decades. Average life expectancy at birth in the European Region increased from 76.7 years in 2010 to 77.9 years in 2015 (see Fig. 2.17) which represented an aver-

age annual increase of 0.24 years. This increase is in line with the Health 2020 target.

The difference between the highest and lowest life expectancy in the Region is decreasing (see Fig. 2.17); it was 16.8 years in 2000, 14.2 years in 2010 and 11.5 years in 2015. In 2015, the lowest value in the Region was 71.6 years, while the highest was 83.1 years.

Figure 2.17. Life expectancy at birth (years)

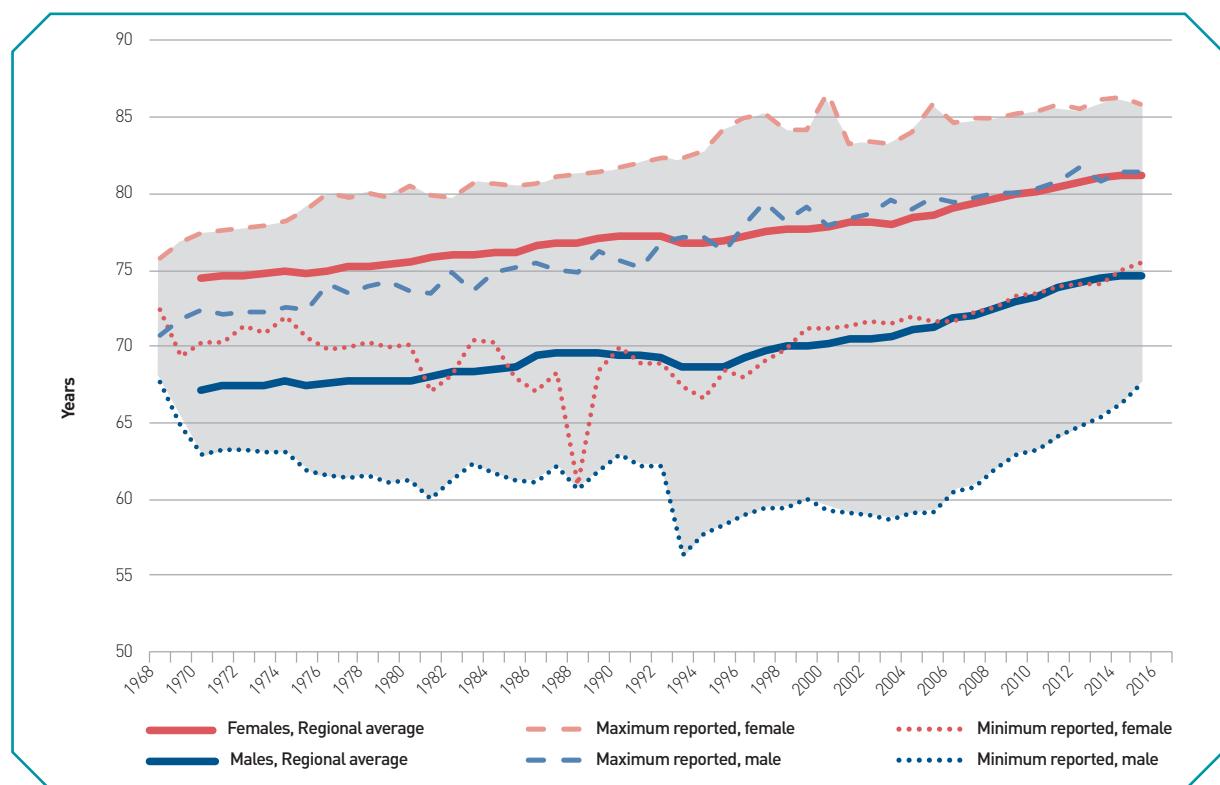


Source: Health for All database on the WHO European Health Information Gateway (9).

Considering gender differences, life expectancy at birth in the WHO European Region in 2015 was 74.6 years for males and 81.2 years for females (see Fig. 2.18). These values show an increase of approximately 1.3 years for males and 1.0 years for females since 2010.

The gender gap in life expectancy continues to decrease over time. It fell from 7.7 years in 2000, to 6.9 years in 2010 and 6.6 years in 2015.

Figure 2.18. Male and female life expectancy at birth (years)



Source: Health for All database on the WHO European Health Information Gateway (9).

The narrowing gaps in regional averages of life expectancy between the sexes and between countries are encouraging. However, the remaining differences are still large and continued monitoring is required to ascertain consistent improvement.

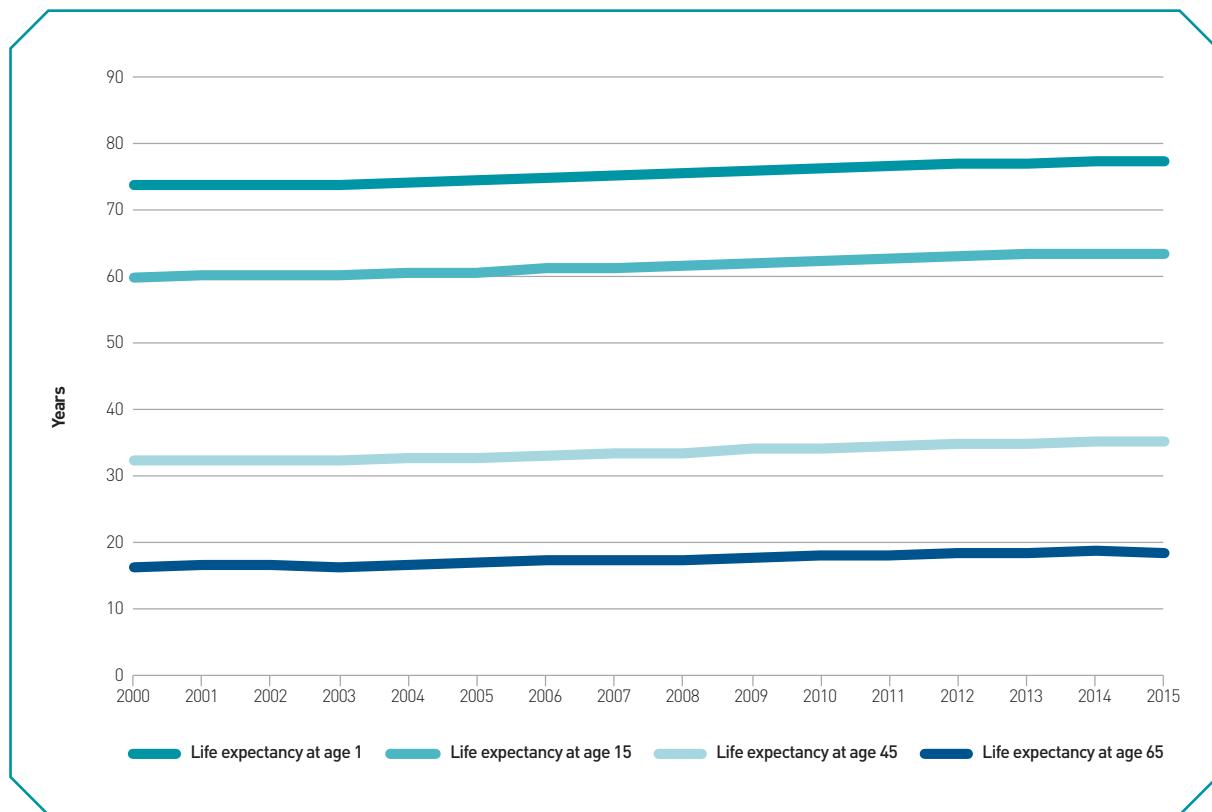
Continuous increase in life expectancy at ages 1, 15, 45 and 65 years

An additional indicator for this Health 2020 target is life expectancy at ages 1, 15, 45 and 65 years (see Fig. 2.19) (1).

Overall, people are living longer in the Region. In 2015, on average, a person in the Region is expected to live for 77.3 years at age 1, 63.5 years at age 15, 35.1 years at age 45, and 18.5 years at age 65. This is an increase on the corresponding values reported in 2010: 76.2 years at age 1, 62.5 years at age 15, 34.2 years at age 45, and 17.9 years at age 65.

Table 2.1 shows the regional average life expectancy (years) at ages 1, 15, 45, and 65 years for both sexes over time. Females still live longer than males (see Table 2.1).

Figure 2.19. Regional average life expectancy (years) at ages 1, 15, 45 and 65 years



Source: Health for All database on the WHO European Health Information Gateway (9).

The data in Table 2.1 indicate that the gender gap reduced slightly between 2010 and 2015 for regional average life expectancy at ages, 1, 15 and 45. However, it increased slightly for regional average life expectancy at 65 years old.

Moreover, there are still differences between countries in life expectancy at ages 1, 15, 45 and 65 years.

Table 2.1. Regional average life expectancy (years) at ages 1, 15, 45 and 65 years, by sex

Year	Life expectancy at age 1		Life expectancy at age 15		Life expectancy at age 45		Life expectancy at age 65	
	Female	Male	Female	Male	Female	Male	Female	Male
2000	77.5	69.9	63.9	56.3	35.1	29.1	17.9	14.3
2001	77.7	70.2	64.0	56.5	35.3	29.3	18.1	14.6
2002	77.7	70.2	64.0	56.5	35.2	29.3	18.0	14.5
2003	77.6	70.2	63.9	56.6	35.1	29.3	17.9	14.5
2004	78.1	70.7	64.4	57.0	35.6	29.7	18.4	14.9
2005	78.1	70.8	64.4	57.1	35.6	29.7	18.4	14.9
2006	78.6	71.4	64.9	57.7	36.0	30.3	18.8	15.3
2007	78.9	71.7	65.1	58.0	36.3	30.5	18.9	15.4
2008	79.1	72.0	65.3	58.3	36.4	30.7	19.1	15.6
2009	79.4	72.5	65.6	58.7	36.7	31.0	19.3	15.7
2010	79.6	72.8	65.8	59.1	36.9	31.3	19.4	15.9
2011	80.0	73.2	66.2	59.5	37.2	31.6	19.7	16.1
2012	80.2	73.6	66.4	59.9	37.4	31.9	19.8	16.3
2013	80.4	73.8	66.6	60.1	37.6	32.1	20.0	16.4
2014	80.7	74.1	66.8	60.3	37.8	32.3	20.1	16.6
2015	80.6	74.1	66.8	60.3	37.7	32.3	20.1	16.5

Source: Health for All database on the WHO European Health Information Gateway (9).

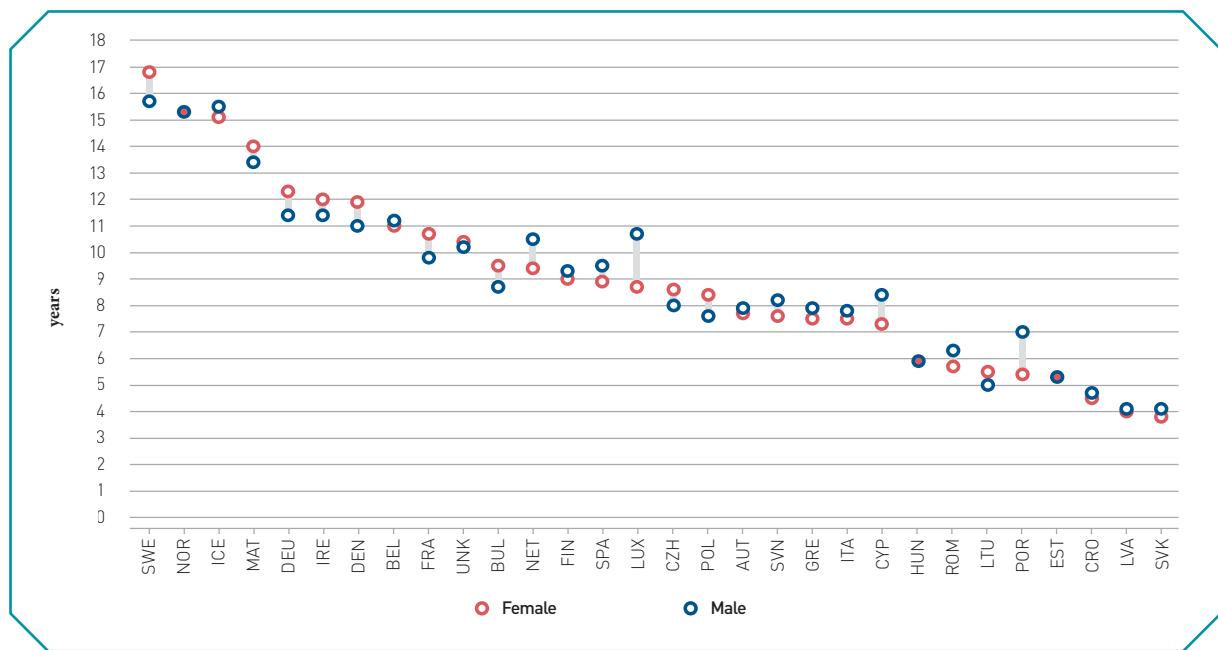
Healthy ageing: Increments in healthy life years at age 65

Another additional indicator for this target is healthy life years (HLY) at age 65, disaggregated by sex. This indicator (also called disability-free life expectancy) measures the number of years that a person at age 65 is still expected to live in a healthy condition (1). It is calculated separately for males and females (1).

The HLY indicator has been used to describe, monitor and improve the health status and quality of life of elderly populations over time (22). Assessment of life expectancy, mortality rates and HLY enable policy-makers and concerned stakeholders to determine whether populations are living longer healthy lives or not.

As already discussed, death rates have declined and the corresponding values for life expectancy have increased over recent decades. According to Eurostat data, between 2010 and 2015, the average HLY for EU countries increased from 8.8 years to 9.4 years for females and from 8.7 to 9.4 years for males. In 2015, the HLY varied significantly by geographical boundaries or country in the EEA/EFTA countries (see Fig. 2.20). In the same year, at 65 years of age, HLY for Swedish females was 16.8 years, 1.1 years greater than that for males at 15.7 years. These values were much higher than the reported values for Slovakian females (3.8 years) and Slovakian males (4.1 years), which were the lowest reported values in the EEA/EFTA countries in 2015 (see Fig. 2.20).

Figure 2.20. Healthy life years at age 65, by sex, 2015



Source: Eurostat (23).

Target 3.

Reduce inequalities in health in Europe (social determinants target)

Introduction

The inequalities in infant mortality between countries and gender have been declining over recent decades.

The Region has experienced a noticeable reduction in infant mortality rates since 2000 but differences still exist between countries.

Since 2000, the Region has made progress in the proportion of children of official primary school age that are enrolled in school but there was also a large variation between countries regarding the proportion of children not enrolled in primary school.

Differences between countries in the Region in unemployment rates have been decreasing. Nevertheless, there is a wide variation between countries. Out of the 53 countries in the WHO European Region, the number of countries that have implemented a policy or strategy to address inequality or social determinants has increased since 2010 and the regional average of income inequality as expressed by the Gini coefficient has decreased. At the same time, there were large differences in levels of income inequality between the countries in the Region.

Such inequalities have significant humanitarian, health and economic implications. To narrow these gaps, current collaborative efforts across all relevant sectors and stakeholders need to be strengthened.

Box 2.9. Health 2020 Target 3 and indicators

All citizens have the right to good health, well-being, education and equal opportunities to prosper where they live.

Target 3 “Reduce inequalities in health in Europe (social determinants target)” is linked to Health 2020 policy area 2 “Healthy people, well-being and determinants”. The target is to achieve a reduction in the gaps in health status associated with social determinants in Europe (1). This target has five key indicators:

- Infant mortality per 1000 live births
- Proportion of children of official primary school age not enrolled
- Unemployment rate
- National and/or subnational policy addressing the reduction of health inequality established and documented
- Gini coefficient (income distribution).

Decline in inequality in infant mortality between countries and gender

The infant mortality rate is the probability that a child born in a specific year or period will die before reaching the age of 1 year, if subject to age-specific mortality rates of that period, expressed as a rate per 1000 live births (1). Reduction of infant mortality rates is one of the main health targets of the SDGs. Overall, the Region is on track to reach SDG Target 3.2 (24) which aims to “end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births” by 2030.

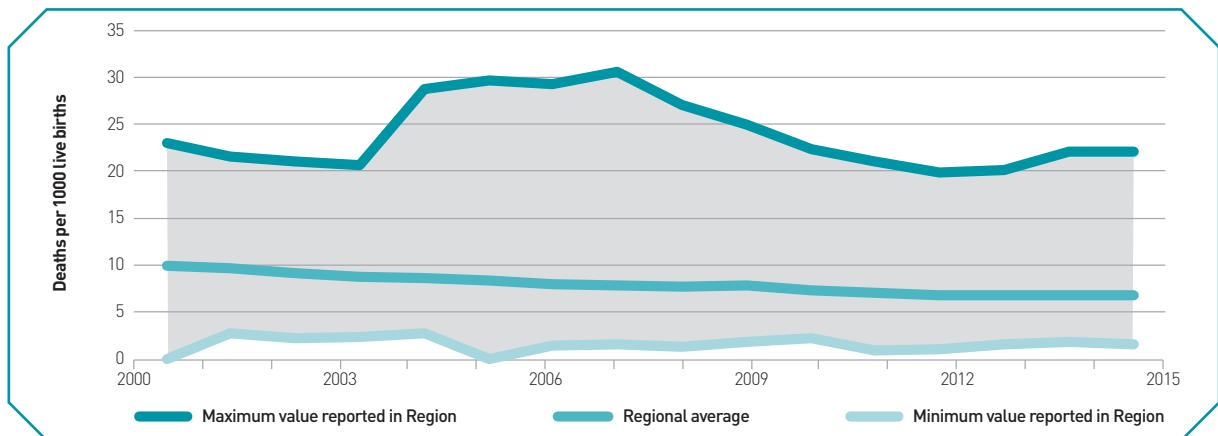
The WHO European Region has made gains in closing the gaps in infant mortality between countries and between the sexes. In 2015, the regional average infant mortality was 6.8 infant deaths per 1000 live births (see Fig. 2.21), which was lower

than the reported rate in 2000 (9.9 infant deaths per 1000 live births) and 2010 (7.3 infant deaths per 1000 live births), representing an average annual decline of 1.4% since 2010.

In 2015, the regional average infant mortality rate for males was 7.3 infant deaths per 1000 live births and the rate for females was 5.9; both have steadily decreased since 2000, from 11.1 for males and 8.8 for females. The most recent figures showed a decline of 9.9% for males and 10.6% for females since 2010, from 8.1 deaths per 1000 live births for males and 6.6 for females.

The difference between the highest and lowest infant mortality rates in the Region is decreasing (see Fig. 2.21): 23.0 infant deaths per 1000 live births in 2000; 20.1 in 2010; and 20.5 in 2015. The lowest and highest infant mortality rates in the Region were 1.6 and 22.1 deaths per 1000 births, respectively, in 2015 (see Fig. 2.21). Caution is needed, however, in interpreting the trends, as only 29 countries reported data for 2015.

Figure 2.21. Infant deaths per 1000 live births



Source: Health for All database on the WHO European Health Information Gateway (9).

Note: The maximum regional value in the infant mortality rate is a reflection of the infant mortality rate in Kyrgyzstan. The sharp increase since 2004 is an artefact of the introduction of the WHO definition for live births and stillbirths in Kyrgyzstan (25, 26).

Differences still exist between countries in the Region in the proportion of children not enrolled in primary school

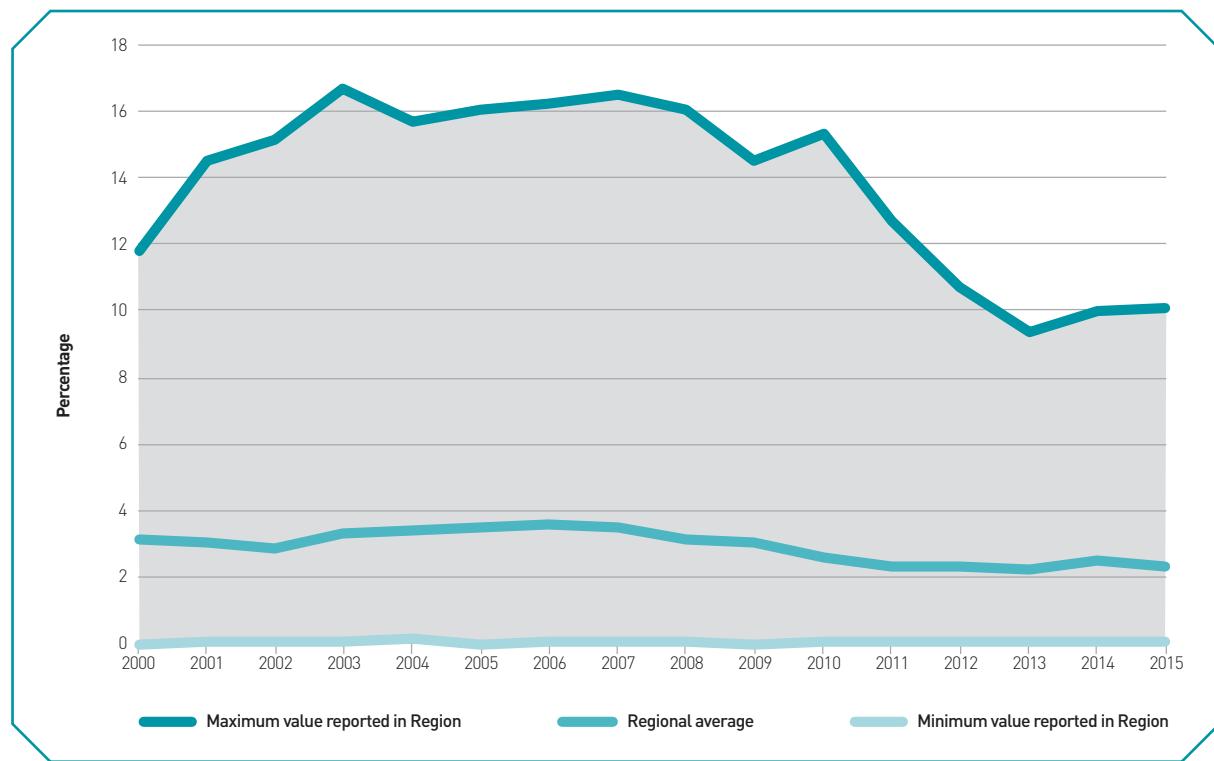
This indicator is defined as the number of children of official primary school age who are not enrolled in primary school – which is expressed as a percentage of the population of official primary school age (1). Children enrolled in pre-primary education are excluded and considered to be out of school (1).

Since 2000, the regional average proportion of children of official primary school age not enrolled has declined (see Fig. 2.22). It decreased from

3.1% in 2000 to 2.6% in 2010 and 2.3% in 2015. The regional average proportion of boys not enrolled in 2000 was 3.3%, and for girls, 3.9%, which decreased to 2.8 for both boys and girls in 2010 and to 2.7% for boys and 2.5% for girls in 2015.

The difference between the maximum and minimum proportions of children of official primary school age not enrolled in school has decreased from 15.2 percentage points in 2010 to 10.0 percentage points in 2015 (see Fig. 2.22). Recent data, however, indicate that there is a large variation between countries. In 2015, the maximum reported proportion in the Region was 10.1% while the minimum was 0.1% (see Fig. 2.22).

Figure 2.22. Proportions of children of primary school age not enrolled (%)



Source: Health for All database on the WHO European Health Information Gateway (9).

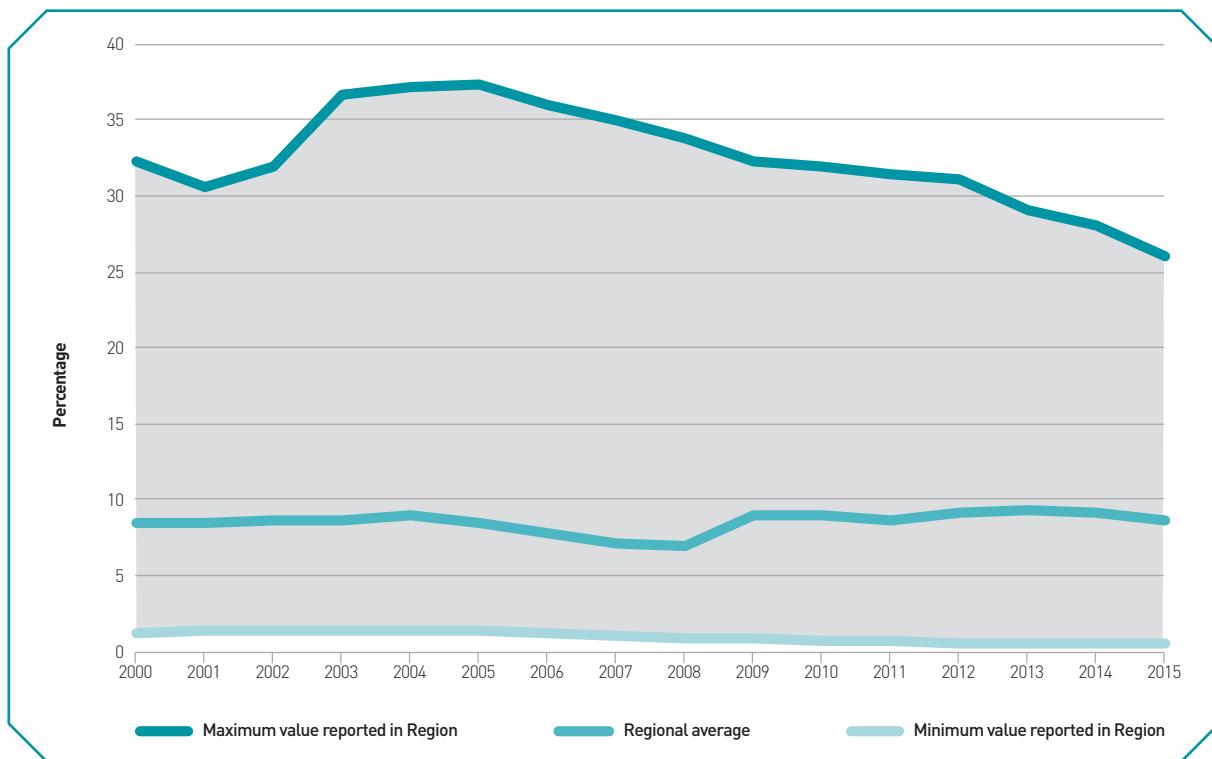
Differences in unemployment rates are decreasing, but a wide variation still exists between countries in the Region

Unemployment rates contribute to the measurement of the target of reducing inequality. The unemployed comprise all people of working age who were: a) without work during the reference period (i.e. were not in paid employment or self-employment); b) currently available for work (i.e. were available for paid employment or self-employment during the reference period); and c) seeking work (i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment) (1).

The WHO European regional average unemployment rate (see Fig. 2.23) decreased to 8.7% in 2015, which was slightly lower than the regional average for 2010 (8.9%), yet slightly higher than the reported rate for 2000 (8.4%).

There was wide variation in the unemployment rates across the Region in 2015, which ranged from a minimum value of 0.5% to a maximum value of 26.1%. The differences between the maximum and minimum unemployment rates have been decreasing over the last decade: from 31.3 percentage points in 2010 to 25.6 percentage points in 2015 (see Fig. 2.23).

Figure 2.23. Unemployment rate (%)



Source: Health for All database on the WHO European Health Information Gateway (9).

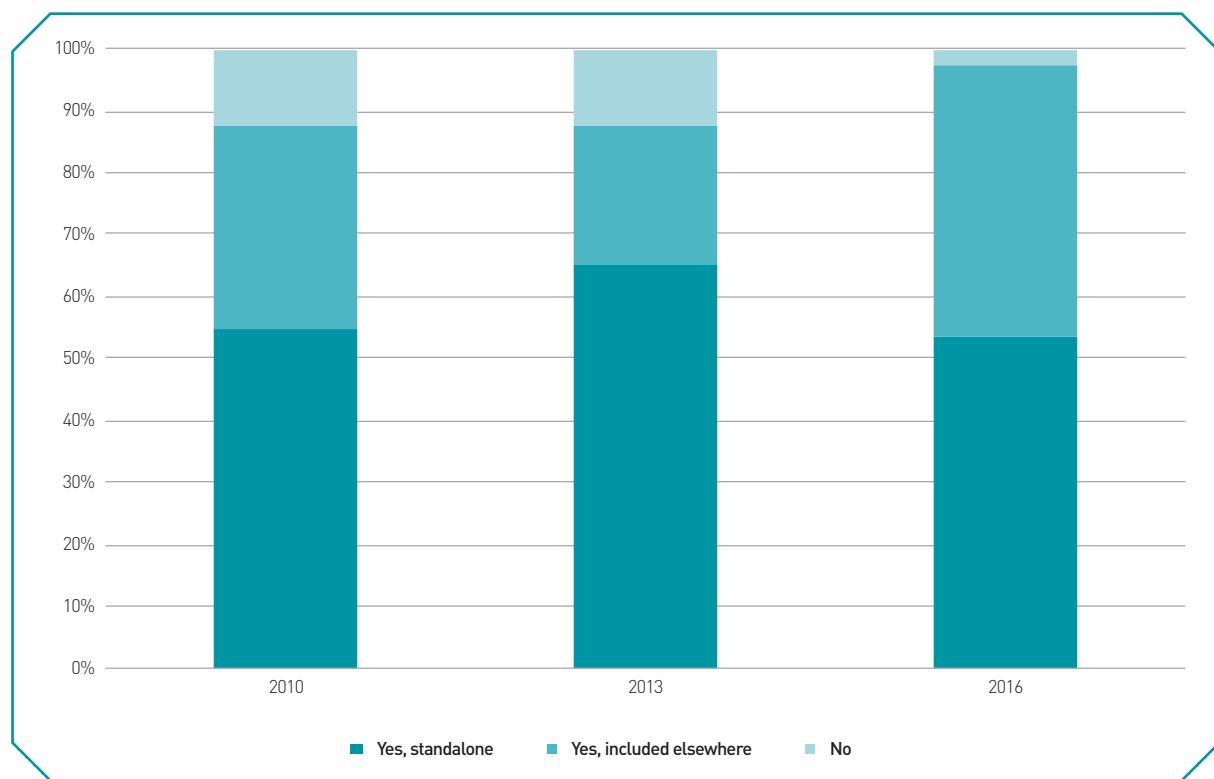
Policies to tackle health inequities in place in 42 countries in 2016

Health inequities are unfair distributions of health and well-being outcomes (1). Social determinants of health include all political, social, economic, institutional and environmental factors which shape the conditions of daily life (1), contribute to health and well-being and the onset of illness throughout a person's life. National policies that address the reduction of health inequities by taking action on the social determinants

of health can lead to improvements in the overall health and well-being of the entire population.

