



EUROPE



## Millennium Development Goals in the WHO European Region

A situational analysis  
at the eve of the  
five-year countdown

## Keywords

MILLENNIUM DEVELOPMENT GOALS  
POVERTY  
PROGRAM EVALUATION  
PROGRAM DEVELOPMENT  
DELIVERY OF HEALTH CARE – organization and administration  
EUROPE

**ISBN 978 92 890 4202 4**

## Citation advice

*Millennium Development Goals in the WHO European Region: A situational analysis at the eve of the five-year countdown.* Copenhagen, WHO Regional Office for Europe, 2010.

© **World Health Organization 2010**

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Where the designation "country or area" appears in the headings of tables, it covers countries, territories, cities, or areas. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters. The World Health Organization does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use. The views expressed by authors or editors do not necessarily represent the decisions or the stated policy of the World Health Organization.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

## Acknowledgements

This publication was produced under the general direction of Enis Barış, Director, Division of Country Health Systems, in cooperation with Nedret Emiroglu, Director a.i., Division for Health Programmes, WHO Regional Office for Europe. Theadora Koller, Technical Officer, WHO European Office for Investment for Health and Development, edited the report, coordinating production and co-authoring the text.

The following staff of the Regional Office contributed to the contents of this publication: MDG 1 – Joe Kutzin and Trudy Wijnhoven; MDG 3 and on gender as a cross-cutting theme – Isabel Yordi; MDGs 4 and 5 – Alberta Bacci, Valentina Baltag, Vivian Barnekow, Aigul Kuttumuratova, Rebecca Martin, Gunta Lazdane, Enrique Loyola and Francesca Senese; MDG 6 – Pierpaolo di Colombani, Lucica Ditiu, Martin Christopher Donoghoe, Mikhail Ejov, Jeffrey Lazarus, Karen Taksøe-Vester and Risards Zaleskis; MDG 7 – Roger Aertgeerts and Bettina Menne; MDG 8 – Kees de Joncheere, Nina Sautenkova and Maria Skarphedinsdottir.

The following persons peer-reviewed the contents of the report and/or supported the production process: Francesca Racioppi, Govin Permanand, Marc Suhrcke, Erio Ziglio, Simone Tetz, Bianca Bortot, Andrea Bertola and Tommaso Rupolo.

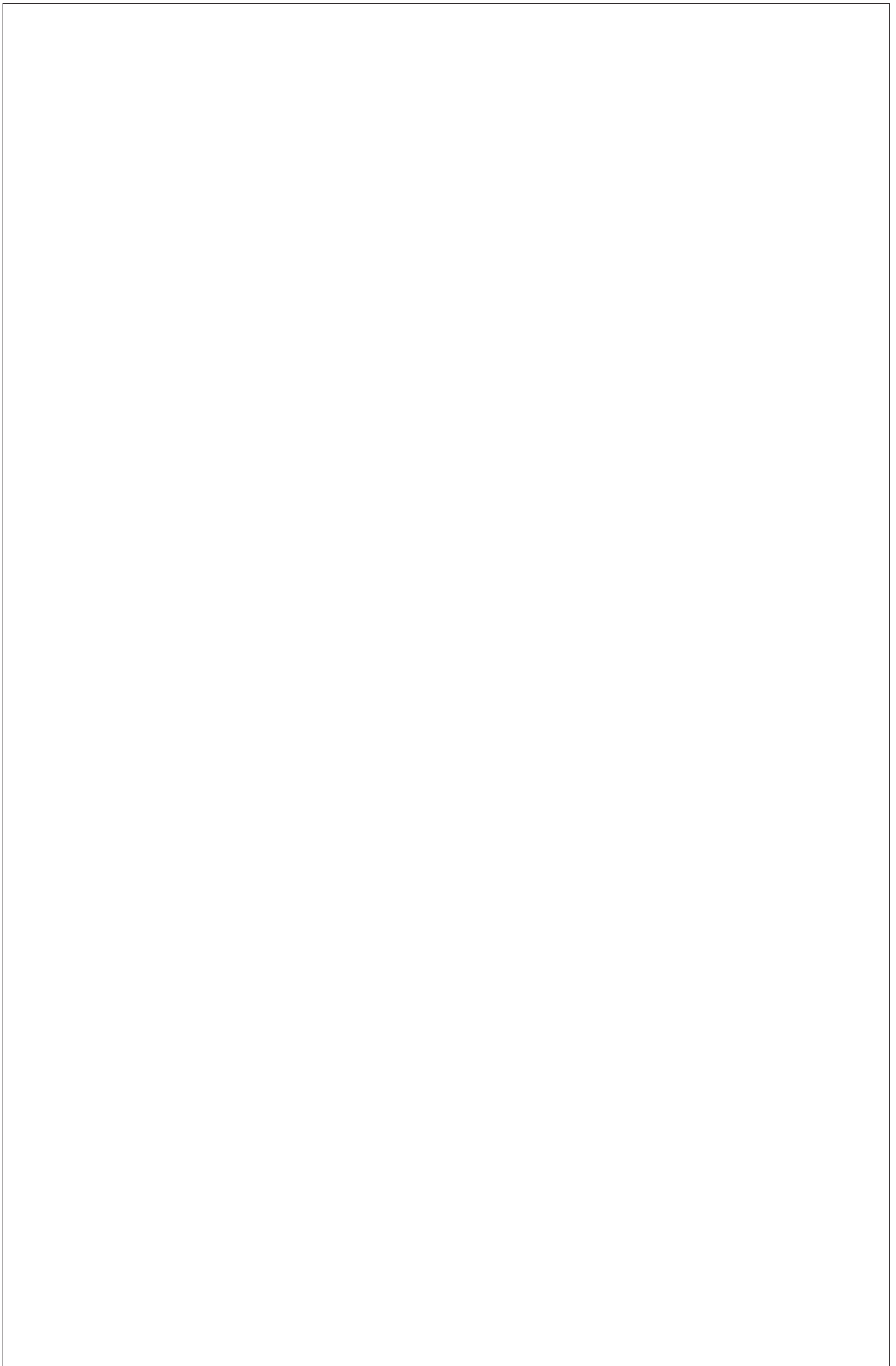
The text was copy-edited by Frank Theakston and the publication was designed and laid out by Marta Pasqualato with funds made available through the "Framework Cooperation Programme between the World Health Organization Regional Office for Europe and the Tuscany Region" (Italy).

Cover images: Hourglass closeup shot © Ovidiu Iordachi/ fotolia.com; yellow sign decide © Martin Duriska/ fotolia.com



Millennium  
Development  
Goals in the WHO  
European Region

A situational analysis  
at the eve of the  
five-year countdown



# CONTENTS

<b>Abbreviations</b>	<b>iv</b>
<b>Foreword</b>	<b>1</b>
<b>Introduction and overview</b>	<b>2</b>
MDGs on health	2
MDGs addressing key determinants of health	3
<b>Part I. MDGs on health</b>	<b>5</b>
MDG 4 – Reduce child mortality	5
MDG 5 – Improve maternal health	9
MDG 6 – Combat HIV/AIDS, malaria and other diseases [including TB]	13
<b>Part II. MDGs on key determinants of health</b>	<b>21</b>
MDG 1 – Eradicate extreme poverty and hunger	21
MDG 2 – Achieve universal primary education	25
MDG 3 – Promote gender equality and empower women	27
MDG 7 – Ensure environmental responsibility	29
MDG 8 – Develop a global partnership for development	33
<b>Conclusions</b>	<b>38</b>
<b>References</b>	<b>40</b>
<b>Annex 1.</b> Examples of actions needed to progress towards the MDGs, by health system function	<b>47</b>
<b>Annex 2.</b> Selected relevant web sites of the WHO Regional Office for Europe	<b>50</b>

## ABBREVIATIONS

AIDS	acquired immune deficiency syndrome
CEHAPE	Children's Environment and Health Action Plan for Europe
CISID	centralized information system for infectious diseases
DAC	Development Assistance Committee
DALY	disability-adjusted life-year
ECD	early childhood development
ECDC	European Centre for Disease Prevention and Control
EFTA	European Free Trade Association
EU	European Union
GDP	gross domestic product
GLC	Green Light Committee
HAART	highly active antiretroviral therapy
HIV	human immunodeficiency virus
IDUs	injecting drug users
MDGs	Millennium Development Goals
MDR-TB	multidrug-resistant tuberculosis
MICS	Multiple Indicator Cluster Survey
NIS	newly independent states
ODA	overseas development assistance
OECD	Organisation for Economic Co-operation and Development
PPP	purchasing power parity
TB	tuberculosis
UNECE	United Nations Economic Commission for Europe
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
XDR-TB	extensively drug-resistant tuberculosis

# FOREWORD

The Millennium Development Goals (MDGs) are a historic framework providing focus and accountability in addressing some of the world's most pressing development challenges. The 53 Member States in the WHO European Region have made some significant advances in meeting the MDGs, as evidenced in this report. Nevertheless, action has stagnated in some areas and inequities in progress persist between and within countries. With only five years left for the fulfilment of many of the MDG targets and in the light of threats including the food price, economic and financial, and environmental crises, the decision to scale up commitment and action is needed now more than ever before.

All of the MDGs affect health and, in turn, health affects all of the MDGs. Thus, this report looks at all MDGs, applying a public health approach that includes health determinants. Delays and/or inequities in progress towards all MDG targets endanger health and well-being. In all sectors, development efforts must reach those in need across the social gradient, with proportionate attention to the most vulnerable populations. The need and opportunity for all national policies that address the social determinants of health to take account of health equity are increasingly acknowledged. Progress towards the MDGs can be further supported by social protection policies that promote the availability of and access to goods and services essential to health and well-being for all people.

Strong health systems are crucial for maintaining and scaling up progress towards the MDGs on health. Achievement of health targets depends on equitable access to a health system that delivers high-quality services, including the stewardship of cooperation with other sectors and at cross-government levels to address the determinants of health and health inequities. The values and principles of primary health care – including equity, solidarity, social justice, universal access to services, multisectoral action, transparency, accountability, decentralization, and community participation and empowerment – provide a basis for strengthening health systems to ensure improved progress towards the MDGs. These same principles are vital for tackling other health challenges in the European Region, such as adult morbidity and mortality linked to noncommunicable diseases and external causes.

While the configuration of health systems depends on country contexts, in all cases MDG progress requires:

- strong national capacities for adequate financing with pooling of risk;
- a well-trained and adequately remunerated workforce;
- information on which to base policy and management decisions;
- logistics that get medicines and vaccines to where they are needed;
- well-maintained facilities organized as part of a referral network; and
- leadership that provides clear direction and harnesses the energies of all stakeholders, including communities.

Scaling up progress towards MDG targets will be among the challenges addressed by the new European health policy, which Member States and the WHO Regional Office for Europe are developing with input from partners. The policy will promote the Region's values and aims for health, provide a coherent and integrated framework and roadmap for health action, and specify ways through which health systems can be strengthened and the wider determinants of health and health inequities can be tackled.

The MDGs are the highest-profile articulation of internationally agreed development goals. They are the world's quantified, time-bound targets for addressing extreme poverty, hunger and disease, and for promoting gender equality, education, environmental sustainability and a global partnership for development. Most importantly, the MDGs are an expression of basic human rights. By providing an overview of progress towards them in the WHO European Region, we at the Regional Office hope that this report contributes to a wider debate by all stakeholders on how jointly to deliver on the commitments to human development comprised by the MDGs, working together towards the attainment by all peoples of the highest attainable level of health.

Zsuzsanna Jakab  
WHO Regional Director for Europe

# INTRODUCTION AND OVERVIEW

The United Nations Millennium Declaration, adopted in 2000 by 189 countries, embraces a vision for a world in which countries work in partnership for the betterment of all, particularly the most disadvantaged. This vision was transformed into eight Millennium Development Goals and, since then, to a total of over 20 targets and more than 60 indicators (1–3). At high-level meetings in 2008 to mark the MDG half-way point, world leaders expressed concern about shortfalls in progress. At the time of writing, the world struggles to maintain development gains in the midst of challenges, including the financial and food price crises and climate change (4).

The purpose of this report is to provide a situational analysis of progress towards the MDGs in the WHO European Region<sup>1</sup> on the eve of the five-year countdown to 2015. The report addresses all MDGs: goals that are health-specific (on child health, maternal health and combating the human immunodeficiency virus (HIV) and the acquired immune deficiency syndrome (AIDS), malaria and other diseases, including tuberculosis (TB)) and those addressing key determinants of health (poverty, education, gender equality, environmental sustainability and global partnership for development). Throughout the report, special attention is given to inequities (in health, the health sector and beyond) and synergies between the MDGs.

The need to strengthen health systems to reach the MDGs is a central message in the report. As stated in the Tallinn Charter: Health Systems for Health and Wealth, “a health system is the ensemble of all public and private organizations, institutions and resources mandated to improve, maintain or restore health. Health systems encompass both personal and population services, as well as activities to influence the policies and actions of other sectors to address the social, environmental and economic determinants of health”. Health system functions are interconnected and action on one single function is unlikely to lead to substantial progress or the desired results (5). As such, this report provides evidence of how coordinated and simultaneous action across functions can facilitate MDG progress.

## MDGs on health

Monitoring progress in the European Region towards MDG 4 on child mortality has faced significant challenges. These are due to weak health information systems and significant differences between official data and estimates of international agencies in some countries. Available data reflect a steady decline in estimates for both under-five and infant mortality rates across the Region, with stark variations between countries. Estimated under-five mortality rates have gone from a regional average of 32 per 1000 live births in 1990 to 15 in 2007. Infant mortality rates have declined from an estimated regional average of 27 per 1000 live births in 1990 to 13 in 2007. Also addressed by MDG 4, the average measles immunization coverage in the Region has improved since 1990; it reached 94% in 2008, albeit with disturbing reversals in progress in some countries.

Concerning MDG 5, the average maternal mortality ratio for the Region decreased from an estimated 39 deaths per 100 000 live births in 1990 to 27 in 2005. Discrepancies between estimated and reported maternal mortality ratios exist in countries throughout the Region, and further efforts to help address underreporting are required. The European Region is doing better than other WHO regions with regard to births attended by skilled health staff. However, key concerns are ensuring quality of care and addressing inequities in access, such as those faced by socioeconomically disadvantaged groups and rural populations. In many countries, there is a lack of data to monitor progress towards the target on universal access to reproductive health, making scaled-up investments and support for the priorities of demographic and health surveys and reproductive health surveys.

The fact that, since 2000, the number of new cases of HIV infection reported has increased in the European Region overall (despite incomplete reporting) does not bode well for MDG 6. In 2007, the number of newly diagnosed cases officially reported was the highest annual figure to date. Since

---

<sup>1</sup> The WHO European Region has 53 Member States: Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, the Republic of Moldova, Romania, the Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, the United Kingdom and Uzbekistan.



2000, the number of diagnosed AIDS cases has continued to decline in the Region overall (although this regional average masks differences between parts of the Region; in the eastern part, the number of diagnosed AIDS cases has continued to increase). Highly active antiretroviral therapy (HAART) coverage for the Region rose from 282 000 people in mid-2004 to 435 000 by December 2007, when it was estimated as “very good” (> 75%) in 38 of the 53 Member States.

Based on available 2007 data, the European Region faces significant challenges in reaching the MDG 6 TB control targets. While the estimated TB prevalence decreased from 68 to 51 per 100 000 population between 2000 and 2007, there is still a considerable way to go to reach the prevalence of 27 set out in the target for 2015. Likewise, mortality from TB must further decline, from 7.0 per 100 000 population in 2007 to 3.0 by 2015. In 2007, the proportion of new smear-positive TB cases detected at the Region was 55% (as against the global target of 70%) and the overall treatment success rate among new cases in 2006 was 70% (as against the global target of 85%). Among the new TB cases in the Region, 42 300 are estimated to be HIV co-infections. Poor adherence to accepted TB control practices has created high levels of man-made multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB) – the most serious challenge for controlling TB in the Region. Of the 27 countries that account for 85% of all multidrug-resistant tuberculosis (MDR-TB) cases globally, 15 are in the European Region.

Progress towards the MDG 6 target on malaria is more positive. Since 1995, there has been a substantial reduction in the number of reported malaria cases as a result of intensive antimalarial interventions (90 712 cases in 1995 vs only 589 in 2008). At present, locally acquired malaria cases are still reported in 6 of the 53 Member States: Azerbaijan, Georgia, Kyrgyzstan, Tajikistan, Turkey and Uzbekistan. Since 2008, all malaria-affected countries in the Region have moved into the elimination phase and their national strategies on malaria have been revised to reflect the new elimination challenges. In the context of malaria elimination, particular emphasis is placed on situations where there is a risk of spread of malaria between neighbouring countries and WHO regions. In some countries in the west of the Region, imported malaria is a growing challenge.

## MDGs addressing key determinants of health

As regards progress towards MDG 1 on poverty and hunger, during the 1990s, many countries in eastern Europe and central Asia witnessed rapid increases in poverty. Since 1999, nearly 90 million of the 480 million people in these areas – about 18% of the population – have moved out of poverty and vulnerability. Today, almost 30% of the 480 million people in eastern Europe and central Asia are still considered poor or vulnerable, and this is expected to increase by about 5 million people for every 1% decline in gross domestic product (GDP) (6). For the 25 countries that constituted the European Union (EU) as a whole in 2006, 16% of the population – 78 million people – had an equivalized disposable income below 60% of the national median for the country they lived in. Health systems that ensure financial protection for all are important to meet the MDGs and break the “poverty⇒ill-health⇒poverty” cycle. Catastrophic health expenditures threaten to impoverish households in countries where health systems rely heavily on household contributions. In some countries, the rising cost of food and several consecutive years of poor harvests have weakened the buying power of many families. In the central Asian and Caucasus NIS,<sup>2</sup> meeting the MDG 1 target of reducing hunger is now being threatened. Already, the current rate of reduction in the prevalence of undernourished people has been insufficient to meet the target by 2015, and could be slowed even further.

For the group of central Asian and Caucasus NIS, the pace of progress in primary school enrolment is not sufficient to meet the MDG 2 target of universal primary education by 2015. Throughout the Region, and reflecting global trends, disadvantaged groups have worse school attendance rates. For instance, the EU’s Roma population faces persistent disadvantages in education, including low school attendance, very high rates of early school leaving and very low enrolment in higher education. There is significant evidence of health inequities between people with higher and lower educational levels across the Region. There is also evidence that an increased investment in early child development contributes to attaining MDGs 1 and 2, and reduces health inequities by enabling more children to reach their potential in cognitive and socio-emotional development.

For MDG 3 on gender equality and empowerment of women, there is evidence that some countries will require increased investment to improve the ratio of females to males at different educational levels. Progress towards an increased presence of women in the highest levels of government is

<sup>2</sup> NIS stands for newly independent states of the former USSR. The group of central Asian and Caucasus NIS comprises Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

slow and overall figures remain low. The average share of female members of parliament in EU Member States increased from 16% to 24% between 1997 and 2008. In the NIS, the proportion of seats held by women in national parliaments rose from 6.2% in 1997 to 13.9% in 2008. Across the Region, women still work part-time more than men; they predominate in less-valued jobs and sectors; they are on average paid less than men (for example, the persisting EU gender pay gap is 17.4% on average); and they occupy fewer positions of responsibility. As such, they are often deprived of job security and benefits. Gender inequities affect health through their influence on key determinants (such as education, employment and income); violence against women; discriminatory feeding patterns; risk-taking behaviour; exposure to risks and health-seeking behaviour; and lack of decision-making power over one's own health.

Progress towards MDG 7 on ensuring environmental responsibility faces challenges. In the European Region in 2008, almost 140 million people (16% of the population) did not have a household connection to a drinking-water supply, 85 million (10%) did not have improved sanitation and over 41 million (5%) lacked access to a safe drinking-water supply. In some countries in the eastern part of the Region, progress towards target 7c has stagnated or indeed been reversed, particularly in rural areas. Economic accessibility of water is a major challenge in all countries of the Region, although geographical inequities are apparent. In parallel, climate change is having wide-ranging impacts across the Region. Over 1000 extreme weather events have hit the Region in the past three decades. One of the most memorable was the heatwave in Europe in the summer of 2003, which caused 70 000 deaths. Climate change can affect health by affecting food security and increasing undernutrition and micronutrient deficiencies; increasing the incidence of death, disease and injury due to extreme weather events; increasing the risk of waterborne and foodborne diseases and the burden of diarrhoeal diseases; increasing the frequency of cardiorespiratory diseases due to higher concentrations of ground-level ozone in urban areas; and causing further changes in the range of vector- and rodent-borne diseases, resulting in altered spatial distribution of some infectious diseases.

In 2008, the only countries to reach or exceed the MDG 8 target of overseas development assistance (ODA) (0.7% of gross national income) were in the European Region: Denmark, Luxembourg, the Netherlands, Norway and Sweden. For the 15 EU member countries of the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation in Europe (OECD), combined net ODA rose by 8.6% in real terms from 2007 to 2008, reaching US\$ 70.2 billion. This represents 59% of all DAC ODA. Since 2000, there has been a substantial increase in the amount of untied resources delivered to countries, reaching 95% of global bilateral aid in 2006. Globally, between 2001 and 2006, ODA for health more than doubled from US\$ 5.6 billion to US\$ 13.8 billion per year. Resources to address HIV/AIDS, TB and malaria accounted for much of the increase. While there has been an increase in global ODA for health, additional resources are required to accelerate and sustain the strengthening of health systems, including disease-specific work. Both in the European Region and globally, improving aid effectiveness in accordance with the Paris Declaration on Aid Effectiveness is a priority. Worldwide, in the health sector, there are more than 40 bilateral donors and 90 global initiatives, posing a risk of fragmentation and reduced effectiveness of aid. Only about 20% of health aid is given to support the sectoral priorities of government.

Also corresponding to MDG 8, lack of access to essential medicines remains a major concern for many transition countries in the Region. Strengthening medicine supply and reimbursement systems, improving the regulation of medicines, and broadly enhancing evidence-based approaches to support appropriate prescribing and use of medicines are required to increase access. Increasingly, countries in the Region are using the WHO methodology for measuring medicine prices and availability in order to monitor access to medicines. Countries have also made progress in regulating and reducing medicine prices through generic competition policies and by reducing taxes and distribution costs. The financial crisis and economic downturn have resulted in the depreciation of a number of national currencies, which has affected the procurement of medicines and resulted in higher prices of medicines and medical devices in the countries concerned. Combined with high out-of-pocket expenditures for essential medicines, this adversely affects poor and economically vulnerable populations, which may already have difficulties in paying for medicines.

At the eve of the five-year countdown to 2015, it is clear that MDG efforts are falling short in some areas, with some populations not receiving a fair share of development gains in the health sector and beyond. The renewed commitment to primary health care, including health system strengthening, offers a framework for making more rapid and equitable progress towards the MDGs. Addressing inequities by moving towards universal coverage; putting people at the centre of service delivery; multisectoral action and health in all policies; and inclusive leadership and effective government for health are priorities for work towards the MDGs.

# PART I. MDGS ON HEALTH

## MDG 4 – Reduce child mortality

The MDG 4 target is to reduce the under-five mortality rate by two thirds between 1990 and 2015. The under-five mortality rate is the probability that a newborn child will die before reaching the age of five, expressed as a rate per 1000 live births. Indicators for monitoring progress include:

- the under-five mortality rate
- the infant mortality rate
- the proportion of 1-year-old children immunized against measles (7).

Monitoring progress towards MDG 4 in the European Region has faced significant challenges, in the light of weak health information systems and significant differences between official data and estimates of international agencies in many NIS. Estimates of international agencies and country data follow similar trends in most countries, but there are exceptions (8). Contributing factors include different historical definitions of the term “live birth” (although most countries have now adopted – or at least partially adopted – the WHO definition) and persistent underreporting. The latter is primarily in rural areas, where a large proportion of infant deaths occur at home (8). Misreporting by medical staff of births and infant deaths, as well as fees for registration of births, also contribute to underreporting (9). Disruptions to information systems experienced in the beginning of transition periods in some countries present further difficulties, including complications in the use of 1990 as a baseline year. There are also differences in the data used by international agencies, as data may be unadjusted, adjusted or predicted. The Inter-agency Group for Child Mortality Estimation – comprising representatives of the United Nations Children’s Fund (UNICEF), WHO, the World Bank and the United Nations Population Division – works to address such differences so as to arrive at the most realistic estimates possible.<sup>3</sup>

### *Under-five and infant mortality rates*

In the European Region, neonatal deaths constitute almost half of under-five deaths. Prematurity and low birth weight, birth asphyxia and birth trauma, and neonatal infections are among the leading causes of neonatal death (10). Acute respiratory infections, diarrhoeal diseases and noncommunicable diseases are among the leading causes of post-neonatal deaths. Malnutrition leaves children more vulnerable to illness and early death (10). As shown in *World health statistics 2009* (11), there has been a steady decline in estimated under-five mortality rates across the Region, from an average of 32 in 1990 to 15 in 2007.<sup>4</sup> Nevertheless, there are striking variations in current rates across the Region. The countries with the highest estimated under-five mortality rates in 2007 were Tajikistan (67), Turkmenistan (50) and Uzbekistan (41) (11). The countries with the lowest were San Marino (2) followed by Finland, Iceland and Sweden, each of which had an estimated rate of 3 (11). The countries in the Region that in 2007 had achieved the target of a two-thirds reduction against 1990 rates were Albania, Cyprus, the Czech Republic, Portugal, San Marino, Serbia and Turkey (11).

For the Region as a whole, infant mortality rates, defined as the number of deaths of children under the age of one year per 1000 live births, have steadily declined since 1990. The estimated regional average went from 27 in 1990 to 13 in 2007 (11). The five countries with the highest estimated rates in 2007, as given in *World health statistics 2009*, were: Tajikistan (57), Turkmenistan (45), Uzbekistan (36), Azerbaijan (34) and Kyrgyzstan (33). In contrast, the countries with the lowest estimated rate in 2007 were Iceland, San Marino and Sweden, each of which had an estimated rate of 2 (11).

The effect of the current financial crisis and economic downturn on progress towards MDG 4 in the European Region is not yet known. However, at global level, countries that suffered economic

<sup>3</sup> See the Inter-agency Group for Child Mortality Estimation web site (<http://www.childmortality.org/>).

<sup>4</sup> In keeping with the tracking by WHO headquarters of progress towards the MDGs, this report uses WHO estimates of the probability of dying before the age of five years (per 1000 live births). These may be different from the data in the WHO European Health for All Database (HFA-DB), which are taken from national reports.

contractions of 10% or more between 1980 and 2004 together experienced more than a million additional infant deaths (4). It is estimated that slowed economic growth resulting from the current crisis may cause as many as 200 000–400 000 more infant deaths per year (global average) between 2009 and 2015. This translates into 1.4–2.8 million additional infant deaths during the period (4). Research from the WHO African Region suggests that the majority of excess infant deaths in Africa will be of females, as available data indicates that the mortality of girls is substantially more sensitive to income shock than that of boys (12). How this could develop in the European Region in gender and socioeconomic terms requires further research, including from the perspective of selective abortion.

Globally, in half of the 90 countries that have the necessary data, under-five mortality rates are at least 1.4 times higher in rural areas than in urban areas and at least 1.9 times higher among the poorest 20% of households than among the richest 20% (11). In the European Region, available evidence shows a similar picture: children in rural areas, of lower wealth quintiles and born to mothers with lower levels of education – or from ethnic minority, migrant and internally displaced populations – seem to be systematically disadvantaged in terms of benefiting from progress made towards MDG 4 (13). Table 1 shows recent data of inequities in under-five mortality in selected countries of the European Region. Action on socioeconomic and environmental determinants of health is essential to address these inequities.

**Table 1.** Estimated under-5 mortality rates in 10 countries by place of residence and wealth quintile

Country	Year	Under-5 mortality rate					
		Place of residence			Wealth quintile		
		Rural	Urban	Ratio	Lowest	Highest	Ratio
Albania	2005	19	20	1.0	...	...	...
Armenia	2005	42	26	1.6	52	23	2.3
Azerbaijan	2006	64	52	1.2	...	...	...
Georgia	2005	45	24	1.9	...	...	...
Kazakhstan	2006	43	30	1.4	...	...	...
Kyrgyzstan	2006	50	35	1.4	...	...	...
Republic of Moldova	2005	30	20	1.5	29	17	1.7
Tajikistan	2005	83	70	1.2	...	...	...
The former Yugoslav Republic of Macedonia	2005/2006	26	10	2.6	...	...	...
Uzbekistan	2006	59	51	1.2	72	42	1.7

*Note:* Ratios cover rural–urban and lowest–highest wealth quintile. Data for Albania, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, the former Yugoslav Republic of Macedonia and Uzbekistan are derived from Multiple Indicator Cluster Surveys (MICS, round 3) that were extracted from country reports available on the UNICEF web site ([http://www.childinfo.org/mics\\_available.html](http://www.childinfo.org/mics_available.html), accessed 7 December 2009).

*Source:* WHO (11).

### Immunization against measles

With specific regard to the MDG 4 indicator on children immunized against measles, measles vaccination coverage is defined as the percentage of children aged 12–23 months vaccinated against measles before 12 months or at any time before the survey was carried out. The official target is based on achieving  $\geq 95\%$  coverage with one dose of measles-containing vaccine by 2010.

The estimated average measles immunization coverage in the European Region in 2008 was 94%, a considerable improvement from the estimated 83% in 1990 (14). In 2008, 30 of the Region's 53 Member States had an estimated measles vaccine coverage of 95% or above. As a result of improved coverage, there has been a dramatic reduction in reported measles cases, from 200 000 in 1994 to 30 000 in 2003 and to 8883 in 2008 (14, 15).

Despite progress, however, there are challenges to ensuring strong immunization services, both in European countries undergoing health system reforms and in those with stable and well-funded primary health care systems. It is of concern that five countries that had over 95% coverage in 2000 reported that coverage had dropped below 95% by 2008 (14). In the absence of disease, immunization can be seen as less of a priority (14, 16).

Other health system challenges with regard to increasing immunization coverage include: reaching marginalized populations; improving evidence-based decision-making on immunization; building immunization staff capacity; ensuring that vaccines and supplies are safe, accessible and appropriately used; and improving mobilization and use of domestic and external resources to achieve target levels of immunization performance. Access to and utilization of immunization services by hard-to-reach populations is being addressed through, for example, the enhanced implementation of Reaching Every District (RED) strategies. To strengthen evidence-based decision-making on immunization, 34 Member States had established national immunization technical advisory groups by mid-2008. These groups aim to empower national immunization programmes through the use of scientifically credible policy recommendations and transparent policy development processes. Efforts to improve the knowledge and capacity of immunization staff (particularly in transition countries) include developing curriculum and training materials and the training of trainers, targeting both in-service and pre-service staff.

### Linkages with other MDGs

Progress towards MDG 4 is linked to progress towards other MDGs. There is a very obvious relationship to MDG 5 on reducing maternal mortality. As part of it (paying proper attention to adolescent pregnancy), many stillbirths and deaths in the first week of life could be avoided, as they are 50% higher among babies born to mothers under 20 years of age than among those born to mothers aged 20–29 years (17). MDG 7 impacts MDG 4, as it addresses access to safe water and sanitation, which strongly influence the occurrence of diarrhoeal disease among children. MDG 7 also attends to environment concerns, such as climate change, that can disproportionately impact children. MDG 1 tackles poverty and hunger as determinants of child health. The latter is particularly important, as malnutrition accounts for a substantial proportion of all deaths of children aged under five worldwide. MDGs 2 and 3 address women's educational levels, which correlate with significant differences in under-five mortality and immunization coverage for measles, children of less-educated mothers being generally more vulnerable (18).

MDG 3 further focuses on gender-linked inequities and inequalities that influence child survival and well-being. The mortality of girls is a good indicator of gender equality and women's rights. Gender differences affecting boys are also important with regard to MDG 4. In the European Region, the overall proportion of disability-adjusted life-years (DALYs) due to injuries is nearly twice as high for males as for females, although there are differences by type of injury. This difference emerges early in life and is related to different gender roles and types of risk-taking behaviour starting in early childhood (16). As such, gender differences need to be taken into account in the design of health services and prevention programmes.

The WHO Regional Office for Europe contributes to efforts to attain MDG 4 (and MDG 5) by helping countries to develop comprehensive equity- and gender-sensitive policies to deliver integrated, effective care in a continuum. This starts with family planning and healthy pregnancy and continues through birth and care up to five years of age and beyond (Box 1). There are multiple initiatives working towards this end, some of which are outlined below.

- The European strategic approach to making pregnancy safer – improving maternal and perinatal health (19) supports continuum of care during pregnancy, childbirth and the postpartum period for mothers and newborn babies, including universal access to cost-effective interventions and a functioning referral system and regionalization of perinatal care.
- The WHO European strategy for child and adolescent health and development (20) provides guidance in developing a framework for an evidence-based review and improvement of national child and adolescent health and development policies, programmes and action plans. It also promotes multisectoral action and identifies the role of the health sector in the development and coordination of policies and the delivery of services. WHO is now working with 14 countries to implement national strategies based on its European strategy.

- A gender tool has been developed to assist countries in making child and adolescent health programmes gender responsive.
- Using human rights to advance sexual and reproductive health of youth and adolescents: a tool for examining laws, regulations and policies assists countries in applying a human rights framework to identifying and addressing legal, regulatory and policy barriers to population access to, and use of, sexual and reproductive health care information and services, and to the provision of quality services. An “adolescent-sensitive” version of the tool looks at policy issues pertinent to this age group.
- Regional Office support to increase immunization coverage aims to build Member States’ capacities to achieve current and future target levels of immunization performance in terms of access, utilization, quality, safety and equity.
- The Regional Office provides support for the global WHO/UNICEF strategy on Integrated Management of Childhood illness (IMCI) adopted by 15 countries in the Region. IMCI aims to reduce death, illness and disability and to promote improved growth and development among children under five years of age. Integration of IMCI into national primary care improves quality of services for young children, reduces unnecessary hospital admissions and rationalizes the use of drugs and resources.
- The Regional Office provides technical guidance and capacity-building materials and activities for the quality assessment of paediatric hospitals.
- The WHO-supported Children’s Environment and Health Action Plan for Europe (CEHAPE), adopted by the Fourth Ministerial Conference on Environment and Health in 2004, provides a policy framework and tools to help identify risks to children’s health through environmental exposures and address them through evidence-based policies and interventions (21).

**Box 1. Aspects of the unfinished health systems agenda – examples of activities to reduce under-five and infant mortality and improve measles immunization coverage**

*Stewardship*

For health systems in many countries, there is a need for national assessments on gaps and overlaps in policies concerning maternal, neonatal and child health within the health sector, as well as increased analysis of the impact of other sectors’ policies on the health of these groups. Many health systems require improved data on neonatal and child health related to mortality, morbidity, access to services, risk/protective factors and inequities. Health system stewardship also entails a proactive stance by national authorities, including liaison with other sectors and stakeholders, towards issues relevant to child health such as breastfeeding and nutrition. Improving the quality and completeness of monitoring and supervision systems for maternal and child health and the development of respective policies and tools form the basis for sustained quality child health services

*Resource generation*

Progress towards MDG 4 requires an appropriate mix of adequately skilled professionals, including family doctors, obstetricians, paediatricians, nurses, midwives and immunization staff. In a number of countries, this mix is not yet in place. A balanced distribution of skilled staff in rural and urban areas is also still needed in many countries. The introduction of evidence-based guidelines in both pre-service and in-service education is essential. Pre-service education on integrated care for sick and healthy babies is central to the sustainability of integrated basic child health care/IMCI and to achieving a high coverage of trained health cadres. Availability of essential drugs and supplies at facilities is important for the timely and proper treatment of common diseases in newborn babies and children. They should therefore be available at all times, in adequate amounts and in the appropriate dosage forms. Ensuring their availability in the health facilities requires sound drug management and supply practices, including selection, procurement, distribution and rational use.

*Service delivery*

Service delivery to reduce under-five mortality can be further enhanced through the introduction and implementation of evidence-based medicine, IMCI as an integrated programme, and the improved equitable access to and use of basic effective in child care. Related to the immunization coverage target, equitable service delivery can be facilitated through the provision of an optimal combination of immunization service delivery strategies.

*Financing*

Neonatal and child health services are often, and should be, an integral part of basic financing. A needs-based allocation of financial resources to maternal and child health is therefore important. Efforts are required to address out-of-pocket payments that disproportionately impact poorer households and present financial barriers to accessing services.

## MDG 5 – Improve maternal health

*Today, maternal mortality is the slowest moving target of all the Millennium Development Goals ... Together, let us make maternal health the priority it must be. In the 21st century, no woman should have to give her life to give life (22).*

Ban Ki-moon, Secretary-General of the United Nations  
Sixty-second World Health Assembly, Geneva, Switzerland, 2009

The targets for MDG 5 are: 5.A – to reduce by three quarters, between 1990 and 2015, the maternal mortality ratio; and 5.B – to achieve, by 2015, universal access to reproductive health. Indicators for monitoring progress for target 5.A are the maternal mortality ratio and the proportion of births attended by skilled health personnel. For target 5.B, indicators include the contraceptive prevalence rate, the adolescent birth rate, antenatal care coverage and the unmet need for family planning (7). Progress towards these targets in the European Region is explored below.

### Maternal mortality ratio

Globally, MDG 5 is the most off-track of all of the Goals. In 2005, worldwide, more than 500 000 women died during pregnancy or childbirth or in the six weeks after delivery (1). Maternal mortality decreased globally by less than 0.4% per year between 1990 and 2005. This is far below the 5.5% annual improvement needed to reach the target. Accelerated improvements in reproductive health care, including but not limited to better obstetric care, are required in all regions (1,18).

The maternal mortality ratio represents the risk associated with each pregnancy, i.e. the obstetric risk, and is defined as the number of maternal deaths per 100 000 live births during a specified period, usually one year. Despite the existence of widely-used standardized definitions of maternal mortality, it is difficult to measure accurately the levels of maternal mortality in a population. Reasons for this include problems in identifying maternal deaths precisely, particularly in settings where routine recording of deaths is not complete within civil registration systems and the death of a woman of reproductive age might not be recorded (23). Another reason is that, even if such a death were recorded, the woman's pregnancy status may not have been known and the death would therefore not have been reported as a maternal death even if the woman had been pregnant. Even in countries where routine registration of deaths is in place, maternal deaths may be underreported (23).

Reducing maternal deaths and disability requires actions that reach women and mothers of all ages. One age group – pregnant women under 20 years of age – bears a disproportionate burden of pregnancy-related death and illness. Adolescent girls face health risks during pregnancy and childbirth: although adolescents aged 10–19 years account for 11% of all births worldwide, they account for 23% of the overall burden of disease (DALYs) due to pregnancy and childbirth (17). Compared to women in their 20s and 30s, women under 20 have a higher risk of dying from maternal causes (24). Worldwide in 2004, maternal conditions were a leading cause of adolescent female deaths at 15% (25), yet maternal mortality among adolescent mothers is a grey area of national statistics. Facilitating comparisons at international level, estimates of maternal mortality have been generated through modelling techniques by WHO, UNICEF, the United Nations Population Fund (UNFPA) and the World Bank. The estimates are typically much higher than those reported by national authorities. Discrepancies between the estimated and reported maternal mortality ratios exist in countries throughout the Region.

As reported in *Maternal mortality in 2005* (23), the estimated average maternal mortality ratio for the WHO European Region fell from 39 deaths per 100 000 live births in 1990 to 27 in 2005.<sup>5</sup> In 2005, the countries<sup>6</sup> with the highest estimated ratios were in central Asia. The country with the lowest estimated ratio was Ireland (with an estimated ratio of 1), followed by other countries in the western part of the Region, which had estimated ratios of 3 (23). One of the countries with the fastest rates of decline was Turkey, with success attributed to making maternal mortality a political

<sup>5</sup> In keeping with the tracking by WHO headquarters of progress towards the MDGs, this report uses WHO/UNICEF/UNFPA/World Bank estimates of the maternal mortality ratio (per 100 000 live births). These may be different from the data in the WHO European Health for All Database (HFA-DB), which are taken from national reports.

<sup>6</sup> Not including Andorra and Monaco. Figures have been computed to ensure compatibility and are thus not necessarily the official statistics of countries, which may use alternative rigorous methods (23).

priority, funding it accordingly, providing services in a culturally sensitive manner and overcoming geographical barriers to access.<sup>7</sup> It should be noted that, in some of the low-mortality countries such as France, the Netherlands, Norway, Switzerland and the United Kingdom the maternal mortality ratio actually increased between 1990 and 2000, and that is certainly a matter for concern (13).

To further help address underreporting and identify the true number of maternal deaths (to understand the underlying factors that led to the deaths), special investigations into the cause of death may be required. Effective approaches for maternal death review look not only at numbers but help identify substandard care in cases that are known, thus providing opportunities to learn from each single case and make improvements (Box 2). The United Kingdom's Confidential Enquiry into Maternal Deaths for 2000–2002 identified 44% more maternal deaths than were reported in the routine civil registration system (23).

#### **Box 2. Maternal mortality and morbidity case review**

There is a story behind every maternal death or life-threatening complication. Understanding the lessons to be learnt can help to avoid such outcomes. WHO has developed a tool called "Beyond the Numbers", which provides five approaches to case reviews of maternal deaths and complications in order to gain evidence on where the main problems lie and what can be done in the future. The maternal mortality/morbidity case review emphasizes recommendations based on evidence and confidentiality. It helps to identify opportunities to improve quality of care and existing systems that typically may focus on blame or punishment.

### *Births attended by skilled health personnel*

Births attended by skilled health staff are the percentage of deliveries attended by personnel trained to give the necessary supervision, care and advice to women during pregnancy, labour and the postpartum period. A skilled health worker at delivery is critical to reducing maternal deaths. In 2006, globally, nearly 61% of births in the developing world were attended by skilled health personnel, an increase from less than half in 1990 (1). The European Region is doing better than other WHO regions in this regard. In the NIS, the average percentage of births attended by skilled health personnel increased from 96 in 1990 to 98 in 2005. In the transition countries of south-eastern Europe, the percentage decreased from 99 to 98 during the same time period (2). In the Region as a whole, where overall percentages of births attended by skilled health personnel are generally high, a key concern is ensuring quality of care.

Across the European Region, there are inequities in terms of access to skilled health workers at delivery. Available data indicate that socially disadvantaged groups (including groups with lower socioeconomic status, ethnic minority groups and migrants) and rural populations can have poorer access (13,24). In Azerbaijan, for instance, the percentage of births attended by skilled health personnel was estimated to be 78 in the lowest wealth quintile and 100 in the highest wealth quintile in 2006 (11). In Turkey in 2008, the estimated percentage of births attended by skilled health personnel was 80% in rural and 95% in urban places of residence (27).