The number of countries in the European Region establishing and documenting national and subnational policies to address the reduction of health inequities has been increasing (see Fig. 2.24). In 2016, 42 countries out of 53 (79%) had a policy or strategy in place to address inequities or social determinants. This is an increase from 29 and 35 countries, respectively, in 2010 and 2013.

Figure 2.24. All country replies on the existence of a national or subnational policy or strategy addressing health inequities or social determinants of health (2010: n = 33; 2013: n = 40; 2016: n = 43)



Source: WHO Regional Office for Europe (27).

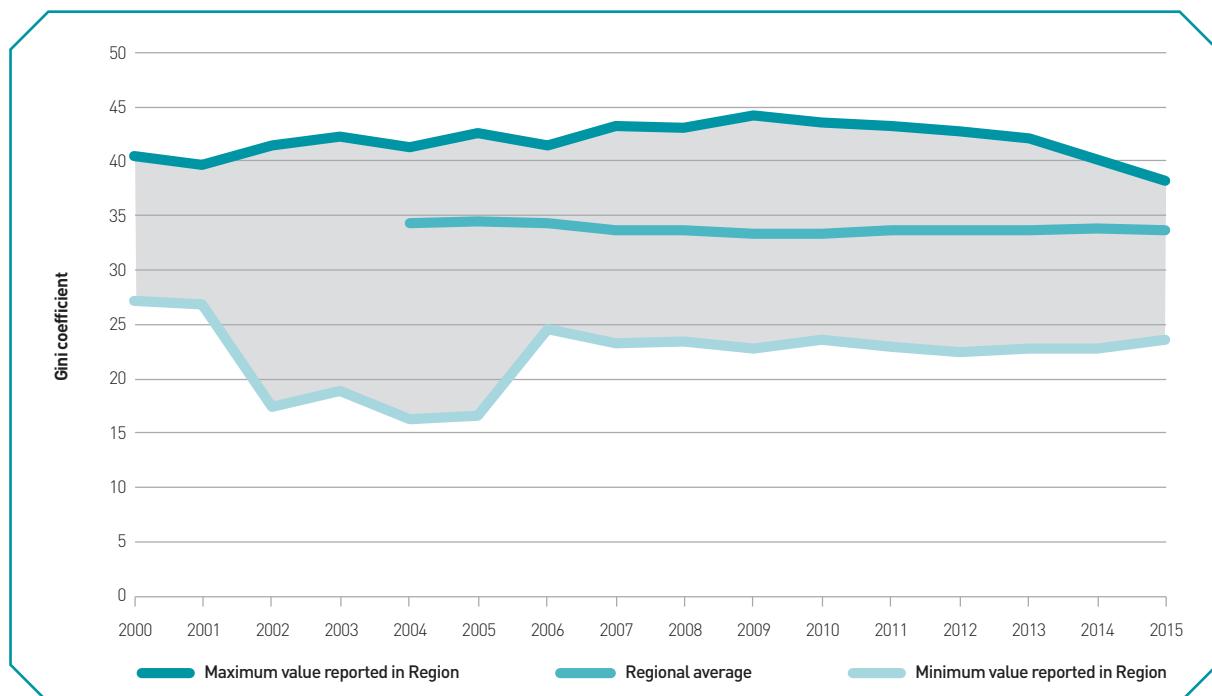
Decline in inequalities in income distribution between the countries in the Region

The Gini coefficient measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution (1).

The WHO European regional average of income inequality (Gini coefficient) has slightly decreased over the last decade from 34.3 in 2004 to 33.7 in 2015, respectively.

At the same time, there were large differences in levels of income inequality between the countries in the Region which ranged from a minimum value of 23.6 to a maximum value of 38.2 in 2015 (see Fig. 2.25). The differences between the maximum and minimum values in the Region have been slowly decreasing over recent years (see Fig. 2.25): from 19.9 percentage points in 2010 to 17.4 percentage points in 2014 and 14.6 in 2015, representing a decrease of 27% since 2010. However, these trends should be interpreted with caution as the number of countries that reported data decreased from 40 countries in 2010 to 37 in 2014 and 31 countries in 2015.

Figure 2.25. Gini coefficient (income distribution)



Source: Health for All database on the WHO European Health Information Gateway (9).

Note: The European regional average is calculated for those years when more than 26 countries (half of the 53 Member States) reported in that year. See Annex 2 for detailed notes.

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

Introduction

The assessment of well-being as a multidimensional concept is a core target area in Health 2020 policy for the Region. Reporting on well-being indicators within the Health 2020 framework informs stakeholders about the distribution of well-being across different population groups as well as the drivers and barriers to well-being (28).

The WHO European Region's overall life satisfaction index is 6. However, some countries have a relatively low life satisfaction score of 5 or below, while other countries have the highest scores in the world.

The indicator of social support (one of the objective well-being indicators), is high in the Region with 81% of the population aged 50 years and above reporting that they had relatives or friends on whom they could count when in trouble. However, this is lower than the reported value for 2013. There was a large variation between different countries in the Region, reflecting a gradient of social connectedness across the Member States.

Concerning the second indicator on objective well-being, in 2015, more than 90% of the population in the Region had access to improved sanita-

tion facilities and piped drinking water. Yet there were inequalities in access between the urban and rural areas in the Region.

In 2015, on average, the percentage of the adult population that had completed at least secondary education remained almost unchanged. However, educational attainment varied between countries in the Region.

According to the Eurostat database which includes data on 34 countries in the Region, the percentage of people aged 65 years and above that live alone has increased, with women constituting the greater share of older adults living alone. Finally, there has been a steady increase in the regional average of household final consumption expenditure per capita which is now the highest reported since 2000, the reference year.

These findings revealed a diverse performance of Member States in relation to their populations' well-being. Improved well-being contributes to better mental and physical health, higher productivity at work and in turn stronger economies. Hence, careful design, monitoring and implementation of well-being policies and strategies will need to continue in the Region.

Box 2.10. Health 2020 Target 4 and indicators

Well-being is both subjective and objective. It comprises an individual's experience of their life as well as a comparison of life circumstances with social norms and values.

Target 4 "Enhance the well-being of the European population" is linked to Health 2020 policy area 2 "Healthy people, well-being and determinants". The quantification for this target is set as a result of the baseline of the core well-being indicators.

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
- Gini coefficient (described in the section on Target 3)
- unemployment rate (described in the section on Target 3), and
- proportion of children of official primary school age not enrolled in school (described in the section on Target 3).

The additional indicators include:

- percentage of people aged 65 years and over living alone
- household final consumption expenditure per capita, and
- educational attainment of people aged 25 years and over who have completed at least secondary education.

Subjective well-being: average level of life satisfaction in the Region

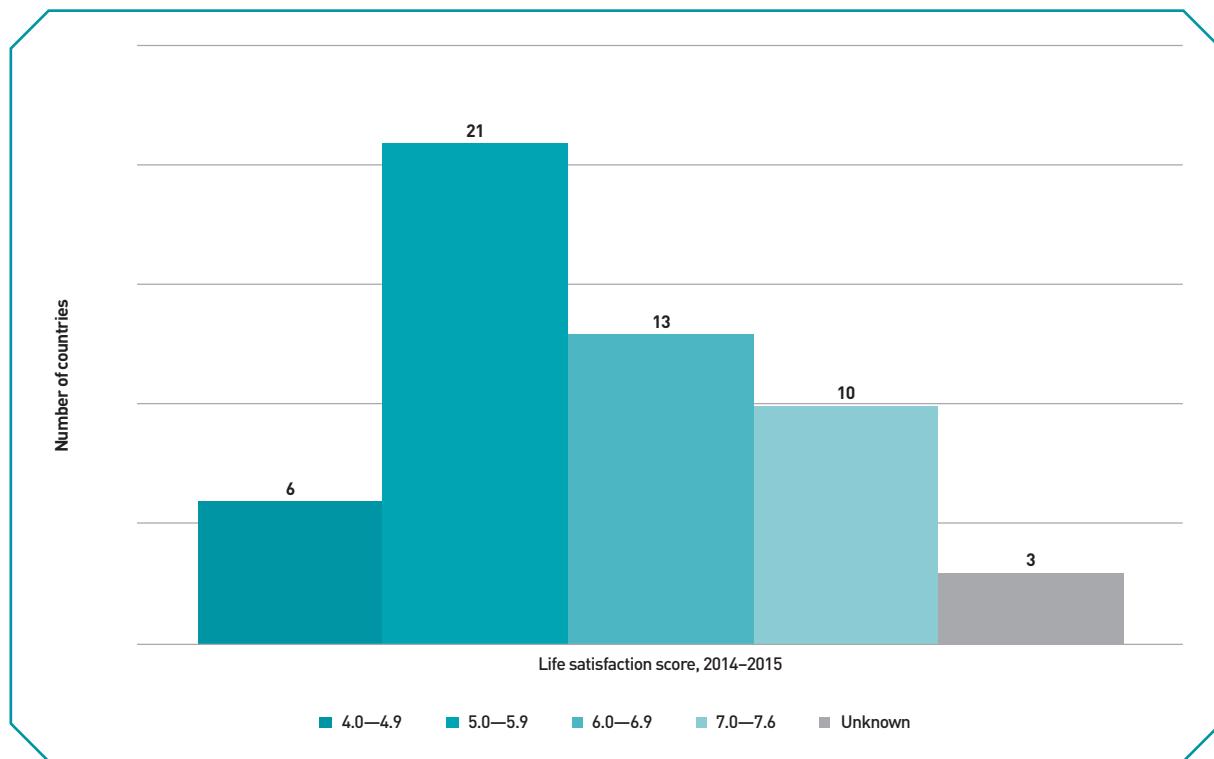
Life satisfaction comprises the subjective dimension of well-being in Health 2020 (1). The life satisfaction score is measured on a scale from zero (least satisfied) to 10 (most satisfied) for the question: "How satisfied are you with life these days?"

Data from the Gallup World Poll for 2014–2015, obtained through the United Nations Development Programme's *Human Development Report 2016* (29), give the WHO European Region an overall life

satisfaction score of 5.9. Data were available for 50 countries in the Region.

There is considerable variation in life satisfaction levels between the countries in the Region. Some countries have a relatively low overall average self-reported life satisfaction score, with average scores of 4.9 or below. Other countries in the Region have higher scores of up to 7.6 (which is also the highest score in the world) (29). Twenty-three countries have an average life satisfaction score above 6; the remaining 27 have a score of 5.9 or lower (see Fig. 2.26).

Figure 2.26. Overall life satisfaction in the WHO European Region, 2014–2015



Source: adapted from (29).

High level of social connectedness in the Region: 81% of the population has social support through family or friends

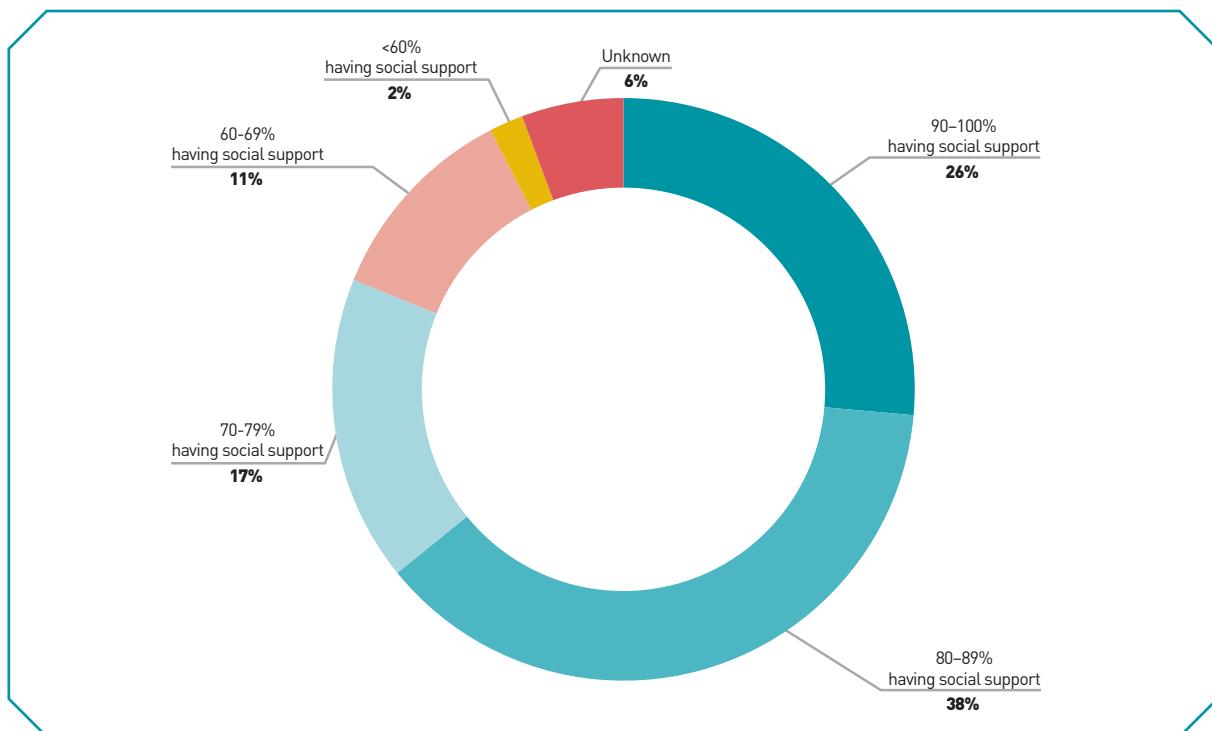
Social connectedness is a measure of objective well-being (1). Its importance for health and well-being has been well established and is therefore a common element in well-being frameworks (1).

The level of availability of social support (objective well-being indicator) is expressed as a percentage of the population aged 50 years and above who responded "yes" to the survey ques-

tion: "If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?" (1). In 2015, 81% responded positively. This average percentage is slightly lower than that reported in 2013 (86%).

There is a large gap between the countries in the Region reporting the highest and lowest proportions of social connectedness which ranged from 43% to 95% in 2015. In 2015, 64% of countries in the Region had a proportion of social connectedness of 80% or higher, while for 13% of countries the proportion was below 70% (Fig. 2.27).

Figure 2.27. Percentage of people aged over 50 years who have social support, proportion of countries, 2015



Source: Health for All database on the WHO European Health Information Gateway (9).

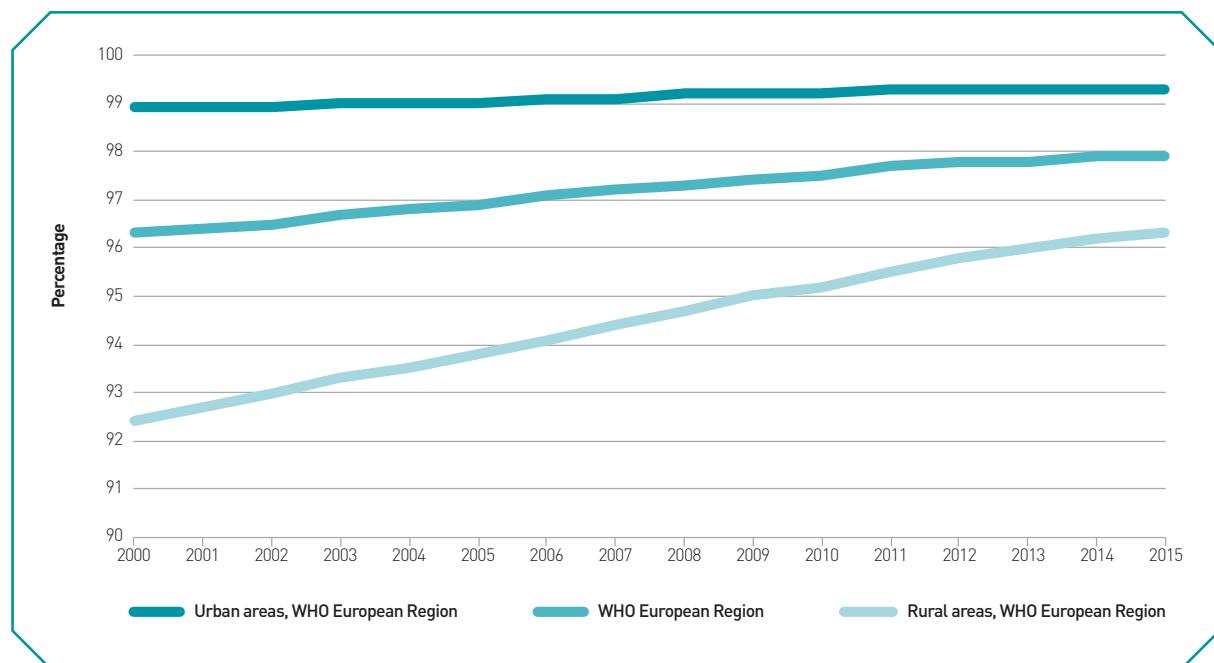
Inequalities in rural and urban access to piped water and sanitation systems persist

An improved sanitation facility is defined as one that hygienically separates human excreta from human contact (1). Living in satisfactory and sanitary housing conditions is one of the most important aspects of people's lives (1). An assessment of population well-being thus needs to examine living conditions and whether dwellings have access to facilities – including an adequate water supply and sewage system – that are considered basic needs and human rights (1).

Improved sanitation facilities include flush toilets (alternatively pour flush to piped sewer system, septic tank, or pit latrine); ventilated improved pit latrines; pit latrines with slab; and composting toilets (1).

Using the pre-specified definition by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, more than 90% of the population in the Region has access to improved sanitation facilities and piped drinking water (see Fig. 2.28–2.30).

Figure 2.28. Access to piped water in urban and rural areas



Source: Health for All database on the WHO European Health Information Gateway (9).

In 2015, 97.9% of the population in the WHO European Region had access to piped drinking water: 96.3% of the population in rural areas and 99.3% of the population in urban areas (see Fig. 2.28). These average proportions show a small increase since 2010 when the percentages were 95.2% for rural areas and 99.2% for urban areas. In 2015, there were large inequalities in access to piped drinking water between the urban and rural areas in the Region, which ranged from 93.1% to 100% for populations in urban areas and from 66.7% to 100% for populations in rural areas.

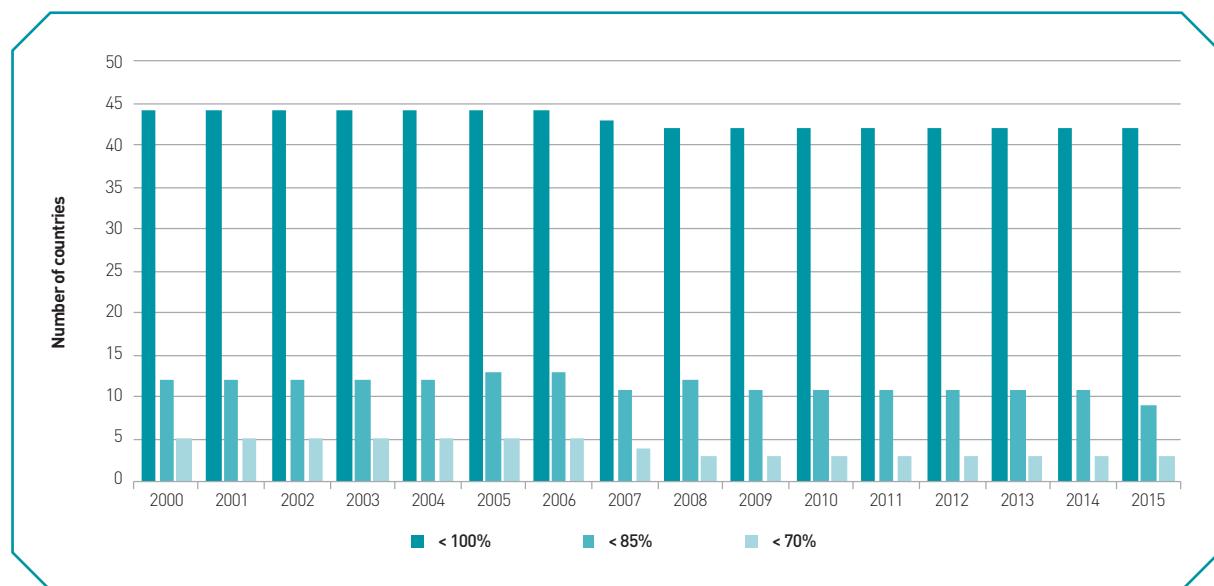
In 2015, 92.9% of the population in the WHO European Region had access to improved sanitation systems. By 2015, 89.2% of the population in rural areas and 94.6% of the population in urban areas had access to a sewage system, septic

tank or other hygienic means of sewage disposal. These proportions show a small improvement since 2010 when the percentages were 88.2% for rural areas and 94.4% for urban areas.

The proportion of the rural population with access to improved sanitation facilities in 2015 was below 85% in nine countries and below 70% in three (see Fig. 2.29). In urban areas it was below 90% in five countries and below 80% in one country (see Fig. 2.30).

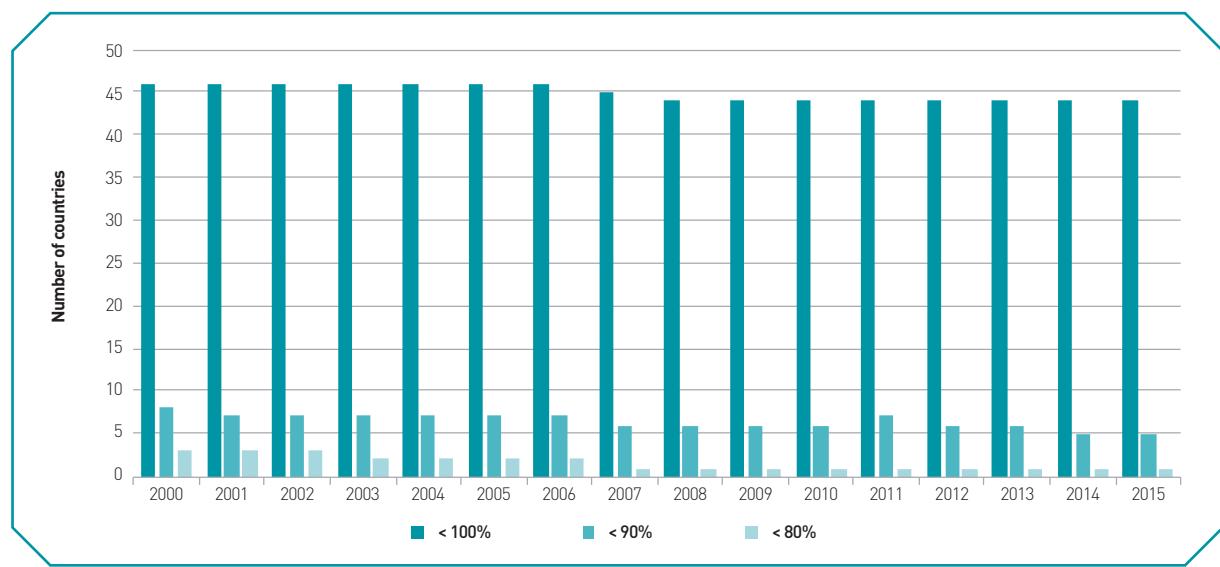
These figures show that the Region still lags behind the targets for SDG goals (24). SDG Targets 6.1 and 6.2 aspire to “achieve universal and equitable access to safe and affordable drinking water for all; and achieve access to adequate and equitable sanitation and hygiene for all”.

Figure 2.29. Number of countries in which the proportion of the rural population with access to improved sanitation facilities is below 100%, 85% or 70%



Source: Health for All database on the WHO European Health Information Gateway (9).

Figure 2.30. Number of countries in which the proportion of the urban population with access to improved sanitation facilities is below 100%, 90% or 80%



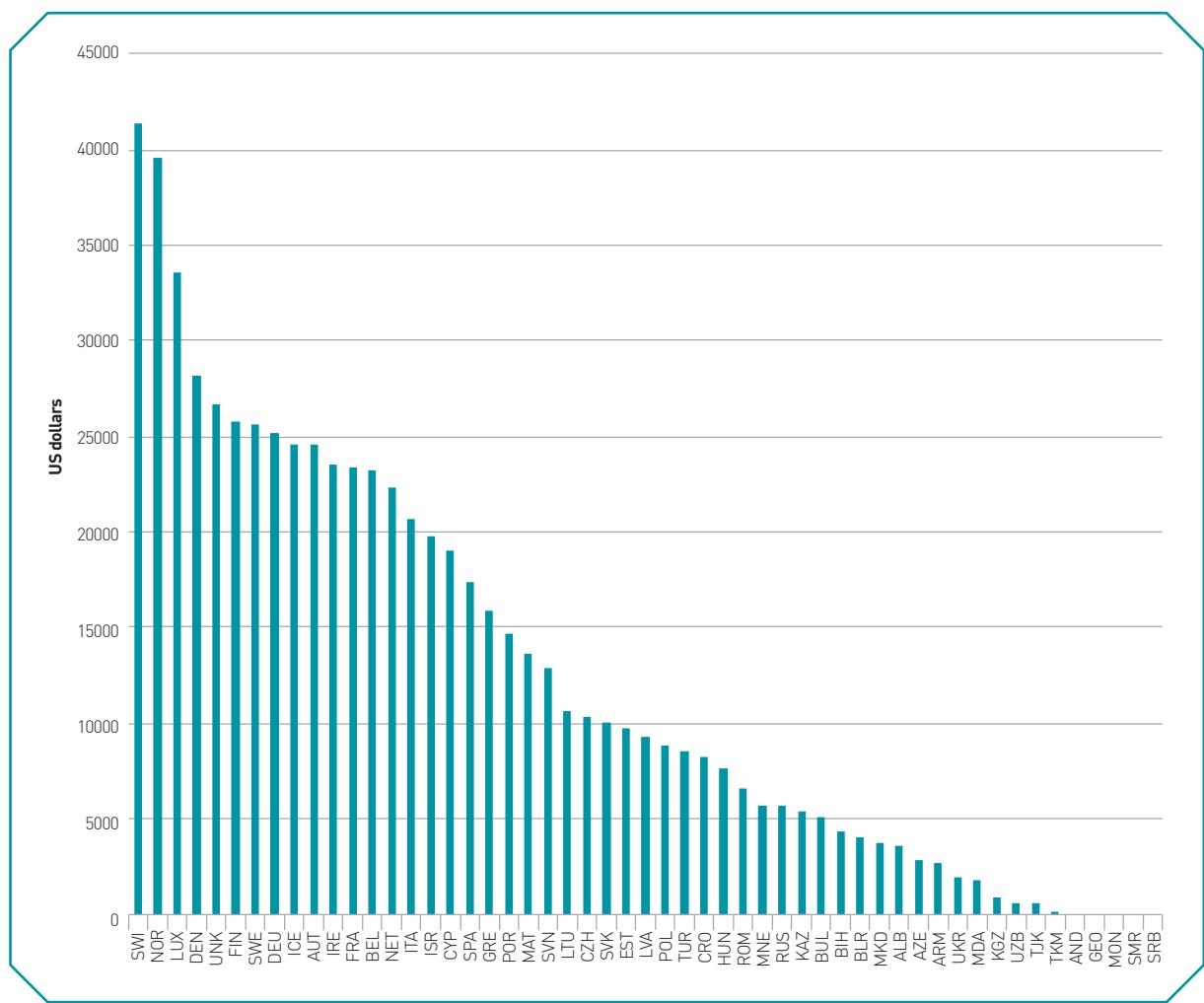
Source: Health for All database on the WHO European Health Information Gateway (9).

Highest level of household final consumption expenditure per capita since 2000: US\$ 15 120 in 2016

Household final consumption expenditure is the market value of all goods and services, including durable products (such as cars, washing machines and home computers), purchased by households (1). It excludes purchases of dwellings

but includes imputed rent for owner-occupied dwellings (1). It also includes payments and fees to governments to obtain permits and licenses (1). There has been a steady increase in the regional household final consumption expenditure per capita (constant 2010 US\$); it increased from US\$ 12 902 in 2010 to US\$ 15 120 in 2016, which is the highest reported since 2000, the reference year (see Fig. 2.31).

Figure 2.31. Household final consumption expenditure per capita (constant 2010 US\$), latest available year



Source: World Bank (30).

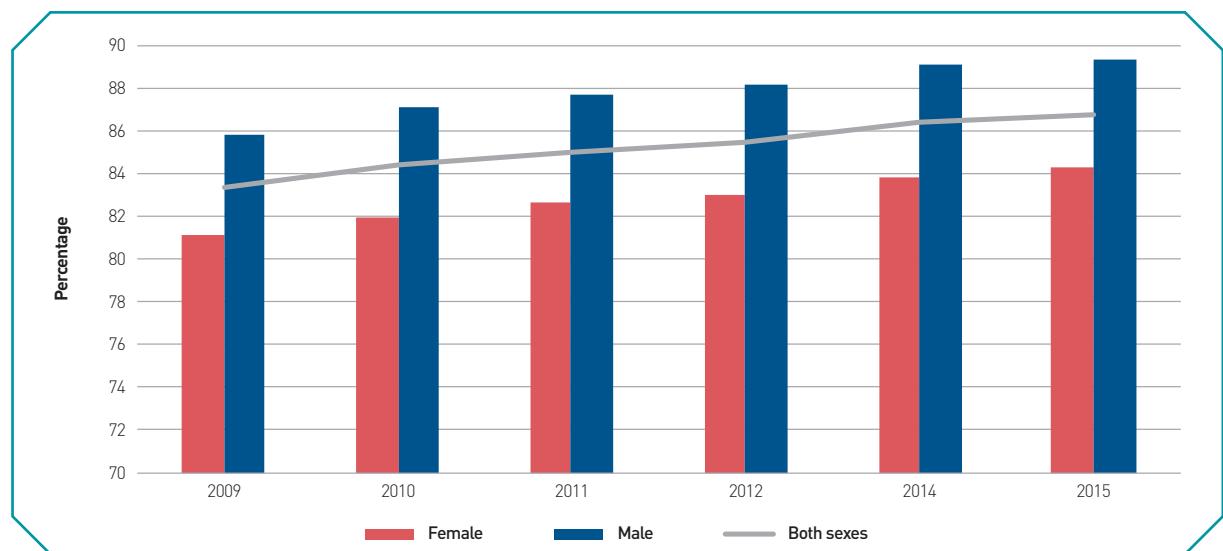
Large differences between countries in the Region in educational attainment of people aged 25 years and above who have completed at least secondary education

Educational attainment is defined as the highest level successfully completed in the educational system of the country where the education was received (1). The levels of education are defined according to the International Standard Classification of Education (ISCED) of 1997 (1).