### *Antenatal care coverage*

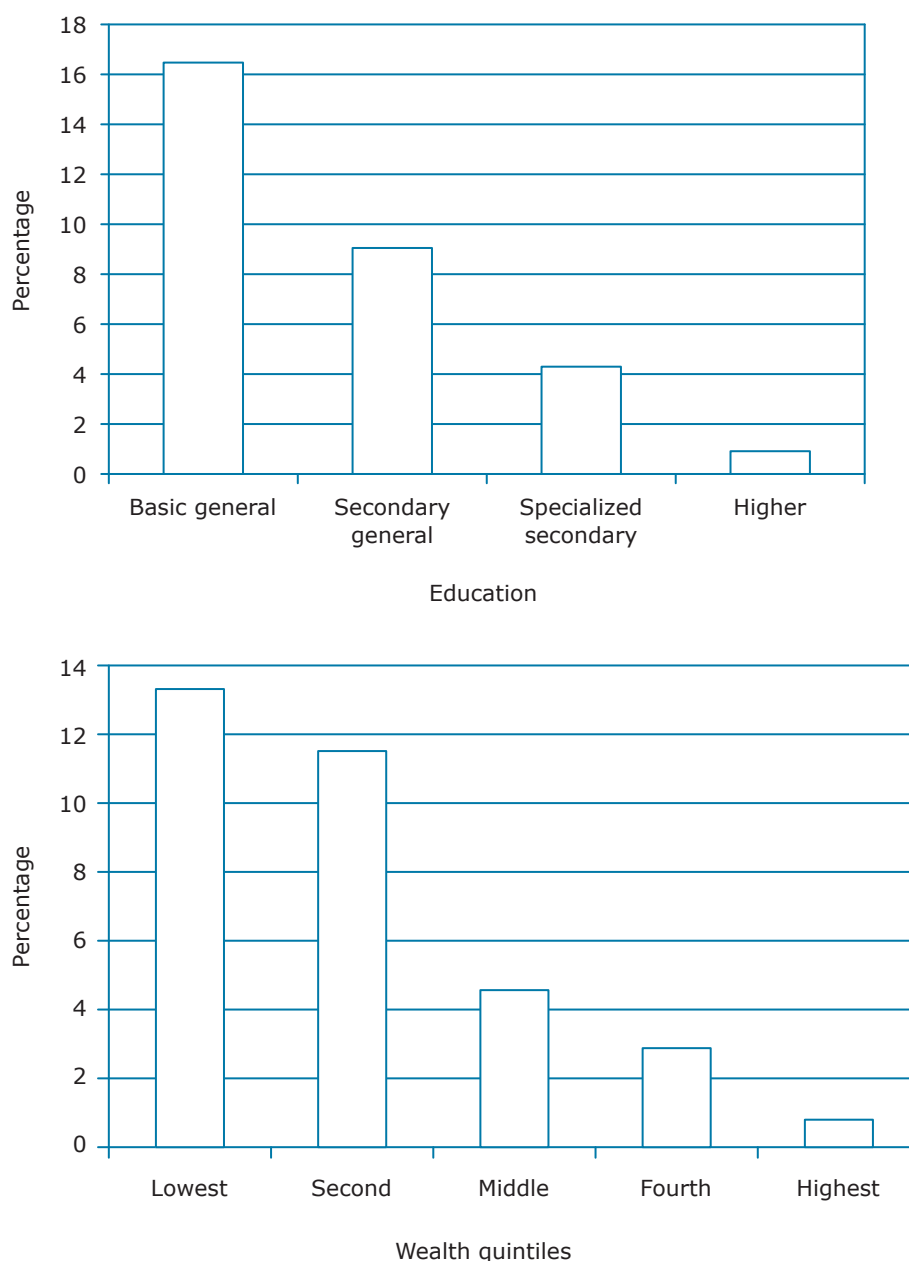
Antenatal care is an essential safety net for monitoring the health and well-being of both the prospective mother and her offspring. Socioeconomic determinants of health, including educational level and wealth, also have an influence on antenatal care coverage, as can be seen in Fig. 1.

In many countries, there is a lack of data to monitor achievement towards MDG 5b on universal access to reproductive health. Scaling up investments and support for demographic and health surveys and reproductive health surveys is a priority.

<sup>7</sup> Measures to overcome geographical barriers to access have included establishing pre-delivery care homes for expectant mothers near a hospital, and free-of-charge land and air transport for emergency obstetrical cases (26).



**Fig. 1.** Percentage of women receiving no antenatal care by education and wealth quintile in Armenia (2005)



*Source:* National Statistical Service, Armenia, Ministry of Health, Armenia and ORC Macro (28). Reproduced by permission of the copyright holder.

Some countries have seen improvements in antenatal care coverage in recent years. For instance, in Turkey, the 2008 survey registered substantial improvements in antenatal care coverage when compared to the results of the previous demographic survey conducted in 2003 (27). The proportion of last births with antenatal care coverage increased from 81 percent to 92 percent within the five-year period between the surveys (27). This represents around a 50 percent decrease in the proportion of women who did not have any antenatal care (27).

### Adolescent birth rate

Data show a decline in adolescent birth rates in the European Region. The adolescent birth rate (births to women aged 15–19 years per 1000 women in that age group) declined from 52.1 in 1990 to 28.4 in 2005 in the NIS, and from 48.2 to 29 during the same period in the transition countries of south-eastern Europe (2).

Reducing the number of births to adolescent girls is essential. Globally, the risk of dying from pregnancy-related causes is twice as high for women aged 15–19 years and five times higher for girls aged 10–14 as for women aged 20–29 years (29). Adolescent girls account for 15% of the

global burden of disease for maternal conditions and 13% of all maternal deaths (29). Perinatal and infant mortality rates are higher among adolescents, particularly those under 15 years of age, compared to 20–29-year-olds (29). There is a high prevalence of nutritional anaemia among adolescents in developing countries, and the risk of low birth weight is significantly higher in young adolescents aged 10–14 years (29).

### *Contraceptive prevalence rate and the unmet need for family planning*

Data on contraceptive prevalence and the unmet need for family planning are missing in many countries, as mentioned above. Demographic and health surveys or reproductive health surveys providing these data have recently been carried out in only a few European Member States. Selected data from Armenia, Romania and Turkey provide insights into variations in and aspects of unmet needs for family planning and contraceptive prevalence. In Armenia, the estimated unmet need for family planning in 2005 was 13% of married women, and would be much higher if the unmet need for modern contraception was analysed (28). In Romania, the estimated unmet need for family planning was 28% for women and 23% for men (30). In Turkey, the total estimated unmet need was 6.2 in 2008, having decreased from 12% to 6% between 1993 and 2003, with a slight increase registered since then (27, 31–32).

In eastern Europe and central Asia, a cross-analysis of available data from the late 1990s indicates that, in general, the level of unmet need for contraception is higher among married respondents (33). Some subgroups of married women exhibit higher levels of unmet need for contraception than others, and these include rural women and women with secondary or lower levels of education (33).

In many countries in the Region, adolescents continue to have limited access to reproductive health education and/or cultural and socioeconomic factors influence their ability to seek such services. According to the Health Behaviour in School-aged Children cross-national study, the percentages of 15-year-olds who report condom use at last intercourse range from 65% in Sweden to 89% in Spain. Those reporting use of the contraceptive pill range from 4% in Spain to 52% in the Netherlands (34).

Globally, it is estimated that the prevention of unplanned pregnancies could reduce maternal deaths by around one quarter, including those that result from unsafe abortion (18). Approximately 13% of all maternal deaths worldwide are due to complications of unsafe abortion (35). Globally, a poor woman in a rural area is three times more likely to experience complications of unsafe abortion and half as likely to receive medical treatment as a well-off woman in an urban area (36). Although one of the important causes of maternal death among adolescents is thought to be complications of unsafe abortion – one in every seven of which in low- and middle-income countries is among women aged 15–19 years – little is known about the true dimension of the problem because most of the cases go underreported. Stigma and psychosocial considerations (including age), as well as undocumented migrant status in a country, can also influence access to safe abortion.

In some countries of the Region, unsafe abortion still causes more than 20% of all cases of maternal mortality (37). The level of reported induced abortions appears to be declining across eastern Europe and central Asia (38), although in many countries the data available are not comprehensive. Even based on existing data, however, the Region still has one of the highest abortion rates in the world (38). It is important to note that legality alone does not make induced abortion safe; shortage of equipment, crowded facilities, poor hygienic conditions and inadequate standards of care may increase the risk of post-abortion complications. When delays in hospital admission result in the passing of the 12-week legal limit, women may seek an illegal, risky abortion outside a licensed facility (33).

The Regional Office, in support of MDG 5, advocates for maternal and perinatal health as the most essential component of reproductive health. It supports Member States in the development of national reproductive health strategies, policies and programmes in accordance with MDG targets, the WHO Global Reproductive Health Strategy, the WHO European regional strategy on sexual and reproductive health, and the European strategic approach to making pregnancy safer (the latter of which is mentioned in the section on MDG 4). Tools such as the "Assessment of health system functions to improve maternal and perinatal health" help health ministries and key stakeholders to identify priorities and related actions. The Regional Office also provides training in effective perinatal care, capacity building to update clinical guidelines, and guidance to produce maternal mortality and morbidity case reviews using the WHO "Beyond the Numbers" approach.

### Box 3. Aspects of the unfinished health systems agenda – examples of activities to improve maternal health

Countries in the WHO European Region have historically prioritized maternal, sexual and reproductive health and developed a number of policies; however, implementation of them remains a challenge.

Improvements in health system *stewardship* are required for appropriate and adequately resourced action plans, cooperation with other areas of government, and participation of individuals and communities. Improved stewardship necessitates an effective regulatory environment that holds accountable public and private service providers. The legal and policy environment needs to remove existing barriers that prevent adolescents from accessing services, and to ensure that adolescents have access to a comprehensive package of services surrounding pregnancy. Stewardship also involves well-functioning health information systems based on international standards to set priorities and monitor the gaps and improvements in the health of mothers and children. National statistics need to be collected and analysed in ways that make it easier to understand the needs of pregnant adolescents, their numbers and their use of services.

Related to *service delivery*, interventions that could save lives of mothers and babies and decrease negative health outcomes are known, but are not fully implemented. Augmented service delivery capacity for maternal health comprises evidence-based packages of interventions and quality standards of care in accordance with international guidelines. In some areas, outdated and dangerous practices are still widespread. There is an urgent need to better implement and monitor the continuum of care which begins with family planning and goes through antenatal care, appropriate diagnosis of complications and referral to the right level of care.

In terms of *resource generation*, reports show high levels of skilled attendants for childbirth but performance is substandard. Improved quality of staff and deployment of professionals with the needed skills mix in key areas (for example rural locations) is required, as is increased investment in the provision and maintenance of appropriate commodities and equipment at all levels of care. Ensuring adequate resources for timely and effective emergency obstetric care is key to saving the lives of mothers and babies. Developing the competencies of health workers to deal with the special information, clinical and psychosocial needs of adolescent girls and mothers is crucial if we want to ensure age-appropriate prevention, treatment and care

In order to remove *financial* barriers to care, the provision of a basic benefit package should include regular monitoring of its effectiveness in providing key services, reducing out-of-pocket payment<sup>8</sup> for mothers and babies, and eliminating the risk of catastrophic expenses for complications in childbirth. In many countries, financing mechanisms to facilitate access to services by adolescents, the poor and other disadvantaged groups need to be explored. At a global level, there is a need for increased donor attention to maternal, newborn and child health, in the context of health-systems-strengthening and community approaches (40).

## MDG 6 – Combat HIV/AIDS, malaria and other diseases [including TB]

MDG 6 has three targets: 6.A – to halt, by 2015, and begin to reverse the spread of HIV/AIDS; 6.B – to achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it; and 6.C – to halt by 2015 and begin to reverse the incidence of malaria and other major diseases (7).

### HIV/AIDS

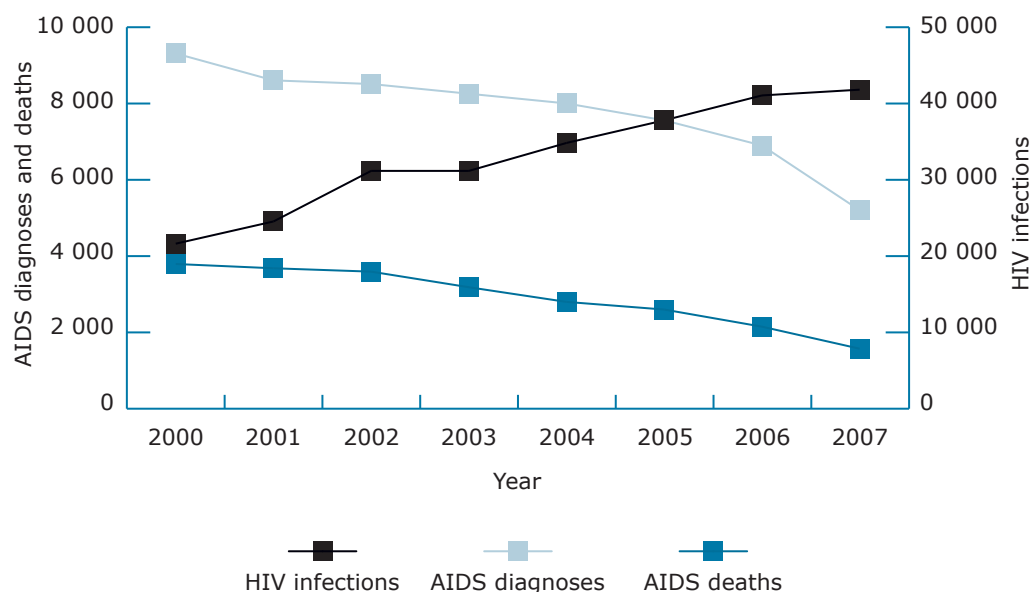
Every day, an estimated 7500 people worldwide become infected with HIV and 5500 die from AIDS (1). By the end of 2007, an estimated 33 million people worldwide were living with HIV, 2.23 million of them in the European Region (41).

Global indicators for MDG 6 target 6.A include HIV prevalence among the population aged 15–24 years, condom use at last high-risk sex, and the proportion of the population aged 15–24 years with a comprehensive correct knowledge of HIV/AIDS (7). It is noteworthy that these global indicators are of limited relevance in Europe, where the epidemic is concentrated among those with a particular HIV risk (e.g. injecting drug users (IDUs)); men who have sex with men, female sex workers, prisoners and migrants) and where the majority of cases are in people over the age of 24 years rather than constituting a generalized epidemic among young people. Target 6.B is monitored through the proportion of the population with advanced HIV infection who have access to antiretroviral drugs.

<sup>8</sup> Evidence from several countries worldwide suggests that removing user fees for maternal health care can both stimulate demand and lead to an increased uptake of essential services (39). Where there are user fees for maternal health services, households pay a substantial proportion of the cost of facility-based services, and the expense of complicated deliveries is often catastrophic (39).

The number of newly diagnosed cases of HIV infection officially reported in 2007 is the highest annual figure to date for the European Region (see Fig. 2). In 2007, a total of 48 892 newly diagnosed cases of HIV infection were officially reported by 49 of the 53 Member States of the European Region (42).<sup>9</sup> The highest reported rates of newly diagnosed cases were from Estonia, Ukraine, Portugal and the Republic of Moldova.<sup>10</sup> These data have limitations owing to missing input from a number of countries. If all data had been taken into account, the total number of reported HIV infections could have doubled to almost 100 000 in 2007 (42). In previous years, the Russian Federation had reported large numbers of cases of HIV infection. In fact, in 2006, 66% of the total number of HIV cases reported in the east of the Region were from the Russian Federation (42).

**Fig. 2.** Number of HIV infections newly diagnosed (right axis), AIDS cases diagnosed and AIDS deaths (left axis) in the European Region, 2000–2007



Source: WHO Regional Office for Europe (42).

In 2007, a total of 5244 diagnosed AIDS cases were reported by 48 countries (42). Since 2000, despite incomplete reporting, the number of reported newly diagnosed cases of HIV infection has increased while the number of diagnosed AIDS cases has continued to decline in the European Region as a whole. In the east of the Region, the number of AIDS cases has continued to increase while in central Europe it has declined by a third and in the west has declined by more than half (42). This is thought to be the result of increased availability of HAART.

The predominant mode of HIV transmission in Europe varies by country and geographical area. Data show diversity in the epidemiology of HIV in Europe. Applying the three geographical areas used in the joint report by the Regional Office and the European Centre for Disease Prevention and Control (ECDC) entitled HIV/AIDS surveillance in Europe 2007,<sup>11</sup> injecting drug use is still the main mode of transmission in the east of the Region, while in central Europe it is heterosexual contact (although the number of HIV cases reported among men who have sex with men has also increased). In the west of the Region, the predominant mode is sex between men, followed by heterosexual contact, particularly among people originating in countries with generalized epidemics (42).

In the east of the Region, roughly 2 million people live with HIV. Incidence has soared 20-fold in less than a decade, making the area home to the fastest-growing HIV epidemic in the world. Out-of-pocket expenditures, which affect the poor disproportionately, have also increased in the NIS, now averaging almost 50% of all spending related to HIV (43).

<sup>9</sup> Data were not available from Austria, Italy, Monaco or the Russian Federation.

<sup>10</sup> Data were not available from Italy, Kazakhstan, Monaco, the Russian Federation or Ukraine.

<sup>11</sup> In the report, countries are grouped as follows: East: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Centre: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Hungary, the former Yugoslav Republic of Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia and Turkey. West: Andorra, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland and the United Kingdom.

As noted in the Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia, endorsed in 2004, poverty, underdevelopment, illiteracy, unemployment, social breakdown and the absence of a positive outlook are factors contributing to the spread of HIV/AIDS (44). Vulnerable populations are defined by external circumstances that reduce their members' ability to avoid HIV infection. The impact of the financial crisis and economic downturn on HIV infection has yet to be assessed, but these will likely exacerbate structural conditions that allow HIV/AIDS and other infectious diseases to flourish<sup>12</sup> and may lead countries to deprioritize health issues, with a concomitant negative impact on HIV/AIDS prevention, treatment, care and support.

The HIV epidemic among IDUs shows different development in different parts of the Region. In the west, rates of reported newly diagnosed cases of HIV infection in IDUs are mostly at stable and low levels or in decline. There are some exceptions, however, where rates remain high; one such exception is Portugal, but even here there is a downward trend. In contrast, HIV infection rates among IDUs increased in 2007 in many of the countries in the east of the Region, suggesting that the HIV epidemic among IDUs in eastern Europe is still growing. In 2007, IDUs accounted for 57% of all reported cases in the east, compared to just 8% in the west (42). In European countries or at subnational levels where indicators of HIV incidence among IDUs show an upwards trend, existing prevention measures may be insufficient and in need of strengthening. In the west, the availability of harm-reduction measures such as opioid substitution therapy and needle and syringe programmes may have played a key role in containing the epidemic among IDUs (46).

In addition to IDUs, some migrant populations are at high risk for HIV infection, as are prisoners throughout the Region. Migrants continue to face barriers in accessing medical and social services (43). In the EU and European Free Trade Association (EFTA) countries, around 40% of heterosexually acquired infections were diagnosed in persons originating from countries with generalized epidemics (42). Unfortunately, in some countries, this may result in negative attitudes to migrants, compounding their situation and further reducing their access to health services. Some countries have travel restrictions or entry bans on people living with HIV. Migrants may avoid HIV testing, fearing that a positive diagnosis could restrict their mobility.

The majority of newly reported HIV cases in Europe are among men (66% in 2007), although women are a higher proportion of those in the east (40%) than in the west (26%). Statistics on HIV prevalence and on access to HIV prevention, treatment and care are still rarely disaggregated by sex, making monitoring of progress on gender equity difficult. One area of particular concern is the sexual transmission of HIV from male IDUs to their female partners; partners of risk group members are very rarely targeted by prevention programmes (43).

HAART has turned a mortal disease into a manageable chronic infection. A person infected with HIV at the age of 25 can now expect to enjoy at least another 35 years of life. Where access to HAART is widely available, affordable and equitable, it can result in declines in HIV-related morbidity, mortality, infectivity and the risk of onward transmission. HAART coverage for the European Region rose from 282 000 people in mid-2004 to 435 000 by December 2007, when it was estimated as "very good" (> 75%) in 38 of the 53 Member States (43). For central and eastern Europe, where the need is greatest, coverage went from 16 000 to 55 000 in the same period. While this is a substantial increase, it is still far short of need (43). More recent data (covering December 2007 to December 2008) show a further increase to 85 000 among low- and middle-income countries in the Region, with the European Region showing the highest percentage increase of any WHO region (47).

Challenges and needs now facing health systems in their efforts to address HIV/AIDS include: addressing the lack of integrated services for prevention, treatment and care of HIV, TB, other communicable diseases and drug dependence; ensuring sustained political commitment and mobilization of resources through advocacy and partnership; improving knowledge and appropriate evidenced-based training that integrates training and service delivery; and increasing and targeting funding for HIV prevention efforts for most at-risk populations (notably IDUs but also men who have sex with men, sex workers, prisoners and migrants).

---

<sup>12</sup> In the 1990s, HIV/AIDS became a major threat to health, economic stability and human development in countries in eastern Europe and central Asia. Social, political and economic transition exacerbated the structural conditions that facilitated the spread of HIV/AIDS as dramatic changes led to increasing drug injection and sex work, economic decline, and failing health and health care systems (45).

The Regional Office supports a health system approach to tackling the HIV/AIDS epidemic, in keeping with the Dublin Declaration's call for strong basic health systems and services to ensure universal and equitable access to HIV/AIDS prevention, treatment and care. In particular, the Regional Office works to:

- develop evidence for increased awareness and understanding of the epidemic;
- provide assistance to countries to develop effective and appropriate health sector policies regarding HIV/AIDS;
- provide technical support to countries to implement large-scale essential HIV/AIDS prevention, treatment and care services, including universal access to antiretroviral therapy;
- improve national and regional HIV/AIDS surveillance and information; and
- ensure that the above are carried out in close collaboration with all major stakeholders, including civil society, and in particular people living with HIV.

## TB

The global targets and indicators for TB control were developed within the framework of the MDGs as well as by the Stop TB Partnership and the World Health Assembly. These targets, which are also applicable to the European Region, are the following (48,49):

- that the incidence of TB should be declining by 2015 (MDG Target 6.C-Box4);
- that TB prevalence and death rates should be halved by 2015 compared with their level in 1990;
- that at least 70% of incident smear-positive cases should be detected and treated in DOTS programmes; and
- that at least 85% of incident sputum smear-positive cases should be successfully treated.

### Box 4. Tuberculosis in MDG 6 (7)

Target 6.C: Halt and begin to reverse the incidence of malaria and other major diseases [TB]

Indicator 6.9: Incidence, prevalence and death rates associated with TB

Indicator 6.10: Proportion of TB cases detected and cured under DOTS

In the European Region in 2007, almost half a million TB cases (477 327, a prevalence of 54 per 100 000 population) were reported by 51 of the 53 countries (50).<sup>13</sup> This represents an overall increase in the notification rate of 13%, mainly attributable to the registration of retreated patients not registered in previous years. In fact, if only the notification rate of previously untreated cases is taken into account, a regional reduction of 2.5% is observed between 2006 and 2007 (50). Some 77% of all TB notifications in the Region were reported from 12 non-EU eastern European and central Asian countries, 17% from EU, EFTA and the other western European countries and 6% from the remaining countries in the Balkans (50).

Based on available 2007 data, the European Region faces significant challenges in reaching the TB control targets. While the estimated TB prevalence fell from 68 to 51 per 100 000 population between 2000 and 2007, there is still a considerable way to go to reach the 27 per 100 000 population set out in the target for 2015. Likewise, TB mortality must further decline, from 7.0 in 2007 to 3.0 per 100 000 population by 2015. In 2007, the proportion of new smear-positive TB cases detected at the Region was 55% (vs the global target of 70%) and the overall treatment success rate among new cases in 2006 was 70% (vs the global target of 85%) (49).

<sup>13</sup> No data were available from Monaco and San Marino.

Poor adherence to accepted TB control practices has created high levels of man-made MDR-TB and XDR-TB – the most serious challenge for controlling TB in the Region (51). Of the 27 countries that account for 85% of all MDR-TB cases globally, 15 are in the European Region (52). Drug-resistant TB creates enormous additional demands on health systems. For example, even when a country benefits from concessionary prices offered by the Green Light Committee (GLC) initiative, the costs of treating MDR-TB can be as much as 200 times those for treating “ordinary” TB. When drugs needed for the treatment of MDR-TB are procured on the open market, the price increase can be a thousand fold. Globally, fewer than 5% of the estimated MDR-TB cases are detected by national TB programmes and fewer than 3% are treated according to WHO recommended standards (53).

The non-EU eastern European and central Asian countries remain the regional priority for TB control, with national health systems in these countries facing serious challenges in properly addressing the TB problem. Further west, countries aiming at TB elimination are increasingly recognizing the aggregation of cases among certain vulnerable populations. In addition, among intermediate burden countries such as the three Baltic countries, the prevalence of MDR-TB remains high (50).

Globally in 2007, an estimated 14.8% (1.37 million) of the 9.27 million incident cases of TB were HIV-positive. Among the new TB cases in the Region, 42 300 are estimated to be HIV co-infections (49). In the Region, TB is the most prevalent cause of illness and mortality in people living with HIV and few countries are addressing TB/HIV co-infection in a comprehensive manner (51).

TB infection is transmitted more readily under conditions of poverty, which can include overcrowding, inadequate ventilation and malnutrition (which weakens resistance to disease). Improvements in socioeconomic and environmental conditions lead to reductions in TB incidence (48). Health systems have an important role in ensuring that access to quality TB services is not determined by type of TB, financial capacity or social status. Given the low socioeconomic status of many people with TB, a pro-poor and equity-based approach requires that health services identify barriers and implement measures to ensure early diagnosis and effective treatment among disadvantaged populations. The Global Plan to Stop TB 2006–2015 offers six practical steps to address poverty in TB control (48). Attention to poverty and economic vulnerability in relation to TB and TB control is particularly important in the context of the current financial crisis.

Ethnic minorities such as the Roma and some migrant populations may have heightened vulnerability to TB owing to social exclusion (including but not limited to restricted access to health and social services and a lack of culturally appropriate approaches). For instance, differences in active TB rates suggest that socially excluded Roma are more exposed to proximate risk factors for TB infection and disease and to delayed diagnosis (54). In the EU and EFTA countries, 21% of reported TB cases were of foreign origin in 2007 (50). The relationship between migration and MDR-TB can comprise: incomplete treatment (as some migrants may return to their countries of origin for treatment and then not fully complete it before returning to the destination country); increased immigration from countries with unsuccessful TB control; and poor access to health care for some migrants in destination countries (55).

Gender differentials can occur at different levels of TB control, as they affect patients’ ability to access appropriate care, to undergo examination, to submit samples for bacteriological diagnosis and to initiate and complete treatment (56). Males are predominant among TB cases in nearly all European countries, the overall male:female ratio being 2.4:1 (50).

The importance of special national efforts to properly address TB control or elimination is noted in the European Region’s guiding document, the Berlin Declaration on Tuberculosis (51). The Declaration constitutes a commitment by Member States to adopt the Stop TB strategy, to endeavour to secure sustainable financing and to channel such financing towards ensuring the implementation of national and regional plans to stop TB. The WHO Regional Office for Europe, Member States, the EU and other relevant regional and national institutions and organizations agreed to assess progress in the implementation of the Berlin Declaration every second year, starting with a baseline in 2009.

In synergy, tackling the social determinants of MDR-TB and XDR-TB is highlighted in the recently endorsed World Health Assembly Resolution 62.15, which urges Member States to, among other tasks, develop a comprehensive framework for management and care of MDR-TB and XDR-TB that [...] identifies and addresses the needs of persons living with HIV, the poor and other vulnerable groups, such as prisoners, mineworkers, migrants, drug users, and alcohol dependants, as well as the underlying social determinants of TB and MDR-TB and XDR-TB (57).

In keeping with the commitments embodied in the Berlin Declaration and working towards the attainment of the TB targets, the WHO Regional Office for Europe provides technical support to Member States in order to implement all components of the Stop TB Strategy (Box 5). This includes support for:

#### **Box 5. Feature: TB and health system strengthening**

One of the six components of the Stop TB Strategy is to “contribute to health system strengthening”, acknowledging that effective and sustainable TB control relies on the strength of the general health system. System-wide weaknesses have been demonstrated to be major obstacles for effective TB control. The socioeconomic crisis and the deterioration of health system performance in the countries of central and eastern Europe during the 1990s resulted in the resurgence of many diseases, including TB, and an inadequate response to the problem. In western Europe, health systems are challenged by the need to address TB in marginalized and socially disadvantaged groups.

Almost everywhere in the European Region, governments have undertaken health system reforms. Health care reforms offer several opportunities for making TB control more effective. However, if not carried out with due concern for the importance of specific disease-control functions, these may lead to severe crises for TB control. At the same time, highly centralized, vertical TB control programmes are difficult to integrate into the general health services because of insufficient funding, irrational allocation of available resources, poorly developed primary health care services and, often, psychological resistance on the part of TB specialists. Strengthening TB control services through national and additional international funding has been necessary in many countries in Europe to ensure effective implementation of disease control interventions and to address regional challenges such as anti-TB drug resistance.

TB programmes can contribute to strengthening each of the four functions of the health system by considering a set of guiding “dos and don’ts for health system strengthening that promote:

- harmonization of the TB control planning and budgeting process, with sector-wide planning frameworks;
- harmonization of TB monitoring and evaluation with the national health information system;
- improvement of TB laboratory networks and the drug management and supply system within the health system; and
- optimization in the use of shared human resources, including front-line health staff.

While striving for further harmonization and integration, TB programmes must, however, ensure that core TB control activities are not compromised. This requires preserving some “non-negotiable” TB-specific functions. The balance between integration and the retention of key “vertical” elements varies among countries, depending in particular on the developing capacity of the general health system.

The Berlin Declaration adopts all components of the Stop TB Strategy and the need for “integrating TB care delivery with general health services and reinforcing activities aimed at strengthening health systems”. Consistently, a number of actions have since been taken in countries that aim to promote TB control by strengthening health systems. National TB programmes have been reviewed, paying special attention to their linkages with the health system and aiming to streamline national TB plans and financing with national health strategies. Health systems in countries have been also been assessed through the TB control framework. International TB funding mechanisms, such as The Global Fund, have been applied to promote integrated laboratory technologies, national drug management, national surveillance, integrated TB and HIV interventions for co-infected patients, and delivery of TB services at primary level. Increased attention is being paid to addressing the proximate risk factors for TB (e.g. overcrowding, indoor air pollution, silicosis and malnutrition) as well as their structural determinants (e.g. urbanization, migration, education and poverty) through intersectoral action. There is a need to improve the capacity of health systems to document country-specific risk factors and adjust services to account for adverse socioeconomic conditions that can postpone a patient’s treatment-seeking behaviour and heighten the risk of treatment failure through non-compliance.

The European Region is confirmed to be on the global front line in pursuing the integration of targeted, disease-specific programmes into existing health system structures and services, as committed to by Member States in the Tallinn Charter. Assessments of the health system, with a focus on TB, can facilitate this by identifying system strengths and weaknesses that have an influence on TB prevention, treatment and care. These assessments consider progress towards TB control in relation to the four functions and six building blocks of the health system: (a) stewardship (governance and health information); (b) health financing; (c) resource generation (health workforce, medical products and commodities); and (d) service delivery.



- strengthening political commitment and resource mobilization – including technical assistance to develop applications under the Global Fund to Fight AIDS, Tuberculosis and Malaria;
- formulating TB national policies, strategies and guidelines;
- reviewing and updating national plans;
- strengthening networks of national bacteriological laboratories and strengthening national plans for infection control;
- promoting access to essential medicines (first- and second-line anti-TB drugs) and uninterrupted supply of diagnostics through country visits providing technical input on MDR-TB, Green Light Committee and Global Drug Facility (linking with actions towards MDG 8); and
- expanding delivery, treatment and care for those with TB and TB/HIV co-infection.

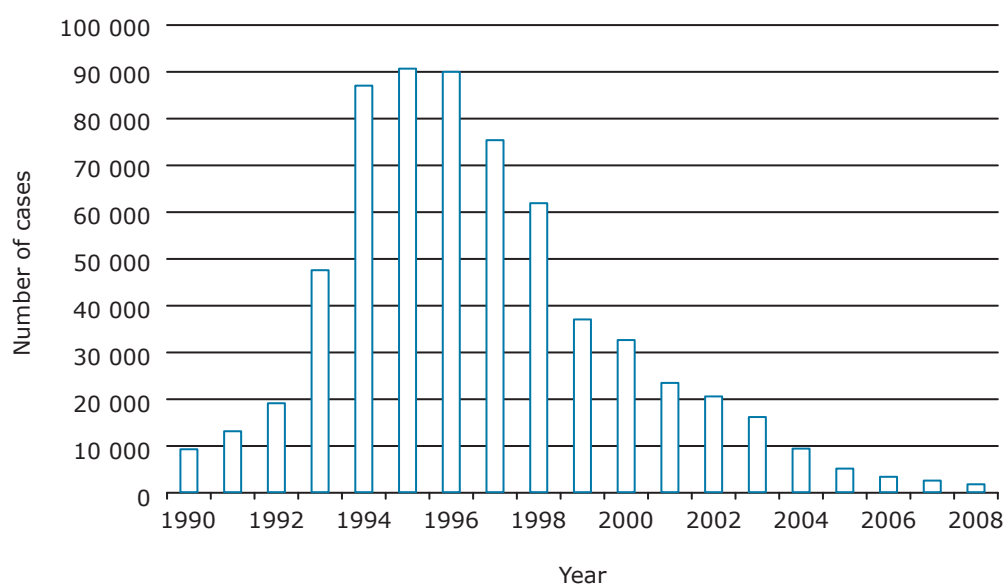
## Malaria

Worldwide, malaria causes over a million deaths each year. The majority of cases occur in tropical or subtropical regions (4). MDG 6 addresses malaria through target 6.C: to halt by 2015 and begin to reverse the incidence of malaria and other major diseases. Related indicators are: the incidence and death rates associated with malaria; the proportion of children under five sleeping under insecticide-treated bednets; and the proportion of children under five with fever who are treated with appropriate anti-malarial drugs.

The perception that Europe is free from malaria has changed rapidly over the past decades. Since the early 1980s and throughout the years to follow, the number of countries affected by malaria has increased from 3 (Turkey, Azerbaijan and Tajikistan) to 10 (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation Turkey, Turkmenistan, Tajikistan and Uzbekistan,). At the beginning of 1990s, the residual reservoir of malaria infection, aggravated by political and socioeconomic situations, mass population migration, extensive development projects, and almost discontinued malaria prevention and control activities, combined to provide conditions favourable for malaria transmission. As a result, large-scale epidemics broke out in central Asia and the trans-Caucasian countries; a total of 90 712 malaria cases were officially reported in the Region in 1995 (58).

Since 1995, there has been a substantial reduction in the number of reported malaria cases as a result of intensive antimalarial interventions (90 712 cases in 1995 and only 589 in 2008, see Fig. 3). At present, locally acquired malaria cases are still reported in 6 of the 53 Member States of the Region: Azerbaijan, Georgia, Kyrgyzstan, Tajikistan, Turkey and Uzbekistan (15).

**Fig. 3.** Number of autochthonous malaria cases in the WHO European Region, 1990–2008



Source: WHO Regional Office for Europe (15).

In 2005, all nine malaria-affected countries in the Region endorsed the Tashkent Declaration (59), which supported and facilitated their decisions to undertake a new elimination effort. The ultimate goal of the new strategy that was developed in 2006 is to interrupt malaria transmission by 2015 and eliminate the disease within the Region. In areas and countries where malaria had been eliminated, priority is given to maintaining the malaria-free status. Particular emphasis is also placed on tackling the growing problem associated with imported malaria.

Since 2008, all malaria-affected countries in the Region have moved into the elimination phase and their national strategies on malaria have been revised to reflect the new elimination challenges. When a country has no locally acquired malaria cases for at least three consecutive years, it can request WHO to certify its malaria-free status. Turkmenistan has already initiated the process for certification of malaria elimination and Armenia, where malaria transmission was interrupted in 2006, is likely to join Turkmenistan in this process shortly. The only two cases of autochthonous falciparum malaria were reported in Tajikistan in 2008, and its transmission is likely to be interrupted in the country in 2009, thus eliminating this type of malaria from the Region as a whole (60).

The international and political attention that has been mobilized in recent years in malaria-affected countries is currently being translated into real commitments and action to eliminate the disease from the Region (Box 6). With grants from the Global Fund to Fight AIDS, Tuberculosis and Malaria and close cooperation with the Regional Office, Azerbaijan, Georgia, Kyrgyzstan, Tajikistan and Uzbekistan will strengthen national capacities to eliminate malaria. Along with WHO, the governments of Armenia, Turkey and Turkmenistan are currently providing full-scale assistance in implementing their malaria elimination programmes. In the context of malaria elimination, particular emphasis is given to situations where there is a risk of the spread of malaria between neighbouring countries and WHO regions (60).

In some western countries of the Region, imported malaria is a growing challenge. Since the 1970s, there has been a ten-fold increase in the number of imported cases. The largest numbers of imported cases have been recorded in France, Germany, Italy and the United Kingdom. In 2005, malaria cases were reported in 26 EU countries. Travellers with little or no immunity that travel from malaria-free regions to malaria-endemic countries are very vulnerable. As such, imported malaria can be associated with high case-fatality rates. Migrants may believe that they retain their partial immunity against malaria parasites after migrating to a non-endemic country, not realizing that immunity usually wanes rapidly. Local health authorities have an important role in addressing imported malaria in migrant communities from malaria-endemic countries (60–62).

**Box 6. Aspects of the unfinished health systems agenda – examples of activities to halt and reverse the incidence of malaria**

Despite the overall progress and the relatively simplicity of the malaria picture in the Region, there is no call for being overoptimistic. The goal of elimination will not be reached without the existence of adequate national health systems with strong but flexible management structures capable of implementing technically sound and cost-effective measures adapted to countries' conditions and responding to local needs. Today, almost all malaria-affected countries in the Region lack dedicated staff and sufficient technical expertise to guide elimination programmes. To achieve the stated programme objectives, it is essential to maintain a core technical group of adequately trained professionals with the necessary epidemiological expertise at national level to advise on strategies and approaches adapted to new situations and to ensure that training programmes are appropriate to the implementing strategy. Training, which is a key component of any programme, should be very practical (i.e. task-oriented and problem-solving). It should increase the motivation of health staff to maintain their skills and competence and remain in service. Basic training should be supplemented by regular supervision and refresher training courses.

Health systems also have an important stewardship role in monitoring and developing partnerships to address the increased risk of importing malaria into malaria-free areas by population movements that are quite often uncontrolled (labour force and/or displaced populations). In the context of malaria elimination, particular emphasis should be placed on those situations where there is a risk of the spread of malaria between countries. Another emerging challenge facing health systems is posed by climate change (addressed by MDG 7), in the light of the risk that changes to the climate and environmental conditions might influence the spatial distribution of malaria and other vector-borne diseases.

## PART II. MDGS ON KEY DETERMINANTS OF HEALTH

### MDG 1 – Eradicate extreme poverty and hunger

Poverty is a multidimensional phenomenon, often consisting of interlinked and reinforcing facets such as:

- reduced income, consumption and employment;
- insufficient or poor-quality nutrition;
- poor health and limited access to health services;
- limited access to education;
- low levels of participation in decision-making; and
- lack of personal empowerment, reflected in the limited possibility to influence one's life situation (63).

The MDG 1 targets comprise: 1.A – to halve, between 1990 and 2015, the proportion of people whose income is less than US\$ 1 purchasing power parity (PPP) a day; 1.B – to achieve full and productive employment and decent work for all, including women and young people; and 1.C – to halve, between 1990 and 2015, the proportion of people who suffer from hunger (7). In considering progress towards these targets and reducing poverty in general, it is important to remember that all of the MDGs tackle the interrelated facets of poverty. Lack of progress on any of the Goals will threaten the attainment of MDG 1. Likewise, lack of progress on MDG 1 will be detrimental to all of the other MDGs.

#### Poverty

As poverty is an issue in all countries (low-, middle- and high-income), the United Nations recommends that indicators based on national poverty lines – where available – be used for monitoring country-specific poverty trends for MDG 1 (7). For comparison and regional analysis, the proportion of the population living on less than US\$ 1.25 (PPP) per person per day is commonly used as an indicator. However, it is widely acknowledged that a higher poverty line is appropriate in eastern Europe and central Asia.<sup>14</sup> This is because the area's harsh climate necessitates additional expenditure on housing, heating, warm clothing and food. The World Bank currently defines "poor" in eastern Europe and central Asia as subsisting on less than US\$ 2.50 a day. People are considered "vulnerable" if they live on between US\$ 2.50 and US\$ 5.00 a day (6).

During the 1990s, many countries in eastern Europe and central Asia witnessed increases in poverty at unparalleled speed (8). Since 1999, nearly 90 million of the 480 million people in eastern Europe and central Asia – about 18% of the population – have moved out of poverty and vulnerability (6). These gains are at risk, however, as a result of the financial crisis. Today, almost 30% of the 480 million people in eastern Europe and central Asia are still considered poor or vulnerable. This number is expected to increase by about 5 million for every 1% decline in GDP (6). Countries in eastern Europe and central Asia that entered the global crisis with weaker macroeconomic fundamentals are at risk of being most severely hit by the financial crisis, with average growth in the region in 2009 now projected to be negative (4).

Even when using US\$ 1.25 (PPP) per person per day as the indicator for target 1.A, countries in the Region face challenges in meeting MDG 1 targets. Particularly in the central Asian and Caucasus NIS, progress has been slow, with 19% of the population still living on less than US\$ 1.25 (PPP) a day (64).

---

<sup>14</sup> The World Bank's Eastern Europe and Central Asia Region comprises: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Montenegro, Poland, Romania, the Republic of Moldova, the Russian Federation, Serbia (including Kosovo, in accordance with United Nations Security Council resolution 1244/1999), Slovakia, Slovenia, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine and Uzbekistan.

In the countries of eastern Europe and central Asia, and using the above-mentioned World Bank definition of poverty, working adults and children account for 60–75% of the poor (65). In most instances, poor children are children of working parents. The next largest group comprises those out of the labour force, followed by the unemployed and the elderly. There is evidence of a risk of extremely high poverty for some social groups: ethnic minorities, refugees, and institutionalized and disabled people. These risks persist even when household and individual characteristics are controlled for (65).

Looking towards the more western part of the Region, for the 25 countries that constituted the EU in 2006, 16% of the population – 78 million people – had an equivalized disposable income below 60% of the national median for the country they lived in. In the hypothetical absence of all social transfers, the poverty risk for the EU as a whole in 2006 would have been considerably higher than it was (43% instead of 16%) (66). One EU citizen in ten lives in a household where nobody works. Nevertheless, work does not always guard effectively against the risk of poverty. For 8% of EU citizens, a job alone is not enough to work one's way out of poverty. In most EU Member States, children are more exposed to poverty than the rest of the population: 19% of children live under the threat of poverty (67).