According to UNESCO data, on average, the percentage of the adult population who had completed at least secondary education (ISCED level 2 and up) remained unchanged between 2010 (51.2%) and 2015 (50.0%); 32 countries in the Region reported data (see Fig. 2.32).

There are large differences between countries in educational attainment of people aged 25 and above who have completed at least secondary education; in 2015, the maximum reported value in the Region was 80.3% and the minimum reported value was 34%.

Figure 2.32. Percentage of people aged 25 years and above who have completed at least secondary education



Source: UNESCO (31).

A high percentage of people aged 65 years and above live alone

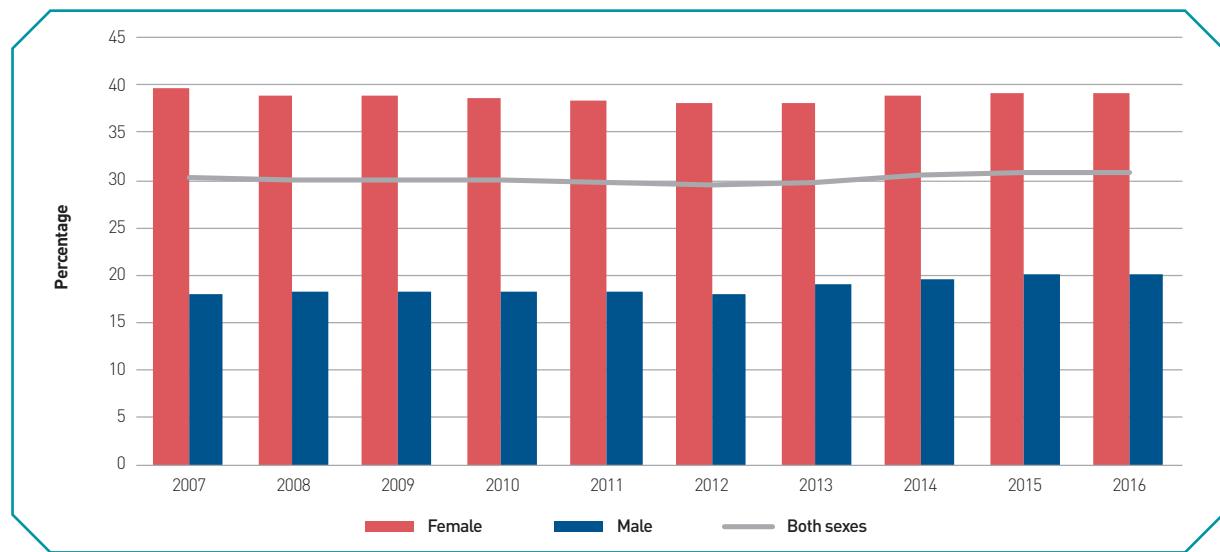
This indicator measures the potential support needed for older – and in general more vulnerable – people in a community by measuring the percentage of people aged 65 and over that live alone (1).

The percentage of people aged over 65 who live alone has increased from 29.9% in 2010 to 30.9% in 2016 (see Fig. 2.33), according to the Eurostat

database, which includes data on 34 countries in the Region.

In 2010, women made up a greater share of older adults living alone as 38.7% of elderly women were living alone. Since then, the percentage of older women living alone has slightly increased to 39.2% in 2016, while the percentage of older men living alone has risen from 18.3% in 2010 to 20.2% in 2016. The gender difference is largely a reflection of the gap in life expectancy between men and women.

Figure 2.33. Percentage of people aged 65 years and above living alone, by sex



Source: Eurostat (23).

Target 5. Ensure universal coverage and the “right to health”

Introduction

Target 5 is focused on achieving universal health coverage by 2020 and envisages the “right to health” as a core policy construct and vision that fosters the idea that provision of equitable fair access to effective and needed services without financial burden is a fundamental right of all citizens.

The WHO Director-General, Dr Tedros, identified universal health coverage as one of the five key priorities for the World Health Organization (32). Ensuring universal health coverage without impoverishment is the foundation for achieving the health objectives of the SDGs (32). The World Health Assembly made universal health coverage one of WHO’s three strategic priorities in the WHO’s thirteenth general programme of work 2019–2023, by setting the strategic priority (and goal) of “reducing persistent barriers to accessing health services and 1 billion more people benefitting from universal health coverage” (33).

Moreover, achieving universal health coverage will put the health system into a better position to respond to new and intensifying challenges, such as antibiotic resistance. Antibiotic resistance leads to longer hospital stays, higher medical costs and increased mortality. A sustained response to antibiotic resistance will address these (34).

Countries should secure sufficient resources to support universal health coverage systems in which essential health services are available to all individuals who need them while at the same time reducing out-of-pocket payments.

Member States’ performance is showing a mixed picture in association with the indicators for Target 5. The WHO European regional average total health expenditure as a percentage of GDP has remained unchanged since 2010. Likewise, the regional average of the general government expenditure on health as a percentage of GDP has also remained unchanged. There are, however, large differences in levels of public expenditure on health between the countries in the Region. Private household out-of-pocket expenditures as a share of total expenditure on health has slightly increased with great variation across the Region.

On the other hand, the WHO European Region has made some gains in closing the gap in maternal mortality which decreased between 2010 and 2015.

Similarly, the regional average treatment success rate (%) for new pulmonary TB cases has also improved slightly over the last decade. There were, however, large differences in reported treatment success rates by the Member States.

Box 2.11. Health 2020 Target 5 and indicators

Target 5 is “moving towards universal coverage (according to the WHO definition: Equitable access to effective and needed services without financial burden) by 2020”. To assess countries’ performance in relation to this target, Member States in the Region collect and report data for a set of core indicators:

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

The additional indicators include:

- maternal deaths per 100 000 live births
- percentage of people treated successfully among laboratory-confirmed (new smear-positive) pulmonary tuberculosis cases who completed treatment
- government (public) expenditure on health as a percentage of GDP (WHO estimate).

Box 2.12. Surveillance of antibiotic resistance in the European Region

Surveillance is an essential tool for assessing the sources and trends of antibiotic resistance, informing policies and interventions and monitoring their impact. In many EU/EEA countries, surveillance of antibiotic resistance has been performed for almost two decades, which has been coordinated by the European Centre for Disease Prevention and Control since 2010 as the European Antimicrobial Resistance Surveillance Network (EARS-Net). In 2012, the Regional Office, together with partners, established the Central Asian and Eastern European Surveillance of Antimicrobial Resistance (CAESAR) network to assist countries in the rest of the European Region to set up or strengthen national surveillance systems to complete the regional overview of antibiotic resistance. In some countries, this proved particularly difficult since antibiotic susceptibility testing of samples obtained from patients to support treatment decisions was not done routinely, so data on antibiotic resistance were not readily available. To stimulate routine sampling practice to improve patient treatment (antibiotic stewardship) and enable national antimicrobial resistance surveillance, a so-called proof-of-principle (PoP) study was designed. Such a study entails selecting project hospitals, forming interdisciplinary hospital teams, providing criteria for sampling patients, training hospital and national reference laboratory personnel on international diagnostic standards and setting up lines of communication for results and project progress within and between project teams.

The first PoP study was performed in Georgia between July 2015 and December 2016. At the end of the study, a stakeholder meeting was organized in May 2017 to discuss the obtained data with the participating hospitals, the lessons learnt and the next steps needed at the hospital and the national level to ensure sustainable implementation. The results presented during the stakeholder meeting indicated that the study had successfully demonstrated the value of standardizing blood culturing in de-escalating treatment of bloodstream infections and that communication between clinicians, epidemiologists and microbiologists had greatly improved. The efforts also laid the foundation for a laboratory-based surveillance system for antimicrobial resistance which enabled Georgia to provide data for the CAESAR annual report (35) for the first time in 2017. Currently, Armenia is performing a PoP study and more studies are being prepared in Uzbekistan and Tajikistan.

The regional average of the total expenditure on health as a percentage of GDP remained almost unchanged between 2010 and 2014

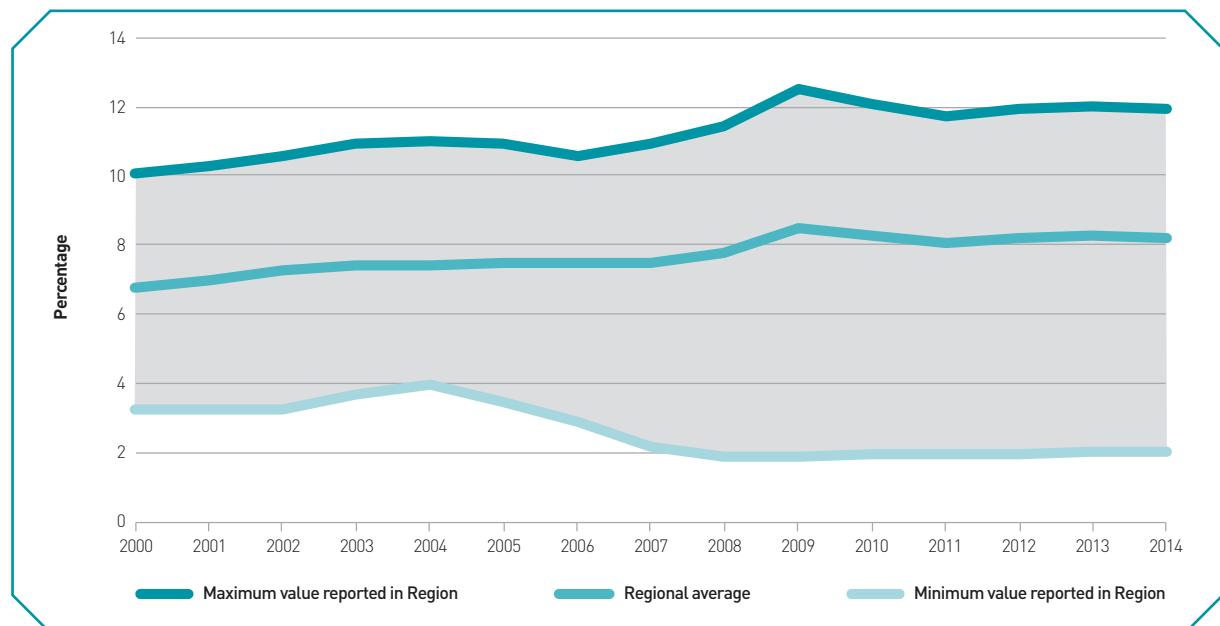
Total health expenditure is measured as the sum of general government and private expenditure on health (1). Estimates for this indicator are produced by WHO jointly with the Organisation for Economic Co-operation and Development and the World Bank (1).

The WHO European regional average of total health expenditure as a percentage of GDP has steadily

increased from 6.8% in 2000 to 8.5% in 2009 but then fell slightly and remained almost unchanged at 8.3% in 2010 and 8.2% in 2014 (Fig. 2.34).

However, there were large differences in levels of total health expenditure as a percentage of GDP between the countries in the Region. Expenditure ranged from 2.1% to a maximum value of 11.9% in 2014 (see Fig. 2.34). The difference between the countries with the highest and lowest rates of expenditure in the Region has widened since 2005 but has remained at around 10 percentage points since 2010 (see Fig. 2.34). There were large intra-regional differences as expenditure ranged from 6.6% in CIS countries to 10.8% in Nordic countries.

Figure 2.34. Total health expenditure as a proportion of GDP (WHO estimates) (%)



Source: Health for All database on the WHO European Health Information Gateway (9).

Continued increment in the regional average of private households' out-of-pocket payments on health: the challenge of achieving universal health coverage in the Region

The level of out-of-pocket payments or expenditure on health is expressed as a percentage of total expenditure on health (1). Private households' out-of-pocket payments on health are their direct expenses, including gratuities and payments in kind made to health practitioners and suppliers of pharmaceuticals, therapeutic appliances and other goods and services, whose primary purpose is to contribute to the restoration or enhancement of the health status of individuals or population groups (1). They also include household payments to public services, non-profit institutions or non-governmental organizations, nonreimbursable cost sharing, deductibles, co-payments and fees for service (1). The evidence shows that there is a strong correlation between a country's public expenditure on health and private out-of-pocket payments (36, 37 p. 29). Countries with low levels of public expenditure on health usually experience high levels of out-of-pocket payments, which in turn may lead to financial hardship for households and adverse effects on health outcomes.

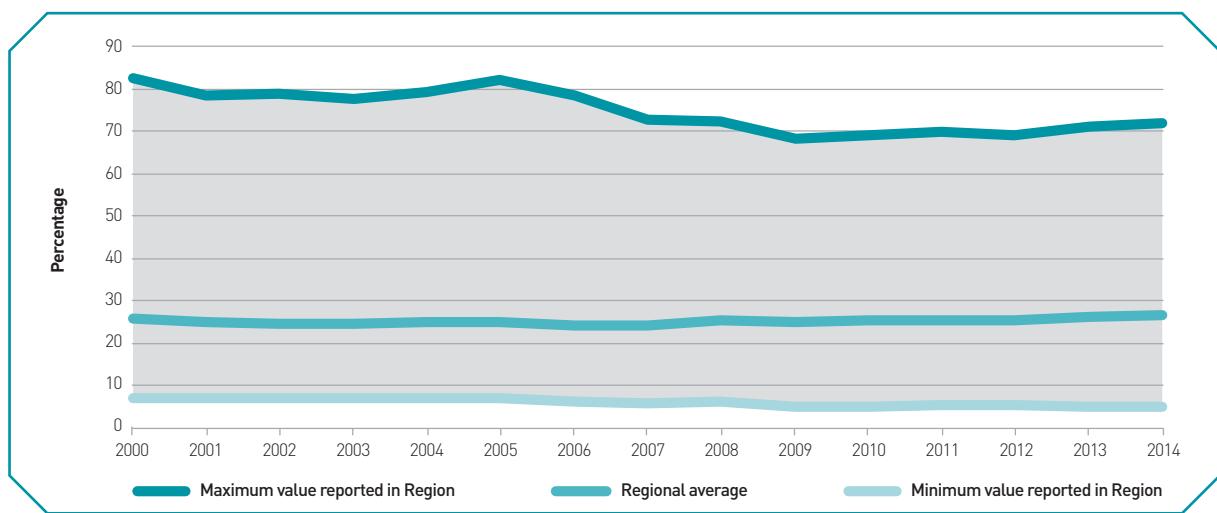
International analysis suggests that once the share of out-of-pocket payments falls below 15% of total spending on health, very few households experience catastrophic or impoverishing levels of health expenditure (38). In 2014, 40 countries in the Region had proportions higher than this critical threshold, similar to the findings reported in the *European health report* for 2015.

The regional average of private household out-of-pocket expenditure has slightly increased from 25.5% in 2010 to 26.6% in 2014 (see Fig. 2.35). This indicates an increase in inequitable access to health care along with an elevated level of financial risk, impoverishment and perpetuation of an economically vulnerable population.

There were large differences in the proportions of private household out-of-pocket expenditure between the countries in the Region, which ranged from a low value of 5.2% to a very high maximum value of 72.1% in 2014 (see Fig. 2.35).

There were also considerable differences between subregions in the proportions of private household out-of-pocket expenditure, which ranged from 14.7% in Nordic countries to 46.2% in CIS countries in 2014.

Figure 2.35. Private households' out-of-pocket expenditure on health as a proportion of total health expenditure (WHO estimates) (%)



Source: Health for All database on the WHO European Health Information Gateway (9).

General government expenditure on health as a percentage of GDP remained static between 2010 and 2014

There is an additional indicator for this target that concerns general government expenditure on health as a percentage of GDP (1).

General government expenditure on health is the sum of total expenditure for health maintenance, restoration or enhancement paid for in cash or supplied in kind by government entities, such as ministries of health and other ministries, parastatal organizations and social security agencies (without double counting the government transfer for social security and to extra budgetary funds) (1). It includes transfer payments to households to offset medical care costs to finance health services and goods (1).

The regional average of the general government expenditure on health as a percentage of GDP remained steady at 5.8% in 2010 and 5.7% in 2014.

There are large differences in the levels of general government expenditure on health between the countries in the Region. In 2014, the highest reported value for general government expenditure on health was 10% and the lowest was 1%. Since 2010 the highest level of general government expenditure on health in the Region has increased by 1 percentage point, whereas the lowest level has remained unchanged.

There are also considerable differences between subregions in the levels of general government expenditure on health as a percentage of GDP, which ranged from 3.4% in CIS countries to 8.9% in the Nordic countries in 2014.

To achieve universal health coverage at the national level, Member States have to ensure that sufficient public resources are allocated to health and out-of-pocket payments are reduced to a minimum, especially for the poor and other vulnerable populations. There is

an inverse relationship between a country's public expenditure on health and out-of-pocket payments. Countries with low levels of public expenditure on health usually experience high levels of out-of-pocket payments, which in turn pose a financial risk and foster negative influences on health outcomes.

Slow decline in maternal deaths

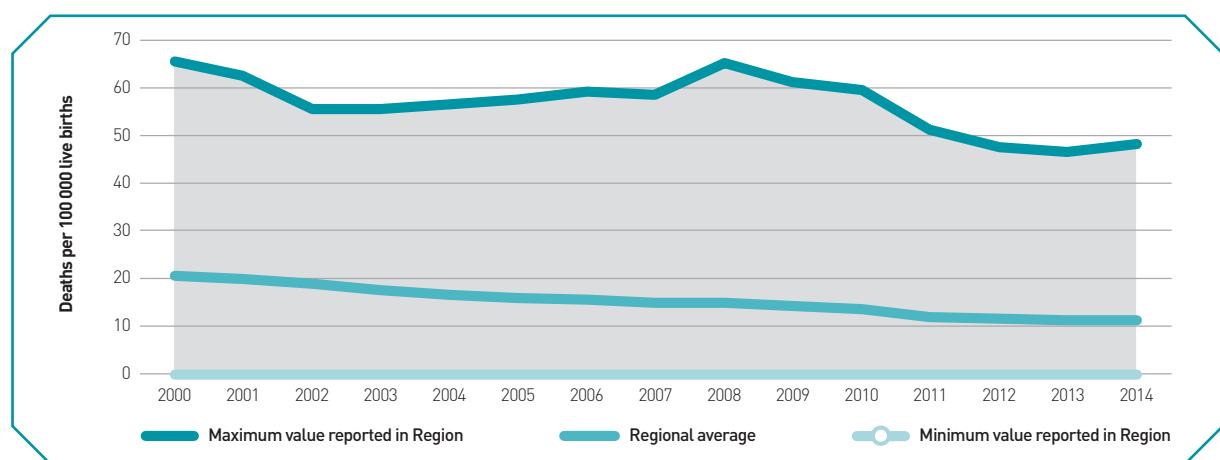
An additional key indicator for this target is maternal deaths per 100 000 live births (1).

It is also an SDG indicator for monitoring Goal 3.1 which aims to "reduce the global maternal mortality ratio to less than 70 per 100 000 live births" by 2030 (24). The maternal mortality ratio is the annual number of female deaths from any cause related to, or aggravated by, pregnancy or its management (excluding accidental or incidental causes), during pregnancy and childbirth or within 42 days of the end of the pregnancy, irrespective of the duration and site of the pregnancy, per 100 000 live births, for a specified year (1).

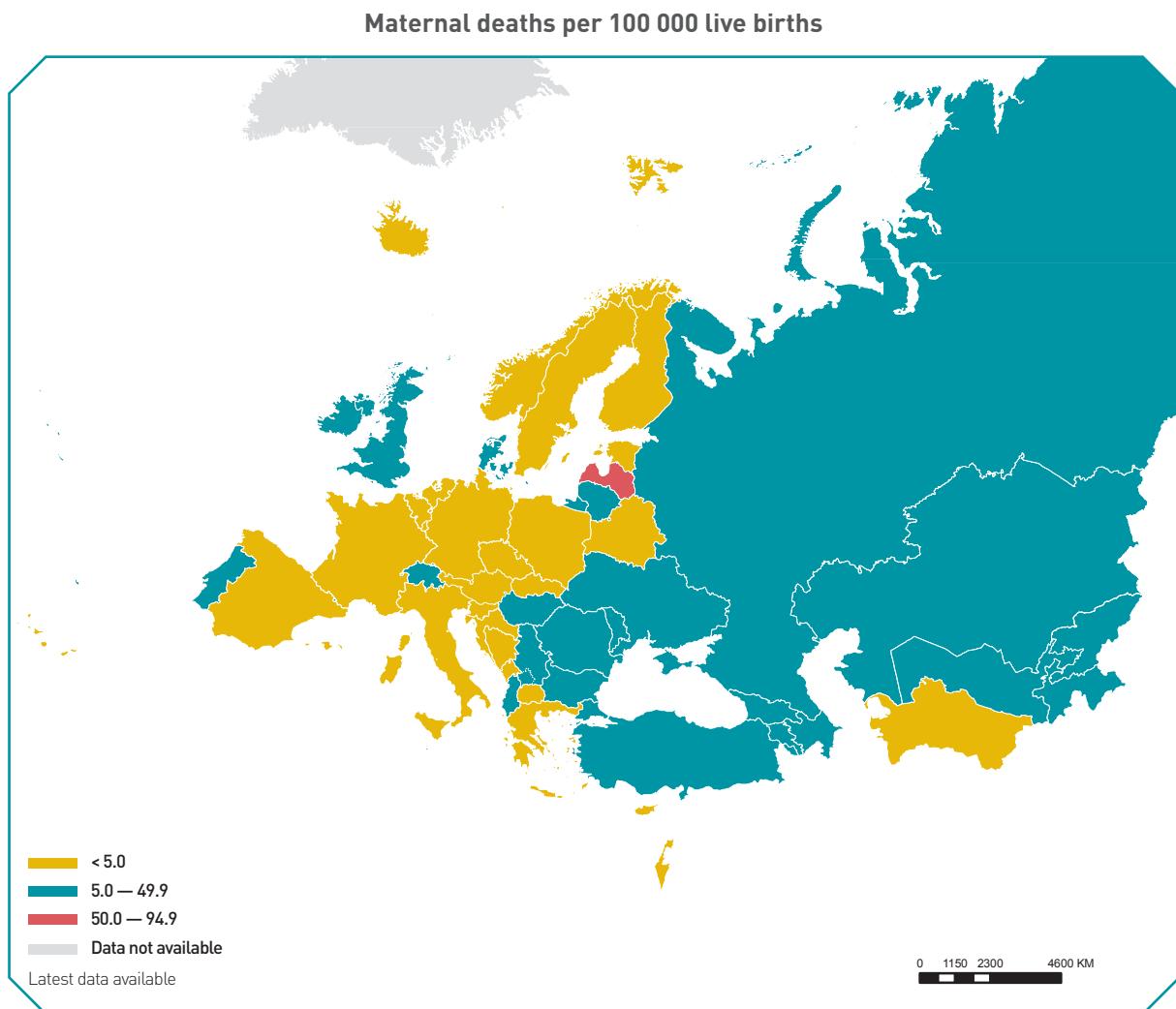
The WHO European Region has made considerable progress in closing the maternal mortality gap between countries; the difference between the highest and lowest rates is decreasing. The lowest rate in the Region in 2015 was 0%, while the highest rate was 55%.

Certain indicators – such as infant and maternal mortality, as well as various communicable diseases – can be affected by small numbers of events and the small population size, and therefore most year-to-year variation seen at the national level is random. The maternal mortality indicator is therefore presented by calculating annual values using an average from the last three years for which data are available, having been adjusted using the moving averages method. The regional three-year moving average of maternal mortality rates decreased from 20 deaths per 100 000 live births in the period 2000–2002 to 13.7 deaths per 100 000 live births in 2009–2011 and 11.3 deaths per 100 000 live births in 2013–2015 (see Fig. 2.36). Further, there were large differences between the countries in three-year averages for maternal mortality (see Map 2.2).

Figure 2.36. Maternal deaths per 100 000 live births, three-year moving average



Source: Health for All database on the WHO European Health Information Gateway (9).

Map 2.2. Maternal deaths per 100 000 live births, three-year moving average, latest available data

Source: Health for All database on the WHO European Health Information Gateway (9).

Note: The map represents the average value per country based on the three most recent years for which data were available.

See Table A2.1 in Annex 2 for information on the data underlying this map.

Modest treatment success rates for new pulmonary TB cases: 77% by 2015

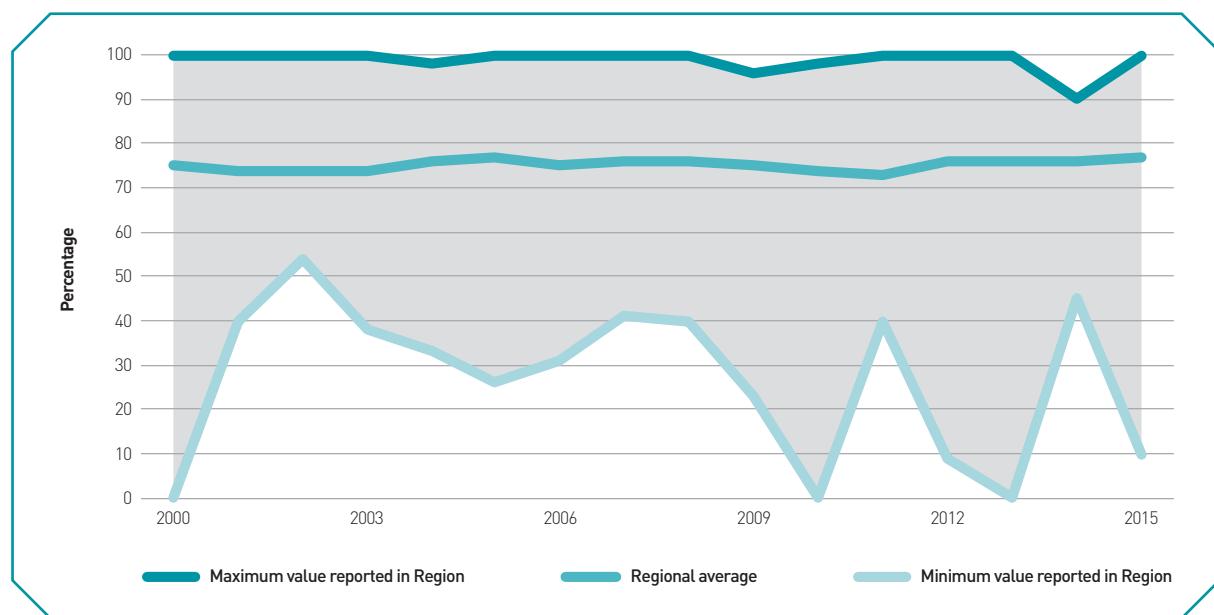
A third additional indicator for this target is treatment success rate (%) for new smear-positive pulmonary TB cases (1).

The cure rate or treatment success rate (those cured plus those that successfully completed treatment without bacteriological evidence) of sputum smear-positive pulmonary TB cases is the most reliable indicator (1). The TB treatment

success rate is the proportion of new smear-positive TB cases registered under a national TB control programme in a given year that successfully completed treatment (without bacteriological evidence of success) (1).

The regional average treatment success rate has slightly increased over recent years from 74% in 2010 to 77% in 2015 (see Fig. 2.37). There remain large differences between countries, with treatment success rates ranging from a very low value of 10% to a maximum value of 100% in 2015.

Figure 2.37. Treatment success rate: new TB cases



Source: WHO Global Health Observatory (15).

Target 6. Set national goals and targets related to health

Introduction

An important element of Health 2020 is its accountability mechanisms through Target 6 which requests Member States to set national goals and targets related to health.

In 2016, the majority of Member States provided feedback and evidence documenting their actions in relation to Target 6 (27). Using data obtained from a survey conducted by the WHO Regional Office for Europe on the qualitative indicators for Target 6, this midpoint assessment of the Health 2020 policy deployment in the Region showed that an increased number of Member States are effectively aligning national policies with Health 2020 policy, adopting the required implementation plans, and establishing accountability mechanisms for monitoring and assessing their progress.

Member States have shown a high level of commitment by the adoption of various approach-

es to align their national policies and strategies with Health 2020 policy, which has been infused into the national policies in many countries in the Region (27). The most common approaches addressed a whole-of-government approach, improved governance for health and improved universal health coverage.

There are still, however, many opportunities to continue developing policies and strategies to adopt, implement and integrate the Health 2020 values into policies across the Region. The implementation of Health 2020 should be sustained to ensure that health and well-being continue to be systematically addressed at country level through the comprehensive lens of the Health 2020 policy framework and its core values. These actions will also directly implement the strategic priority (and goal) that the World Health Assembly set forth in WHO's Thirteenth general programme of work 2019–2023: "Through an integrated and multi-sectoral approach, 1 billion more people enjoying better health and well-being" (33).

Box 2.13. Health 2020 Target 6 and indicators

Target 6 is "national targets/goals set by Member States" and is linked to Health 2020 area 3 "Processes, governance and health systems". The description of this target is the establishment of processes for the purpose of setting national targets (if not already in place). The core indicators linked to this target are:

- establishment of a process for target-setting documented
- evidence documenting:
 - › establishment of national policies aligned with Health 2020
 - › implementation plan
 - › accountability mechanism.

Thirty-eight countries have either set goals and targets for health and well-being or are planning to do so in the near future

Target-setting processes are established national procedures for setting health goals, objectives, targets or indicators aligned with Health 2020 (1). They are expected to be documented in Member State reports (1).

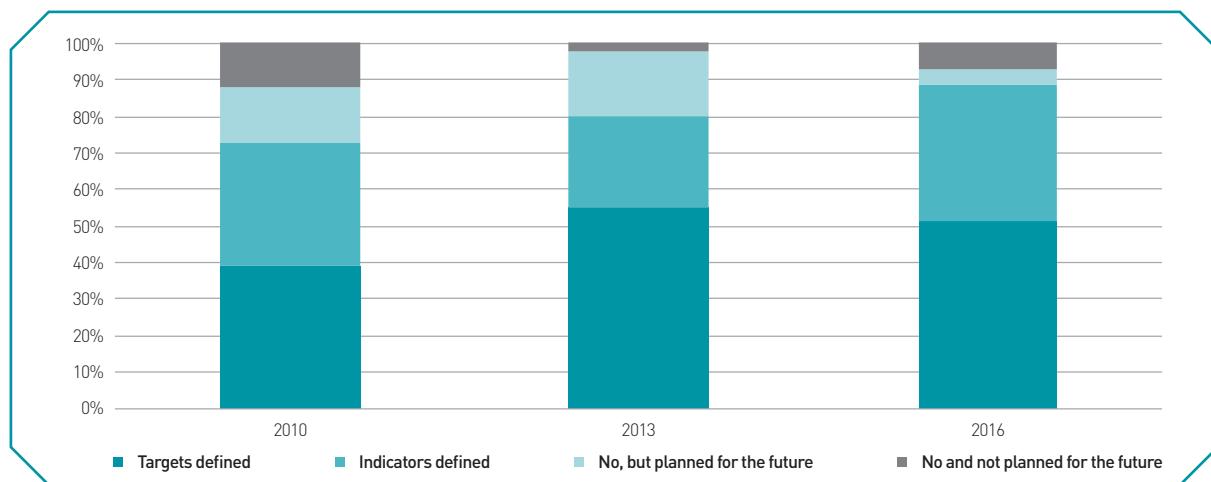
In 2014, the Regional Office conducted the first survey among Member States to collect information for the qualitative indicators linked to Target 6, for the baseline year (2010) and the first comparison year (2013). A follow-up survey was conducted in 2017 and the report with the complete analysis and findings was published and made available online (27).

This section briefly reports on the results of the three surveys on Health 2020 policy indicators

linked to Target 6 for 2010, 2013 and 2016. Thirty-three countries provided responses in 2010, 40 in 2013, and 43 in 2016 (see Fig. 2.38). Between 2010 and 2016, Member States were actively setting targets and indicators for health and well-being, with only a few countries left in the initial planning stages by 2016.

The percentage of responding countries that reported that they had set either targets or indicators for health and well-being, or were planning to do so in the near future increased from 73% in 2010, to 80% in 2013, and 88.4% (38 countries of the 43 that responded to the survey) in 2016 (see Fig. 2.38). Meanwhile, the percentage of countries that reported that they did not yet have a process or did not plan at all to define the process of setting targets and indicators dropped from 27% in 2010, to 20% in 2013 and 12% in 2016. By 2016, less than 7% of the countries in the Region reported that they had no plans to set up such processes in the future.

Figure 2.38. Number of countries with a process for target-setting for health and well-being, in 2010, 2013, and 2016 (2010: n = 33; 2013: n = 40; 2016: n = 43)



Source: WHO Regional Office for Europe (27).

Note: A different number of countries responded in each year (2010: n = 33; 2013: n = 40; 2016: n = 43). Twenty-eight countries responded in all three years.

Rapid implementation of health policies aligned with Health 2020

Considering data from countries that responded to the surveys (in 2010, 2013, and 2016), the proportion of countries in the Region with a comprehensive national health policy aligned with Health 2020 has increased from 36.4% in 2010 to 62.5% in 2013 and 62.7% in 2016 (see Fig. 2.39). Furthermore, the proportion of countries in the Region who reported that they had another similar strategy has increased from 21% in 2010 to 30% in 2016. Overall, by 2016, 95% of the countries in the Region reported that they had either developed the required health policy, had a similar strategy or were planning to develop such a strategy in the near future. Meanwhile, the proportion of countries in the Region who reported that they had not established such policies decreased from 42% in 2010 to 22.5% in 2013 and 7% in 2016.

Diverse approaches have been taken by Member States to align their national policies and strategies with Health 2020 (27), including:

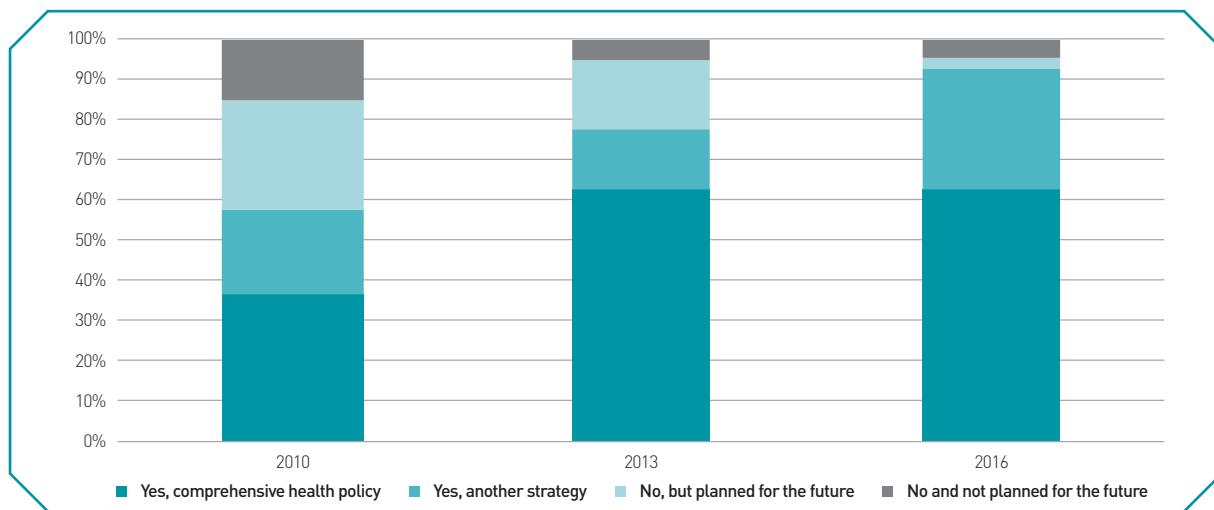
- addressing improved governance for health and taking a whole-of-government approach;
- addressing the reduction of health inequality or tackling the social determinants of health;
- adopting participatory approaches for policy development;
- featuring investment in a life-course approach and improving personal health and well-being skills and resilience;
- addressing major national health threats and challenges;

- addressing universal health coverage and patient-centred health care and public health services;
- including a whole-of-society approach, increasing social capital and empowerment; and
- implementing supportive environments conducive to health and well-being.

In 2010, the most common approaches for aligning national health policies and strategies with Health 2020 were to address major health challenges and threats (67%), health inequalities (61%) and foster participation among stakeholders (64%). By 2016, use of these approaches continued to increase, but the ones most frequently used were those improving governance or taking a whole-of-government approach, and those focused on improving universal health coverage and patient-centred care. The latter two also have the largest increase in the share of responses between 2010 and 2016.

The proportion of responding countries with an implementation plan for national policies and strategies aligned with Health 2020 has increased from 28% in 2010 to 50% in 2013 and 67% in 2016 (see Fig. 2.40). Overall, by 2016, 86% of the countries in the Region reported that they had either adopted an implementation plan or were in the process of doing so. In line with that, the proportion of countries that reported that they did not have any implementation plans (and had no plans to introduce any in the future) decreased from 27% in 2010, to 10% in 2013 and 12% in 2016.

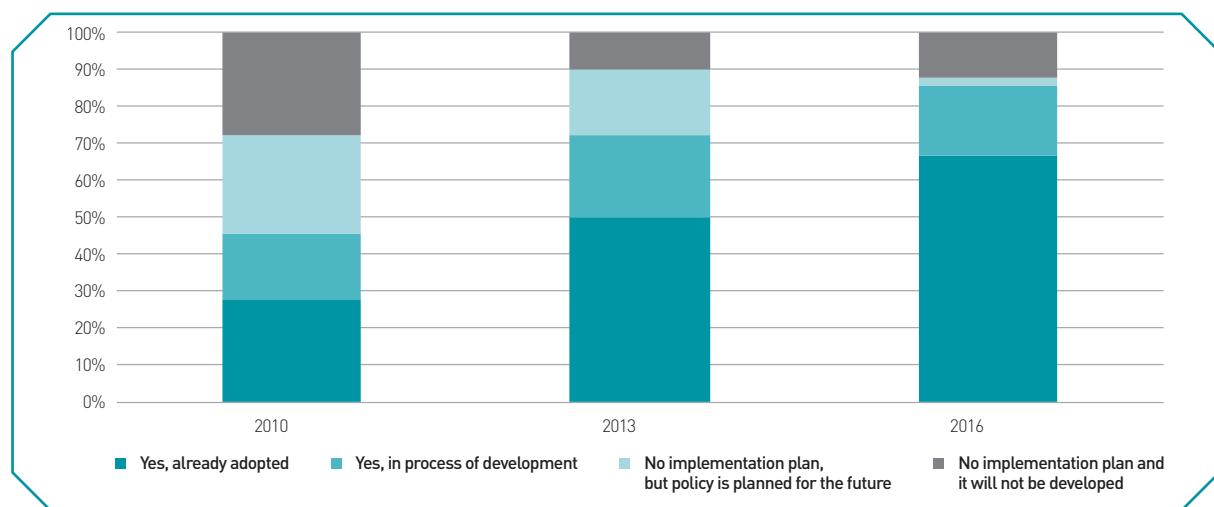
Figure 2.39. Proportion of countries with national policies and strategies aligned with Health 2020, in 2010, 2013, and 2016 (2010: n = 33; 2013: n = 40; 2016: n = 43)



Source: WHO Regional Office for Europe (27).

Note: A different number of countries responded in each year (2010: n = 33; 2013: n = 40; 2016: n = 43). Twenty-eight countries responded in all three years.

Figure 2.40. Proportion of countries with an implementation plan for national policies and strategies aligned with Health 2020, in 2010, 2013, and 2016 (2010: n = 33, 2013: n = 40; 2016: n = 43)



Source: WHO Regional Office for Europe (27).

Note: A different number of countries responded in each year (2010: n = 33; 2013: n = 40; 2016: n = 43). Twenty-eight countries responded in all three years.

The proportion of responding countries with an accountability mechanism for national policies and strategies aligned with Health 2020 has increased from 21% (7 countries) in 2010 to 52.5% in 2013 (21 countries) and 70% (30 countries) in 2016 (see Fig. 2.41). Overall, by 2016, 88.4% of the countries (38 countries in the Region) reported that they had either developed the required accountability mechanisms or were

in the process of doing so. The proportion of countries in the Region that reported that they did not have accountability mechanisms in place (and had no plans to introduce them) decreased from 54.5% (18 countries) in 2010, to 25% in 2013 (10 countries) and 11.6% in 2016 (only five countries). This shows that the Member States are actively reporting and reviewing the impact of their national policies.

Figure 2.41. Proportion of countries with an accountability mechanism for national policies and strategies aligned with Health 2020, in 2010, 2013, and 2016 (2010: n = 33; 2013: n = 40; 2016: n = 43)

Year	Yes, established	Yes, in process of establishment	No accountability mechanism, but policy is planned for the future	No accountability mechanism and it will not be set up
2010	21%	22%	27%	20%
2013	52.5%	20%	15%	2.5%
2016	70%	18%	2%	10%

Source: WHO Regional Office for Europe (27).

Note: A different number of countries responded in each year (2010: n = 33; 2013: n = 40; 2016: n = 43). Twenty-eight countries responded in all three years.

Looking across all Health 2020 targets and indicators, the most significant changes were observed for Target 6. As Member States are effectively progressing towards the final implementation of Health 2020, the activities, policies and accountability mechanisms are an important complement to the achievement of Agenda 2030 along with its SDGs for health.

Since the inception of the Health 2020 policy framework in 2012, the Member States in the Region have increasingly embraced Health 2020's core concepts such as whole-of-government and whole-of-society approaches to policy-making, catalysing intersectoral action for health and well-being, and supporting the development of resilient communities and promoting healthy lives across all ages.

In line with these achievements, European Member States have adopted a number of recent European regional action plans and strategies such as the European action plan to strengthen the use of evidence, information and research for policy-making (39) and its accompanying resolution. In action area 4 of the plan, Member States directly emphasized the European Region's commitment to mainstreaming the use of evidence, information and research in the implementation of Health 2020 and other major regional policy frameworks. This commitment will further strengthen national policy-making and strengthen the monitoring and accountability mechanisms measuring the impact of policies on population health and well-being. The WHO European Member States have put principles and systems in place that recognize health and well-being's cross-cutting nature in the aspirations of Agenda 2030 for sustainable development.

Box 2.14. Implementing the sustainable development goals in the WHO European Region

Background

In 2017, Ministers of Health, at the Regional Committee, reaffirmed the importance of the adoption of Transforming our world: the 2030 agenda for sustainable development and, recognizing the sustainable development goals (SDGs), adopted the European roadmap to implement the SDGs, building on Health 2020, the European policy framework for health and well-being. The nationalization and localization of Agenda 2030 has been initiated in almost all of the WHO European Member States. Important discussions are being held on the identification of the indicators, the target benchmarks, mainstreaming the SDGs into policies and strategies, policy coherence and the identification of means of implementation, including financing. A range of tools and partnerships have been developed by the Regional Office to support implementation in countries.

UN coordination

In May, within the Regional Coordination Mechanism of the Regional UN System for Europe and Central Asia, the Issue-based Coalition on Health and Well-being for All at All Ages (IBC-Health) was welcomed as a useful means by which agencies could cooperate on health (40). The coalition of partners acts as a pan-European enabling mechanism to facilitate and to promote the implementation of SDG 3 and its targets as well as the health-related targets of the other SDGs by coordinating activities of the relevant UN funds, programmes and specialized agencies and other intergovernmental organizations and partners, with a focus on leaving no one behind.

Box 2.14 contd.

In response to Members States' call for more coordinated UN engagement, the UN Director-General introduced Mainstreaming, Acceleration and Policy Support (MAPS) missions, the common approach to support implementation of the 2030 Agenda at the country level.

Generating evidence for action

WHO has created SDG health target fact sheets to synthesize the evidence base on key health targets in order to promote coherence and better address the burden of disease throughout the Region (41). These fact sheets integrate discussion on current trends, health benefits or influences on a variety of SDGs, with policies required, the tools available and indicators to measure progress.



03

CAPTURING THE HEALTH 2020 CORE VALUES



Introduction

So far, *The European health report* has, in the main, taken a traditional, quantitative public health epidemiology approach. When Member States adopted Health 2020 in 2012 (EUR/RC62/R4), however, the resolution initiated a shift in public health policy-making in the WHO European Region that explicitly put the core ideals of “fairness, sustainability, quality, transparency, accountability, gender equality, dignity and the right to participate in decision-making” at the centre (5). This values-based approach to public health, which advocates people-centred health systems, promotes health throughout the life-course, and strives to achieve equity and health for all, has re-engaged public health with the full complexity of the subjective, lived experience of people and communities.

Such a shift has inevitably challenged traditional, quantitative methods of gathering evidence, such as routine health information or household survey data, which are not well placed to capture subjective experience. Although quantitative data are, of course, an essential component of health information, on their own they are often inadequate to promote the acceptance of evidence-informed practices and policies (42). *The European health report 2015* signalled how the WHO Regional Office for Europe was beginning to tackle the challenge of measuring and reporting on some of the key values of Health 2020 (43). In particular, the report focused on well-being measurement, concluding that a more narrative approach, grounded in the local voices of communities, could be adopted to make the reporting more meaningful.

Since then, WHO has started a project on evidence for health and well-being in context, one of the key strands of which is to enhance Health 2020 monitoring and reporting (44, 45). To this end, and with

the support of two global research foundations, Wellcome and the Robert Wood Johnson Foundation, WHO has begun systematically exploring the Health 2020 core values and prioritizing key concepts for which to develop both quantitative and qualitative measurement and reporting strategies.

What are the Health 2020 core values?

The core values laid out in Health 2020 are that health and health care should be high quality, equitable, sustainable and universal. These core values are operationalized using a set of concepts and approaches which have gained increasing momentum in the public health sphere over recent decades, and which draw on a rich history of WHO work in areas such as health in all policies and the social determinants of health. Some of the important concepts from the Health 2020 values include:

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

As a values-based policy framework, Health 2020 is also closely aligned with Agenda 2030. An indicator mapping exercise conducted by the Regional Office in 2016 determined that 76% of all Health 2020 indicators aligned with those of the sustainable development goals (SDGs) measurement framework (46). This close parallel between the frameworks also extends to some core values. For instance, well-being is a key component of SDG3. Promoting empowerment and community resilience are also central concerns throughout Agenda 2030, particularly at the top level in SDG5 and SDG6.

Measuring values

WHO's approach to health statistics has always been firmly rooted in traditional public health epidemiology. This continues to be a fundamental component of monitoring and reporting strategies for the measurement of values-based concepts from Health 2020.

However, WHO European Region Member States have recognized that painting a fuller picture of

Health 2020 implementation, and reporting meaningfully and holistically on the full breadth of the health-related SDGs, requires a broader approach to monitoring and reporting.

In order to help the organization develop a holistic approach that includes both quantitative and qualitative methods to measuring key Health 2020 concepts, WHO has, over the last three years, convened several expert group meetings, commissioned a number of reports from the Health Evidence Network (HEN), and worked with one of its collaborating centres on an innovative approach to reporting well-being. Several priority concepts from the Health 2020 values were identified for measuring, based on some agreed-upon principles (see Box 3.1). In addition to well-being, these were community resilience, community empowerment, life-course approach, and whole-of-society approach (44, 45).

Subsequently, HEN reports were commissioned for each of these concepts, in order to better understand and define the concepts themselves, as well as how to measure and report on them.

Box 3.1. Principles for prioritizing key Health 2020 concepts

- New measures should strategically align with Health 2020 and have relevance to the SDGs.
- Any new measure should add value and have revelatory power.
- Data that is generated should stimulate meaningful action.
- Any new data collection should impose a minimal reporting burden on Member States.
- Concepts should have a capacity to promote equity.
- Concepts should be amenable to measurement.
- Concepts should have longevity.
- Constructs and concepts should be sound and comparable across Member States.

Using qualitative approaches

Besides identifying a potential list of quantitative indicators, an important task for each of the HEN reports was also to consider ways in which qualitative approaches might enhance the measurement and reporting of these concepts. A recently published WHO policy brief entitled *Culture matters: using a cultural contexts of health approach to enhance policy-making*, argues forcefully for the importance of expanding the evidence base to systematically include research from the humanities and social sciences, with a focus on mixed-methods research on the social and cultural drivers of health and well-being (47).

Qualitative approaches from the humanities and social sciences are uniquely positioned to reveal truths beyond hard numbers and can provide valuable insights on the more intangible drivers of health and well-being. Statistical data can be enriched by qualitative evidence that:

- helps to interpret and contextualize quantitative data, in order to reduce cultural bias in measuring and reporting on health and well-being;
- captures and clarifies the diverse cultural contexts in which well-being is defined and

experienced by particular population subsets (based on factors such as age, gender, and socioeconomic status) and those that are not always captured by quantitative methodologies, e.g. migrant communities;

- explores the ways in which cultural factors might be used to enhance the health and resilience of individuals and communities across the Region;
- facilitates multidimensional, cross-sectoral, and culturally specific approaches to enhancing health and well-being;
- informs research priorities by enabling the identification of gaps in knowledge, including perhaps the selection of further indicators in the future.

Using qualitative and quantitative methods in tandem can generate new types of information to inform policy in a meaningful way. It is an approach that has been firmly supported by the UN Secretary-General's Independent Expert Advisory Group on a Data Revolution for Sustainable Development, which encouraged the whole UN family to "provide a place for experimentation with methods for integrating different data sources, including qualitative data, perceptions data and citizen-generated data" (48).

Box 3.2. Health Evidence Network (HEN) synthesis reports

HEN is an information service for public health decision-makers in the WHO European Region, which has been operating since 2003. The network is coordinated by the Regional Office under the umbrella of the WHO European Health Information Initiative. HEN assists public health decision-makers to use the best available evidence when formulating policy and strategy. Its report series provides summaries of what is known about a policy issue, identifies the gaps in the evidence and explains the issues under debate. Based on the synthesized evidence, HEN proposes policy options for further consideration by policy-makers. While policy-makers are the primary target group for HEN synthesis reports, increasingly the Regional Office is using the evidence provided as an authoritative source to guide the formulation of action plans, strategies – or as shown in the *European health report* – to develop Health 2020-related indicators. So far more than 50 reports have been published, on a diversity of health topics.

Under the umbrella of the WHO European Health Information Initiative (EHII) (a network coordinating all health information activities in the WHO European Region), the WHO Regional Office for Europe has therefore developed an action plan which promotes the use of innovative monitoring techniques for values-based concepts, including well-being, community resilience and empowerment. As such, the Action plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region (EUR/RC66/12) is particularly concerned with de-

veloping new and relevant forms of quantitative and qualitative evidence from various sectors and disciplines.

In the sections that follow, this chapter outlines the five concepts from the Health 2020 values for which the Regional Office is developing measurement and reporting frameworks. In so doing, the chapter draws heavily on the findings of a variety of HEN reports, which have provided important summaries of the best evidence and good practice in these areas.

Measuring and reporting on well-being

Well-being has long been recognized as an important component of health. In 1948, WHO defined health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (49). More recently, Health 2020 has identified the enhancement of well-being as a key target of health policies across the Region, while Agenda 2030 highlights the importance of promoting well-being for all at all ages as part of SDG3.

How does WHO define well-being?

For the purposes of Health 2020, the WHO Regional Office for Europe has defined well-being as existing 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 (43). WHO measures objective well-being in terms of social connections, economic security, environment and education, and subjective well-being in terms of life satisfaction. However, effective measurement of well-being

is limited by inadequate data sources, a reliance on mortality and morbidity statistics rather than measures of positive health, and difficulties associated with presenting and interpreting complex information. If Health 2020 targets are to be met, additional approaches are needed that enrich the current understanding of health and well-being.

Challenges to measuring well-being

A number of challenges exist when it comes to both measuring and reporting on well-being. For WHO, one of the key challenges is data availability. Although there is an increasing interest among European Member States in capturing objective and subjective well-being data, the availability of such data continues to be variable across the Region. Given this variability, participants at an expert group meeting deemed the expansion of the subjective well-being indicator set to be currently unfeasible. (50). The Regional Office is in the position that it can only report on one

indicator (life satisfaction), making it difficult to meaningfully analyse any subjective well-being trends among the European population.

Another important limiting factor of the quantitative approach that dominates well-being measurement is the fact that the concept is shaped by cultural factors, such as values, traditions and beliefs. Culture influences all health outcomes by impacting on people's health choices, the beliefs and attitudes of policy-makers, health care professionals and members of the public, and the ways in which health systems operate. A better, more qualitatively informed understanding of the cultural contexts of health can therefore improve the monitoring and comparability of well-being indicators across a culturally diverse region and help governments design and implement health policies that reflect the needs of particular communities.

Qualitative approaches to measuring well-being

A HEN synthesis report describes how narrative research on well-being "offers great potential for exploring the cultural nuances of quantitative well-being metrics, refining those metrics and informing the debate on how and to what extent well-being can meaningfully be compared across cultures" (51). The following sections introduce some of the qualitative methods and sources that can be used to supplement statistical data and help to clarify the importance of culture in shaping health and well-being across the Region.

Historical studies

Historical studies can reveal a lot about the social, political, economic and cultural determinants of health and well-being (52–54). Historians use

a wide range of sources, such as written records, oral history and visual media, to investigate how social, cultural and economic factors have influenced developments in medicine and health care and shaped subjective experiences of health and disease. By employing the same methodologies we can:

- help to understand how cultural beliefs and norms have shaped health and well-being over time and across the Region;
- show how the collection, presentation and interpretation of quantitative well-being data have been influenced by social and cultural factors;
- investigate the interactions between shifting cultural values, expectations and norms and health behaviours; and
- demonstrate the impact of changing economic, political and cultural contexts on the development and delivery of public health services.

In-depth qualitative and ethnographic studies

Researchers within the social sciences use a range of qualitative methods, including interviews, focus groups and ethnographic approaches, to compare experiences of health and well-being across and within geographical and cultural settings (see Box 3.3 for an example). Much of this work has examined the manner in which cultural factors intersect with social, political and economic circumstances to determine patterns of disease and ill-health and influence the way people experience well-being. A major benefit of such approaches lies in their capacity to pay close attention to lived experience and to reveal factors that enhance or undermine resilience within particular population subgroups (55, 56).

Box 3.3. Gender, health and well-being in the Russian Federation: using an ethnographic approach to understanding well-being

Life expectancy in the Russian Federation is 12 years lower for men than for women. Qualitative research examined gendered meanings of health and illness among the Russian lay public in order to explain this disparity. The study demonstrated how cultural norms and expectations relating to gender roles and strong notions of masculinity reinforced the role of alcohol in men's lives. Discourses relating to individual choice and responsibility in health and well-being were found to be weak, with culturally defined gender roles and relations static and unquestioned. The study argues that more explicit promotion of "gender awareness" within society and policy would have beneficial health and well-being outcomes.

Source: Pietilä I and Rytönen M (57).

Study of cultural heritage

Examination of cultural heritage can provide important insights into the societal norms and values that influence people's daily choices and health-related behaviours. It can also enable an understanding of the factors that promote resilience and a sense of belonging, and the factors that exclude certain groups from this. Much of the work undertaken on cultural heritage has focused around the analysis of literature, films, art and

sites deemed to be of historical or cultural significance. However, it is increasingly recognized that more mundane, everyday outputs and rituals, such as food consumption, can also shape, and be shaped by, local norms, values and behaviours. Examining how people engage with forms of cultural heritage, such as visiting museums and galleries, and take part in creative activities such as reading can provide insights into the ways that diverse social groups seek and obtain a sense of well-being (58, 59).

Measuring and reporting on community resilience

The concept of resilience has gained a lot of traction in the public health arena over the last decade, featuring most recently as a theme at the 2017 European Public Health Conference. Generally, resilience refers to positive adaptation, or the ability to recover from significant adversity (60). It is argued that the

ability to bounce back (or indeed, "bounce forward"), enables individuals and communities to face life's difficulties head on and to utilize their skills and strengths to cope with and recover from problems and challenges without resorting to unhealthy, destructive or dangerous coping mechanisms.

Although some research suggests that an individual's capacity for resilience is at least partly genetically determined (61), it is generally agreed that resilience is best conceived as a dynamic process, rather than merely as a trait or a quality that can be possessed. As such, resilience can be shaped and strengthened through outside interventions, making it a trait that is amenable to policy action (62).

How does WHO define resilience?

In Health 2020, the Regional Office has defined resilience as the dynamic process of adapting well and responding individually or collectively in the face of challenging circumstances, economic crisis, psychological stress, trauma, tragedy, threats and other significant sources of stress. It can be described as an ability to withstand, to cope with or to recover from the effects of such circumstances and the process of identifying assets and enabling factors. Health 2020 places particular emphasis on the importance of creating resilient communities and the idea of helping people to help themselves.

The concept of resilience, and indeed resilient communities, is also frequently used in the context of disaster risk reduction (such as flooding) and the importance of creating appropriate infrastructures, systems and decision-making processes. In fact, like many concepts from Health 2020, resilience is a multisectoral concept, and defined slightly differently according to the context in which it is used.

Challenges to measuring community resilience

Measuring resilience is, therefore, a complicated undertaking involving complex pathways of change between individuals, communities and systems. While broad descriptions of resilience make it possible to provide a framework for understand-

ing it (62), specific definitions vary by disciplinary perspective. Thus, while resilience is often defined as the ability to adapt and bounce back from adversity, it can also refer to the ability of a system to absorb, change, and still carry on (63). As applied to social systems, resilience can refer to the capacity of a community system, or part of that system, to absorb and recover from disruptive events (64).

Given the importance that Health 2020 places specifically on community resilience, the focus for its measurement is also placed on a community level. Community resilience involves the interaction of individuals, families, groups and the environment and is influenced by a wide range of factors that may promote, represent or threaten resilience in diverse community settings. Challenges in measuring the resilience in a population or community can vary from the issue of cross-cultural equivalence to the way one measures exposure to a significant threat or severe adversity and the quality of positive adaptation among individuals at risk. Monitoring community resilience also brings into focus the individuals who constitute a community, the informal community leaders, the formal and informal networks, and the hierarchies that exist at different levels in the local area (65), all of which can be extremely difficult to measure. In addition to these general concerns, there are also specific issues where the voices of certain populations, such as young people or vulnerable groups, may not be adequately represented. For instance, in the case of young refugees, there is frequently a reliance on the answers of informants such as parents rather than on information provided by the young refugees themselves (66).

Identifying resilience at a community level involves uncovering strengths (such as networks and activism), as well as vulnerabilities (such as social isolation), in order to see a community in its totality. Resilience has been evaluated as a decrease or an absence of psychopathology (67), success in meeting developmental milestones (68), or

a high state of well-being. However, indicators associated with resilience are often overlooked by traditional forms of measurement and some initiatives and their outcomes will not be readily captured by traditional measurement tools (e.g. surveys and interviews). Qualitative approaches, on the other hand, focus on subjective feelings, meanings, and experiences and in doing so make it possible to understand why people behave in particular ways (69). Researchers argue that qualitative research can explain not only what is going on but how and why. It can account for cross-cultural diversity in individual contexts by producing authentic results that reflect the lives of the people studied (70, 71).

Approaches to measuring community resilience

Monitoring community resilience brings into focus the individuals who constitute a community (such as the informal community leaders), the formal and informal networks, and the hierarchies that exist at different levels within the local area.