Poverty affects health and health system usage in various ways. The Commission on Social Determinants of Health (68) provides evidence of how the socioeconomic context within which a person lives, as well as his or her position within that context, can result in: differential exposure to health threats; differential vulnerability to those threats; differential access to quality health services (e.g. through differential health-care-seeking behaviour influenced by financial and other constraints); and differential outcomes and consequences as a result of service usage (e.g. related to treatment compliance and success). Likewise, ill-health and health system usage beyond the financial means of an individual and/or household can increase multidimensional poverty.

Health systems that ensure financial protection for all are important to meet the MDGs and break what some call the "poverty⇒ill-health⇒poverty" cycle. Financial barriers to services can impede efforts to all health-specific MDGs. Furthermore, out-of-pocket health payments, defined as payments made by households at the point of receiving health services net of any insurance reimbursement, can contribute to poverty and threaten progress towards MDG 1. Analysis of data from nearly 80 countries undertaken by WHO shows that, every year, more than 150 million individuals in 44 million households face financial catastrophe as a direct result of having to pay for health care (69). Catastrophic health expenditure threatens to impoverish households in some countries of the European Region where health systems rely heavily on household contributions. Lower-income households are much more likely to face potentially impoverishing health expenditure than higher-income households, and the need to pay poses a greater barrier to utilization for poorer than for richer households because comparatively small expenditures on health can have a great impact on a poorer household's situation. In some European countries, current out-of-pocket ceilings per person per year mainly benefit higher-income households (given smaller expenditures on health by the poor) and as such these ceilings do not adequately promote equity in financing (70–72).

Apart from income, households with members over 65 years of age can be far more likely to encounter catastrophic health expenditure. In Estonia, for example, the probability of facing high expenditure for a household having members above 65 years is 3.14 times (coefficient 1.14) that of a household without such members (70). In Latvia, in addition to being elderly, other indicators making catastrophic health expenditure more likely include households headed by a woman, an unemployed person or a person with a lower level of education, and rural households (72). Catastrophic health expenditure can be largely driven by spending on drugs in some countries, especially for lower-income households. This underlines the importance of progress towards the MDG 8 target on essential medicines. Lower-income households with elderly members who have chronic conditions requiring medicines may face particular challenges, requiring greater protection against outpatient medicine costs for the elderly (70, 72).

The Regional Office addresses the relationship between poverty and health as a cross-cutting theme in many activities. An example is the follow-up support provided to Member States as specified in World Health Assembly resolution 62.14 on reducing health inequities through action on the social determinants of health (73) and resolution EUR/RC52/R7 on poverty and health. This includes the production of evidence on health inequities and recommendations that can support an evidence-based, systematic and accountable approach to the full integration of social and economic determinants of health into their overall development strategies. The second is the work of the Regional Office on health financing policy, and in particular documentation of the extent to which

the need to make out-of-pocket payments for health care pushes people into poverty or is an obstacle to their use of necessary services. This analysis is used to identify the main “risk factors” for health-care-related impoverishment (or non-use of services) and to develop country-specific policy recommendations to address the problem (see also Box 7).

## Employment

The Commission on Social Determinants of Health provides clear evidence of the impact of employment conditions on health. Unemployment, unsafe working conditions and precarious work are associated with poorer health status (68). The International Labour Organization forecasts that global unemployment could increase by some 50 million owing to the economic downturn, with almost 8 million of this occurring in eastern European and central Asia (74). Data for the EU indicate a rise in the seasonally adjusted unemployment rate from 7.1% in September 2008 to 9.2% in September 2009 (75). When unemployment hits, the poor often have no accumulated savings or assets, and are the first to lose access to credit. Moreover, poor households predominantly supply unskilled labour, often in the informal sector where job losses are most immediate and severe given the lack of employment protection (76). Women’s lower participation in the labour market, lower pay and more precarious employment has an impact on the risk of falling into poverty. This risk increases for single parents, who in most cases are women (an at-risk-of-poverty rate of 32%), and for women over 65 (an at-risk-of-poverty rate of 21%, i.e. five points higher than for men) (77).

An increase in unemployment will be particularly negative in countries where a large number of households receive remittances, such as the Republic of Moldova and Tajikistan. For example, current simulations for Tajikistan suggest that an anticipated 30% decline in remittances could result in an increase of 5 percentage points in the number of people living in poverty (4,6). Migrant workers are more affected by any deterioration in labour market conditions. They have been among the first to lose their jobs, with unemployment levels among immigrants almost doubling in Ireland and Spain since the beginning of the crisis (78,79).

## Hunger

The number of undernourished people globally now stands at 1.02 billion (80). The food price crisis pushed an estimated 160–200 million people worldwide into extreme poverty between 2005 and 2008 (4). Estimates suggest that the food crisis has already caused the number of people suffering permanent damage from malnutrition to rise by 44 million (4). Progress towards other MDGs is undermined by undernourishment. For instance, malnutrition is the underlying contributing factor in over one third of all deaths of children aged under five (81). It also renders people more vulnerable to various causes of mortality and morbidity, including maternal mortality and that from HIV/AIDS, TB and malaria.

In the transition countries of central Asia, the rising cost of food and several consecutive years of poor harvests have weakened the buying power of many families. In Kyrgyzstan, for instance, 20% of the population, about 1 million people, are considered to be severely food-insecure. For these people, the proportion of spending on food increased sharply in 2008. High food prices are reversing recent progress made in reducing poverty levels. In Tajikistan, the situation is much the same: most poor families in both countries spend up to 80% of their income on food (82).

In the central Asian and Caucasus NIS, meeting the MDG 1 target of reducing hunger is now under threat. Already, the current rate of reduction in the prevalence of undernourished people has been insufficient to meet the target by 2015, and could be slowed even further (64). In fact, the United Nations Office for the Coordination of Humanitarian Affairs has reported that the nutritional level of rural Tajik children “has been deteriorating significantly”, with the percentage of children under the age of five classified as underweight for their height almost doubling to more than 10% between January and July 2009 (83).

Appropriate responses to food and nutritional insecurity include the provision of iron and folic acid supplements to all women during pregnancy and lactation in population groups where the prevalence of anaemia is above 20% among women of reproductive age and where mass fortification programmes of staple foods with iron and folic acid are unlikely to be implemented within 1–2 years (84). In addition, the promotion of exclusive breastfeeding for the first six months of life and continued breastfeeding and adequate and safe complementary feeding for up to two years of age

comprise an important component of responding to food and nutritional insecurity (85).

The Regional Office is assisting WHO headquarters in monitoring the prevalence of underweight children under five years of age in Member States through the WHO Global Database on Child Growth and Malnutrition. Other activities are carried out at country level, in support of national authorities and together with partners, to improve the nutritional status of infants and young children (e.g. the assessment of complementary feeding practices in Tajikistan and Uzbekistan).

Food insecurity not only affects countries in the eastern part of the European Region (86). Pockets of food poverty, defined as the inability to access a nutritionally adequate diet, also exist among disadvantaged groups in the western part of the Region. In 2006, an estimated 43 million people in the then 25 countries of the EU were at risk of food poverty. The percentage varied between about 2% in Denmark to 37% in Slovakia. Children from poor families are particularly vulnerable. Disadvantaged elderly people may also face an increased risk of suffering from malnutrition (87).

Another key challenge in the Region is the ability to provide sufficient healthy foodstuffs (including fresh fruit and vegetables) for the entire population at an affordable price. What people eat is strongly influenced by structural, social, organizational and financial considerations. In most countries of the Region, obesity is more common among socially deprived communities characterized by lower levels of income, education and access to care (86). For example, an unweighted crude estimate across 13 EU Member States suggests that over 20% of the obesity found among men and over 40% of that among women is attributable to inequalities in socioeconomic status. Obesity and overweight among children in Europe is also associated with the socioeconomic status of their parents, especially their mothers. Evidence suggests that food and nutritional insecurity and obesity can co-exist in the same communities and possibly in the same individuals (that is, instead of food- and nutrition-insecure people becoming thin they become overweight and poorly nourished). The relative cheapness of foods rich in fats and sugars compared with those rich in micronutrients, such as fresh fruit and vegetables, is a contributing factor (88).

#### **Box 7. Aspects of the unfinished health systems agenda – examples of activities to address poverty and hunger**

In the Tallinn Charter: Health Systems for Health and Wealth, Member States commit themselves to promote the shared values of solidarity, equity and participation through health policies, resource allocation and other actions, ensuring due attention is paid to the needs of the poor and other vulnerable groups. The Charter also affirms the belief that today it is unacceptable that people become poor as a result of ill-health.

In order to break the “poverty⇒ill-health⇒poverty” cycle and contribute to progress towards MDG 1, health systems are consolidating progress and attempting to further scale up action across all functions. Examples of actions where further investment is required include, but in no way are limited to: strengthening cross-sectoral mechanisms, particularly at primary health care level, for addressing poverty and social exclusion as determinants of health; improving information systems to monitor health inequities, as called for by Resolution WHA 62.14; increasing awareness among public and private health providers on how to take account of poverty and exclusion when delivering services; and achieving better distribution of funding according to people’s ability to pay, thus avoiding impoverishment as a consequence of ill-health or service usage. In addressing poverty and health, the following recommendation from the Commission on Social Determinants of Health is particularly salient: while cross-gradient universal approaches are required to effectively address social determinants of health and health inequities, they should be complemented by targeted measures for those groups who slip through the net due to specific vulnerabilities.

With regards to progress towards the MDG 1 target on reducing hunger, actions also span the health system functions. Areas where augmented action is required include, but are not limited to: adhering to the comprehensive criteria of the Baby-friendly Hospital Initiative; implementing and enforcement the international Code of Marketing of Breast-milk Substitutes; regular check-ups of under-fives to monitor their growth and development so that appropriate action can be taken, and counselling to mothers on safe and adequate infant and young child feeding; promoting the production of staple foods fortified with iron and folic acid; training primary health care nurses and doctors on infant and young child feeding counselling and including nutrition education in school curricula; implementing the Nutrition-friendly Schools Initiative; risk screening for undernutrition in all inpatient facilities; and funding of schemes for disadvantaged households to access healthy food commodities.

The European Charter on Counteracting Obesity, endorsed at the WHO European Ministerial Conference on Counteracting Obesity in November 2006, highlights the critical need to support lower socioeconomic groups who face more constraints and limitations on making healthy choices. The Charter calls for priority attention to be paid to increasing the access to and affordability of healthy choices (89).

## MDG 2 – Achieve universal primary education

The MDG 2 target is to ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling. In the developing world as a whole, enrolment coverage in primary education reached 88% in 2007 (90). Populations living in poverty and ethnic, linguistic and religious minorities have fewer opportunities in education than the overall population. An analysis of survey data from 17 countries globally shows that net attendance rates among the least disadvantaged groups are up to 1.7 times higher than those among the most disadvantaged at the primary level of education, and are up to six times higher at the secondary level of education (64). The financial crisis could worsen the situation of vulnerable households, as it may cause them to postpone education or withdraw children from school, which reinforces poverty (76).

In the European Region, which generally has a high enrolment coverage, certain areas and populations still face challenges. In the NIS countries, the net enrolment ratio in primary education went from 90 in 1991 to only 93.3 in 2006. For the group of central Asian and Caucasus NIS countries, the pace of progress in primary school enrolment is not sufficient to meet the target of universal primary education by 2015 (64). Throughout the Region, and reflecting global trends, disadvantaged groups have worse attendance rates. For instance, the EU's Roma population faces persistent disadvantages in education, including low school attendance, very high rates of early school leaving and very low enrolment in higher education (91).

The final report of the Commission on Social Determinants of Health (68) calls for the need to address education as a determinant of health, particularly given the importance of education in securing other determinants such as occupation, income and social inclusion. There is significant evidence of health inequities between people with higher and lower educational levels across the Region. For example, a comparative study of eight western European populations in the 1990s found that the excess risk of mortality in people with lower education, compared to those with higher education, ranged between 22% and 43% in men and between 20% and 32% in women (92).

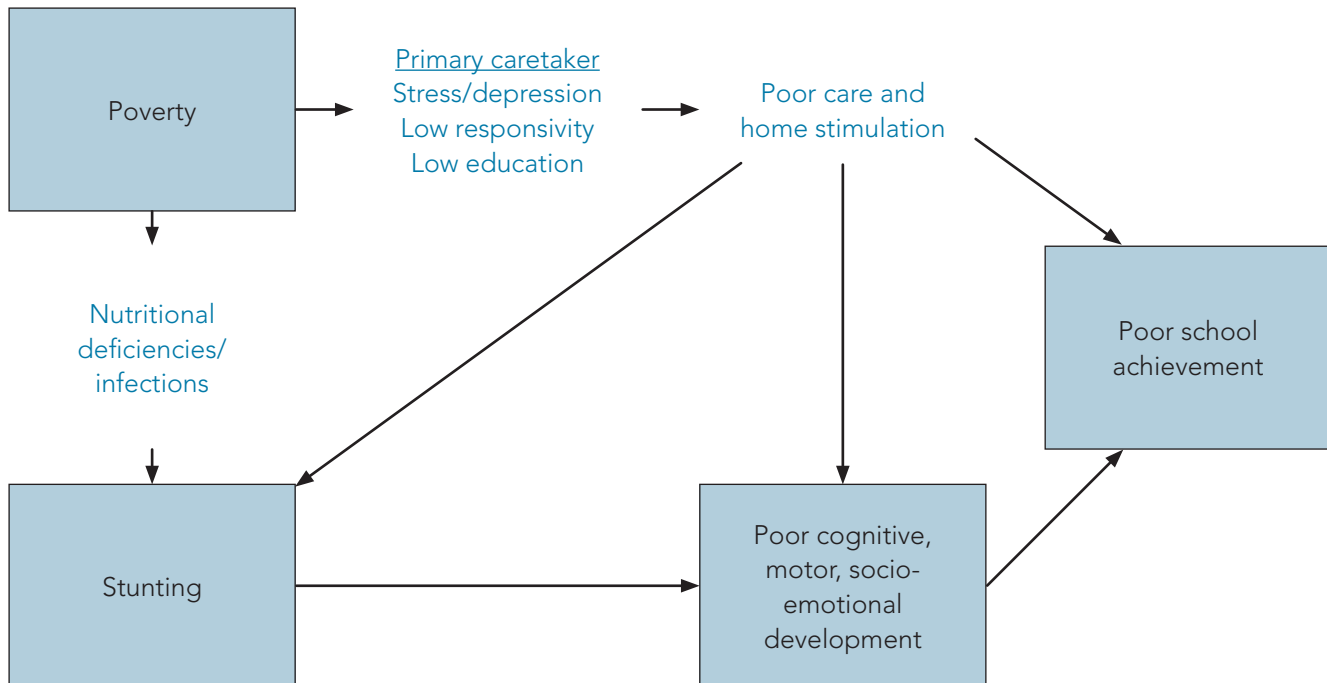
Improving early childhood development contributes to reaching MDG 2 on education and MDG 1 on extreme poverty and hunger. Globally, at least 200 million children under five fail to reach their potential in cognitive and socio-emotional development because of four causes: malnutrition that leads to stunting, iodine deficiency, iron deficiency and inadequate stimulation in the first five years of life. Early cognitive and socio-emotional development are determinants of school progress, as shown in Fig. 4. Both stunting and poverty are associated with reduced years of schooling. Early childhood development (ECD) programmes are designed to improve the survival, growth and development of young children, prevent the occurrence of risks and ameliorate the negative effects of risks (93). ECD programmes should comprise, but not be limited to:

- breastfeeding and nutritional support
- comprehensive support to and care of mothers before, during and after pregnancy
- parenting and caregiver support
- child care
- early education, starting around three years of age
- services for children with special needs (68,94).

Although ECD programmes involve a range of family support, health, nutrition or education systems and services, the health system has a particularly pivotal role to play. It is often the point of early contact with a child and can serve as a gateway to other early childhood services. Health professionals are trusted sources of information for families and can give critical guidance about:

how to communicate with infants and children; ways to stimulate children for better growth; how to handle such common developmental problems as sleep, feeding and discipline; and ways to reduce common childhood injuries (94).

**Fig. 4.** Hypothesized relationships between poverty, stunting, child development and school achievement



Source: Grantham-McGregor S et al. (93). Reprinted from *The Lancet* with the permission of Elsevier.

The extensive scientific review *A critical link: interventions for physical growth and psychological development* (95) provides evidence of the relationship between nutritional status and psychological development, and demonstrates the potential of combining interventions that enhance early childhood development and those that improve child health and nutrition in an integrated model of care. The IMCI Care for Development counselling course combines both approaches and aims to improve child feeding and development. Since 2003, the Regional Office has provided technical assistance to eight countries in adapting and building capacity in the IMCI Care for Development counselling course and guidelines.

Progress towards MDG 2, besides addressing education as a determinant of health, also has benefits for the health system in that schools are an important means of reaching children and adolescents with health services and knowledge. For instance, educational settings at primary, secondary and tertiary levels are important venues for building health literacy. Health literacy refers to a person's capacity to obtain health information, process it and act on it. Health literacy skills include basic reading, writing, numeracy and the ability to communicate, as well as functional abilities to recognize risks to health, take health-related decisions, navigate the health system and engage in community processes that can influence health (96).

Schools are also key settings for health promotion, which includes actions to build health literacy but also entails a whole-school approach, addressing aspects such as: the social and physical environment of the school, staff development, provision of school lunches, provision of exercise programmes, and the school's social atmosphere. The Dutch Institute for Health Promotion and Disease Prevention, a WHO collaborating centre, hosts the Schools for Health in Europe network, in which 43 Member States are members. In each member country, a national coordinator officially appointed by the ministries concerned with education and with health expresses the links of the programme to national public health and educational policies (97).



## MDG 3 – Promote gender equality and empower women

The MDG 3 target aims at eliminating gender disparities in primary and secondary education, preferably by 2005, and in all levels of education by no later than 2015. Indicators for monitoring progress are: ratios of girls to boys in primary, secondary and tertiary education; the proportion of women in paid employment in the non-agricultural sector; and the proportion of seats held by women in the national parliament (7). Combining primary and secondary education for some countries masks gender bias at either the primary or secondary level of education. Also assessments of progress often do not take into account male under-enrolment, which is of concern in many countries, especially at the secondary level. The methodology for assessing this target is currently being revised (4). In addition to being important goals themselves, achieving gender equality and empowering women are linked to progress on all MDGs.

In the European Region, prospects of meeting MDG 3 are better than those in other regions of the world. However, there is evidence that some countries require greater investment to improve the ratio of females to males at various educational levels. In the European Region in 2007, the lowest ratios of females to males in primary education were in Bosnia and Herzegovina (0.93) and Turkey (0.95). For secondary education, the lowest ratios were in Turkey (0.82) and Tajikistan (0.84). The countries with the lowest ratios of females to males in tertiary education were Tajikistan (0.38), Uzbekistan (0.71), and Turkey (0.76) (7). When viewed as a whole, the NIS countries have already reached gender parity in primary, secondary and tertiary education (1). As highlighted in the section on MDG 4 above, the educational level of the mother influences the probability of a child dying under the age of five. Her educational level can also influence other types of health behaviour and outcome at household level.

On a global level, women are largely absent from the highest levels of government. Only 16% of the world's ministerial positions were held by women in January 2008. There have been positive developments in most EU countries over the last decade, but progress is slow and overall figures remain low. The average proportion of women members of national parliaments increased from 16% to 24% between 1997 and 2008, but national figures range from 9% to 46%. Nordic parliaments continue to be more advanced than those of other countries, with more than 41% female representation on average. In the NIS, the proportion of seats held by women in national parliaments rose from 6.2% in 1997 to 13.9% in 2008 (1,2,77).

Across the European Region, women still work part-time more than men, they predominate in less-valued jobs and sectors, they are on average paid less than men and they occupy fewer positions of responsibility. As such, they are often deprived of job security and benefits. The current financial crisis and economic slowdown is likely to affect women more than men, because women are more often in precarious jobs. Even for equivalent work, women worldwide are paid 20–30% less than men (1,68,77).

In the EU, gender segregation in the labour market contributes to the persistent gender pay gap (17.4% on average). Because women are more likely to work part-time and interrupt their career for family reasons, they are likely to face negative consequences in terms of pay, career advancement and accumulated pension rights (77).

As women live longer than men on average, they represent a growing proportion of all older people. Pension and tax reform, access to formal employment with its associated pension and social protection, and access to residential and community care can help meet the needs of older women (39).

### Gender-linked health inequities

Women's typically longer lives are not necessarily healthier lives (39). In both high- and low-income countries, there is evidence of higher rates of illness among women, indicating that women's potential for greater longevity rarely results in their being or feeling healthier than men during their lifetimes (98). Women can face greater challenges in getting the services that they need, and inequities in education, income and employment can limit the ability of girls and women to protect their health (39).

Globally, gender inequities affect health through their influence on key determinants (such as education, employment and income); violence against women; discriminatory feeding patterns;

risk-taking behaviour; exposure to risks and health-seeking behaviour; and lack of decision-making power over one's own health (68). Women have less wealth and property in almost all societies, yet bear higher burdens in the "economy of care" for the young and old. Child care responsibilities represent the single most important barrier to participation of women in the paid labour market (68). Where women do increasingly enter the labour market, they continue to bear unequal burdens for child care and unpaid work in the household (68). This double burden has implications for women's health, both their occupational health and the consequences of insufficient rest and leisure (68).

Within the health sector, gender power relations translate into: differential access to and control over health resources within and outside families; unequal divisions of labour and benefits in formal, informal and home-based parts of the health care system; and gender bias in the content and process of health research (68). Both within and outside the health sector, gender inequity means reduced voice, decision-making power, authority and recognition for women relative to men (68). Gender power relations affect all health system functions; for instance, gender equity is relevant to health care financing, given that women's financial ability to pay for services and social entitlements is, in general, lower than that of men (99).

In health, gender norms and values may also have a negative impact on men's health, which is translated into risk-taking behaviour (substance abuse, traffic accidents, violence, unhealthy eating) and negative health-seeking behaviour patterns (Box 8).

The Regional Office works to achieve greater gender equality in health as a cross-cutting issue. Within the context of strengthening health systems, and following the WHO strategy to integrate gender analysis and actions in the work of WHO and World Health Assembly resolution 60.25, the Office works to support Member States by:

- assisting in integrating gender as a determinant of health into health policies;
- promoting the use of sex-disaggregated data and gender analysis;
- building capacity in countries to develop gender-responsive policies and services; and
- building a knowledge base on how gender inequalities and inequities affect health outcomes.

#### **Box 8. Aspects of the unfinished health systems agenda – Gender equality**

Gender equality largely remains at the principles and value levels of health policies in the European Region; there is a need to further translate this commitment into concrete measures. Health system action towards this end must cut across functions and levels.

For example, under *stewardship*, there is a need to increase awareness among policy makers on how addressing gender improves the impact of policies and programmes. Moreover, a sustained focus is required to ensure that health information systems provide sex-disaggregated data that allows for a proper gender analysis of inequities and inequalities. Health research must systematically incorporate attention to sex and gender in design, analysis and interpretation of findings. Ensuring that women have equal opportunities within the health system (e.g. in terms of equal representation in executive and management-level positions) is important.

In *service delivery*, gender considerations need to be increasingly addressed to ensure the equal availability, quality and responsiveness of services for women and men. There is a need to scale up progress increasing access to services that could make a difference to women's health; these include services related to female reproductive health, as well as services including mental health, sexual violence and cervical cancer screening. There is a need for increased recognition of the role of many women who provide informal health-care at home and in the community.

Under *resource generation*, capacity building of health professionals is a strategic step to make this possible. The gendered division of labour in the health sector workforce affects career development, access to benefits, and participation in decision-making bodies and other opportunities. The burden of the informal care on women and its consequences for their access and participation in the labour market needs to be part of the human resources for health agenda.

With regards to *financing*, there is evidence of a disproportionate impact of out-of-pocket payments on women's access to health services. How health financing mechanisms interact with and reinforce gender inequities is an area that requires further attention. Relevant to addressing gender considerations across all health system functions, the interactions between gender and determinants of health such as poverty and education also require further attention.

## MDG 7 – Ensure environmental responsibility

MDG 7, while being dedicated to ensuring environmental responsibility, has a fundamental role in safeguarding human health and survival. The targets for MDG 7 comprise: 7.A – to integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources; 7.B – to achieve, by 2010, a significant reduction in the rate of loss of biodiversity; 7.C – to halve, by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation; and 7.D – to achieve, by 2020, a significant improvement in the lives of at least 100 million slum dwellers (7). Progress towards MDG 7 supports progress towards other MDGs, such as MDG 4 (particularly with reference to preventing and reducing diarrhoeal diseases as a leading cause of child mortality) and MDG 6 (such as regarding the potential threat posed by climate change to the spatial distribution of malaria).

### Climate change

Climate change is primarily addressed by target 7.A on integrating the principles of sustainable development into country policies and programmes and reversing the loss of environmental resources. Related indicators include 7.2 on carbon dioxide emissions, total, per capita and per US\$ 1 GDP (PPP) and 7.3 on the consumption of ozone-depleting substances.

*Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level. The temperature increase is widespread over the globe and is greater at higher northern latitudes (100).*

– Intergovernmental Panel on Climate Change

Wide-ranging impacts of climate change have been documented in the European Region. Over 1000 extreme weather events have occurred in the Region in the past three decades. One of the most memorable was the heatwave that hit Europe in the summer of 2003, causing some 70 000 deaths (101). Climate change increases the frequency and severity of these events. Projections for the European Region include increased risk of heatwaves, inland flash floods, more frequent coastal flooding and increased erosion, increased permafrost melting in the north, retreating glaciers and extensive species loss in mountainous areas, droughts and high temperatures in the southern part of the Region and central Asia, reduced water availability and hydropower potential, and reduced crop productivity (100, 102).

The health risks posed by climate change are significant, difficult to reverse, and distributed around the world. Globally, the health status of millions of people is projected to be affected through, for example, effects on food security and increases in undernutrition and micronutrient deficiencies; increased deaths, diseases and injury due to extreme weather events; increased risk of waterborne and foodborne diseases and greater burden of diarrhoeal diseases; increased frequency of cardiorespiratory diseases due to higher concentrations of ground-level ozone in urban areas; and further changes in the range of vector- and rodent-borne diseases, resulting in altered spatial distribution of some infectious diseases. Critically important will be the impact of climate change on contextual factors that shape the health of populations, such as education, health care, public health initiatives, displacement and mobility, and infrastructure and economic development (103). Several health impact assessments of climate change conducted at subregional and national levels in the Region have suggesting impacts, including those listed above.

Globally, those at the greatest risk of adverse health effects associated with climate change include the very young, the elderly and the medically infirm. Socioeconomically disadvantaged groups and areas where infrastructure and/or social (including health) services are weak will have most difficulty adapting to climate change and related health hazards (104). Children are more vulnerable because of their physiological and cognitive immaturity and their greater potential for long-term exposure.

Reducing greenhouse gas emissions (mitigation) can have direct and immediate health, environmental and economic benefits. Employing cleaner fuels and shifting to more active transport (walking and cycling), for example, will lower carbon emissions, increase physical activity, reduce traffic-related casualties and result in less air pollution and noise. Estimated direct and indirect health care costs and lost income due to several environmental illnesses (e.g. those caused

by air pollution)<sup>15</sup> often match or exceed the expenditure needed to tackle the environmental hazard itself (104). The net economic costs of damages from climate change for 2005 have been estimated to be an average of US\$ 12 per tonne of carbon dioxide.

To protect health from current and future climate-related risks, health systems need to be able to respond through areas including – but not limited to – strong disease surveillance, disaster preparedness, food hygiene and inspection, and primary health care. Health systems will need to assess potential climate-related health impacts, review existing capacities for addressing them, and strengthen their functions where needed. This may include the review and updating of legislation and the reinforced application of international and European instruments, including the International Health Regulations, the Protocol on Water and Health, the Convention on Long-range Transboundary Air Pollution, and non-binding instruments such as CEHAPE.

Health-system leaders can use their knowledge and authority to inform and influence action in key national and international processes that guide policy and allocate resources for work on climate change. Health authorities can engage in assessing the implications for health of decisions taken in other sectors, such as urban planning, transport, energy supply, food production, land use and water resources. In this way, they can provide evidence for decision-making that can be better for health and support MDG 7 efforts to address climate change and ensure environmental responsibility (104). Protecting health from climate change will also require the health sector to look for ways to make its own actions more environmentally sustainable.

The Regional Office contributes to the implementation of the global workplan on climate change and health (106), which aims to support health systems in Member States to enhance capacity for assessing and monitoring health vulnerability, risks and impacts due to climate change; to identify strategies and actions to protect human health, particularly of the most vulnerable groups; and to share knowledge and good practices (Box 9). These activities build on the Regional Office's years of experience in generating scientific evidence, engaging in partnerships, and providing technical assistance to Member States for strengthening health systems to cope with health threats posed by climate change (including emergencies related to extreme weather events).

#### **Box 9. European environment and health ministerial process – a tool for MDG 7**

The WHO Regional Office for Europe and its partners launched the environment and health process in 1989 to facilitate an accelerated scaling-up of action on the most significant environmental threats to health. The major policy outcome was the European Charter on Environment and Health, in which ministers agreed on the basic principles, mechanisms and priorities for environment and health programmes; established the WHO European Centre for Environment and Health; and agreed to hold a follow-up conference in five years. In 1994, health and environment ministers reviewed a comprehensive assessment of the situation in Europe and called for the development of national environment and health action plans. In 1999, the ministers adopted the legally binding Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes; the Charter on Transport, Environment and Health; and the London Declaration to further the work of the European Environment and Health Committee. They also recommended the establishment of a Europe-wide interagency network for monitoring, researching and reviewing the early effects on human health of climate change. In 2004, ministers launched CEHAPE and committed to a proactive multidisciplinary approach and improved interaction on all levels and by all relevant stakeholders to deal with climate change and extreme weather events. The next milestone in this process is the Fifth Ministerial Conference on Environment and Health, in Parma in March 2010. The Conference will keep the focus on children and address other global environmental health issues of increasing concern, such as climate change, inequalities and inequities in exposure to environmental risk factors, and the influence of socioeconomic factors and gender on environmental exposure (<http://www.euro.who.int/parma2010>).

<sup>15</sup> Outdoor and indoor air pollution are important determinants of health in the European Region. They increase mortality from cardiovascular and respiratory diseases and reduce life expectancy. In the past two decades, significant progress has been made in reducing emissions of some air pollutants, mostly through improvements to industrial and energy production processes and increased energy efficiency and fuel quality. Nevertheless, nearly 90% of residents of urban areas are still exposed to air pollution concentrations exceeding WHO guideline levels (105).

In cooperation with the German Federal Ministry of Environment, Nature Conservation and Nuclear Safety and the European Commission, the Regional Office is involved in various initiatives in the eastern and southern parts of the Region to protect health from climate change. Participating countries are: working to build capacity through national training workshops and stakeholder involvement; carrying out national impact, vulnerability and adaptation assessments; developing cross-government or health-system-specific adaptation plans; and strengthening early warning capabilities for extreme events. These initiatives are contributing to implementing World Health Assembly resolution 61.19 on climate change and health. Preliminary results will be presented at the Fifth Ministerial Conference on Environment and Health, in Parma, Italy in 2010.

## Water and sanitation

MDG target 7.C calls for halving, by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation. Progress towards target 7.C is monitored by two indicators: the proportion of the population using an improved source of drinking-water; and the proportion of the population using an improved sanitation facility (7). Monitoring of the two indicators is entrusted to the WHO/UNICEF Joint Monitoring Programme, the official arrangement within the United Nations system to produce information for the United Nations Secretary-General on progress towards MDG targets on water supply and sanitation.

The most recent (2008) report of the Joint Monitoring Programme estimated that, in the European Region, almost 140 million people (16% of the population) did not have a household connection to a drinking-water supply; 85 million (10%) did not have improved sanitation; and over 41 million (5%) lacked access to a safe drinking-water supply (107). There are significant inequities within and between countries. For instance, data from the report suggest that the lower a country ranks in terms of health, education and economic development, the less likely it is to achieve universal access to safe water, particularly for the rural population (107).

Comparing the 2008 data with that from 1990, it appears that – in some countries in the eastern part of the Region – progress towards target 7.C has stagnated or indeed been reversed. For instance, for the NIS countries, sanitation coverage declined from 90% in 1990 to 89% in 2006 and drinking-water coverage improved by only one percentage point (from 93% to 94%) during the same period (107). WHO, together with other interested parties, is currently undertaking new initiatives to assist Member States in making extra efforts to achieve the MDG target.

Access in and by itself does not guarantee safety of the water supply. Operation and maintenance of the production and distribution network are key preconditions for water that complies with the WHO guidelines for drinking-water quality. The mandatory monitoring reports instituted under Council Directive 98/83/EC (the EU's so-called "Drinking Water Directive") show that this can remain a challenge in EU countries (108). Erratic, inefficient and deteriorated (e.g. damaged pipes and lack of maintenance) water supply systems are still found in many countries of the European Region, especially in the eastern part. These deliver water with a much higher level of microbial non-compliance than in the western part of the Region.

Centralized, piped water supply systems are not the only means by which European citizens get their water. While urban centres rely on such reticulated systems, other areas, particularly remote rural areas, rely on small-scale water supply systems. The consensus statement adopted at the WHO workshop on "Water safety in small-scale water supplies in the European Region: common challenges and needs" (Bad Elster, Germany, November 2008) recognizes the evidence pointing to elevated risk of water-related disease in small scale water supplies (109).

Small-scale water supply systems are important for gender equity in water supply and sanitation. Women and girls in rural areas carry the main responsibility for fetching water, treatment and storage, and general water use in the house. Involvement of all stakeholders, including women, is a cornerstone of the integrated water resources management approach, which calls for the creation of active and meaningful participation of both women and men in negotiation teams, decision-making processes and leadership structures. Such measures are important to ensure that basic services, particularly sanitation, are provided in a gender-sensitive and culturally appropriate manner so that they do not form a hindrance to important development activities such as school attendance (110).

Return on investments in the water and sanitation sector are considerable in terms of disease and death averted (111). Nevertheless, required investments are significant in absolute terms and there is evidence of a need for improved careful governance. For example, in 2005, the World Bank was forced to take anti-corruption action in water supply in one of the Member States of the WHO European Region (112). Continuous vigilance of investment in the water and sanitation sector remains vital to ensure the health of the population at the greatest possible level of economic efficiency.

Economic accessibility of water is a major challenge in all countries of the European Region, although geographical differences are apparent. First, whereas in the NIS countries housing, water and energy accounted for 11.1% of family expenditure in 2005, in the 27 EU countries it accounted for 21.7% (113). Second, as stated in the section of this report that looks at progress towards MDG 1, in the EU in 2006, 16% of people had an equivalized disposable income below 60% of the national median for the country they lived in, and in the hypothetical absence of all social transfers the poverty risk would have been much higher, at 43% (113). Disadvantaged populations can be forced to choose between paying the water and electricity bill and paying to cover basic needs.

In the current economic crisis, ensuring economic accessibility of water is essential. An example of a government intervention tackling this issue can be taken from France. The Law of 13 August 2005 concerning freedoms and local responsibilities (Loi relative aux libertés et responsabilités locales) recognizes the right of persons to receive aid from the community for access to decent and independent housing, and for the supply of water, energy and telephone services to the home. The Housing Solidarity Fund (Fonds de solidarité pour le logement) is charged with assisting people who can no longer pay for their water supply. Another example can be taken from Belgium. On 19 April 2005, the Belgian Government adopted a "water resolution" recognizing access to safe water as a human right that should be included in the Belgian Constitution. Belgium is one of the few countries to date that is officially recognized as implementing the right to access to water (114,115). In collaboration with the United Nations Economic Commission for Europe (UNECE) and under the leadership of France supported by Belgium and Switzerland, WHO is exploring ways to reduce financial barriers to access to safe drinking-water within the framework of the Protocol on Water and Health.

Together with other preventive services, water supply and sewerage have been responsible for 30 of the 35 years of life gained since the end of the nineteenth century in industrialized countries (116). National reports submitted annually to the Regional Office's centralized information system for infectious diseases (CISID) on the incidence of water-related diseases such as viral hepatitis A indicate that tens of thousands of Europeans suffer the consequences of a lack of safe water. Emerging diseases such as cryptosporidiosis, giardiasis; campylobacteriosis and legionellosis are showing a marked increase, thus revealing the new challenges facing water services in supplying safe water (15).

The European Region covers countries bordering the Mediterranean Sea, which, together with parts of central and eastern Europe, have been identified as most prone to increased risk of drought and where the highest increase in irrigation water demand can be expected. The area is already affected by severe water stress (withdrawal/availability higher than 40%), which will be likely to increase and lead to increasing competition for available water resources (117). These projections are of concern for health protection in the Mediterranean area, where universal access has not yet been achieved (118). One important adaptation strategy will be to meet the projected increased demand for irrigation water with hitherto unused resources, provided this can be done in a way that protects human health. Under the Barcelona Convention, WHO, in collaboration with the United Nations Environment Programme, is responding by providing training to all Mediterranean countries on the implementation of the WHO guidelines for the safe use of wastewater, excreta and greywater (119). This will enable countries to adapt to reusing treated wastewater for irrigation in an environmentally safe manner while protecting human health.

Irrespective of the impact of climate change on water quantity, health professionals should also be concerned with projected changes in quality. Warmer temperatures will impair water quality, and dealing with polluted water has a high cost even for water utilities in developed countries. In parallel, higher precipitation may affect the performance of sewerage systems; uncontrolled increases in water volume may introduce microbial and chemical pollutants to water resources that are difficult to handle through the use of conventional drinking-water treatment methods (119). WHO, in cooperation with UNECE and with the support of the Italian Government, is supporting efforts by the Parties to the Protocol on Water and Health to develop guidance documents on the

management of water and sanitation services under extreme weather conditions.

The Regional Office supports the efforts of national governments to introduce and monitor water safety plans, to establish in-house water treatment, and to network small-scale water supply systems (Box 10). Under the Protocol on Water and Health, now ratified by 23 of the countries of the European Region and in force since 2005, WHO supports the efforts of Parties to set targets and report on progress, specifically with regard to access to water and sanitation, the quality of drinking-water and the performance of sanitation and sewerage services. Within the framework of the International Health Regulations (2005), WHO cooperates in assessing national surveillance systems and their progressive strengthening. Water and sanitation have been identified as key elements of climate adaptation by the Secretary-General of the United Nations, and WHO is responding by drafting guidelines on water and sanitation services in extreme weather conditions.

**Box 10. Aspects of the unfinished health systems agenda – examples of activities to ensure sustainable access to safe drinking-water and basic sanitation**

Water supply and sanitation services form an essential component of non-personal health services, as defined in the Tallinn Charter. As the responsibility to provide adequate infrastructure and correct operation of water supply and sewage systems frequently falls on environment and municipal authorities, health ministries have an important role to play in influencing policies and actions in integrated water resources management that ultimately affect people's health and well-being.

Effective *stewardship* includes ensuring water safety controls and compliance with drinking-water quality guidelines and norms, providing surveillance for waterborne diseases, and advocating that cost-recovery for the production and distribution of safe water and the provision of basic sanitation – including wastewater treatment – does not become an insurmountable burden to poor households.

With regards to *service delivery and financing*, special emphasis should be placed on ensuring access to appropriately equipped and staffed health services by poor and socially vulnerable populations in rural areas of eastern Europe, where access to safe water and basic sanitation is lowest. In some countries of the Region, the quality of the water supply and sanitation inside health establishments is below standard and should be improved as a matter of priority.

*Resource generation* priorities include ensuring that the necessary investment is made in physical infrastructures, but also that investment is made in maintaining the technical competence and productivity of staff through continuous education and training to face emerging health threats associated with climate change.

## MDG 8 – Develop a global partnership for development

MDG 8 aims to facilitate a global partnership for development. Its six targets cover: 8.A – to develop further an open, rule-based, predictable, non-discriminatory trading and financial system; 8.B – to address the special needs of the least developed countries; 8.C – to address the special needs of landlocked developing countries and small island developing states; 8.D – to deal comprehensively with the debt problems of developing countries; 8.E – in cooperation with pharmaceutical companies, to provide access to affordable essential drugs in developing countries; and 8.F – in cooperation with the private sector, to make available the benefits of new technologies, especially information and communications (7). The United Nations MDG Gap Task Force Report 2008 (3) reveals that delivery on commitments in the areas of trade, ODA, external debt, essential medicines and technology has been insufficient and fallen behind schedule.

Of particular relevance for health is progress towards indicators 8.2 and 8.13 on, respectively:

- the proportion of total bilateral, sector-allocable ODA of the OECD's DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation); and
- the proportion of the population with access to affordable essential medicines on a sustainable basis (7).

## ODA

In 2008, net disbursements of ODA were US\$ 119.8 billion, the highest dollar figure ever recorded and equivalent to 0.3% of the combined national income of developed countries. Nevertheless, total aid remains well below the target of 0.7% of gross national income. The only countries to reach or exceed the United Nations target in 2008 were in the European Region (Denmark, Luxembourg, the Netherlands, Norway and Sweden). The largest donors that year were, in order of amount, the United States, Germany, the United Kingdom, France and Japan. For the 15 EU member countries of the OECD's DAC, combined net ODA rose by 8.6% in real terms from 2007 to 2008, reaching US\$ 70.2 billion. This represents 59% of all DAC ODA. As a share of gross national income, net ODA from EU members of DAC rose to 0.42% (64). While DAC countries still provide the majority of global ODA (in excess of 90%), flows from other donors – including non-DAC donor countries and nongovernmental donors – are increasing (3). Particularly in some countries in the eastern part of the Region, contributions from non-DAC donor countries and nongovernmental donors are substantial (120) and now account for a larger share of total ODA.

Globally, between 2001 and 2006, ODA for health more than doubled from US\$ 5.6 billion to US\$ 13.8 billion per year. Resources to address HIV/AIDS, TB and malaria accounted for much of the increase. Between 2002 and 2006, almost a third (32%) of ODA for health was for HIV/AIDS, mostly through the main global health initiatives. In 2007, investment through these initiatives accounted for two thirds of all external funding for HIV/AIDS, 57% for TB and 60% for malaria. Analyses suggest that allocation of ODA for health through global health initiatives has contributed to an increase in overall funding for health at global level. That is, these funds have not been diverted from other health needs but represent additional funding (121). Nevertheless, there remains an urgent need to mobilize additional resources through existing and innovative means to accelerate and maintain health system strengthening, including disease-specific work. Chronic weaknesses of health systems are threatening the sustainability of, and limiting the scaling-up supported by, global health initiatives. Weak systems can be further undermined by the pressures involved in facilitating these disease-specific efforts. The importance of synergistically advancing health system strengthening and the work of global health initiatives is recognized in the concluding statement of a high-level dialogue on maximizing positive synergies between health systems and global health initiatives, held in Venice in June 2009 (122).