Based on evidence reviewed in a forthcoming HEN report, several possible options for measuring community resilience have been identified (72). At a minimum, 4–5 core indicators could be selected from two key domains: social and economic. In the social domain, this might include access to social networks, family support and civic participation. In the social domain, this could be measures of unemployment and poverty/financial insecurity. A further set

of 5–6 additional indicators could include crime and safety, education and skills, and quality of the built environment. This could then be further supplemented with efforts to build good practice on the measurement of health-related community resilience, by building a learning network. For instance the HEN report highlighted that many cities and areas in Europe have started to focus on community resilience and the measurement of vulnerabilities and assets.

Importantly, however, the report also emphasizes that, for a measurement framework on resilience to be truly comprehensive, the analysis of meta-data across dimensions would need to be supplemented with qualitative participatory case studies to support the engagement of communities facing marginalization or high levels of adversity. This is because qualitative research:

- allows communities to identify what aspects of community resilience are important for them;
- facilitates identification of vulnerabilities and assets in a local context so that people can build joint actions over time; and
- helps to build an evidence base by unpacking the social connections and mechanisms of change between wider determinants of health and community resilience.

While qualitative case study research is usually small scale and can be difficult to scale up, the insights that are gained can nevertheless often uncover important transferrable lessons, particularly when the approach is underpinned by a coherent conceptual framework, as illustrated by the case study detailed in Box 3.4.

Box 3.4. Exploring community resilience in a village context – a qualitative case study from Norway

The coastal village of Senja lies in the arctic region of northern Norway. This village is reported to have suffered a number of challenges mostly in relation to climate change and a fall in population numbers. A qualitative case study examined the community response to change and sought to understand the role of community resilience in adapting to change in this specific arctic context. A mixed-method approach was considered essential to explore community resilience in the local context, drawing on conceptual frameworks to understand the domains of community resilience, and qualitative data from interviews, participant observation, document analysis and media searches. Six dimensions of community resilience were identified in the village:

- *Community resources.* Senja was seen to be “resourceful” in terms of human and natural resources, but the population fall was a threat to increasing community resilience.
- *Community networks.* The residents in the village were strongly engaged with evidence of activities to maintain and improve networks.
- *Institutions and funding.* “Dugnad” is the contribution of community volunteering which helps to maintain services and institutions. Active contribution from local government and the community was seen as critical.
- *People-place connection.* Many of the initiatives to develop the village focused on well-being and a sense of place.
- *Active agents.* People who make things happen both as informal or formal leaders or as facilitators of the process.
- *Learning.* Continued learning was regarded as vital in responding to future unpredictable challenges.

Source: HEN Report 63. What quantitative and qualitative methods have been developed to measure health-related community resilience at a national level? (72).

Measuring and reporting on community empowerment

In 2006, the WHO Regional Office for Europe commissioned a HEN report which addressed the question: *What is the evidence on effectiveness of empowerment to improve health?* (73). The report concluded that empowerment is indeed one of the prerequisites for health. Increasingly, the Regional Office has therefore looked to integrate the concept into its health policy thinking.

Empowerment has a very wide range of meanings, definitions and interpretations. Broadly speaking, the concept refers to the process of enabling individuals and communities to increase control over their lives. Empowering communities brings with it a wide range of benefits such as cost-effectiveness, increased cohesiveness, reductions in mortality, capacity-building and improvements in health (74). When empowerment is foregrounded by policy-makers it can lead to positive health-related outcomes in a range of social and cultural contexts (75–79). These outcomes include enhanced personal and coping skills, more effective use of health services (80, 81), reduced disparities in access to resources and improved implementation of the policies themselves (76, 82).

How does WHO define empowerment?

In the context of Health 2020, empowerment is the means through which people can gain greater control over decisions and actions affecting their health. Because the concept of empowerment addresses the social, cultural, political and economic determinants of health, it plays a central role within Health 2020. Empowering people is therefore one of its priority areas.

There is consequently a clear need to be able to measure and report on the degree to which Member States have been successful in implementing policies that help to empower communities.

Challenges to measuring community empowerment

Although the concept of empowerment has been well studied, it is still difficult to measure and implement. This is partly because it has been engaged with from a variety of perspectives, including community development, community psychology and economics. This definitional complexity is further compounded by the fact that empowerment is a multilayered concept operating at a psychological, family, organizational and community level. These layers are interlinked, culturally and contextually, and the process of empowerment is likely to vary according to the community, organization or society where it is being operationalized (83).

A recent systematic review of empowerment measures in health promotion evaluated the measurement properties of quantitative empowerment scales and their applicability in health promotion programmes (84). Although this review has done much to summarize the current state of play, it has two significant limitations. Firstly, its focus is on measuring the impact of interventions in small communities, rather than assessing the level of empowerment within a broader population. Secondly, it exclusively surveys research literature in English. Thirdly, and most importantly, the study deliberately leaves out qualitative and mixed-method approaches to measuring empowerment.

Approaches to measuring community empowerment

A first attempt at measuring community empowerment might draw on quantitative indicators relevant to community empowerment that are commonly available at the national level, such as the following.

- The percentage of communities (as defined at a geographical or administrative level through census clusters) with access to a functioning paved road (or percentage of communities with access to sufficiently developed infrastructure).
- The percentage of single-headed households.
- The percentage of women in political office or senior management positions.
- The percentage of communities in which all adult members have at least completed the minimum legal required level of education.
- The percentage of total government budget transferred to community-based organizations.
- The average social network density; for example, the number of formally registered nongovernmental organizations per capita.

Additional indicators relevant to civil society, including access to social networks and the opportunities created by government for civic spaces, could further enhance a quantitative measurement approach.

Once again, however, qualitative methods have a vital and complementary role to play in understanding the meaning and experience of empowerment for different groups (85). Given that empowerment is a complex multilevel construct, mixed-method approaches can facilitate a deeper understanding of the social and political dynamics through which this is achieved, for instance where community mobilization or policy advocacy is being undertaken (86). Empowering communities also involves making a qualitative and subjective improvement in people's lives, which can be difficult to measure. In particular, qualitative approaches could help access the narratives of marginalized populations in society, using focus group discussions, semi-structured interviews and other in-depth qualitative techniques. A purposive sampling strategy would help identify participants by choosing specific characteristics that would allow for a range of perspectives.

Measuring and reporting implementation of the life-course approach

The life-course is a socio-culturally defined sequence of age categories that people are normally expected to pass through as they progress from birth to death (87). The concept is based on an understanding that a complex interplay of biological, cultural, psychological, and social protective and risk factors contribute to health outcomes across the span of a person's life (88).

Life-course theory first emerged in the fields of sociology and developmental psychology in the early 1900s. It was subsequently developed in the 1960s into an approach intended to analyse people's lives within structural, social, and cultural contexts (89, 90). Over the last two decades, the life-course approach has become a powerful organizing framework for the study of health, illness, and mortality, and is now frequently con-

sidered as the leading theoretical orientation for the study of patterns of lives as they unfold (91).

How does WHO define the life-course approach?

With the introduction of Health 2020, the life-course approach has become a fundamental organizing principle for the way in which the Regional Office and its Member States seek to approach health and health care. At the WHO European Ministerial Conference on the Life-course Approach in the Context of Health 2020, held in Minsk in October 2015, Member States signed a declaration in which they agreed that a life-course approach (92):

- “builds on the interaction of multiple promotive, protective and risk factors throughout people’s lives”
- “adopts a temporal and societal perspective on the health of individuals and generations, and on the intergenerational determinants of health”
- “encompasses actions that are taken early, appropriately to transitions in life and together as a whole society”
- “confers benefits to the whole population across the lifespan, as well as benefits accruing to the next generations”.

Beyond Health 2020, the relevance of the life-course approach has been further reinforced as part of Agenda 2030 and the SDGs. Preparing for an ageing population, for instance, is vital to the achievement of the integrated 2030 Agenda, with the issue of ageing cutting across the goals on poverty eradication, good health, gender equality, economic growth and decent work, reduced inequalities and sustainable cities.

Challenges to measuring implementation of the life-course approach

At the 63rd European Regional Committee, Member States adopted a resolution on indicators for Health 2020 targets (EUR/RC63/R3) in which they requested the Regional Office to lead further work to explore means of measuring and setting targets for health. Subsequently, as part of the Minsk Declaration, Member States resolved to make greater use of the life-course approach as a basis for assessing and monitoring the effectiveness of policies and programmes.

Consequently, there is now a need to develop a measurement strategy which would allow the Regional Office to monitor and report on how Member States are in fact implementing a life-course approach within their health policies and programmes. It is understood, however, that part of the strength of the life-course approach is its multidimensional nature. For instance, the approach emphasizes resilience, equity, and social and cultural contexts, among many other protective and risk factors. In order to adequately understand the impact of a life-course approach on public health policies, a purely quantitative measurement strategy may not be sufficient.

Possible ways of measuring implementation of the life-course approach

One way of arriving at a measurement strategy for implementation of the life-course approach would be to improve the efficacy of data collection efforts by aligning existing monitoring frameworks more explicitly with the core principles of the life-course approach itself. For this, unambiguous definitions of the core concepts and the con-

structs that need to be measured must be generated as a priority. The next step is to then identify the key areas and targets for monitoring a life-course approach and conduct in-depth reviews for each area to identify indicators with the necessary characteristics.

Quantitative measurements via surveys and other tools can potentially overlook or poorly interpret the context-specific, individual, cultural, sociopolitical, economic and environmental factors that influence health and well-being throughout life. However, qualitative life-course methodologies are rather peripheral and have not been harnessed to their full potential (93). Qualitative methods help to present narratives that broadly reflect the gendered social norms about parent-child relations. They also provide “lived experiences” from ageing populations about how satisfied they are with the life they have lived. Such information enables a deeper understanding of motivations, desires and regrets. For the evaluation of the Healthy Start programme (94), site visits were conducted to gain an understand-

ing of how projects design and implement service and system components as well as the perceptions of the programme staff on how these components influence intermediate outcomes. Interviews with project directors, case managers, local evaluators, clinicians, consortium members, outreach/lay workers and other stakeholders were conducted. Results suggested that outreach, case management, and health education were perceived as the service components that contributed most to their achievements and cultural competence and community voice were overarching project components that addressed racial and ethnic disparities.

Moving towards a life-course paradigm is a long process and requires a lot of groundwork to initiate long-lasting change. Targeting key stages such as pre-conception and pregnancy and early childhood will provide long-term sustained benefits. The life-course approach can be executed in parallel with measures to achieve the SDGs, with supportive leadership and commitment.

Measuring and reporting implementation of the whole-of-society approach

The concept of a whole-of-society approach first emerged in the field of public policy around the turn of the millennium to describe the need for a holistic response to changing social and health challenges (95, 96). Researchers and nongovernmental organizations have since refined the concept in an effort to create novel multidisciplinary, multisector and multilevel approaches to science, education and governance (97, 98).

Public health research from recent decades has shown that improving health is a multisectoral process. Population health and well-being are in-

fluenced by a range of issues that lie outside of the health sector’s remit (99). This has led to a more integrated, whole-of-governance approach. It has also highlighted the need to include nongovernmental actors in political processes aimed at improving public health.

How does WHO define the whole-of-society approach?

The whole-of-society approach acknowledges the importance of all sectors of society on people’s

mental and physical health and thus the importance of multisectoral collaboration for improving public health. According to the WHO definition of the term, “whole-of-society” refers to an approach that aims to extend the whole-of-government approach by placing additional emphasis on the roles of the private sector and civil society. By engaging the private sector, civil society, communities and individuals, the whole-of-society approach can strengthen the resilience of communities to withstand threats to their health, security and well-being. A whole-of-society approach goes beyond institutions: it influences and mobilizes local and global culture and media, rural and urban communities and all relevant policy sectors, such as the education system, the transport sector, the environment and even urban design (100).

Over the course of the last two decades, the whole-of-society approach has become an important framework for public health policy. In 2012, the UN General Assembly adopted a whole-of-society approach as a response to the challenge of noncommunicable diseases (101).

Whole-of-society approaches towards public health have been implemented in several European Member States (e.g. Austria, Finland and the Netherlands) (102, 103). For instance, the “Decade of Roma Inclusion 2005–2015” is a multicountry whole-of-society initiative that brings together governments, intergovernmental and nongovernmental organizations as well as Roma civil society to accelerate progress towards improving the welfare of Roma. Despite mixed outcomes, there is some evidence to suggest that some progress has been made on Roma health since the beginning of the project (104).

WHO’s “Government for health” strategy is based on the understanding that “the entire society must be understood as being responsible for its health” (100). In line with this, the whole-of-society approach seeks to include all sectors of society in the political process. Thus, the approach constitutes

an overarching principle for several of the other concepts considered essential to Health 2020: e.g. health in all policies, the whole-of-government approach and the contribution of civil society.

Like Health 2020, Agenda 2030 stresses the necessity for partnerships between governments, the private sector and civil society, in order to meet the SDGs. Among the targets for Goal 17 “Revitalize the global partnership for sustainable development”, is “encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships” (105). Thus, a better understanding of the whole-of-society approach would be crucial for monitoring the implementation not only of Health 2020 but also of Agenda 2030.

Challenges to measuring implementation of the whole-of-society approach

Measuring the degree to which the whole-of-society approach has been implemented is, however, a complicated undertaking. The whole-of-society approach involves the interaction of individuals, communities, private sector companies, nongovernmental organizations and governments and is influenced by a wide range of factors that may promote, represent or threaten the involvement of various sectors of society.

Possible ways of measuring implementation of the whole-of-society approach

While the concept of the whole-of-society approach has been used in the development arena for several decades, measurement strategies for monitoring the degree to which it has been deployed have not yet existed to any robust degree. One of the reasons for this might be because at the heart of this approach lies the idea that governments

should adopt more of a stewardship role, and that the responsibility for the implementation of a whole-of-society approach is shared across all stakeholders (106). Nevertheless, governments can be held accountable for the degree to which they enable this approach to take root, and as such, finding ways to measure the implementation of the whole-of-society approach is vital.

A useful starting point for the purposes of Health 2020 might be to see the measurement of implementing this approach as an amalgam of the other concepts which have been described in this chapter. In particular, well-being, community resilience, and community empowerment should be considered important components of this kind of approach, and the various ways of measuring these should also be integrated into measuring the implementation of a whole-of-society approach. On a more finely grained level, recent work by the International Labour Organization and the United Nations Volunteers has suggested that volunteerism is an excellent source of information that can be used by countries to show a whole-of-society approach (107). Qualitative

evidence, particularly in the form of case studies, could be useful to demonstrate what countries are already doing with regard to public, private and civil society initiatives to reach out to ordinary citizens so that they can become drivers of their own health and development in the spirit of Health 2020 and Agenda 2030.

The relevance of community-based participatory research and implementation strategies that have already been mentioned with regard to other Health 2020 concepts should also be highlighted. Individual and community knowledge can be collected through a variety of sound methodological approaches (such as photovoice techniques, forum theatre sessions, focus groups, etc.). These should be hallmarks of a whole-of-society approach that actively involves the public in setting research priorities and validating the relevance of the evidence base. When cultural contexts are valued in this way, real-world relevance and translatability are enhanced and stakeholders are empowered to partner actively with academics and policy-makers throughout the governance process.

Conclusion

While important inroads have been made into better understanding how values-based concepts, such as those introduced by Health 2020, can be measured and reported on, much work still needs to be done. It is worth reiterating, for example, that the concepts outlined in this chapter represent only a small (albeit important) number of the Health 2020 values. In order to properly evaluate the impact of Health 2020, the remaining concepts from the Health 2020 values also need to be systematically reviewed, and options for measuring them, based on the best available evidence, need to be developed.

Beyond just reporting on Health 2020, however, further efforts need to be made by WHO across the entire organization, to consistently incorporate a mixed-methods approach into its reporting outputs, particularly at the country level. For any public health agency to convince its stakeholders of the importance and validity of its data, the analysis has to be contextualized using evidence from a wide range of quantitative approaches.

These new forms of evidence will help create a more holistic understanding of health and well-being in the 21st century, and will also equip the Regional Office to support its Member States to better report on, and implement, the SDGs.

Q4

DEFINING THE VISION FOR HARMONIZED AND INTEROPERABLE INFORMATION SYSTEMS FOR HEALTH FOR EUROPE



Introduction

Reliable and timely health information is the foundation of effective public health action, working towards the goal of universal health coverage. It is imperative for countries aiming to use their limited resources wisely (108). Data and information are needed to inform policy decisions, in the design of programme interventions, and for monitoring and evaluation but may be unavailable or not fit for purpose (109). The rapid provision of reliable information is equally key to dealing with emergent diseases and other acute health events, ultimately saving lives (110).

There are three key elements that, if designed well, interlink to provide the high quality and relevant evidence required to advance meaningful public health action. These are health information, health research and knowledge translation and are discussed in this chapter, followed by a discussion of the initiatives being taken by WHO and its Member States at the regional level to encourage a harmonized and interoperable information system for Europe that will underpin sustainable change to achieve the goals of Health 2020 and the SDGs.

Developing information systems for health

Measuring in public health

In public health, “data” usually refers to statistics reported from health care facilities, survey data or data collected through observational studies. Distinctions can be made between routinely reported data and data that are collected at certain times or over a specific period of time as part of a special study or survey. Both routine and non-routine data, as well as data from research systems, are required and contribute to a fuller picture of any given public health issue (111).

When data are analysed and interpreted, their use characterizes them as information, i.e. “facts that have been arranged and/or transformed to provide the basis for interpretation and conversion into knowledge” (112, p. 61).

There is a general bias towards quantitative data and information, such as descriptions of health status and mortality rates. Statistical associations between health outcomes and risk or protective factors are also frequently used in assessments of the effectiveness of public health interventions (113). While statistics are undeniably valuable – being described as “the eyes of the policy-maker” by one senior official (114) – approaches in the WHO European Region such as Health 2020 (4) and health in all policies (113), suggest that the concepts of *health data* and *health information* should be expanded (113, p.13).

In order to fully capture the nature of health concerns and ultimately change public health outcomes, health data and information need to move beyond strict quantitative formats to re-

flect social and environmental determinants of health and other data, as suggested in the previous chapter on new sources of evidence (see Chapter 3).

In this respect, the active engagement of civil society in participatory and voluntary e-governance processes are necessary to create information, and ordinary citizens may also be central data producers and interpreters; e.g. in crowdsourced public health research (115).

Data from existing sources can also be used to generate new information. An example of this so-called “secondary use” of data (116) is the development of summary measures for population health. This is an important approach that attempts to simplify complex information about diseases such as risk factors, the likelihood of resulting disability or other harm (morbidity), or death (mortality). Box 4.1 outlines some of the commonly used summary measures.

Box 4.1. Overview of summary measures of health

There are various summary measures that can be used, based on health expectancies or health gaps, including:

- Healthy life years
- Disability-adjusted life expectancy
- Disability-adjusted life years.

These measures can be developed to compare population health across communities and over time and provide a fuller picture of which diseases, injuries and risk factors contribute to poor health in a specific population. This is probably the most common use of summary measures.

This information can then be used to assist in decision-making, including the prioritization of funding and the allocation of other resources, and assess which information or sources of information are missing, uncertain or of low quality.

Source: Devleesschauwer B, Maertens de Noordhout C, Smit GSA, Duchateau L, Dorn P, Stein C et al. (117).

The disability-adjusted life year (DALY) has emerged as the most important summary measure of population health (117). By integrating DALYs into official national data collection systems, comparable estimates based on recent local data can be made, as has been done in the Netherlands and Australia (117). However, limitations with regard to harmonization, timeliness, inclusiveness and accessibility of databases may present obstacles to effective integration and secondary usage (118). To catalyse the secondary use of data, it is necessary to reduce the burden of data collection on health care providers to ensure timely reporting, as well as to find workable ways to access health insurance data and utilize new health technologies. But to improve the use of all this available data and health information, it is vital to include a systems perspective.

Health information systems and information systems for health

Health information systems that provide reliable and timely health information are essential not just for measuring the health impact of policies and interventions, but also to be able to track progress towards implementing universal health coverage and reaching international health targets. However, few countries have sufficiently strong, effective and well-used health information systems that support adequate monitoring of progress towards achieving the SDGs. A good health information system has four key functions:

- data generation
- compilation
- analysis and synthesis
- communication and use.

Health information systems enable decision-makers at all levels to identify problems and needs, and make evidence-informed decisions. They can be considered as the backbone of health systems as they enable the performance and effectiveness of health systems to be regularly monitored and hence guide the development of strategies to improve (119).

A systemic and systematic way of thinking about health information creates a more integrated approach. Recently, the concept of information systems for health has been introduced, which offers a more comprehensive perspective. They are “an integrated effort for the convergence of interconnected and interoperable systems, data (including health and vital statistics), information, knowledge, processes, standards, people, and institutions, supported by information, digital and communication technologies that interact (or help) ... for better policy- and decision-making processes in public health systems” (120, p. 29).

Information systems for health focus on the use of information in decision-making, building on the foundation of solid and reliable health information systems while taking a broader approach that includes data from non-health sources and technology, such as promoting innovation and the use of affordable applications for digital health⁸, including telemedicine, m-health and e-learning. They provide a national – rather than a health – perspective, and involve other sectors (e.g. educational, economic) in relation to health in all policies (113).

Consistent integration and accessible and open data must be central to each area of the information system for health, with data collected in

⁸ The terms eHealth and digital health are used interchangeably in this report, reflecting their evolution and the discussion among Member States at the 71st World Health Assembly.

a well-coordinated manner to minimize overlaps and allow datasets to be combined (121).

From data to practical health information

The transformation of data into health information⁹ is mediated by many social and economic factors (118), such as financial constraints on collecting public health data. These factors may impair the quality of the resulting information, while new developments may facilitate information-creation processes, e.g. information technology advances that enable large volumes of data to be processed and analysed in shorter periods of time (122).

In order to gain a deep conceptual understanding of factors that influence health systems and policies, policy-makers require in-depth, detailed descriptions of why policies and interventions are or are not effective. These need to address questions on the usability, meaningfulness, feasibility and appropriateness of these policies and interventions.

Despite the strength of summary measures like those described in Box 4.1, scientific criteria alone

are rarely sufficient to persuade policy-makers, who must also consider policy context, stakeholder perceptions and societal values (123). Thus, data should be presented so as to emphasize their relation to past trends, current policy priorities and fiscal considerations, with the further development of data and information collection oriented towards outcomes (121).

Presentation is key; this ranges from “the most common static graphs, charts and maps through to infographics and complex interactive graphs. However, visualization is not a straightforward task and it is essential that the underlying information is represented accurately and consistently throughout” (124, p. 15). Presentation can add value to health information packaging “by using application tools such as models and simulations to fill gaps and present scenarios” (124, p. ix).

Information can also be conveyed indirectly through secondary channels such as the media. Providing data in flexible and customizable formats can further facilitate the use of health information (118). The European Health Information Gateway (see Box 4.2) can assist countries in many of these areas.

⁹ “Health information” refers to all information, data, research and evidence that determines health and facilitates policy-making. The activities necessary to obtain health information and bring this information into the health policy-making process can be described as “public health monitoring and reporting”. The term “health information systems” includes all activities and resources related to public health monitoring and reporting. It also includes some less tangible elements necessary for operating a health information system, such as governance mechanisms and legal frameworks, interinstitutional relationships and values.

Box 4.2. The WHO European Health Information Gateway – a wealth of information at your fingertips

"The countries of the WHO European Region have benefited greatly from the rapid expansion of the Gateway. Open, transparent, well-organized and comparable health information allows not just for international comparisons but more importantly for using it in shaping policy decisions and more effective management at the country level. This is what we are doing extensively in Malta where we have placed digital health high on the agenda."

The Honourable Christopher Fearne, Deputy Prime Minister of Malta and Minister of Health.

The European Health Information Gateway is a platform for disseminating health information in its broadest sense. It is one of the key products of the WHO European Health Information Initiative to improve access to relevant and integrated health information. A bilingual platform, it allows easy access and search in English and Russian through data, qualitative information and reference documents on a variety of topics in public health. In addition to interactive data visualizations and an intelligent search engine, the Gateway also offers an application programming interface to enable advanced users to connect directly to its data warehouse, and a WHO European Health Statistics mobile application.

The Gateway has been designed with the ambition to bring the information closer to its users, to allow integrated access to health information, to enable dynamic comparisons and exploration across countries and indicators, to make the information understandable through blog commentaries, and to make the information reusable and shareable as graphics, datasets, embeddable parts of webpages and social media messages. By March 2018, the Gateway had been available to the public for two full years, during which time it experienced a quadrupling of traffic and a rapid gain in popularity in the Russian-speaking part of the Region. The Gateway is frequently evaluated for functionality and user-friendliness (usability) by a variety of audiences, from national health information counterparts, WHO country offices, WHO staff and external academic users. The feedback is considered in the planning of monthly development cycles. This approach to Gateway development allows major issues to be quickly addressed and improvements regularly implemented, thus making rapid steps forward in its development, while keeping it aligned with the needs of its audiences.

At the time of writing, the Gateway has integrated 12 databases into the platform, including the European Health for All (HFA) database, and has several more datasets queued for inclusion during 2018. The HFA database is the Region's collection of indicator data that are directly collected from the European Member States or from other international organizations, and it was established in the late 1980s. The Gateway allows integrated search across all

Box 4.2 contd.

databases, but at the same time also provides advanced specialized tools for targeted datasets, such as the “HFA explorer” and “SHIELDS”. The HFA explorer is an advanced data exploration tool for the 1200 indicators in the family of the HFA databases, and enables a concentrated look into the indicators that have been established in the European Region for monitoring the health situation. SHIELDS (Synergistic Health In Emergencies Ladder Development Scale) is a practical platform to present the monitoring and evaluations and to steer, enhance, monitor and upscale those capacities of Member States to implement the International Health Regulations 2005.



The screenshot shows the homepage of the European Health Information Gateway. At the top, there's a navigation bar with links for Home, Health topics, Countries, Publications, Data and evidence (which is highlighted), Media centre, and About us. The main title "European Health Information Gateway" is displayed with the subtitle "A wealth of information at your fingertips". Below the title is a search bar and a link to "or browse by". There are four categories: COUNTRY PROFILES, THEMES, DATA, and HFA EXPLORER. On the left, there's a sidebar titled "UPDATES" with several news items. The main content area features a large image of a forest and a chart titled "Report shows progress towards Health 2020 targets". The chart shows life expectancy at birth from 1950 to 2015, with a significant upward trend. A call-to-action button says "Try the Health for All explorer". To the right of the chart is a graphic of a yellow padlock with the word "ACCESS" below it, all contained within a green circle.

Enhancing research systems for health

Health research and new types of evidence

As we have seen, data and health information play an important role in decision-making, but research findings are also necessary to identify what works and how it works in order to guide policy and action towards an improvement in health and well-being. Health information and health research are not merely complementary; these systems are inter-dependent. A well-functioning health information system feeds into health research, while a strong health research system can identify systemic problems and potential improvements.

Health research has been broadly defined as “the generation of new knowledge using the scientific method to identify and deal with health problems” (125, p. xvii). It encompasses a wide variety of branches and methods of research, including: biomedical; clinical; public health; basic; applied; researcher driven; health system driven; quantitative; and qualitative (126).

The application of scientific knowledge has supported many global achievements in health, social and economic development. Nonetheless, some of the world’s most pressing public health problems persist. In addition, the production of scientific knowledge is subject to the increasing influence of commercial and political interests, unethical research practices (127) and the continued existence of major inequities in the research process, neglecting the diseases of the poor (i.e. the 10/90 gap). This contributes to increasing distrust and a loss of confidence in research and the research community (128). As a consequence, greater efforts are needed

to support and manage robust health research processes, as well as to improve the uptake of the evidence among decision-makers. Such support and management are part of WHO’s constitutional core mandate (129) and are central aspects of the Action plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region (39).

In the health sector, a broad distinction is often made between biomedical and clinical research versus health system research. Most financial investment is oriented towards the former, as the Commission on Health Research for Development identified nearly three decades ago, stressing that “problems not classified as diseases, such as health information systems, costs and financing, and the wasteful misuse of drugs” (125, p. xviii) are neglected fields. Nevertheless, despite the dominance of biomedical and clinical research, international attention in recent years has increasingly focused on health system questions, and how health systems and services address population needs (130). This recent trend acknowledges that “biomedical discoveries cannot improve people’s health without research to find out how to apply them specifically within different health systems, population groups, and diverse political and social contexts” (128, p. xv) and this requires sound multidisciplinary scientific investigation with input from the social sciences (131). Ultimately, the results of health systems research should support decisions that are informed by knowledge that has been validated by scientific methods (132, 133).

In health research, different forms of evidence do not carry the same weight. Initially, observa-

tional techniques of epidemiology were used to construct applied research methods but during the 1990s, the use of randomized controlled trials (RCTs) became the hallmark of good quality evidence as the RCT minimized the biases found within the observational design (134). In recent years, however, there have been calls to widen the evidence bases for policy decisions (135). The conclusions from RCTs can be difficult to generalize outside of the study's parameters; knowing what works in specific scenarios may not be help-

ful if it is unclear why an intervention works and under what circumstances (136).

Methodologies that address the same issue through different, but equally important, perspectives may eventually provide more meaningful and effective solutions (137). These concerns have transformed the traditional hierarchy of evidence into more adaptive frameworks "within which different types of research evidence" are integrated for policy decision-making (Box 4.3.); (138, p.155).

Box 4.3. The evolution of the evidence hierarchy pyramid over time

Instead of looking at the evidence hierarchy in the traditional pyramid – with systematic reviews at the top, followed by RCTs and then case series and reports at the bottom – the new paradigm for considering health systems research evidence for policy decisions uses systematic reviews to critically examine the methodological quality of the underlying evidence. The clean straight lines drawn between the different study types within the traditional evidence pyramid are now blurred by the fact that well-designed and well-conducted observational studies may supersede poorly conducted RCTs. Qualitative evidence (featuring at the bottom of the traditional evidence pyramid in the form of case studies) is increasingly recognized as an important input to policy-making. Similar to systematic reviews, systematic and transparent methods are now being applied to develop qualitative evidence syntheses. As a consequence, it has been suggested that more than one evidence hierarchy would be required, depending on the types of research questions, rather than applying one single evidence hierarchy to all contexts (139).

Source: Noyes J (139).

Health research capacity in the Region and the need for national health research systems

There is widespread acknowledgement of the importance of having strong health research processes that drive national health systems towards equity and improved health. At the same time, it is understood that health research in many countries does not currently fulfil its potential (140–143). The challenge is how to address this shortfall. WHO therefore developed a framework by which countries can analyse their national health research from a systems perspective. It defines the health research system as “the people, institutions, and activities whose primary purpose is to generate high quality knowledge that can be used to promote, restore, and or maintain the health status of populations. It can include

the mechanisms adopted to encourage the utilization of research” (144, p. 816). The framework outlines four main functions of an effective health research system: stewardship, financing, creating and sustaining resources, and producing and using research.

In the European Region, WHO has commenced work to support countries in assessing their national health research systems, developing national strategies to strengthen the production of local evidence for local decision-making, and optimizing current interventions. The first regional meeting on strengthening national health research systems took place in November 2017 in Sofia, Bulgaria. Member States reaffirmed their commitment to the Action plan to strengthen the use of evidence for policy-making through the adoption of the Sofia Declaration (see Box 4.4).

Box 4.4. Sofia declaration on national health research systems

Through the Sofia Declaration, the participants of the European Health Research Network request that the WHO Regional Office for Europe:

- continues to support the WHO European Health Information Initiative as a fundamental basis for strengthening evidence, information and research in the WHO European Region
- supports the building of sustainable capacity, structures and resources in research systems and strategies for health in Member States
- encourages Member States to strengthen research systems and strategies for health to support decision-making
- supports Member States in strengthening the systematic use of research evidence in policy and practice, and closely interlinks the network's activities with the work of the Evidence-informed Policy Network Europe
- encourages Member States to share best practice and experience with research systems and strategies for health
- advocates for the network to increase its membership
- encourages similar initiatives in other WHO regions.

The newly established European Health Research Network, which issued the Sofia Declaration, operates under the auspices of the WHO European Health Information Initiative and provides technical assistance and capacity-building opportunities with activities that contribute to the implementation of the Action plan to strengthen the use of evidence for policy-making. These include the development of national strategies to strengthen and fund national health research institutions; the establishment or strengthening of national and institutional ethics review boards; and the provision of open access to information (39).

Reorienting health research to strengthen health systems

Despite widespread recognition of the importance of health and in particular public health research, this area has typically been under-funded compared with biomedical research (146, 147). Key priorities in health research should be identified and more funds allocated to develop new methodologies and innovations to deal with the changing environments within which health systems operate (148). However, solely promoting more health research will not improve the issues outlined thus far. It is clear that the links and dynamics between research and policy-making are complex (149).

To increase its societal value and usability, research needs to be designed strategically to align with contemporary public health policy priorities. This means moving away from research driven by incentives that do not necessarily address local needs or health priorities. To ensure that national health research systems respond more effectively, closer feedback loops from health systems to researchers should be established. This requires

explicit priority-setting exercises for both health research and the allocation of funding (150).

Another route forward is to reorient focus from generating new knowledge to assimilating what is already known through systematic reviews. Although they are increasingly being used to inform health system decisions, they do not attract the same level of academic credit or public attention as primary (especially biomedical) research (128). Systematic reviews rely on a rigorous and transparent methodology, and offer a range of advantages over single studies. The likelihood of being misled by research findings is lower with a systematic review that synthesizes multiple studies, with bias generally decreased in comparison to an individual study. Confidence in what can be expected from an intervention is thereby higher, offering generally more precise conclusions (151). Furthermore, using existing systematic reviews is time-effective, as the research literature has already been systematically and transparently identified, selected, appraised and synthesized (152). Systematic reviews are increasingly considered to be an effective lens through which to critically review a whole body of evidence that can include a variety of study types and thus better inform policy decisions.

Engaging policy-makers and researchers, together with those who finance, regulate, and provide health care services, to collectively prioritize and fund relevant research that includes systematic reviews should increase their production, relevance and the likelihood of implementation for policy decisions. This in turn should contribute to improved health and well-being as only effective interventions and efficient systems are put into practice (153).

Knowledge translation and evidence-informed policy-making

Challenges and barriers to the use of research

No matter how well the systems of health information and research may function, they are a means to improve the degree to which policies are informed by evidence. Governments are responsible for overseeing both health information and health research systems, and ensuring that the needs of policy-making and implementation are considered in order that the information and research may benefit society.

An increased output of evidence alone is insufficient to generate meaningful changes in health

policy and practice. "Researchers [...] busy filling shelves of a shop front with a comprehensive set of all possible relevant studies that a decision-maker might someday drop by to purchase" (154, p.141) will rarely impact policy-making.

Evidence-informed, rather than *evidence-based*, health policy acknowledges that policy-making is an inherently political process in which research evidence is only one factor that influences decision-making. Scientific evidence often competes with other factors, such as beliefs, personal interests, political considerations, traditions, past experience, and financial constraints (155, 156).

Box 4.5. Use of evidence in policy processes

Evidence can influence the policy process in various ways:

- Direct use (i.e. "instrumental" or "engineering") refers to the link between research findings and their applicability to specific problems that policy-makers seek to address.
- Selective use (i.e. "symbolic" or "legitimizing") refers to research applied in a political, strategic way to persuade and legitimize predetermined decisions.
- Enlightening use (i.e. "conceptual") refers to research that has informed or influenced how policy-makers think about issues.

Source: Amara N, Ouimet M, and Landry R (157).

There are major barriers to using research evidence for health policy-making (158). In addition to limited access to good quality, timely research, evidence is sometimes considered to be irrelevant or to lack value in policy processes characterized by power, political or budgetary struggles. In other instances, evidence might not be considered because policy-makers and other stakeholders are either unaware of what is available or lack the necessary research literacy. If evidence is not presented in easily digestible formats that allow for simple translations into policy and effectively communicated, then it is unlikely that the evidence will feed into policy. The absence of personal contact between researchers and policy-makers is also considered a key barrier, yet opportunities to create relationships of mutual trust and engagement are rare (159).

These barriers should be addressed if countries are committed to fostering a culture and environment in which evidence is routinely used to underpin both policy and practice.

Evidence to policy: linking evidence to action

Acknowledging this research–policy gap (160), the concept of knowledge translation has gained prominence on the international health agenda. WHO defines knowledge translation as: “The exchange, synthesis, and effective communication of reliable and relevant research results. The focus is on pro-

moting interaction among the producers and users of research, removing the barriers to research use, and tailoring information to different target audiences so that effective interventions are used more widely” (161, p.140).

Worldwide, and particularly in the WHO European Region with the recent adoption of the Action plan to strengthen the use of evidence for policy-making (39), there is a growing commitment to establish new knowledge translation mechanisms and scale up those that are already in place (162–164).

Over the last decade, several initiatives attempted to improve the evidence-to-policy interface. Most of these initiatives focused on strengthening the capacity to supply research evidence (“push activities”) as opposed to encouraging decision-makers to use scientific knowledge (“pull activities”) (165). More recently, however, knowledge exchange and more integrated efforts have increased in importance, reflecting a transition from the traditional linear view of knowledge translation to a more realistic, complex, dynamic and interactive process of co-creating feasible and research-informed policy options (166).

WHO’s work to strengthen country capacity by bridging the research–policy gap is conducted primarily through the Evidence-informed Policy Network (EVIPNet). Its overarching model is that of integration, which combines various components of push, user-pull and exchange, acknowledging that the different approaches are not mutually exclusive nor meant to be considered in isolation.

Box 4.6. Integrated knowledge translation efforts by developing an EVIPNet evidence brief for policy and its impact on policy change – the case of Poland

The Polish Parliament passed the Primary Health Care Act in October 2017. This important legislative document was informed by the country's evidence brief for policy (EBP) and by a policy dialogue, both developed with the involvement of EVIPNet Europe. The EBP, entitled *Optimizing the role of general practitioners to improve primary health care in Poland*, sets out three options to address the issue outlined in its opening problem statement. In accordance with this statement, the new Act notes that, among other things, Poland lacks a sustained, system-wide approach to support quality improvement in primary health care. To address this, the Act requires primary health care providers to monitor the quality of care more carefully, including its effectiveness in relation to health outcomes. The Act also provides Poland's Ministry of Health with a legal basis for creating ordinances that specify assessment criteria, in line with the first option presented in the EBP. After a pilot phase, the new Act will provide general practitioners with the opportunity to receive additional remuneration for preventive health care in the form of a fee for service. The Act introduces elements of a pay-for-performance scheme as suggested by the EBP's second option and in alignment with the stakeholder deliberations that took place during the policy dialogue. These discussions also reinforced the importance of establishing a specialized institute to focus on primary health care; this topic will be addressed in future legislative acts.

Rather, the various approaches complement each other, and comprise the portfolio of activities of so-called knowledge brokers such as EVIPNet Europe. Such knowledge brokers need to operate as neutral, trusted and credible intermediaries between research and policy. Researchers typically do not have the relevant skills and may not have the time, resources or incentives to reach out to the policy-making sphere, so the network and its national knowledge transfer platforms can help to filter and interpret evidence, craft meaningful

messages, and deliver them to specific target audiences (167).

EVIPNet Europe supports its member countries with diverse activities that broadly encompass the fostering of mutual support and the exchange of experience and best practice, the provision of training and technical assistance, and the creation of a more favourable environment with high-level political commitment across the European Region.

Box 4.7. Republic of Moldova: Evidence brief for policy and policy dialogue on the harmful use of alcohol informs national legislation, a success story for the national EVIPNet

In 2017, the national EVIPNet team finalized the evidence brief for policy (EBP) informing amendments to the alcohol control legislation intended to reduce harmful use of alcohol in Republic of Moldova. The EBP was developed with close mentorship and coaching by the Knowledge to Policy (K2P) Center in Beirut, Lebanon. The WHO Secretariat of EVIPNet Europe and the WHO Country Office of the Republic of Moldova also played active roles in the development of the EBP, providing guidance and technical support.

Following the finalization of the EBP, the Ministry of Health, Labour and Social Protection convened a policy dialogue in August 2017. It aimed to identify additional local sources of evidence and deliberated the next steps for different constituents on strengthening alcohol control policies in Republic of Moldova.

As a result of these discussions and the wide distribution of the EBP results, the Parliament of the Republic of Moldova introduced changes to the alcohol control legislation in September 2017: while beer was previously categorized as food, it became legally recognized as an alcohol product.

As explained in Chapter 3 (Box 3.2), the WHO Regional Office's Health Evidence Network also plays a major role in synthesizing the best available regional evidence that caters to the needs of policy-makers. Its synthesis reports have long been recognized as a core source of evidence for public health decision-making in the Region.

At each stage of the policy cycle, different types of evidence are required (156), and the knowledge translation mechanisms from WHO therefore aim to strengthen the uptake of the appropriate evidence at each phase. To identify problems, for example, and in relation to monitoring and evaluation, health information helps to measure the magnitude of a disease and assess progress in addressing that issue (168). Disaggregated data, such as by ethnicity, gender or socioeconomic sta-

tus, can clarify whether a problem is widespread or pronounced in certain groups. Whereas in the formulation of a policy response, systematic reviews can help to describe the potential impact of options, identify possible detrimental effects, and enumerate the costs and benefits. Finally, operational evidence becomes important when looking to improve the effectiveness and implementation of initiatives (149).

Furthermore, there is increasing recognition that any strategy to improve access to and use of research will have limited effect if it solely targets individuals (169). EVIPNet Europe therefore promotes organizational and system-wide change for countries to systemically embed research into policy-making processes (160).

Box 4.8. Slovenia: the EVIPNet Europe situation analysis forms the basis for launching the first EVIPNet Europe Knowledge Translation Platform

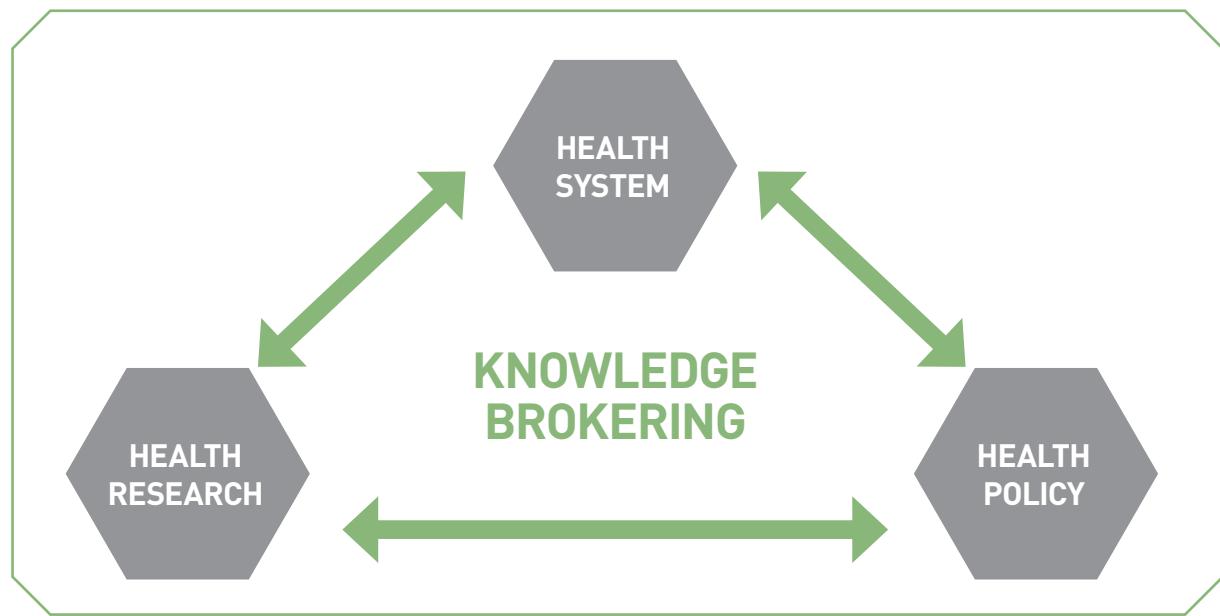
To catalyse the process of institutionalizing evidence-informed policy-making in Slovenia, the EVIPNet country team conducted a situation analysis, published in October 2017. The aim was to map and assess the context in which evidence-informed policy-making takes shape, and to reflect on opportunities to institutionalize a Knowledge Translation Platform in the country. It will help the worlds of research and policy grow together and support responses to policy priorities and to develop unbiased evidence on key health issues. For sustainability and effectiveness, the platform should be adapted to the relevant political, social and scientific characteristics, as well as the specific institutional system and decision-making mechanisms. Once established, it will facilitate the decision-makers' day-to-day work.

Policy to evidence: reorienting health policy to inform health information and research

We have seen that merely increasing the research output is not enough to improve evidence-informed policy-making. It is often assumed that evidence first influences policy, which then translates into practice, but instead of being passive recipients of research that may or may not be relevant and useful, policy-makers and other stakeholders can actively contribute to shaping the research questions.

Diverse forms of expertise, resources and assets can be brought into this process, creating new forms of knowledge, values, and social relations that cross the boundaries of sectors and disciplines (170). Effective knowledge brokering can facilitate this process by building networks between policy-makers, researchers and civil society. By this means, health research systems are brought closer to both the health system and policy spheres. Fig. 4.1 illustrates this non-linear approach: health research may interact with practice first and, at a later stage, impact policy. An example of this in action is the way that the rise of smartphone applications for mental health has arguably led the formation of mental health policy (171).

Figure 4.1. Knowledge brokering proactively ensures the interactions between research, policy and health systems



Source: Van Kammen J, de Savigny D and Sewankambo N (172).

Countries that are committed to strengthening evidence-informed policy-making should thus further invest in fostering knowledge-brokering skills, and establishing structures and mechanisms that are conducive to the use of research. At the same time, they must ensure that a wider cultural shift

occurs to normalize the consideration of evidence whenever strategic policy decisions are made. One route to achieving this is via a coordinated health information system for Europe to increase the uptake and use of research.

Harmonization and interoperability

The mechanisms that strengthen the three key systems discussed above – health information, research and knowledge translation – align with the implementation of the Action plan to strengthen the use of evidence for policy-making (39). As suggested in this chapter, these systems should be better integrated and coordinated to reach

their full potential for transforming health and well-being outcomes.

Health information systems can support cross-country learning through international comparisons and sharing information on effective policy interventions. Dedicated information platforms are regularly

maintained by international organizations such as WHO, the European Commission and the Organisation for Economic Co-operation and Development. The WHO European Health Information Initiative (EHII) fosters international cooperation among these organizations to strengthen the exchange of expertise, build capacity, and harmonize processes in data collection and reporting. Establishing information standards is a prerequisite to fostering data comparability across countries and time (173).

The EHII is the main platform for the coordination of health information, research and knowledge transfer throughout the Region but systemic links need to be further enhanced and the Action plan to strengthen the use of evidence for policy-making more strategically implemented.

The EHII has been given the mandate to enhance population health in the WHO European Region by improving the information that underpins regional policy. It is strategically positioned to influence the WHO European landscape, as it has the express endorsement of and commitment from the Region's Member States; the action plan states expressly that Member States wish to see it implemented under the umbrella and guidance of

the EHII. Moreover, the EHII is committed to policy engagement and the promotion of dynamic information networks to create an environment that supports the systematic and transparent uptake of evidence.

Implementation of the action plan, as advanced by the EHII, is based on a set of common principles:

- Integration and harmonization of health information
- Country stewardship and ownership
- Multisectoral collaboration
- Linking evidence-informed policy-making and user-centredness
- Creating a culture of evaluation and iterative processes.

One of the expressed goals of the EHII is the eventual harmonization and integration of health information in the WHO European Region. However, Member States and international organizations all have different and often long-standing traditions of health information collection and reporting, often based on very different mandates enshrined in their respective constitutions. This goal is therefore a rather ambitious one.

Conclusion

Strengthening the key systems within an overarching information system for health is an ambitious and challenging ideal, but the only realistic way to increase the availability and power of data, information and research to influence policy and positively change societal outcomes, particularly in the era of Agenda 2030. Further, such a system ultimately leads to a more efficient use of resources, as policy actions can be more confidently targeted to solve specific problems.

The Action plan to strengthen the use of evidence for policy-making and the EHII are unique to the

WHO European Region. When the action plan and its resolution were formally adopted by its Member States at the 66th Regional Committee for Europe, Member States voiced their hope that both would provide inspiration to other WHO regions and the world. If the principles outlined in this chapter are followed, similar health information initiatives could be nurtured in a variety of contexts – in transparent and resilient ways – to improve the capacities of both policy-makers and citizens. This would require an even closer collaboration between the international organizations operating in this field.

05

THE UNFINISHED AGENDA BEYOND 2020 – WHAT DO WE NEED TO DO NEXT?



Health 2020, the European policy framework for health and well-being, has been a catalyst for strengthened public health action in the European Region. It has also brought the use of information and evidence to the forefront of European public health thinking and policy-making through its accountability mechanism, the Health 2020 targets and indicators. These were adopted by the 53 Member States of the European Region in 2013 (174) and have been monitored on a regular basis ever since. Health 2020 also placed new emphasis on measuring health and well-being instead of merely focusing on the measurement of death, disease and disability. This accords with the WHO definition of health as not merely the absence of disease and infirmity but physical, social and mental well-being. This reflected a paradigm shift in the approach to public health and was facilitated by the introduction of the cultural context of health in the Regional Office's work, the increased use of qualitative information and reporting using new kinds of evidence from the medical humanities, including narratives, and the establishment of the unique multipartner WHO European Health Information Initiative (EHII) to coordinate and harmonize health information in the Region.

These developments are absolutely critical if the European Region is serious about reducing health inequalities and reporting on them. As Sir Michael Marmot said, "in order to reduce inequalities in health, we must first address the inequalities in health information. Where health information is poorest, health is also poorest" (184). The Sustainable Development Agenda 2030 has lent further support to this approach through its detailed monitoring requirement on goals and targets, using more than 300 indicators. Such reporting requirements necessitate not only strong infor-

mation systems for health at the country level but an increased use of information and evidence for policy-making. For this reason, the European Member States adopted the European Action plan to strengthen the use of information, evidence and research for policy-making in 2016 (39). This action plan is unique and Europe is the only WHO Region to have ever put such a plan forward. It is, however, crucial in order to ensure not only the generation of high quality information at the country level through routine reporting, digital health¹⁰, and research, but also the translation of evidence into policy. Given these innovative and trailblazing initiatives in health information and evidence, is the European Region on course to achieve its goals and will it be able to effectively report on them under Health 2020 and Agenda 2030?

Reporting requirements are increasing for Member States with more and more monitoring frameworks coming into focus. Many of these overlap and duplicate or even triplicate the same indicators. Understandably, the Member States of the European Region therefore requested that the Regional Office propose a reductionist approach to reduce the reporting burden. This resulted in the establishment of a joint monitoring framework for Health 2020, the SDGs and the Global framework to reduce noncommunicable diseases. The Regional Office has also established a gatekeeper function to ensure that data requests are only made to Member States when required by governing bodies' decisions and resolutions. This comes at a time when demands for action in public health become more and more intersectoral, thus also necessitating intersectoral measurement and reporting. Moreover, the landscape of "data analysers" is also expanding with institutions such as the Institute for Health Metrics and Evaluation

10 The terms eHealth and digital health are used interchangeably in this report, reflecting their evolution and the discussion among Member States at the 71st World Health Assembly.

(IHME), which provides valuable global, regional and national assessments on burden of disease. The WHO Regional Office for Europe collaborates closely with IHME and has established a European Burden of Disease Network co-hosted with the institute to enhance collaboration and strengthen the generation and use of burden of disease data at the country level.

In addition, new kinds of data are flooding the health information market through big data which draws on a myriad of sources and data types, raising new possibilities and threats which have not yet been clearly defined for public health. Big data and the associated emerging field of data science have been receiving a lot of attention as potential new sources of information for sustainable development efforts – outside routine information systems (175, 176), in official statistics (177, 178), and to inform policy-making (179). Consequently, there have been some reviews to take stock of the current barriers to, and opportunities for, the use of big data in government, including case studies on using big data sets for public health and the provision of health care (180–182).

However, despite many promises of the potential gains that big data can offer in relation to Health 2020 policy objectives or achieving Agenda 2030, these are yet to be fully explored. For example, there is still no clear and unanimously agreed definition for the use of big data for health, nor is there a vision of how health information systems can use the innovation and advances coming from big data and associated developments, such as for data governance, ethics, technology, interoperability and analytics.

The current discussions around data innovation reflect the diversity of opportunities in using big data as a source of information, and the challenges this poses to the systematic use of information for policy-making. Statistical offices

are exploring the possible use of new data sources for official statistics. Monitoring progress towards meeting the SDGs will require the collection of data for a large number of indicators that, in many countries, are currently not routinely available or not available at the expected level of disaggregation. The Global action plan for SDG data (178) includes a commitment to develop principles for incorporating new and innovative data into official statistics.

While societies demand higher levels of transparency of health information and the way it is used for policy-making, national authorities face increasingly stringent data privacy and protection laws. Countries vary enormously in the way data for health are collected, integrated and reported. Scandinavian countries use personal identifiers which enable all the data collected on each citizen to be linked for administrative use and also for the assessment of health and care needs in the population. Other countries neither link nor collect information for health through single and integrated systems, permitting only aggregated analyses of data at the population level. Countries and international organizations struggle to balance meaningful reporting with data privacy requirements while at the same time trying to respond to increasing requests for transparency. This is particularly pertinent when countries use and present subnational or local data where it could be possible to identify population groups or even individuals. The use of local data for local decision-making, however, is highly desirable and a key element of the implementation of the Action plan to strengthen the use of evidence for policy-making in European countries.

The goal to harmonize health information from all Member States, to make it comparable and easily accessible, has not been abandoned but has proved a much greater challenge than anticipated, even with the advantage of new technologies for

interoperability of systems, greater opportunities for data sourcing, novel analytical techniques and harmonization of information. Member States have clearly expressed their wish to see the establishment of such a system through the resolution that accompanies the European action plan and that future health information developments in the European Region should be conducted under the umbrella of the EHII in order to avoid duplication and an increased reporting burden on Member States. This also requires stronger national health research systems and dedicated health research strategies (see Chapter 4). The latter are only available in a very few European countries but are a necessity if countries wish to adopt a systematic approach to the generation and use of research for health policy-making. The European Health Research Network was launched to achieve precisely that (183).

Quantitative data, including on mortality, morbidity and disability, remain at the core of health reporting and are absolutely essential when assessing the health of a population. As discussed in Chapter 4, they do not, however, explain the full picture and describe the “what” and “how much” rather than explain “why” certain trends are observed. In order to interpret the quantitative information adequately and understand why trends occur, qualitative information is also required. This, however, rarely comes from the health sector and requires information and evidence from the medical humanities and social sciences. It also requires different kinds of information such as narratives, particularly in the interpretation of well-being and the new concepts enshrined in Health 2020, such as community resilience, empowerment, the life-course approach and the whole-of-society approach, as described in Chapter 3. Through a series of expert group meetings, the Regional Office has defined these concepts and is now using them in the monitoring of progress of Health 2020. Both kinds of

evidence – numbers and narratives – have to become mainstream information and evidence to strengthen policy-making for public health in the 21st century. Further, both have to be brought to the attention of all stakeholders, including the general public, to engage in a meaningful debate about what this information means for communities, families and individuals. Iceland (Box 5.1) could serve as a good case study in this regard, as all information for health generated by the authorities is discussed with local communities in town hall meetings. The implications of the results are discussed and decision-making is informed by these interactions, thus implementing the whole-of-society approach advocated by Health 2020.

More serious thought needs to be given to the communication of health information, far beyond the use of images or infographics. This may involve story-telling techniques and face-to-face meetings with local communities about their health experience, as is done in Iceland. Such efforts would lead to a demystification of statistics into actual knowledge used by all, thus creating a new paradigm of “evidence for all”. It would also ensure that systems are not merely created for themselves or for the use of international and national authorities but for the express purpose of bringing data to the individual. Various efforts have been made to bring evidence to the people, some of them through social media and mobile applications. However, they tend to be largely based on statistics or images and only a few use unconventional techniques, such as narratives. It is a challenge for any national or international authority to attempt this and it requires some really innovative thinking. Under the EHII, WHO has recently established a think tank to explore these possibilities for internationally and nationally reported information. This group is exploring new ways of communicating information for health and well-being and innovative channels to bring information to the people and thus achieve the goal of evidence for all.

Box 5.1. Linking data to action in Health-promoting communities in Iceland

In 2016 the Directorate of Health (DOH) in Iceland started publishing annual subnational public health indicators for the country's seven health districts. Their format is based on examples from other countries, e.g. Norway and the UK. Monitoring relevant public health indicators at the subnational level, as well as the dissemination of data to stakeholders, is an effort towards minimizing regional health inequalities. In recent years the DOH has put emphasis on developing the programme "Health-promoting community" (HPC), through which data, research and policy are linked to action. The main aim of the programme is to support committed communities to create supportive environments that promote healthy behaviour and lifestyles, health and well-being for all its inhabitants. As of April 2018, approximately 80% of the Icelandic population were living in communities designated as an HPC.

Subnational public health indicators assist local authorities to assess the health situation in their communities, identifying their strengths and weaknesses and gaining better insight into the needs of their inhabitants. The DOH has organized local workshops in which the interpretation of individual indicators has been discussed along with the rationale for their inclusion.

The process of developing the indicators has revealed several important points. These include the realization that it is crucial that the health districts and municipalities themselves use indicators provided by the DOH to carry out their local analysis in comparison to the country as a whole. They then have to interpret the results based on their knowledge of the local community. Is the situation acceptable, and if not how can it be improved? In order to facilitate this work, checklists, an online shared working area and other support tools are being developed. These are intended to assist local authorities with further situation analyses, to plan and act based on the best available knowledge and evaluate the work being done to improve the health and well-being of the inhabitants.

Subnational health indicators bring to light weaknesses and identify challenges. Their publication has drawn media attention. There have already been several cases where communities have taken on these challenges, with support from the HPC programme, to systematically work towards improved health and well-being for their inhabitants.

As work on the development of subnational public health indicators and effective knowledge translation continues to expand there has been an increased demand for data by smaller communities. An effort is made to meet these demands, the rationale being that more locally relevant data may increase the inhabitants' involvement in the effort.

References

- 1 Targets and indicators for Health 2020: Version 4. Copenhagen: WHO Regional Office for Europe; 2018. (<http://www.euro.who.int/en/health-topics/health-policy/health-2020-the-european-policy-for-health-and-well-being/publications/2018/targets-and-indicators-for-health-2020.-version-4-2018>, accessed 20 August 2018).
- 2 Resolution A/RES/70/1. Transforming our world: the 2030 agenda for sustainable development. Seventieth United Nations General Assembly. New York: United Nations; 2015. (http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E, accessed 30 January 2018).
- 3 Global action plan for the prevention and control of NCDs 2013–2020. Geneva: World Health Organization; 2013. (<http://www.who.int/nmh/publications/ncd-action-plan/en/>, accessed 30 January 2018).
- 4 Health 2020: a European policy framework supporting action across government and society for health and well-being. EUR/RC62/9. Copenhagen: WHO Regional Office for Europe; 2012. (<http://www.euro.who.int/en/about-us/governance/regional-committee-for-europe/past-sessions/sixty-second-session/documentation/working-documents/eurrc629-health-2020-a-european-policy-framework-supporting-action-across-government-and-society-for-health-and-well-being>, accessed 1 July 2017).
- 5 Health 2020: a European policy framework and strategy for the 21st century. Copenhagen: WHO Regional Office for Europe; 2013. (<http://www.euro.who.int/en/publications/policy-documents/health-2020.-a-european-policy-framework-and-strategy-for-the-21st-century-2013>, accessed 28 June 2017).
- 6 Regional Committee for Europe. Roadmap to implement the 2030 Agenda for Sustainable Development, building on Health 2020, the European policy for health and well-being. EUR/RC67/R3. Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/about-us/governance/regional-committee-for-europe/67th-session/documentation/resolutions/eurrc67r3-roadmap-to-implement-the-2030-agenda-for-sustainable-development,-building-on-health-2020,-the-european-policy-for-health-and-well-being>, accessed 28 November 2017).
- 7 Monitoring noncommunicable disease commitments in Europe. Theme in focus: progress monitor indicators. Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/health-topics/noncommunicable-diseases/pages/who-european-office-for-the-prevention-and-control-of-noncommunicable-diseases-ncd-office/publications-and-tools/monitoring-noncommunicable-disease-commitments-in-europe.-theme-in-focus-progress-monitor-indicators-2017>, accessed 19 August 2018).