Globally, in the health sector, there are more than 40 bilateral donors and 90 global initiatives. This poses risks of fragmentation and reduced effectiveness of aid. Only about 20% of health aid is given to support the sectoral priorities of government. Most aid is earmarked for specific purposes (3).

In the European Region and globally, improving aid effectiveness in accordance with the Paris Declaration on Aid Effectiveness is a priority, as supported by WHO Regional Committee for Europe resolution EUR/RC58/R4 on stewardship/governance of health systems in the WHO European Region (123). Donors, including emerging donors, and recipient governments need to further accelerate progress towards the Paris Declaration commitments, as well as improve dialogue with non-DAC donors regarding adherence to these principles. The Accra Agenda for Action, approved in September 2008, provides a framework and action plan for recipient country leadership, the use of country procurement systems, harmonization of procedures, building of effective partnerships among donors, mutual accountability and other aspects of aid effectiveness such as predictability and timeliness. A European Commission study on potential costs of ineffective aid and savings benefits estimates that efficiency gains of up to €3–6 billion per year could be made as the EU implements the Accra Agenda for Action (124). Improving effective use of resources is particularly important in times of crisis and related budget constraints (4, 125).

Some countries and donors in the European Region have initiated processes to improve aid effectiveness, as exemplified in Box 11.

The untying of aid and reducing aid volatility are key elements in making development cooperation more effective. Since 2000, there has been a substantial increase in the amount of untied resources delivered to countries, reaching 95% of global bilateral aid in 2006 (3). Aid volatility reduces the capacity of recipient governments to plan expenditure, and is adversely associated with health outcomes. Econometric analysis of child mortality across 75 developing countries worldwide between 1995 and 2000 found that, "both low levels [of aid] and high volatility of donor funding for health explained the relatively slow progress of some countries in reducing under-five mortality" (68).



### Box 11. Tajikistan's Joint Country Partnership Strategy

Since 2007 in Tajikistan, efforts have been under way to create a Joint Country Partnership Strategy. The Strategy aims to provide a framework for development partners working together with the Government of Tajikistan to improve the effectiveness of aid, in line with the Government's strategies to reduce poverty, achieve the MDGs and enhance economic growth. The United Kingdom's Department for International Development, the European Commission, Switzerland and the World Bank began work in 2007 and were later joined by the Asian Development Bank, the European Bank for Reconstruction and Development, Germany, Sweden, the United Nations Development Programme, UNICEF, WHO, the United States Agency for International Development and the Aga Khan Development Network. Together, these partners contributed an estimated three quarters of the total aid to Tajikistan between 1991 and 2006.

In early 2009, and responding to challenges posed by the financial crisis, it was decided that the further elaboration of the Strategy would take place in two stages. The first is dedicated to fostering a common understanding of the country's development challenges and risks, a shared perception of and agreement on the principles and modalities of coordination aligned with the Paris Declaration, and a joint approach to risks. The second is to address the issues, programmes and result benchmarks in specific sectoral and thematic areas. During its evolution, the process has drawn on experiences in improving aid effectiveness at sector level, including the health and education sectors. The strategy will address health and social protection as well as agriculture, energy, transport, education, public sector governance, private sector development, financial sector development, and human rights and the rule of law (120).

Scaling up progress towards MDG target 8.A will require increased endorsement and application of the principles of good governance,<sup>16</sup> including those set forth in the United Nations Convention against Corruption. The United Nations Office on Drugs and Crime has advocated that the rule of law is a means of achieving all eight MDGs (68,126). Responsibility towards this end lies with the global community, multinational corporations, domestic firms and national leaders at all levels, including within the health sector. The World Bank suggests that there is a "400% governance dividend" of good governance and corruption control: countries that improve on control of corruption and rule of law can expect (on average), in the long run, a four-fold increase in income per capita. Similarly, such countries could expect, on average, a 75% reduction in child mortality (127). The quality of governance mediates the effectiveness of health expenditure in promoting health outcomes: studies have shown that the greater the quality of governance, the more effective health expenditure is in affecting health outcomes (71).

With regards to ODA for health in the European Region, past comparisons of that received in countries in central and eastern Europe and the NIS with that received by other countries with similar levels of need show that the level and share are far below what might be expected (128). Less attention to noncommunicable diseases in health targets, for example in the MDGs, may be one of the reasons for this (71). At the April 2009 WHO meeting in Oslo on health in times of global economic crisis: implications and recommendations for the WHO European Region (129), a key recommendation was to increase official development assistance in order to protect the health of the Region's most vulnerable populations.

### Essential medicines

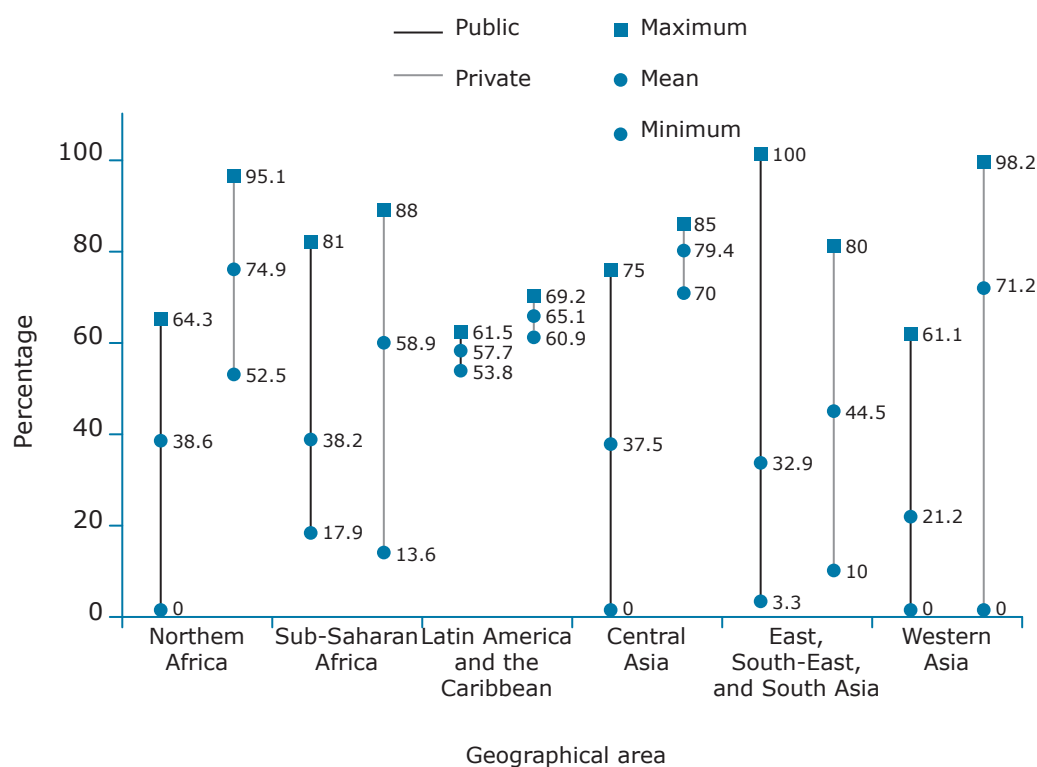
Essential medicines are those that satisfy the health care needs of the majority of the population. They should be available at all times in adequate amounts and in the appropriate dosage forms, and at a price that individuals and the community can afford. Lack of access to essential medicines is a major concern for many transition countries in the European Region. All NIS and central and eastern European countries have regularly updated lists of essential medicines or reimbursement lists. These are often revised with support from the Regional Office, with recommendations based on WHO standards and guidance. Moreover, strengthening medicine supply and reimbursement systems, improving the regulation of medicines and broadly enhancing evidence-based approaches to support appropriate prescribing and use of medicines are required to increase access.

<sup>16</sup> Governance refers to the processes by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them. This definition comprises the six dimensions of governance monitored by the Worldwide Governance Indicators research project: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption (130).

Availability of essential medicines in health facilities in the transition countries in the European Region remains difficult and varies considerably. Evidence of this for the central Asian republics is contained in the United Nations MDG Gap Task Force Report 2008 (3). Fig. 5, taken from the report, describes the availability of selected medicines in public and private health facilities in the central Asian republics between 2001 and 2007, compared with other groupings of low- and middle-income countries (3).

Increasingly, countries in the European Region are using the WHO methodology for measuring medicine prices and availability in order to monitor access to medicines. Countries have also made progress in regulating and reducing medicine prices through generic competition policies and by reducing taxes and distribution costs. Surveys during 2001–2006 in the central Asian republics indicate that the ratio of consumer prices to international reference prices (consumer price ratio) for selected generic medicines in public and private health facilities compares favourably with that of other groupings of low- and middle-income countries (3).

**Fig. 5.** Availability of selected medicines in public and private health facilities between 2001 and 2007



*Note:* Number of central Asian republics in the sample: two for the public sector, four for the private sector.  
*Source:* United Nations (3). Reproduced by permission of the copyright holder.

A major concern is access to first- and second-line TB medicines and antiretroviral medicines of assured quality. There are global challenges related to the limited number of manufacturers and products that are part of the GLC mechanism for procuring TB medicines. WHO works to enhance access to TB medicines by facilitating GLC registration in Global Fund countries and through capacity building for quality assurance. Training for more than 150 experts from the NIS countries in good manufacturing practices, quality control, assessment of registration dossiers and bioequivalence were conducted during 2008/2009. Addressing antimicrobial resistance and strengthening strategies and policies for the appropriate use of antibiotics are urgently required, especially with regard to the development of MDR-TB and XDR-TB in countries of the Region. Several countries have benefited from lower prices for antiretroviral medicines under their Global Fund purchases and through price comparisons and negotiations.

To increase access to safe medicines of good quality it is important to strengthen regulatory authorities to combat counterfeit medicines. Authorities in Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Kazakhstan, Kyrgyzstan, Montenegro, the Republic of Moldova, the Russian Federation, the former Yugoslav Republic of Macedonia, Ukraine and Uzbekistan – among others –

are advancing activities in this area with support from WHO (131). New EU legislation in this area is under discussion, and the Council of Europe has started discussions on a possible international convention to combat counterfeit medicines, with broad participation of stakeholders, including WHO. The Regional Office collaborates with the Medicines Transparency Alliance, supported by the United Kingdom's Department for International Development, and the WHO Good Governance for Medicines programme in Kyrgyzstan, the Republic of Moldova and the former Yugoslav Republic of Macedonia. The aim is to improve the transparency of regulatory procedures and facilitate quality assurance and improved procurement practices, and thus improve access to medicines.

European generic manufacturers of essential medicines (for TB, HIV/AIDS, malaria and reproductive health, and medicines for children) are involved in the process of WHO prequalification. This process, which the Regional Office is charged with leading in the European Region, is relevant to progress towards several MDG targets (not only target 8.E). To date, six manufacturers and three quality control laboratories (in Belarus, the Russian Federation and Ukraine) are involved in the prequalification process with WHO technical assistance and guidance. Manufacturers of essential medicines and regulators are trained in good manufacturing practices, development of registration dossiers and other issues.

The financial crisis and economic downturn have resulted in the depreciation of a number of national currencies, which has affected the procurement of medicines and resulted in higher costs for medicines and medical devices in the countries concerned (129). Combined with high out-of-pocket expenditures for essential medicines, this adversely affects poor and economically vulnerable populations, who may already have difficulty in paying for medicines (132). These challenges can be addressed through activities related to pricing and reimbursement of medicines (i.e. safeguarding basic financing for purchasing medicines, regulating prices, increasing efficiency in medicine purchasing, and rational selection of cost-effective medicines. A study conducted in Kyrgyzstan (133) has shown that, with careful consideration and improvement of procurement practices, it is possible to reduce costs by procuring or reimbursing better-quality medicines. This area must be strengthened, particularly for those countries most affected by the financial crisis.

Strengthening health systems to further advance progress towards the MDG 8 target on essential medicines will require action across the four system functions. Needed actions include, but are not limited to: improving the prescribing and use of medicines (service delivery); reinforcing comprehensive pharmaceutical policies and regulation (stewardship); strengthening medicine supply systems and facilitating the use of generic medicines (resource generation); and enabling sustained financing for increased public expenditures on medicines (financing).

The Regional Office works towards the MDG 8 target on essential drugs by, in cooperation with partners, supporting Member States in:

- strengthening medicine policy development, including legislation and regulation;
- improving the prescribing and use of medicines, including strengthening the role of the pharmacist in health care (e.g. through projects on pharmaceutical care in select countries and the Network on Reform and Development of Pharmaceutical Education in central Asian republics);
- improving medicine supply and reimbursement systems and pricing and procurement policies, including efforts to reduce tariffs, taxes and distribution costs;
- stimulating and facilitating national policies on generic substitution;
- supporting sustainable financial arrangements for increasing public expenditure on medicines;
- developing human resources for increased access to and better use of medicines; and
- conducting cross-national analytical studies to share information on best practice (e.g. through the Pharmaceutical Pricing and Reimbursement Information network).

## CONCLUSIONS

Just over five years remain in the countdown to 2015, the year by which many MDG targets should be met. There is a clear indication that MDG efforts are falling short in some areas, with the most disadvantaged populations not receiving a fair share of development gains. Now, more than ever, is a crucial time to take corrective measures.

As shown in this report, stronger health systems will be vital in improving progress towards the health-specific MDGs. Coherent, simultaneous and synergistic efforts are required to reinforce equity-oriented health financing, the health workforce, procurement and distribution of medicines and vaccines, infrastructure, information systems, service delivery, and political will in leadership and governance (134).

Particular emphasis should be placed on strong primary health care. In keeping with the principles of the Alma Ata Declaration, health care needs to be brought as close as possible to where people live and work (135). The renewed commitment to primary health care offers a framework for making more rapid and equitable progress towards the MDGs (136). Priorities include addressing inequities by moving towards universal coverage; putting people at the centre of service delivery; multisectoral action and health in all policies; and inclusive leadership and effective government for health (137).

Linked to strengthening health systems, improved monitoring of progress towards the MDGs requires greater attention to health information systems. As explained in Part I, monitoring of progress towards MDGs 4 and 5 has been challenged by health information systems and significant differences between official data and the estimates of international agencies. WHO is currently working with Member States and other agencies to improve data systems, and continued efforts are essential.

Monitoring the distributional aspect of the MDGs requires that health information systems can disaggregate data by age, gender, ethnicity, foreign-borne status, occupation, education, income and employment (73). In addition, it requires that goals not be evaluated independently from each other but in an integrated way (125). The Commission on Social Determinants of Health recommends well-defined, equity-sensitive targets – linked to relevant data sources – to ensure that poor, marginalized and vulnerable groups are given opportunities for improved health and access to health services through MDG efforts (68).

With regard to the quantity and quality of resources for health, significant and sustained increases in domestic financing and overseas development aid – as well as their effectiveness – are needed. Improved harmonization between global health initiatives and health system strengthening is a priority, within the context of implementing the Paris Declaration on Aid Effectiveness (136, 138).

A robust health workforce underpins progress towards the MDGs. The Tallinn Charter highlights the critical nature of investing in the health workforce, ensuring that human resources have the appropriate skills and competence, and guiding the international recruitment of health workers by a code of practice built on ethical considerations and intercountry solidarity (5).

The combined effects of the financial and food price crises threaten progress towards the MDGs. In response, efforts are needed to: protect health budgets; ensure cost-effective public health and primary health care services; promote universal, compulsory and redistributive forms of revenue collection; and ensure universal access to health services (129). Health system stewardship to address the determinants of health is also an important part of the response to the current crisis.

Within and beyond the health sector, increased levels of social protection are crucial in achieving the MDGs, reducing health inequities through action on the social determinants of health, and addressing heightened vulnerability in the context of the financial and food price crises (68, 139). The Commission on Social Determinants of Health calls for universal, comprehensive social protection policies that support a level of income sufficient for healthy living for all. It recommends that these be extended to include groups that may normally be excluded (e.g. those in precarious work) and use targeting only as a backup for those who slip through the net of universal systems (68). Working across sectors for a coherent social protection system is an important aspect of health system stewardship.

Beyond the MDGs, strengthening health systems – across all functions – is fundamental for addressing other challenges to health in the European Region. These include emerging threats and epidemics, such as pandemic (H1N1) influenza; the impacts of the current financial, food price and fuel crises on health; and adult morbidity and mortality linked to noncommunicable diseases and external causes (134, 136).<sup>17</sup>

---

<sup>17</sup> Several WHO Member States stress that noncommunicable diseases should receive increased recognition as a priority in the global development agenda, and suggest that they should be included as an “MDG Plus”. The role of health systems in addressing noncommunicable diseases – which accounted for 77.8% of the European Region’s total burden of disease in 2004 – cannot be underestimated (10).

## REFERENCES

1. *The Millennium Development Goals report 2008*. New York, United Nations, 2008 (<http://www.un.org/millenniumgoals/pdf/The%20Millennium%20Development%20Goals%20Report%202008.pdf>, accessed 13 July 2009).
2. *The Millennium Development Goals report 2008. Statistical annex*. New York, United Nations, 2008 (<http://unstats.un.org/unsd/mdg/Resources/Static/Data/2008%20Stat%20Annex.pdf>, accessed 13 July 2009).
3. *Delivering on the Global Partnership for Achieving the Millennium Development Goals*. New York, United Nations, 2008 (MDG Gap Task Force Report 2008; <http://www.un.org/millenniumgoals/pdf/MDG%20Gap%20Task%20Force%20Report%202008.pdf>, accessed 13 August 2009).
4. *Global monitoring report 2009: a development emergency*. Washington, DC, World Bank, 2009 (<http://go.worldbank.org/AR2V89HT70>, accessed 27 July 2009).
5. *The Tallinn Charter: health systems for health and wealth*. Copenhagen, WHO Regional Office for Europe, 2008 (<http://www.euro.who.int/document/E91438.pdf>, accessed 13 July 2009).
6. Europe and Central Asia: overview [web site]. Washington, DC, World Bank, 2009 (<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/0,,contentMDK:21722062~pagePK:146736~piPK:146830~theSitePK:258599,00.html>, accessed 13 July 2009).
7. *Millennium Development Goals Indicators*. New York, NY, United Nations Statistical Division, 2009 (<http://mdgs.un.org/unsd/mdg/Default.aspx>, accessed 13 July 2009).
8. *MDGs progress and prospects in Europe and central Asia*. Washington, DC, World Bank, 2005 (<http://siteresources.worldbank.org/INTECA/Resources/ECA-MDG-full.pdf>, accessed 13 July 2009).
9. Rechel B, Charpo L, McKee M. Are the Millennium Development Goals appropriate for Eastern Europe and Central Asia? *Health Policy*, 2005, 73:339–351.
10. *Closing the gap in a generation: Health equity through action on the social determinants of health*. Geneva, World Health Organization, 2008 ([http://www.who.int/social\\_determinants/thecommission/finalreport/en/index.html](http://www.who.int/social_determinants/thecommission/finalreport/en/index.html), accessed 15 July 2009).
11. *World health statistics 2009*. Geneva, World Health Organization, 2009 ([http://www.who.int/whosis/whostat/EN\\_WHS09\\_Full.pdf](http://www.who.int/whosis/whostat/EN_WHS09_Full.pdf), accessed 26 July 2009).
12. Friedman J, Schady N. *How many more infants are likely to die in Africa as a result of the global financial crisis?* Washington, DC, World Bank, 2009 (Policy Research Working Paper 5023; [http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2009/08/20/000158349\\_20090820140450/Rendered/PDF/WPS5023.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2009/08/20/000158349_20090820140450/Rendered/PDF/WPS5023.pdf), accessed 24 November 2009).
13. *The Millennium Development Goals in the WHO European Region: health systems and health of mothers and children – lessons learned*. Copenhagen, WHO Regional Office for Europe, 2007 (document EUR/RC57/8; <http://www.euro.who.int/document/rc57/edoc08.pdf> accessed 13 July 2009).
14. *Joint reporting form on immunization for the period January–December, 2008*. Geneva, World Health Organization and New York, NY, United Nations Children’s Fund, 2008 ([http://www.searo.who.int/LinkFiles/Surveillance\\_and\\_Data\\_JRF\\_2008.xls](http://www.searo.who.int/LinkFiles/Surveillance_and_Data_JRF_2008.xls), accessed 28 September 2009).
15. *Centralized Information System for Infectious Diseases (CISID)*. Copenhagen, WHO Regional Office for Europe, 2009 (<http://data.euro.who.int/CISID/>, accessed 23 July 2009).
16. *The European health report 2005. Public health action for healthier children and populations*. Copenhagen, WHO Regional Office for Europe, 2005 (<http://www.euro.who.int/document/e87325.pdf>, accessed 23 July 2009).
17. *Why is giving special attention to adolescents important for achieving Millennium Development Goal 5? Adolescent pregnancy fact sheet*. Geneva, World Health Organization, 2008 ([http://www.who.int/making\\_pregnancy\\_safer/events/2008/mdg5/adolescent\\_preg.pdf](http://www.who.int/making_pregnancy_safer/events/2008/mdg5/adolescent_preg.pdf), accessed 19 January 2010).
18. *Progress of the world’s women 2008/2009*. New York, NY, United Nations Development Fund for Women, 2009 ([http://www.unifem.org/progress/2008/media/POWW08\\_MDG.pdf](http://www.unifem.org/progress/2008/media/POWW08_MDG.pdf), accessed 13 July 2009).
19. *European strategic approach for making pregnancy safer – improving maternal and perinatal health*. Copenhagen, WHO Regional Office for Europe, 2008 (<http://www.euro.who.int/Document/E90771.pdf>, accessed 18 August 2009).
20. *European strategy for child and adolescent health and development*. Copenhagen, WHO Regional Office for Europe, 2005 (<http://www.euro.who.int/document/E87710.pdf>, accessed 23 July 2009).
21. *Children’s Environment and Health Action Plan for Europe. Fourth Ministerial Conference on Environment and Health, Budapest, Hungary, 23–25 June 2004*. Copenhagen, WHO Regional Office for Europe, 2004 (<http://www.euro.who.int/document/e83338.pdf>, accessed 7 August 2009).