- 8 STEPwise approach to surveillance (STEPS) [website]. Geneva: World Health Organization. (<http://www.who.int/ncds/surveillance/steps/en/>, accessed 19 August 2018).
- 9 Health for All database. European Health Information Gateway [website]. Copenhagen: WHO Regional Office for Europe. (<https://gateway.euro.who.int/en/datasets/european-health-for-all-database/>, accessed 19 August 2018).
- 10 Global status report on noncommunicable diseases 2014. Geneva: World Health Organization; 2014. (<http://www.who.int/nmh/publications/ncd-status-report-2014/en/>, accessed 3 February 2018).
- 11 Growing up unequal. HBSC 2016 study (2013/2014 survey). Copenhagen: WHO Regional Office for Europe; 2016. (<http://www.euro.who.int/en/health-topics/Life-stages/child-and-adolescent-health/health-behaviour-in-school-aged-children-hbsc/growing-up-unequal.-hbsc-2016-study-20132014-survey>, accessed 30 January 2018).
- 12 Health Behaviour in School-aged Children (HBSC). European Health Information Gateway [website]. Copenhagen: WHO Regional Office for Europe. (<https://gateway.euro.who.int/en/datasets/hbsc/>, accessed 19 August 2018).
- 13 HSBC success stories [website]. Copenhagen: WHO Regional Office for Europe. (<http://www.euro.who.int/en/health-topics/Life-stages/child-and-adolescent-health/health-behaviour-in-school-aged-children-hbsc/success-stories>, accessed 19 August 2018).
- 14 WHO global information system on alcohol and health [website]. Geneva: World Health Organization. (http://apps.who.int/gho/data/node.gisah.GISAH_key_ind?showonly=GISAH, accessed 19 August 2018).
- 15 WHO Global Health Observatory (GHO) data [website]. Geneva: World Health Organization. (<http://www.who.int/gho/en/>, accessed 19 August 2018).
- 16 de Onis M, Onyango AW, Borghi E, Siyam A, Nishida C, Siekmann J. Development of a WHO growth reference for school-aged children and adolescents. *Bulletin of the World Health Organization*. 2007;85:660-7.
- 17 Sixth meeting of the European regional verification commission for measles and rubella elimination (RVC). Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/health-topics/communicable-diseases/measles-and-rubella/publications/2017/6th-meeting-of-the-regional-verification-commission-for-measles-and-rubella-elimination-rvc>, accessed 19 August 2018).

- 18 European Vaccine Action Plan 2015–2020. Copenhagen: WHO Regional Office for Europe; 2014. (<http://www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization/publications/2014/european-vaccine-action-plan-20152020-2014>, accessed 19 August 2018).
- 19 World Bank Country and Lending Groups [website]. Washington DC: World Bank (<https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lendinggroups>, accessed 19 August 2018).
- 20 Facing vocal vaccine deniers in public debate [website]. Copenhagen: WHO Regional Office for Europe. (<http://www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization/activities/communication-and-advocacy/facing-vocal-vaccine-deniers-in-public-debate>, accessed 19 August 2018).
- 21 Dubé E, Leask J, Wolff B, Hickler B, Balaban V, Hosein E, et al. The WHO Tailoring Immunization Programmes (TIP) approach: Review of implementation to date. *Vaccine*. 2018 Mar 7;36(11):1509-1515.
- 22 Masseria C, Allin S, Sorenson C, Papanicolas I, Mossialos E. What are the methodological issues related to measuring health and drawing comparisons across countries? A research note. Brussels: DG Employment and Social Affairs, European Observatory on the Social Situation and Demography; 2007. (<http://ec.europa.eu/social/BlobServlet?docId=3951>, accessed 29 January 2018).
- 23 Eurostat [database]. European Commission. (<http://ec.europa.eu/eurostat/web/main/home>, accessed 19 August 2018).
- 24 SDG Indicators. Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development. New York: United Nations Statistics Division, Department of Economic and Social Affairs (DESA); 2017. (<https://unstats.un.org/sdgs/indicators/indicators-list/>, accessed 30 January 2018).
- 25 Kyrgyz National Statistics Committee. Methodological notes on population statistics [Russian]. (<http://stat.kg/en/statistics/download/methodology/68/>, accessed 19 August 2018).
- 26 Guillot M, Lim S, Torgasheva L, Denisenko M. Infant mortality in Kyrgyzstan before and after the break-up of the Soviet Union. *Population studies*. 2013;67(3):335-352.
- 27 On the road to Health 2020 policy targets: Monitoring qualitative indicators. An update. (2017). Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/health-topics/health-policy/health-2020-the-european-policy-for-health-and-well-being/publications/2017/on-the-road-to-health-2020-policy-targets-monitoring-qualitative-indicators.-an-update.-2017>, accessed 30 January 2018)

- 28 European Social Survey (2015) Measuring and Reporting on Europeans' Wellbeing: Findings from the European Social Survey. London: European Social Survey European Research Infrastructure Consortium – ESS ERIC; 2015. (<http://www.esswellbeingmatters.org/print-report/index.html>, accessed 30 January 2018).
- 29 UNDP Human Development Reports. Human Development Index (HDI) [website]. New York: United Nations Development Programme; 2016. (<http://hdr.undp.org/en/content/human-development-index-hdi>, accessed 30 July 2017).
- 30 Household final consumption expenditure per capita (constant 2010 US\$) [website]. World Bank national accounts data, and OECD National Accounts data files. (<https://data.worldbank.org/indicator/NE.CON.PRVT.PC.KD>, accessed 19 August 2018).
- 31 UIS.Stat [database]. UNESCO. (<http://data.uis.unesco.org/>, accessed 19 August 2018).
- 32 WHO Priorities: Health for all. Director-General's Office. Geneva: World Health Organization; 2017. (<http://www.who.int/dg/priorities/health-for-all/en/>, accessed 30 January 2018).
- 33 Thirteenth general programme of work 2019–2023. Geneva: World Health Organization; 2018. (<http://www.who.int/about/what-we-do/gpw-thirteen-consultation/en/>, accessed 19 August 2018).
- 34 AMR in the WHO European Region [website]. Copenhagen: WHO Regional Office for Europe. (<http://www.euro.who.int/en/health-topics/disease-prevention/antimicrobial-resistance/about-amr/amr-in-the-who-european-region>, accessed 19 August 2018).
- 35 Central Asian and Eastern European Surveillance of Antimicrobial Resistance. Annual report 2017. Copenhagen: WHO Regional Office for Europe; 2018. (<http://www.euro.who.int/en/health-topics/disease-prevention/antimicrobial-resistance/publications/2017/central-asian-and-eastern-european-surveillance-of-antimicrobial-resistance.-annual-report-2017-2018>, accessed 19 August 2018).
- 36 Thomson S, Evetovits T, Cylus J, Jakab M. Monitoring financial protection to assess progress towards universal health coverage in Europe. Public Health Panorama, vol 2(3) Sept 2016, pp. 357-366 (<http://www.euro.who.int/en/publications/public-health-panorama/journal-issues/volume-2-issue-3-september-2016/original-research2>, , accessed 19 August 2018).
- 37 New perspectives on Global Health Spending for Universal Health Coverage. Geneva: World Health Organization; 2018(http://www.who.int/health_financing/topics/resource-tracking/new-perspectives/en/, accessed 19 August 2018).
- 38 World Health Report, 2010. Health systems financing: the path to universal coverage. Geneva: World Health Organization; 2010. (<http://www.who.int/whr/2010/en/>, accessed 29 January 2018).

- 39 Action plan to strengthen the use of evidence, information and research for policy-making in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2016. (<http://www.euro.who.int/en/about-us/governance/regional-committee-for-europe/66thsession/documentation/working-documents/eurrc6612-action-plan-to-strengthen-the-use-of-evidence,-information-and-research-for-policy-making-in-the-who-european-region>, accessed 30 January 2018).
- 40 UNDG and UNECE. Regional UN System Meetings for Europe and Central Asia. Note for Record and Conclusions. 11–12 May 2016. (http://www.un-rcm-europecentralasia.org/fileadmin/DAM/RCM_Website/home/Regional-UN-System-Meetings_Note-for-Record-and-Conclusions.pdf).
- 41 WHO Fact sheets on sustainable development goals: health targets. [website] (<http://www.euro.who.int/en/health-topics/health-policy/sustainable-development-goals/publications/2017/fact-sheets-on-sustainable-development-goals-health-targets>, accessed 19 August 2018).
- 42 Meisel ZF, Karlawish J. (2011). Narrative vs evidence-based medicine – and, not or. *JAMA* 2011 Nov 9;306(18):2022-3.
- 43 The European health report 2015. Targets and beyond – reaching new frontiers in evidence. Copenhagen: WHO Regional Office for Europe; 2015. (<http://www.euro.who.int/en/publications/abstracts/european-health-report-2015-the.-targets-and-beyond-reaching-new-frontiers-in-evidence>, accessed 19 August 2018).
- 44 Expert group meeting to enhance Health 2020 monitoring and reporting – piecing together the health information puzzle. Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/publications/abstracts/expert-group-meeting-to-enhance-health-2020-monitoring-and-reporting-piecing-together-the-health-information-puzzle-2017>, accessed 19 August 2018).
- 45 Expert group meeting to enhance Health 2020 monitoring and reporting: Strengthening the measurement framework. Copenhagen: WHO Regional Office for Europe; 2018. (<http://www.euro.who.int/en/publications/abstracts/expert-group-meeting-to-enhance-health-2020-monitoring-and-reporting-strengthening-the-measurement-framework-2018>, accessed 19 August 2018).
- 46 Briefing note on process and results of indicator mapping exercise and proposal for a joint monitoring framework. Copenhagen: WHO Regional Office for Europe; 2017 (http://www.euro.who.int/__data/assets/pdf_file/0016/322720/Briefing-note-process-results-indicator-mapping-exercise.pdf, accessed on 19 August 2018).
- 47 Culture matters: using a cultural contexts of health approach to enhance policy-making. Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/publications/abstracts/culture-matters-using-a-cultural-contexts-of-health-approach-to-enhance-policy-making-2017>, accessed 19 August 2018).

- 48 The United Nations Secretary-General's Independent Expert Advisory Group on a Data Revolution for Sustainable Development (IEAG). *A World that Counts. Mobilising the Data Revolution for Sustainable Development*. Independent Expert Advisory Group Secretariat, 2014. (<http://www.udatarevolution.org/report/>, accessed 19 August 2018).
- 49 Constitution of the World Health Organization. Geneva: World Health Organization; 1948. (<http://www.who.int/about/mission/en/>, accessed 21 May 2015).
- 50 Expert group meeting to enhance Health 2020 monitoring and reporting: strengthening the monitoring framework. Copenhagen: WHO Regional Office for Europe; (In press).
- 51 Cultural contexts of health: the use of narrative research in the health sector. Copenhagen: WHO Regional Office for Europe; 2016. (<http://www.euro.who.int/en/publications/abstracts/cultural-contexts-of-health-the-use-of-narrative-research-in-the-health-sector-2016>, accessed 19 August 2018).
- 52 Bivins R. *Contagious Communities: Medicine, Migration and the NHS in Post War Britain*. Oxford: Oxford University Press; 2015.
- 53 Haggett AA. *History of Male Psychological Disorders in Britain, 1945–1980*. London: Palgrave Macmillan; 2015.
- 54 Keller, Richard C. *Fatal Isolation: The Devastating Paris Heat Wave of 2003*. Chicago: University of Chicago Press; 2015.
- 55 Larchanché S. Intangible obstacles: health implications of stigmatization, structural violence, and fear among undocumented immigrants in France. *Social Science and Medicine*, 2012 74(6): 858-863.
- 56 Rütten A, Abu-Omar K, Frahs, A, Morgan A. Assets for policy making in health promotion: overcoming political barriers inhibiting women in difficult life situations to access sport facilities. *Social Science and Medicine*, 2009 69(11):1667-1673.
- 57 Pietilä I, Rytönen M. "Health is not a man's domain": lay accounts of gender difference in life expectancy in Russia. *Sociology of Health & Illness*, 2008 30(7): 1070–1085.
- 58 Grodach C. Reconstituting identity and history in post-war Mostar, Bosnia-Herzegovina. *City: Analysis of Urban Trends, Culture, Theory, Policy, Action*, 2002 6(1): 61-82.
- 59 Smith J and Jehlička P. Stories around food, politics and change in Poland and the Czech Republic. *Transactions of the Institute of British Geographers*, 32 (2007), pp. 395–410.

- 60 Wald J, Taylor S, Asmundson GJ, Jang KL, Stapleton, J. Literature review of concepts: Psychological resiliency. Vancouver, Canada: British Columbia University; 2006.
- 61 Waaktaar T, Torgersen S. Genetic and environmental causes of variation in trait resilience in young people. *Behavior Genetics*, 2012 42, 366-377.
- 62 Brom D, Kleber RJ. 'Resilience as the capacity for processing traumatic experiences.' In D Brom, R PathHorenczyk, & JD Ford (Eds.), *Treating traumatized children: Risk, resilience and recovery* (pp. 133-149). New York: Routledge; 2009.
- 63 Hawkins CV. 'Networks, Collaborative Planning, and Perceived Quality of Comprehensive Plans.' In K Kapucu, CV Hawkins, FI Rivera (Eds.), *Disaster Resiliency: Interdisciplinary Perspectives* New York: Routledge; 2013.
- 64 Longstaff PH, et al. Building Resilient Communities: A Preliminary Framework for Assessment. *Homeland Security Affairs*, Article 6 (September 2010). (<https://www.hsaj.org/articles/81>, accessed 19 August 2018).
- 65 Seaman P, et al. Resilience for public health: Supporting transformation in people and communities. Glasgow: Glasgow Centre for Population Health; 2014.
- 66 Slijpen M, June ter Heide FJ, Mooren T, Boeije HR, Kleber RJ. (2013, May 2). Bouncing forward of young refugees: a perspective on resilience research directions. *Eur J Psychotraumatol*. 2013 May 2;4.
- 67 Scales PC, Benson PL, Leffert N, Blyth DA. Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science*, (200) 4, 27-46.
- 68 Masten AS, Coatsworth JD. The development of competence in favorable and unfavorable environments. *American Psychologist* (1998) 53, 205-220.
- 69 Bowling A. *Research methods in health* (2nd ed.). UK: Open University Press; 2002.
- 70 Britten N. Qualitative research on health communication: What can it contribute? *Patient Education and Counseling* (2011) 82, 384-388.
- 71 Ungar M, Nichol G. 'The harmony of resistance: Qualitative research and ethical Practice in Social Work.' In WC Van Den Hoonaard (Ed.) *Walking the Tightrope: Ethical Issues for Qualitative Researchers* (pp. 137-51). Toronto: University of Toronto Press; 2002.
- 72 What quantitative and qualitative methods have been developed to measure health-related community resilience at a national level? *Health Evidence Network Report 63*. Copenhagen: WHO Regional Office for Europe; (In press).

- 73 Wallerstein N. What is the Evidence on Effectiveness of Empowerment to Improve Health? Health Evidence Network Report. Copenhagen: WHO Regional Office for Europe; 2006. (<http://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/publications/pre2009/what-is-the-evidence-on-effectiveness-of-empowerment-to-improve-health>, accessed 19 August 2018).
- 74 Rosato MG, Laverack LH, Grabman P, Tripathy N, Nair C, Mwansambo K, et al. Community Participation: Lessons for Maternal, Newborn, and Child Health. *Lancet*. 2008 Sep 13;372(9642):962-71.
- 75 Israel BA, Checkoway B, Schulz A, Zimmerman M. Health education and community empowerment: conceptualizing and measuring perceptions of individual, organizational, and community control. *Health Education Quarterly*, (1994) 21, 149–170.
- 76 Binka FN, Nazzar A, Phillips JF. The Navrongo community health and family planning project. *Studies in Family Planning*, (1995) 26, 121–139.
- 77 Akey TM, Marquis JG, Ross ME. Validation of scores on the Psychological Empowerment Scale: a measure of empowerment for parents of children with a disability. *Educational and Psychological Measurement*, (2000) 60, 419–438.
- 78 Tsay SL, Hung LO. Empowerment of patients with endstage renal disease—a randomized controlled trial. *International Journal of Nursing Studies*, (2004) 41, 59–65.
- 79 Laverack G. Improving health outcomes through community empowerment: a review of the literature. *Journal of Health, Population, and Nutrition*, (2006) 24, 113–120.
- 80 Dixon L, Stewart B, Burland J, Delahanty J, Lucksted A, Hoffman M. Pilot study of the effectiveness of the family-to-family education program. *Psychiatric Services*, (2001) 52, 965–967.
- 81 Melnyk BM, Alpert-Gillis L, Feinstein NF, Crean HF, Johnson J, Fairbanks E, et al. Creating opportunities for parent empowerment: program effects on the mental health/coping outcomes of critically ill young children and their mothers. *Pediatrics*, (2004) 113, e597–e607.
- 82 Rich RC, Edelstein M, Hallman WK, Wandersman AH. Citizen participation and empowerment: the case of local environmental hazards. *American Journal of Community Psychology*, (1995) 23, 657–676.
- 83 Rappaport J. In praise of paradox: a social policy of empowerment over prevention. *American Journal of Community Psychology*, (1981) 9, 1–25.
- 84 Cyril S, Smith BJ, Renzaho AMN. Systematic review of empowerment measures in health promotion. *Health Promot Int*. 2016 Dec;31(4):809-826.

- 85 Brandstetter S, McCool M, Wise M, Loss J. Australian health promotion practitioners' perceptions on evaluation of empowerment and participation. *Health Promotion International*, (2014) 29, 70–80.
- 86 Teddlie C, Tashakkori A. (2009) Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences. Thousand Oaks, CA: Sage Publications Inc; 2009.
- 87 Giele JZ and Elder GH. (Eds) *Methods of Life-course Research: Qualitative and Quantitative Approaches*. Sage Publications; 1998.
- 88 Family, Maternal and Child Health Programs Life-course Initiative. An overview. Fact sheet. Contra Costa Health Services; April 2011. (<https://cchealth.org/lifecourse/>, accessed 19 August 2018).
- 89 Elder GH, Johnson MK, Crosnoe R. 'The Emergence and Development of Life Course Theory.' In Mortimer JT, Shanahan MJ (Eds.) *Handbook of the Life Course*. New York: Kluwer Academic/ Plenum Publishers; 2003.
- 90 Blane D, Netuveli G, Stone J. The development of life-course epidemiology. *Epidemiol Public Health* 55:31–38.
- 91 McCool J. Global health: An introduction to current and future trends by Kevin McCracken and David R. Phillips. Routledge, London, 2012 (Book review). *New Zealand Geographer* 2014 70(1):76-77.
- 92 The Minsk Declaration. The Life-course Approach in the Context of Health 2020. Copenhagen: WHO Regional Office for Europe; 2015. (<http://www.euro.who.int/en/media-centre/events/events/2015/10/WHO-European-Ministerial-Conference-on-the-Life-course-Approach-in-the-Context-of-Health-2020>, accessed 19 August 2018).
- 93 Locke C, Lloyd-Sherlock P. Qualitative life course methodologies: critical reflections from development studies. *Development & Change* 2011;42(5):1131-52.
- 94 Kotelchuck M. Evaluating the Healthy Start program: a life course perspective. *Maternal & Child Health Journal* 2010;14(5):649-53.
- 95 Turrell G. Reducing socioeconomic health inequalities: issues of relevance for policy. *New South Wales Public Health Bulletin*, (2002) 13(3), 47-49.
- 96 Fournier JT. Preface. In B Hocking (Ed.) *Unfinished Constitutional Business? Rethinking Indigenous Self-determination* (vii-ix). Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies; 2005.

- 97 Dubé, L., Thomassin, P & Beauvais, J. (2009). Building Convergence: Toward an Integrated Health & Agri-Food Strategy for Canada – a discussion paper. Canadian Agri-Food Policy Institute (CAPI).
- 98 Addy NA, Poirier A, Blouin C, Drager N, Dubé L. Whole-of-society approach for public health policymaking: a case study of polycentric governance from Quebec, Canada. Ann. N.Y. Acad. Sci. (2014) 1331, 216-229.
- 99 Wilkinson R, Marmot M (Eds.) *Social Determinants of Health: The Solid Facts* (2nd ed.). Copenhagen: WHO Regional Office for Europe; 2003.
- 100 Kickbusch I, Gleicher D. Governance for health in the 21st century. Copenhagen: WHO Regional Office for Europe; 2012. (<http://www.euro.who.int/en/publications/abstracts/governance-for-health-in-the-21st-century>, accessed 19 August 2018).
- 101 Resolution adopted by the General Assembly: Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases. New York: United Nations; 2012.
- 102 Kickbusch I, Behrendt T. Implementing a Health 2020 vision: governance for health in the 21st century - Making it happen. Copenhagen: WHO Regional Office for Europe; 2013. (<http://www.euro.who.int/en/publications/abstracts/implementing-a-health-2020-vision-governance-for-health-in-the-21st-century.-making-it-happen>, , accessed 19 August 2018).
- 103 Bekker M, Helderman JK, Jansen M, Ruwaard D. 'The conditions and contributions of 'Whole of Society' governance in the Dutch 'All about Health...' programme.' In: S Greer, M Wismar G. Pastorino, M. Kosinka (Eds.) *Civil society and health Contributions and potential*. Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/publications/abstracts/civil-society-and-health-contributions-and-potential-2017>, accessed 19 August 2018).
- 104 Friedman E. Decade of Roma Inclusion Progress Report. New York: UNDP Europe and Central Asia; 2015.
- 105 Goal 17: Revitalize the global partnership for sustainable development. Sustainable Development Goals: 17 goals to transform our world. [website] New York; United Nations. (<http://www.un.org/sustainabledevelopment/globalpartnerships/>, accessed 19 August 2018).
- 106 OECD Public Governance Reviews – Finland: Working Together to Sustain Success. Paris: OECD; 2010. (<http://www.oecd.org/gov/oecdpublicgovernancereviews-finlandworkingtogethertosustainsuccess.htm>, accessed 19 August 2018).
- 107 Mechanisms for Citizen Engagement and Measurement for the Implementation of Agenda 2030. Geneva: United Nations Volunteers (UNV) and International Labour Organization (ILO); 2018. (https://www.unece.org/fileadmin/DAM/RCM_Website/Side_Event_1_March_2_March__UNV.pdf, accessed 19 August 2018).

- 108 From innovation to implementation – eHealth in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2016. (<http://www.euro.who.int/en/publications/abstracts/from-innovation-to-implementation-ehealth-in-the-who-european-region-2016>, accessed 19 August 2018).
- 109 Conrick M. *Health Informatics*. Melbourne: Cengage Learning Australia Ltd; 2006. Pg. 391.
- 110 Strengthening health-system emergency preparedness. Toolkit for assessing health-system capacity for crisis management. Part 1. User manual. Copenhagen: WHO Regional Office for Europe; 2012. (<http://www.euro.who.int/en/publications/abstracts/strengthening-health-system-emergency-preparedness.-toolkit-for-assessing-health-system-capacity-for-crisis-management.-part-1.-user-manual-2012>, accessed 19 August 2018).
- 111 Millennium Development Goals. The health indicators: scope, definitions and measurement methods. Copenhagen: WHO Regional Office for Europe; 2003. p.11. (http://apps.who.int/iris/bitstream/10665/68409/1/WHO_EIP_HFS_03.2.pdf, accessed 19 August 2018).
- 112 Introduction to EVIPNet Europe: conceptual background and case studies. Copenhagen: WHO Regional Office for Europe; 2017. p. 61. (<http://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/publications/2017/conceptual-background-and-case-studies-introduction-to-evipnet-europe-2017>, accessed 19 August 2018).
- 113 Health in all policies: Helsinki statement. Framework for country action. Geneva: World Health Organization; 2014. (<http://www.who.int/healthpromotion/frameworkforcountryaction/en/>, accessed 19 August 2018).
- 114 Keith Muhakanizi, Director of Economic Affairs, Uganda. (<http://www.paris21.org/sites/default/files/statistics-matters-DFID.pdf>, accessed 19 August 2018).
- 115 Swan M. Crowdsourced health research studies: an important emerging complement to clinical trials in the public health research ecosystem. *Journal of medical Internet research* (2012) 14.2.
- 116 Hox JJ, Boeije HR. 'Data collection, primary versus secondary.' In *Encyclopedia of social measurement*, (2005) Vol. 1, p.593.
- 117 Devleesschauwer B, Maertens de Noordhout C, Smit GSA, Duchateau L, Dorny P, Stein C, et al. Quantifying burden of disease to support public health policy in Belgium: opportunities and constraints. *BMC public health* 2014 14.1: 1196.
- 118 AbouZahr C, Adjei S, Kanchanachitra C. From data to policy: good practices and cautionary tales. *Lancet*. 2007 Mar 24;369(9566):1039-46.

- 119 Evans DB, Boerma T, Kieny MP. Monitoring progress towards universal health coverage: recent developments. Editorial. EMHJ 2014;20:8.
- 120 Sustainable health agenda for the Americas 2018–2030: A call to action for health and wellbeing in the Region. Washington DC: Pan American Health Organization; 2017.
- 121 Promoting better integration of health information systems: best practices and challenges. Health Evidence Network synthesis report. Copenhagen: WHO Regional Office for Europe; 2015. (<http://www.euro.who.int/en/publications/abstracts/promoting-better-integration-of-health-information-systems-best-practices-and-challenges>, accessed 19 August 2018).
- 122 Höchtl J, Parycek P, Schöllhammer R. Big data in the policy cycle: Policy decision making in the digital era. Journal of Organizational Computing and Electronic Commerce (2016) 26:1-2, 147-169.
- 123 Marco L, Hawkins B, Parkhurst J. Department of Global Health and Development, London School of Hygiene and Tropical Medicine. Political and Institutional Influences on the Use of Evidence in Public Health Policy. A Systematic Review. PLoS One. 2013; 8(10): e77404.
- 124 Evidence on mechanisms and tools for use of health information for decision-making. Health Evidence Network synthesis report 54. Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/publications/abstracts/evidence-on-mechanisms-and-tools-for-use-of-health-information-for-decision-making-2017>, accessed 19 August 2018).
- 125 Commission on Health Research for Development. Health Research: Essential Link to Equity in Development. Oxford: Oxford University Press; 1990.
- 126 National health research systems: report of an international workshop, Cha-am, Thailand, 12–15 March 2001. International Workshop on National Health Research Systems. Geneva: World Health Organization; 2002. (<http://apps.who.int/iris/handle/10665/42455>, accessed on 19 August 2018).
- 127 Slowther A, Boynton P, Shaw S. Research Governance: Ethical Issues. Journal of the Royal Society of Medicine 99.2 (2006): 65–72.
- 128 The World Health Report 2006: working together for health. Geneva: World Health Organization; 2006. (<http://www.who.int/whr/2006/en/>, accessed on 19 August 2018).
- 129 Sadana R, Paraje G, Ghassan K, Shook-Pui L-M, Emmanuel G, Carol D, et al. Current approaches to national health research systems analysis and strengthening: a brief overview of the WHO health research system analysis initiative. Geneva: World Health Organization; 2004. (<http://dx.doi.org/10.1590/S1413-81232004000200012>, accessed on 19 August 2018).

- 130 University of Kentucky Center for Public Health Systems and Services Research. Public Health Systems and Services Research Workforce Report: Recent and Future Trends in Public Health Workforce Research, 2009. Bethesda, MD: US National Library of Medicine; 2009.
- 131 Gilson L, Hanson K, Sheikh K, Agyepong IA, Ssengooba F, Bennett S. Building the field of health policy and systems research: social science matters. PLoS medicine 8.8 (2011): e1001079.
- 132 Lavis JN, Catallo C (eds). Bridging the worlds of research and policy in European health systems. Copenhagen: European Observatory on Health Systems and Policies; 2013.
- 133 Health policy and systems research: a methodology reader. Edited by: Lucy Gilson. Geneva: World Health Organization; 2012. (<http://www.who.int/alliance-hpsr/resources/reader/en/>, accessed on 19 August 2018).
- 134 Haynes RB. What kind of evidence is it that Evidence-Based Medicine advocates want health care providers and consumers to pay attention to? BMC Health Services Research 2002;2(1):3.
- 135 Dobrow MJ, Goel V, Upshur REG. Evidence-based health policy: context and utilisation. Social Science & Medicine, 2004;58(1), 207-217.
- 136 Deaton AS. Instruments of development: Randomization in the tropics, and the search for the elusive keys to economic development. NBER Working Paper No. 14690. Cambridge, MA: [US] National Bureau of Economic Research; 2009. (<http://www.nber.org/papers/w14690> (accessed 18 October 2017).
- 137 Cartwright N 'Are RCTs the gold standard?' In: Cartwright N (ed.) *Causal Powers: What Are They? Why Do We Need Them What Can Be Done With Them and What Cannot?* Contingency and Dissent in Science (01/07). London: Centre for Philosophy of Natural and Social Science, London School of Economic and Political Science; 2007.
- 138 Rehfuss EA, Bartram J. Beyond direct impact: Evidence synthesis towards a better understanding of effectiveness of environmental health interventions. International Journal of Hygiene and Environmental Health, 2014;217(2):155-159.
- 139 Noyes J. Never mind the qualitative feel the depth! The evolving role of qualitative research in Cochrane intervention reviews. J Res Nurs. 2010 15(6):525-534.
- 140 Syed SB, Hyder AA, Bloom G, Sundaram S, Bhuiya A, Zhenzhong Z, et al. Exploring evidence-policy linkages in health research plans: a case study from six countries. Health Res Policy Syst. 2008, 6: 4-10.1186/1478-4505-6-4.
- 141 Haines A, Kuruvilla S, Borchert M. Bridging the implementation gap between knowledge and action for health. Bull World Health Organ. 2004, 82 (10): 724-731. Discussion 732.

- 142 Hyder AA, Bloom G, Leach M, Syed SB, Peters DH. Future Health Systems: Innovations for E: Exploring health systems research and its influence on policy processes in low income countries. BMC public health. 2007; 7: 309-10.1186/1471-2458-7-309.
- 143 Velasco Garrido M, R Busse. 'Health Systems Research in Europe.' Chapter. In: *HSR-Europe. Health Services Research into European Policy and Practice*. Final report of the HSREPP project. Utrecht: NIVEL; 2011. (<http://www.healthservicesresearch.eu>, accessed on 19 August 2018).
- 144 Pang T, Sadana R, Hanney S, Bhutta ZA, Hyder AA, Simon J. Knowledge for better health – a conceptual framework and foundation for health research systems. Bull World Health Organ vol.81 n.11.
- 145 Strengthening national health research systems: implementation of the Action Plan to Strengthen the Use of Evidence, Information and Research for Policy-making in the WHO European Region. Report of the first multicountry meeting on research for health 15–17 November 2017, Sofia, Bulgaria. Copenhagen: WHO Regional Office for Europe; 2018. (http://www.euro.who.int/_data/assets/pdf_file/0009/367371/who-nhrs-meeting-report-eng.pdf?ua=1WHO, accessed 19 August 2018).
- 146 Moses H, Matheson DHM, Cairns-Smith S, George BP, Palisch C, Dorse ER. The Anatomy of Medical Research: US and International Comparisons. JAMA. 2015;313(2):174-189.
- 147 Alliance for Health Policy and Systems: Research: Policy - Research. Strengthening Health systems: the role and promise of policy and systems research. Edited by: Global forum for health research. Geneva: World Health Organization; 2004. (<http://www.who.int/alliance-hpsr/resources/publications/hssfr/en/>, accessed 19 August 2018).
- 148 McCarthy M. Public Health Research – Europe's Future [STEPS Report]. London, UK: Department of Epidemiology and Public Health, UCL; 2011:1–52.
- 149 Oxman A, Lavis J, Lewin S, Fretheim A. Support Tools for evidence-informed health Policymaking (STP) 1: What is evidence-informed policymaking? Health Res Policy Syst. 2009 Dec 16;7 Suppl 1:S1.
- 150 Viergever RF, Olifson S, Ghaffar A, Terry RF. A checklist for health research priority setting: nine common themes of good practice. Health Research Policy and Systems (2010) 8: 36.
- 151 Tranfield D, Denyer D, Smart P. Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review. British Journal of Management (2003) 14: 207–222.
- 152 Lavis JN, Lomas J, Hamid M, Sewankambo NK. Assessing country-level efforts to link research to action. Bull World Health Organ (2006) 84: 620–628.

- 153 Chalmers I, Fox DM. Increasing the incidence and influence of systematic reviews on health policy and practice. *Am J Public Health*. 2016;106(1):11–13.
- 154 Lomas J. Connecting research and policy. *Isuma: Canadian Journal of Policy Research*. 2002;1(1):140–4.
- 155 Satterfield JM, Spring B, Brownson RC, Mullen EJ, Newhouse RP, Walker BB, et al. Toward a transdisciplinary model of evidence-based practice. *Milbank Q*. 2009; 87, 368–390.
- 156 Head BW. Toward more ‘evidence-informed’ policy-making? *Public Administration Review* (2016) 76 (3): 472–484.
- 157 Amara N, Ouimet M, Landry R. New evidence on instrumental, conceptual, and symbolic utilization of university research in government agencies. *Science Communication* (2004) 26(1):75–106.
- 158 Oliver K, Innvar S, Lorenc T, Woodman J, Thomas J. A systematic review of barriers to and facilitators of the use of evidence by policymakers. *BMC Health Serv Res*. 2014;14:2.
- 159 Innvær S, Vist G, Trommald M, Oxman A. Health policy makers’ perceptions of their use of evidence: A systematic review. *Journal of Health Services Research & Policy* (2002) 7, 239244.
- 160 EVIPNet Europe Strategic Plan 2013–2017. Copenhagen: WHO Regional Office for Europe; 2013. (<http://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/publications/2015/evipnet-europe-strategic-plan-20132017-2015>, , accessed 19 August 2018).
- 161 World Report on Knowledge for Better Health. Geneva: World Health Organization; 2004. (<http://www.who.int/rpc/meetings/wr2004/en/>, accessed 19 August 2018).
- 162 The Mexico statement on health research. *Knowledge for better health: strengthening health systems*. Geneva: World Health Organization; 2004. (http://www.who.int/rpc/summit/agenda/en/mexico_statement_on_health_research.pdf, accessed 19 August 2018).
- 163 EVIPNet Americas Secretariat. EVIPNet Americas: informing policies with evidence. *Lancet*. 2008;372:1130–1.
- 164 Hamid M, Bustamante-Manao T, Truong VD, Akkhavong K, Fu H, Ma Y, et al. EVIPNet: translating the spirit of Mexico. *Lancet*. 2005;366(1474-547X (Electronic)):1758–60.
- 165 Newman K, Fisher C, Shaxson L. Stimulating Demand for Research Evidence: What Role for Capacity building? *IDS Bulletin* (2012) 43(5): 17-24.
- 166 Jansen M, de Leeuw E, Hoijmakers M, de Vries NK. Working at the nexus between public health policy, practice and research: dynamics of knowledge sharing in the Netherlands. *Health Research Policy and Systems*. 2012; 10, 33.

- 167 Ward V, House A, Hamer S. Knowledge Brokering: The missing link in the evidence to action chain? *Evidence & Policy : A Journal of Research, Debate and Practice* (2009) 5(3), 267–279.
- 168 Lavis J. Evidence-Informed Policymaking. Presentation at the EVIPNet Europe Multi-Country Meeting, Izmir, Turkey, 9 October 2013.
- 169 Bowen S, Erickson T, Martens PJ, Crockett S. More than "Using Research": the real challenges in promoting evidence-informed decision-making. *Health Policy*. 2009;4:87–102.
- 170 Wehrens R. Beyond two communities - from research utilization and knowledge translation to co-production? *Public Health*. 2014;128(6):545-551.
- 171 Donker T, Petrie K, Proudfoot J, Clarke J, Birch MR, Helen Christensen H. Smartphones for Smarter Delivery of Mental Health Programs: A Systematic Review. *J Med Internet Res*. 2013 Nov; 15(11): e247.
- 172 Van Kammen J, de Savigny D, Sewankambo N. Using Knowledge Brokering to Promote Evidence-based Policy-making: The Need for Support Structures. *Bulletin of the World Health Organization* (2006) 85: 608–12.
- 173 Verschuur M, van Bolhuis A, Rosenkötter N, Tijhuis M, van Oers H. Towards an overarching European health information system. *Eur J Public Health*. 2017 Oct 1;27(suppl_4):44-48.
- 174 Resolution: Indicators for Health 2020 targets. EUR/RC63/R3. Copenhagen: WHO Regional Office for Europe; 2013. (<http://www.euro.who.int/en/about-us/governance/regional-committee-for-europe/past-sessions/sixty-third-session/documentation/resolutions-and-decisions/eurrc63r3-indicators-for-health-2020-targets>, accessed 19 August 2018).
- 175 Big data for development: a primer [website]. UN Global Pulse; 2013. (<http://www.unglobalpulse.org/bigdataprimer>, accessed 19 August 2018).
- 176 Big data for achievement of the 2030 agenda: Data privacy, ethics and protection (Guidance note) [website]. United Nations Development Group; 2017. (<https://undg.org/document/data-privacy-ethics-and-protection-guidance-note-on-big-data-for-achievement-of-the-2030-agenda>, accessed 19 August 2018).
- 177 Official statistics, big data and human development [website]. Partnership for statistics for development in the 21st Century (Paris21); March 2015. (<http://www.paris21.org/node/2373>, accessed 19 August 2018).
- 178 Cape Town Global Action Plan for Sustainable Development Data [website]. High-level group for partnership, coordination and capacity-building for statistics for the 2030 Agenda for Sustainable Development. New York: United Nations Statistics Division; 2017. (<https://unstats.un.org/sdgs/hlg/Cape-Town-Global-Action-Plan/>, accessed 19 August 2018).

- 179 Data for Policy: A study of big data and other innovative data-driven approaches for evidence-informed policymaking; Final Study report [website]. Technopolis Group, Oxford Internet Institute, Center for European Policy Studies; 2016. (<https://www.data4policy.eu/>, accessed 19 August 2018).
- 180 Enabling Data Linkage to Maximise the Value of Public Health Research Data [website]. Wellcome Trust, Public Health Research Data Forum; 2015. (<https://wellcome.ac.uk/sites/default/files/enabling-data-linkage-to-maximise-value-of-public-health-research-data-phrdf-mar15.pdf>, accessed 19 August 2018).
- 181 Study on big data in Public Health, Telemedicine and Healthcare [website]. European Commission; 2016. (<https://ec.europa.eu/digital-single-market/en/news/study-big-data-public-health-telemedicine-and-healthcare>, accessed 19 August 2018).
- 182 Data-driven Innovation for Growth and Well-being – Big Data for Growth and Well-Being. Policy Note [website]. Paris: Organisation for Economic Co-operation and Development (OECD); 2015. (<http://www.oecd.org/sti/data-driven-innovation-9789264229358-en.htm>, accessed 19 August 2018).
- 183 Sofia Declaration: renewed commitment to the use of evidence, information and research in policy-making [website]. Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/data-and-evidence/news/news/2017/12/sofia-declaration-renewed-commitment-to-the-use-of-evidence,-information-and-research-in-policy-making>, accessed 19 August 2018).
- 184 European Health Information Initiative [website]. Copenhagen: WHO Regional Office for Europe; 2015. (<http://www.euro.who.int/en/data-and-evidence/european-health-information-initiative-eхи/european-health-information-initiative>, accessed 19 August 2018).

ANNEXES



Annex 1: Health 2020 monitoring framework

The tables below summarize the core and additional indicators that comprise the Health 2020 targets and indicators. Quantifications of targets are presented, if already defined. Full details can be found in *Targets and indicators for Health 2020* (1).

In addition, the tables note those indicators that have been proposed for inclusion in the joint monitoring framework (JMF) on the recommendation of an expert group (2). This framework was formulated in order to address concerns raised

by Member States on the burden of reporting to WHO and other international bodies. If adopted at the 68th session of the Regional Committee, the JMF – with a common set of indicators for the sustainable development goals (SDGs), Health 2020 and the framework on noncommunicable diseases (NCDs)¹¹ – will help to reduce the burden of reporting and streamline data collection in the Region. In addition, the JMF will help Member States prioritize data collection efforts and align their national SDG monitoring targets with international monitoring.

11 Further background information on the proposals can be found in the information document EUR/RC67/Inf.Doc./1 Rev.1, *Options for reducing the reporting burden on Member States and proposal for a joint monitoring framework*, which was endorsed at RC67 through resolution EUR/RC67/3 (the document is available at <http://www.euro.who.int/en/about-us/governance/regional-committee-for-europe/67th-session/documentation/information-documents/eurrc67inf.doc.1-rev.1-joint-monitoring-framework-proposal-for-reducing-the-reporting-burden-on-member-states>, accessed 19 August 2018).

Target 1:

Reduce premature mortality in Europe by 2020

Quantification 1.1	A 1.5% relative annual reduction in overall* premature mortality from cardiovascular diseases, cancer, diabetes and chronic respiratory diseases until 2020 *Overall = for the four causes combined	Alignment with SDGs/ NCD framework	Proposed inclusion in the common set of indicators for the joint monitoring framework
Core Health 2020 indicators	Age-standardized overall* premature mortality rate (from 30 to under 70 years) for four major noncommunicable diseases (cardiovascular diseases (ICD-10a codes I00–I99), cancer (ICD-10 codes C00–C97), diabetes mellitus (ICD-10 codes E10–E14) and chronic respiratory diseases (ICD-10 codes J40–J47))	Fully aligned (all three frameworks)	Yes
	Age-standardized prevalence of current (includes both daily and non-daily or occasional) tobacco use among people aged 18 years and over ¹²	Thematic alignment with SDGs and NCDs	Yes
	Total (recorded and unrecorded) per capita alcohol consumption among people aged 15 years and over within a calendar year (litres of pure alcohol)	Fully aligned (all three frameworks)	Yes
	Age-standardized prevalence of overweight and obesity in people aged 18 years and over (defined as a body mass index (BMI) $\geq 25 \text{ kg/m}^2$ for overweight and $\geq 30 \text{ kg/m}^2$ for obesity)	H2020-NCD aligned	Yes
Additional Health 2020 indicators	Prevalence of weekly tobacco use among adolescents	H2020-SDG-NCD aligned	-

¹² Due to data availability in the sources, the definition applied in the source from which the data in this report were taken is not completely identical (tobacco "smoking" instead of tobacco "use" and in people aged 15 years and over instead of in people aged 18 years and over).

Quantification 1.1	<p>A 1.5% relative annual reduction in overall* premature mortality from cardiovascular diseases, cancer, diabetes and chronic respiratory diseases until 2020</p> <p>*Overall = for the four causes combined</p>	Alignment with SDGs/ NCD framework	Proposed inclusion in the common set of indicators for the joint monitoring framework
	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)	H2020-NCD aligned	Yes
	Heavy episodic drinking among adolescents	H2020-SDG-NCD aligned	-
	Standardized mortality rate from all causes, disaggregated by age, sex and cause of death	H2020-SDG-NCD aligned	Yes
	Standardized mortality rates from alcohol poisoning	H2020-SDG-NCD aligned	Yes
Quantification 1.2	Achieved and sustained elimination of selected vaccine-preventable diseases (polio, measles and rubella) and prevention of congenital rubella syndrome		
Core Health 2020 indicator	<p>Percentage of children vaccinated against measles (1 dose by 2nd birthday), polio (3 doses by 1st birthday) and rubella (1 dose by 2nd birthday)</p> <p>Note: WHO has stopped reporting separately on coverage for rubella vaccination, as nowadays rubella vaccination is always given in combination with vaccination for measles and mumps (MMR). Therefore, as of 2010, data on vaccination coverage for measles should be interpreted as vaccination coverage for measles and rubella.</p>	H2020-SDG-NCD aligned	Yes

Quantification 1.1	A 1.5% relative annual reduction in overall* premature mortality from cardiovascular diseases, cancer, diabetes and chronic respiratory diseases until 2020 *Overall = for the four causes combined	Alignment with SDGs/ NCD framework	Proposed inclusion in the common set of indicators for the joint monitoring framework
Quantification 1.3	Reduction of mortality from external causes		
Core Health 2020 indicator	Age-standardized mortality rates from all external causes and injuries (ICD-10 codes V01-V99, W00-W99, X00-X99 and Y00-Y98)	H2020-SDG-NCD aligned	Yes
Additional Health 2020 indicators:	Age-standardized mortality rates 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); f) homicides and assaults (ICD-10 codes X85-Y09)	H2020-SDG-NCD aligned	Yes

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	Alignment with SDGs/NCD framework	Proposed inclusion in the common set of indicators for the joint monitoring framework
Core Health 2020 indicators	Life expectancy at birth	No alignment	Yes
Additional Health 2020 indicators	Life expectancy at ages 1, 15, 45 and 65	No alignment	Yes
	Healthy life years at age 65	No alignment	Yes

Target 3:

Reduce inequality in health in Europe (social determinants target)

Quantification 3.1	Reduction in the gaps in health status associated with social determinants within the European population	Alignment with SDGs/NCD framework	Proposed inclusion in the common set of indicators for the joint monitoring framework
Core Health 2020 indicators	Infant mortality per 1000 live births	H2020-SDG aligned	Yes
	Life expectancy at birth	No alignment	Yes
	Proportion of children of official primary school age not enrolled	H2020-SDG aligned	Yes
	Unemployment rate	H2020-SDG aligned	Yes
	National and/or subnational policy addressing the reduction of health inequality established and documented	H2020-SDG aligned	-
	Gini coefficient (income distribution)* *Data for this indicator are available in the World Bank database (Gini index estimate) and in the Eurostat database (EU-SILC survey). Gini coefficient rates for AUT, BEL, BUL, CRO, CYP, CZH, DEN, DEU, EST, FIN, FRA, HUN, ICE, IRE, ITA, LTU, LUX, LVA, MAT, MKD, NET, NOR, POL, POR, ROM, SPA, SRB, SVK, SVN, SWE, SWI, TUR were extracted from Eurostat. Rates for ALB, AND, ARM, AZE, BIH, BLR, GEO, GRE, ISR, KAZ, KGZ, MDA, MNE, MON, RUS, SMR, TJK, TKM, UKR, UNK, UZB were extracted from the World Bank. World Bank estimates are on average 7% higher than Eurostat rates.	H2020-SDG aligned	Yes

Target 4:

Enhance the well-being of the European population

Quantification 4.1	To be set	Alignment with SDGs/ NCD framework	Proposed inclusion in the common set of indicators for the joint monitoring framework
Core indicators	Life satisfaction	No alignment	Yes
	Availability of social support	H2020-SDG aligned	Yes
	Percentage of population with improved sanitation facilities	H2020-SDG aligned	Yes
	Gini coefficient (income distribution)	H2020-SDG aligned	Yes
	Unemployment rate	H2020-SDG aligned	Yes
	Proportion of children of official primary school age not enrolled	H2020-SDG aligned	Yes
Additional indicators:	Percentage of people aged 65 years and over living alone	No alignment	Yes
	Educational attainment of people aged 25 years and over who have completed at least secondary education	H2020-SDG aligned	Yes
	Household final consumption expenditure per capita	No alignment	-

Target 5:

Universal coverage and the “right to health”

Quantification 5.1	Moving towards universal coverage (according to the WHO definition) by 2020	Alignment with SDGs/ NCD framework	Proposed inclusion in the common set of indicators for the joint monitoring framework
Core indicators	Private household out-of-pocket expenditure as a proportion of total health expenditure (country-reported data)	H2020-SDG aligned	Yes
	Percentage of children vaccinated against measles (1 dose by 2nd birthday), polio (3 doses by 1st birthday) and rubella (1 dose by 2nd birthday)	H2020-SDG-NCD aligned	Yes
	Total expenditure on health (as a percentage of gross domestic product) – WHO estimate	H2020-SDG aligned	Yes
Additional indicators	Maternal deaths per 100 000 live births (needs moving average applied)	H2020-SDG aligned	Yes
	Percentage of people treated successfully among laboratory-confirmed pulmonary tuberculosis cases who completed treatment	H2020-SDG aligned	Yes
	Government (public) expenditure on health as a percentage of gross domestic product	H2020-SDG aligned	Yes

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)	Alignment with SDGs/NCD framework	Proposed inclusion in the common set of indicators for the joint monitoring framework
Core indicators	Establishment of a process for target-setting documented	No alignment	Yes
	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 Member States)	No alignment	-

Annex 2: Technical notes

Indicators, data sources and calculation methods

In Chapter 2 of this report, all Health 2020 core indicators have been described, the majority of which are available in most Member States. The only exception is the indicator on income distribution, the Gini coefficient. Data sources for national Gini coefficients in countries across the Region come from the World Bank and Eurostat statistical databases. Gini coefficient rates for AUT, BEL, BUL, CRO, CYP, CZH, DEN, DEU, EST, FIN, FRA, HUN, ICE, IRE, ITA, LTU, LUX, LVA, MAT, MKD, NET, NOR, POL, POR, ROM, SPA, SRB, SVK, SVN, SWE, SWI, TUR were extracted from Eurostat. Rates for ALB, AND, ARM, AZE, BIH, BLR, GEO, GRE, ISR, KAZ, KGZ, MDA, MNE, MON, RUS, SMR, TJK, TKM, UKR, UNK, UZB were extracted from the World Bank. World Bank estimates are on average 7% higher than Eurostat rates.

In Chapter 2 a limited number of additional (non-core) indicators have been included, in order to provide a more comprehensive picture of the public health situation for certain topics. See Annex 1 for a complete overview of the core and additional Health 2020 indicators used for this report.

WHO sources were used, wherever possible, in line with the stipulated criteria for the Health 2020 monitoring framework as described above. These sources either contain data reported by the Member States themselves or official WHO estimates. The WHO *Global status report on noncommunicable diseases 2014* (3) was the main source for esti-

mates used in this report. More information about the methods used to calculate these estimates can be found there. Where data were not available in WHO databases, other sources were used, preferably other UN agencies (e.g. UNESCO data were used for the indicator on primary school enrolment). For two of the Health 2020 indicators on well-being, data from the Gallup World Poll were used, as data for these indicators are not regularly collected by WHO or other UN agencies. The data used in this report were collected by Gallup and published by other agencies and organizations. The Health 2020 monitoring framework contains some qualitative indicators on the availability and implementation of national policies. Information for these indicators was gathered by means of two dedicated Member State surveys and published at an aggregated level, as agreed with Member States. More information about the surveys is provided in *On the road to Health 2020 policy targets: Monitoring qualitative indicators. An update*, the analysis of the qualitative Health 2020 indicators from 2017 (4). All the regular WHO data sources used to inform the quantitative core indicators are listed in *Targets and indicators for Health 2020: Version 4* (1).

Most of the indicators presented in this report came from the European Health for All database on the WHO European Health Information Gateway¹³. In this database, weighted regional averages are calculated only when data are available for a given year for at least half of the Member States, irrespective of population size. When calculating these regional averages, missing data are imputed using basic extrapolation and interpolation.

13 gateway.euro.who.int

Age-standardized death rates are calculated using the direct method, i.e. they represent what the crude rate would have been if the population had the same age distribution as the WHO European standard population (5). The number of maternal deaths is very low in most European countries and most of the year-to-year variation seen at country

level is random, particularly when the number of live births is small. For these reasons the maternal mortality rates presented in Map 2.2 were calculated using an average of the last three years for which data were available. The data used to create the map are presented in Table A2.1.

Table A2.1. Three-year averages used for maternal mortality rate in Map 2.2

Countries	2007	2008	2009	2010	2011	2012	2013	2014	2015	Maternal deaths per 100 000 live births, average based on 3 most recent years	Years used for computing average
Albania	15	21	0	6	6	6	11	3	6	6.7	2013–2015
Andorra	0	0	0	0	0	0	0	0	0	0.0	2013–2015
Armenia	15	39	34	9	14	24	22	19	17	19.3	2013–2015
Austria	4	3	3	1	3	1	1	9	5	5.0	2013–2015
Azerbaijan	35	26	24	16	15	15	14	15	14	14.3	2013–2015
Belarus	7	3	1	1	1	1	0	1	0	0.3	2013–2015
Belgium	6	5	5	6	9	4	2	5		3.7	2012–2014
Bosnia and Herzegovina					6	9		0		5.0	2011–2012 and 2014
Bulgaria	11	6	5	8	3	4	12			6.3	2011–2013
Croatia	14	7	13	9	10	7	5	3	3	3.7	2013–2015
Cyprus	0	11	0	10	0	10	11	22	0	11.0	2013–2015
Czechia	3	13	8	8	10	6	2	5	4	3.7	2013–2015
Denmark	3	6	6	0	5	0	4	9		4.3	2012–2014
Estonia	0	0	0	6	14	14	7	0	0	2.3	2013–2015

Countries	2007	2008	2009	2010	2011	2012	2013	2014	2015	Maternal deaths per 100 000 live births, average based on 3 most recent years	Years used for computing average
Finland	2	8	2	5	0	3	2	5	4	3.7	2013–2015
France	8	7	9	8	6	6	5	5		5.3	2012–2014
Georgia	20	14	52	21	36	25	28	31	32	30.3	2013–2015
Germany	4	5	5	5	5	5	4	4	3	3.7	2013–2015
Greece	2		3	5	4	1	0	4		1.7	2012–2014
Hungary	8	17	19	16	10	10	15	7	14	12.0	2013–2015
Iceland	0	0	0	0	22	0	0	0	0	0.0	2013–2015
Ireland	3	4	4	4	9	10	10			9.7	2011–2013
Israel	7	6	6	6	2	5	8	6	3	5.7	2013–2015
Italy	2	2	3	3	3	2				2.7	2010–2012
Kazakhstan	48	33	37	23	18	14	13	12	13	12.7	2013–2015
Kyrgyzstan	62	59	75	50	54	50	39	51	39	43.0	2013–2015
Latvia	25	12	45	25	5	20	24	14	55	31.0	2013–2015
Lithuania	7	10	0	7	7	10	7	3	10	6.7	2013–2015
Luxembourg	18	18	0	17	0	17	16	0	0	5.3	2013–2015
Malta	0	25	0	26	0	0	0	0		0.0	2012–2014
Monaco						0				0.0	2012*
Montenegro	13	0	0							4.3	2007–2009
Netherlands	5	4	5	2	2	3	3	3	4	3.3	2013–2015
Norway	7	5	2	5	5	0	3	3	0	2.0	2013–2015
Poland	3	5	2	2	2	1	2	2		1.7	2012–2014
Portugal	5	4	7	8	5	4	6	7		5.7	2012–2014
Republic of Moldova	18	44	17	44	15	30	16	18	31	21.7	2013–2015

Countries	2007	2008	2009	2010	2011	2012	2013	2014	2015	Maternal deaths per 100 000 live births, average based on 3 most recent years	Years used for computing average
Romania	20	20	21	24	25	11	13	12	14	13.0	2013–2015
Russian Federation	22	21	22	17	16					18.3	2009–2011
San Marino				0	0	0	0	0	0	0.0	2013–2015
Serbia	7	14	20	18	11	15	14	12	12	12.7	2013–2015
Slovakia	0	3	11	0	10	5	2	4	2	2.7	2013–2015
Slovenia	15	14	5	0	5	9	5	10	5	6.7	2013–2015
Spain	3	5	3	4	3	4	4	4	3	3.7	2013–2015
Sweden	2	5	5	3	1	4	6	3	1	3.3	2013–2015
Switzerland	1	10	4	4	4	9	2	6		5.7	2012–2014
Tajikistan	28	38	47	42	37	33	37	33	31	33.7	2013–2015
TFYR Macedonia	0	0	4	8	4	4	4	0	0	1.3	2013–2015
Turkey	22	20	19	17	16	15	24	15	15	18.0	2013–2015
Turkmenistan	18	15	12	7	6	4	3	3	3	3.0	2013–2015
Ukraine	20	15	25	23	17	13	13	15		13.7	2012–2014
United Kingdom	7	6	9	5	7	6	6			6.3	2011–2013
Uzbekistan	25	21	30	21	23	20	20	19		19.7	2012–2014
European Region	15	14	16	13	12	11	12	11	11	11.3	2013–2015

Source: Health for All database on the WHO European Health Information Gateway (9).

* Data available only for one year

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 the report was written. Thus the regional averages presented may change after publication of this report when Member States provide data retrospectively. Likewise, the minimum and maximum values in the Region presented for several indicators may change as a result of database updates. The regional averages and the minimum and maximum values presented in this report should therefore be interpreted with caution, especially for the most recent years, for which data coverage has the most gaps. As can be seen in Chapter 2, this limits conclusions on progress towards the Health 2020 targets since the 2010 baseline.

The WHO European Health Information Gateway mainly contains 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.

Please see the technical annex of *The European health report 2015* (6) for a discussion on data comparability and quality for Health 2020 indicators.

References for the Annexes

1. Targets and indicators for Health 2020: Version 4. Copenhagen: WHO Regional Office for Europe; 2018. (<http://www.euro.who.int/en/health-topics/health-policy/health-2020-the-european-policy-for-health-and-well-being/publications/2018/targets-and-indicators-for-health-2020.-version-4-2018>, accessed 20 August 2018).
2. Developing a common set of indicators for the joint monitoring framework for SDGs, Health 2020 and the Global NCD Action Plan. Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/health-topics/health-policy/sustainable-development-goals/publications/2018/developing-a-common-set-of-indicators-for-the-joint-monitoring-framework-for-sdgs-health-2020-and-the-global-ncd-action-plan-2017>, accessed 19 August 2018).
3. Global status report on noncommunicable diseases 2014. Geneva: World Health Organization; 2014. (<http://www.who.int/nmh/publications/ncd-status-report-2014/en/>, accessed 19 August 2018).
4. On the road to Health 2020 policy targets: Monitoring qualitative indicators. An update. Copenhagen: WHO Regional Office for Europe; 2017. (<http://www.euro.who.int/en/health-topics/health-policy/health-2020-the-european-policy-for-health-and-well-being/publications/2017/on-the-road-to-health-2020-policy-targets-monitoring-qualitative-indicators.-an-update.-2017>, accessed 19 August 2018).
5. Waterhouse JAH, Muir CS, Correa P, Powell J (eds). Cancer incidence in five continents. Lyon: IARC, 1976; 3: 456
6. The European Health Report 2015. Targets and beyond – reaching new frontiers in evidence. Copenhagen: WHO Regional Office for Europe; 2015. (<http://www.euro.who.int/en/publications/abstracts/european-health-report-2015-the.-targets-and-beyond-reaching-new-frontiers-in-evidence> , accessed 19 August 2018).

The publication of the European health report every three years gives readers – including policy-makers, politicians, public health specialists and journalists – a vital snapshot of health in the WHO European Region and progress towards health and well-being for all. The report shows trends in and progress towards the goals of Health 2020, the European health policy. It also reveals some gaps in progress, inequalities and areas of concern and uncertainty, where action must be taken.

With the half-way point in the implementation period of Health 2020 having been crossed, this report reflects on the effect that the policy has had on the Region. Like its predecessors in 2012 and 2015, the 2018 report is an essential resource for the 53 Member States of the WHO European Region to report on progress towards the Health 2020 targets, outlining areas that may be unfinished by 2020 and beyond. Lessons learned from across the Region on action taken by the WHO Regional Office for Europe and Member States to improve the health and well-being of their populations are presented. The report 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 to measure health and well-being in different cultural and subjective contexts. This is particularly important in the context of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals, whose health indicators overlap significantly with those for Health 2020.

The report will be a useful source of information for policy-makers throughout the Region, helping them identify areas that need further assessment and policy action at the national level. It should inspire Member States and other stakeholders to contribute to the work under the umbrella of the WHO European Health Information Initiative: a collaboration between the Regional Office, European institutions and Member States aimed at improving the information that underpins policy. Only through broad international cooperation and bold strides in the way evidence is used in the 21st century will evidence fully inform health policy-making for the benefit of all.

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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