22. Ban Ki-moon. *Address by Ban Ki-moon, Secretary-General of the United Nations, Geneva, Tuesday, 19 May 2009. Sixty-second World Health Assembly*. Geneva, World Health Organization, 2009 ([http://apps.who.int/gb/ebwha/pdf\\_files/A62/A62\\_DIV5-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/A62/A62_DIV5-en.pdf), accessed 13 July 2009).
23. *Maternal mortality in 2005: estimates developed by WHO, UNICEF, UNFPA and the World Bank*. Geneva, World Health Organization, 2007 (<http://www.who.int/reproductivehealth/publications/monitoring/9789241596213/en/index.html>, accessed 15 July 2009).
24. Lloyd CB. *Growing up global: the changing transitions to adulthood in developing countries*. Washington, DC, National Research Council, 2005 ([http://www.nap.edu/catalog.php?record\\_id=11174](http://www.nap.edu/catalog.php?record_id=11174), accessed 19 January 2010).
25. Patton G et al. Global patterns of mortality in young people: a systematic analysis of population health data. *The Lancet*, 2009, 374:881–892.
26. Keygnaert I et al. *Hidden violence is a silent rape: prevention of sexual & gender-based violence against refugees & asylum seekers in Europe: a participatory approach report*. Ghent, International Centre for Reproductive Health, 2008 (<http://www.icrh.org/files/Hidden%20Violence%20is%20a%20Silent%20Rape%20Final%20Report.pdf>, accessed 13 July 2009).
27. *Turkey Demographic and Health Survey 2008*. Ankara, Hacettepe University Institute of Population Studies, Ministry of Health General Directorate of Mother and Child Health and Family Planning, T.R. Prime Ministry Undersecretary of State Planning Organization and TÜBİTAK, 2009 ([http://www.hips.hacettepe.edu.tr/tnsa2008/data/TDHS\\_2008\\_Main\\_Report.pdf](http://www.hips.hacettepe.edu.tr/tnsa2008/data/TDHS_2008_Main_Report.pdf), accessed 12 April 2010).
28. National Statistical Service (Armenia), Ministry of Health (Armenia), ORC Macro. *Armenia Demographic and Health Survey 2005*. Calverton, MD, National Statistical Service and ORC Macro, 2006 (<http://www.measuredhs.com/pubs/pdf/FR184/FR184.pdf>, accessed 27 January 2010).
29. *Issues in adolescent health and development. Adolescent pregnancy – unmet needs and undone deeds. A review of the literature and programmes*. Geneva, World Health Organization, 2007.
30. *Reproductive health survey, Romania 2004; summary report*. Bucharest, Ministry of Health of Romania, 2005 (<ftp://ftp.unfpa.ro/unfpa/RHSE2004.pdf>, accessed 10 August 2009).
31. *Turkish Demographic and Health Survey, 2003*. Ankara, Hacettepe University Institute of Population Studies, 2004 (<http://www.hips.hacettepe.edu.tr/tnsa2003/anaraporenghish.shtml>, accessed 11 August 2009).
32. *Turkish Demographic and Health Survey, 1993*. Ankara, Ministry of Health, 1994 ([http://www.measuredhs.com/pubs/pub\\_details.cfm?ID=98&ctry\\_id=58&SrchTp=ctry](http://www.measuredhs.com/pubs/pub_details.cfm?ID=98&ctry_id=58&SrchTp=ctry), accessed 11 August 2009).
33. *Reproductive, maternal and child health in eastern Europe and Eurasia: a comparative report*. Atlanta, GA, US Department of Health and Human Services, 2003 ([http://www.measuredhs.com/pubs/pub\\_details.cfm?ID=410](http://www.measuredhs.com/pubs/pub_details.cfm?ID=410), accessed 30 July 2009).
34. *Inequalities in young people's health: HBSC international report from the 2005/2006 survey*. Copenhagen, WHO Regional Office for Europe, 2008 ([http://www.euro.who.int/Document/E91416\\_prelim\\_ch1.pdf](http://www.euro.who.int/Document/E91416_prelim_ch1.pdf), accessed 11 August 2009).
35. *Safe abortion: technical and policy guidance for health systems*. Geneva, World Health Organization, 2003 (<http://whqlibdoc.who.int/publications/2003/9241590343.pdf>, accessed 15 July 2009).
36. Singh S et al. *Abortion worldwide: a decade of uneven progress*. New York, Guttmacher Institute, 2009 (<http://www.guttmacher.org/pubs/AWWfullreport.pdf>, accessed 24 November 2009).
37. European health for all database (HFA-DB) [online database]. Copenhagen, WHO Regional Office for Europe, 2009 (<http://data.euro.who.int/hfadbf/>, accessed 13 July 2009).
38. *A review of progress in maternal health in eastern Europe and central Asia*. New York, United Nations Population Fund, 2009 ([http://www.unfpa.org/webdav/site/global/shared/documents/publications/2009/maternal\\_health.pdf](http://www.unfpa.org/webdav/site/global/shared/documents/publications/2009/maternal_health.pdf), accessed 23 November 2009).
39. *Women and health: today's evidence, tomorrow's agenda*. Geneva, World Health Organization, 2009 ([http://whqlibdoc.who.int/publications/2009/9789241563857\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241563857_eng.pdf), accessed 22 December 2009).
40. Horton R. What will it take to stop maternal deaths? *The Lancet*, 2009, 374:1400–1402 ([http://www.lancet.com/journals/lancet/article/PIIS0140-6736\(09\)61669-X/fulltext](http://www.lancet.com/journals/lancet/article/PIIS0140-6736(09)61669-X/fulltext), accessed 23 November 2009).
41. *Report on the global HIV/AIDS epidemic 2008: executive summary*. Geneva, UNAIDS, 2008.
42. *HIV/AIDS surveillance in Europe 2007*. Stockholm, European Centre for Disease Prevention and Control/WHO Regional Office for Europe, 2008 ([http://ecdc.europa.eu/en/publications/Publications/0812\\_SUR\\_HIV\\_AIDS\\_surveillance\\_in\\_Europe.pdf](http://ecdc.europa.eu/en/publications/Publications/0812_SUR_HIV_AIDS_surveillance_in_Europe.pdf), accessed 13 July 2009).
43. *Progress on implementing the Dublin Declaration on partnership to fight HIV/AIDs in Europe and central Asia*. Copenhagen, WHO Regional Office for Europe, 2008 (<http://www.euro.who.int/Document/E91677.pdf>, accessed 27 July 2009).

44. *Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia*. Copenhagen, WHO Regional Office for Europe, 2009 ([http://www.euro.who.int/eprise/main/WHO/Progs/SHA/treatment/2005i018\\_1](http://www.euro.who.int/eprise/main/WHO/Progs/SHA/treatment/2005i018_1), accessed 13 July 2009).
45. Donoghoe M, Lazarus J, Srdan M. HIV/AIDS in the transitional countries of eastern Europe and central Asia. *Clinical Medicine*, 2005, 5:487–490. (<http://www.euro.who.int/document/e88848.pdf>, accessed 21 July 2009).
46. Wiessing L et al. HIV among injecting drug users in Europe: increasing trends in the East. *Eurosurveillance*, 2008, 13(50) (<http://www.eurosurveillance.org/images/dynamic/EE/V13N50/art19067.pdf>, accessed 21 July 2009).
47. Souteyrand Y. *Scaling up access to antiretroviral therapy (ART) in low- and middle-income countries: global and regional progress in 2008. Presentation to the 5th AIS Conference on HIV Pathogenesis, Treatment and Prevention, Cape Town, 19–22 July 2009*. Geneva, World Health Organization, 2009 (<http://www.ias2009.org/pag/Abstracts.aspx?AID=3666>, accessed 28 September 2009).
48. *The Global Plan to stop TB 2006–2015. Part I. Strategic directions*. Geneva, Stop TB Partnership, 2006 (<http://www.stoptb.org/global/plan/main/part1.asp>, accessed 28 September 2009).
49. *Global tuberculosis control – epidemiology, strategy, financing*. Geneva, World Health Organization, 2009 ([http://www.who.int/tb/publications/global\\_report/2009/en/index.html](http://www.who.int/tb/publications/global_report/2009/en/index.html), accessed 15 July 2009).
50. *Tuberculosis surveillance in Europe 2007*. Stockholm, European Centre for Disease Prevention and Control, 2009 ([http://ecdc.europa.eu/en/publications/Publications/0904\\_SUR\\_Tuberculosis\\_Surveillance\\_in\\_Europe.pdf](http://ecdc.europa.eu/en/publications/Publications/0904_SUR_Tuberculosis_Surveillance_in_Europe.pdf), accessed 13 July 2009).
51. *The Berlin Declaration on Tuberculosis*. Copenhagen, WHO Regional Office for Europe, 2007 (document EUR/07/5061622/5; <http://www.euro.who.int/document/e90833.pdf>, accessed 14 July 2009).
52. *Prevention and control of multidrug-resistant tuberculosis and extensively drug-resistant tuberculosis: report by the Secretariat*. Geneva, World Health Organization, 2009 (document A62/20; [http://apps.who.int/gb/ebwha/pdf\\_files/A62/A62\\_20-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/A62/A62_20-en.pdf), accessed 28 July 2009).
53. Chan M. *Preventing and managing M/XDR-TB: a global health imperative. Opening remarks at a ministerial meeting of high M/XDR-TB burden countries, Beijing, China, 1 April 2009*. Geneva, World Health Organization, 2009 ([http://www.who.int/dg/speeches/2009/mxdr\\_tb\\_prevention\\_20090401/en/index.html](http://www.who.int/dg/speeches/2009/mxdr_tb_prevention_20090401/en/index.html), accessed 13 July 2009).
54. Schaaf M. Roma health. In: *Poverty and social exclusion in the European Region: health systems respond*. Copenhagen, World Health Organization Regional Office for Europe (in press).
55. Gushulak B, Pace P, Weekers J. Migration and the health of migrants. In: *Poverty and social exclusion in the European Region: health systems respond*. Copenhagen, WHO Regional Office for Europe (in press).
56. Weiss MG et al. *Gender and tuberculosis: cross-site analysis and implications of a multi-country study in Bangladesh, India, Malawi and Colombia*. Geneva, World Health Organization, 2006.
57. Resolution WHA62.15. Prevention and control of multidrug-resistant tuberculosis and extensively drug-resistant tuberculosis. In: *Sixty-second World Health Assembly, Geneva, 22 May 2009*. Geneva, World health Organization, 2009 ([http://apps.who.int/gb/ebwha/pdf\\_files/A62/A62\\_R15-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/A62/A62_R15-en.pdf), accessed 28 July 2009).
58. Ejov M. *Scaling up the response to malaria in the WHO European Region. Progress towards curbing an epidemic 2000–2004*. Copenhagen, WHO Regional Office for Europe, 2004 (<http://www.euro.who.int/document/E85718.pdf>, accessed 28 September 2009).
59. *The Tashkent Declaration: the move from malaria control to elimination in the WHO European Region*. Copenhagen, WHO Regional Office for Europe, 2006 (<http://www.euro.who.int/document/e89355.pdf>, accessed 22 July 2009).
60. Country information: the current malaria trends – autochthonous malaria [web site]. Copenhagen, WHO Regional Office for Europe, 2009 (<http://www.euro.who.int/malaria/ctryinfo/ctryinfotop>, accessed 27 July 2009).
61. Malaria – epidemiological situation [web site]. Stockholm, European Centre for Disease Prevention and Control, 2009 (<http://www.ecdc.europa.eu/en/healthtopics/Pages/Malaria.aspx>, accessed 24 July 2009).
62. Stäger K et al. Imported malaria in children in industrialized countries, 1992–2002. *Emerging Infectious Diseases*, 2009, 15(2) (<http://www.cdc.gov/EID/content/15/2/185.htm>, accessed 13 July 2009).
63. *Republic of Moldova: poverty reduction strategy paper*. Washington, DC, International Monetary Fund, 2004 (IMF Country Report No. 04/395; <http://www.imf.org/external/pubs/ft/scr/2004/cr04395.pdf>, accessed 13 July 2009).
64. *The Millennium Development Goals report 2009*. New York, United Nations, 2009 (<http://www.un.org/millenniumgoals/pdf/MDG%20Report%202009%20ENG.pdf>, accessed 13 July 2009).
65. Alam A et al. *Growth, poverty, and inequality: Eastern Europe and the former Soviet Union*. Washington, DC, World Bank, 2005 (<http://siteresources.worldbank.org/INTECA/Resources/complete-eca-poverty.pdf>, accessed 13 July 2009).
66. *Living conditions in Europe. Data 2003–06*. Brussels, European Commission, 2008 ([http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-DZ-08-001/EN/KS-DZ-08-001-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-DZ-08-001/EN/KS-DZ-08-001-EN.PDF), accessed 13 July 2009).



67. 2010 "European Year for combating poverty and social exclusion" [web site]. Brussels, European Commission, 2009 (<http://ec.europa.eu/social/main.jsp?langId=en&catId=637>, accessed 13 July 2009).
68. Commission on Social Determinants of Health. *Closing the gap in a generation. Health equity through action on the social determinants of health*. Geneva, World Health Organization, 2008 ([http://whqlibdoc.who.int/publications/2008/9789241563703\\_eng.pdf](http://whqlibdoc.who.int/publications/2008/9789241563703_eng.pdf), accessed 15 July 2009).
69. Xu K et al. *Designing health financing systems to reduce catastrophic health expenditure*. Geneva, World Health Organization, 2005 (Technical Briefs for Policy-Makers No. 2, document WHO/EIP/HSF/PB/05.02) ([http://www.who.int/health\\_financing/documents/cov-pb\\_e\\_05\\_2-cata\\_sys/en/](http://www.who.int/health_financing/documents/cov-pb_e_05_2-cata_sys/en/), accessed 24 July 2009).
70. Habicht J et al. Detecting changes in financial protection: creating evidence for policy in Estonia. *Health Policy and Planning*, 2006, 21:421–431 (<http://heapol.oxfordjournals.org/cgi/content/abstract/21/6/421>, accessed 13 August 2009).
71. Suhrcke M, Rocco L, McKee M. *Health: a vital investment for economic development in eastern Europe and central Asia*. Copenhagen, WHO Regional Office for Europe, 2007 ([http://www.euro.who.int/observatory/Publications/20070618\\_1](http://www.euro.who.int/observatory/Publications/20070618_1), accessed 13 July 2009).
72. Xu K et al. *Access to health care and the financial burden of out-of-pocket health payments in Latvia*. Geneva, World Health Organization, 2009 (Technical Briefs for Policy-Makers No. 1) ([http://www.who.int/health\\_financing/documents/pb\\_e\\_09\\_01-oopslat.pdf](http://www.who.int/health_financing/documents/pb_e_09_01-oopslat.pdf), accessed 13 August 2009).
73. Resolution WHA62.14. Reducing health inequities through action on social determinants of health. In: *Sixty-second World Health Assembly, Geneva, 22 May 2009* ([http://apps.who.int/gb/ebwha/pdf\\_files/A62/A62\\_R14-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/A62/A62_R14-en.pdf), accessed 24 July 2009).
74. *Economic crisis gives Europe, Central Asia chance to reach for social goals*. New York, NY, United Nations News Centre, 2009 (<http://www.un.org/apps/news/story.asp?NewsID=29868&Cr=international+labour+organization&Cr1=>, accessed 13 July 2009).
75. *Eurostat news release, 30 October 2009. Euro area unemployment up to 9.7%; EU27 up to 9.2%*. Brussels, Eurostat, 2009 ([http://epp.eurostat.ec.europa.eu/cache/ITY\\_PUBLIC/3-30102009-AP/EN/3-30102009-AP-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-30102009-AP/EN/3-30102009-AP-EN.PDF), accessed 23 November 2009).
76. *Development & transition: the regional impact of the global economic crisis*. New York, NY, United Nations Development Programme, 2009. ([http://www.developmentandtransition.net/uploads/issuesAttachments/25/DT.13\\_English\\_FINAL.pdf](http://www.developmentandtransition.net/uploads/issuesAttachments/25/DT.13_English_FINAL.pdf), accessed 28 September 2009).
77. *Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions – equality between women and men – 2009 {SEC(2009) 165}*. Brussels, European Commission, 2009 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009DC0077:EN:NOT>, accessed 28 July 2009).
78. *International migration outlook 2009*. Paris, Organization for Economic Development and Cooperation, 2009 ([http://www.oecd.org/document/51/0,3343,en\\_2649\\_33931\\_43009971\\_1\\_1\\_1\\_37415,00.html](http://www.oecd.org/document/51/0,3343,en_2649_33931_43009971_1_1_1_37415,00.html), accessed 13 July 2009).
79. Papademetriou DG, Sumption M, Somerville W. *Migration and the economic downturn: what to expect in the European Union*. Washington, DC, Migration Policy Institute, 2009 ([http://www.migrationpolicy.org/transatlantic/EU\\_Recession\\_backgroundunder.pdf](http://www.migrationpolicy.org/transatlantic/EU_Recession_backgroundunder.pdf), accessed 13 July 2009).
80. *The state of food insecurity in the world. Economic crises – impacts and lessons learned*. Rome, Food and Agriculture Organization of the United Nations, 2009 (<http://www.fao.org/docrep/012/i0876e/i0876e00.htm>, accessed 10 November 2009).
81. *Factsheet No. 178. Children – reducing mortality*. Geneva, World Health Organization, 2009 (<http://www.who.int/mediacentre/factsheets/fs178/en/>, accessed 9 November 2009).
82. FAO: Central and Eastern Europe [web site]. Rome, Food and Agricultural Organization of the United Nations. 2009 (<http://www.fao.org/isfp/regional-information/europe-and-central-asia/en/>, accessed 13 July 2009).
83. United Nations News Centre. *Malnutrition on the rise among rural Tajik children, UN warns*. New York, United Nations, 2009 (<http://www.un.org/apps/news/story.asp?NewsID=32852&Cr=tajik&Cr1>, accessed 23 November 2009).
84. *Weekly iron–folic acid supplementation (WIFS) in women of reproductive age: its role in promoting optimal maternal and child health*. Geneva, World Health Organization, 2009 ([http://www.who.int/nutrition/publications/micronutrients/weekly\\_iron\\_folicacid.pdf](http://www.who.int/nutrition/publications/micronutrients/weekly_iron_folicacid.pdf), accessed 19 August 2009).
85. *Global strategy for infant and young child feeding*. Geneva, World Health Organization, 2003 (<http://whqlibdoc.who.int/publications/2003/9241562218.pdf>, accessed 18 August 2009).
86. 145 million people in the WHO European Region are obese, while 23 million are undernourished: on World Food Day the Region faces a double burden of malnutrition [web site]. Copenhagen, WHO Regional Office for Europe, 2006 ([http://www.euro.who.int/mediacentre/PR/2006/20061013\\_1](http://www.euro.who.int/mediacentre/PR/2006/20061013_1), accessed 21 July 2009).
87. *Commission Staff Working Document accompanying the Proposal for a Council Regulation amending Regulation (EC) No 1290/2005 and (EC) No 1234/2007, Annexes*. Brussels, European Commission, 2008 ([http://ec.europa.eu/agriculture/markets/freefood/fullimpact\\_en.pdf](http://ec.europa.eu/agriculture/markets/freefood/fullimpact_en.pdf), accessed 21 July 2009).

88. Robertson A, Lobstein T, Knai C. *Obesity and socioeconomic groups in Europe: evidence review and implications for action*. Brussels, European Commission, 2007 ([http://ec.europa.eu/health/ph\\_determinants/life\\_style/nutrition/documents/ev20081028\\_rep\\_en.pdf](http://ec.europa.eu/health/ph_determinants/life_style/nutrition/documents/ev20081028_rep_en.pdf), accessed 18 August 2009).
89. *European Charter on Counteracting Obesity*. WHO European Ministerial Conference on Counteracting Obesity, Istanbul, Turkey, 15–17 November 2006 (document EUR/06/5062700/8; <http://www.euro.who.int/Document/E89567.pdf>, accessed 7 August 2009).
90. Committee for Development Policy. *Implementing the Millennium Development Goals: health inequality and the role of global health partnerships*. New York, United Nations, 2009 ([http://www.unicef.org/health/files/MDG\\_and\\_Health\\_Inequalities\\_UN\\_2009.pdf](http://www.unicef.org/health/files/MDG_and_Health_Inequalities_UN_2009.pdf), accessed 19 November 2009).
91. *Commission Staff Working Document accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Community instruments and policies for Roma inclusion*. Brussels, European Commission, 2008 (<http://ec.europa.eu/social/main.jsp?catId=423&langId=en&eventsId=105&furtherEvents=yes>, accessed 22 July 2009).
92. Mackenbach JP. *Health inequalities: Europe in profile*. Rotterdam, Erasmus University Medical Center, 2006 ([http://ec.europa.eu/health/ph\\_determinants/socio\\_economics/documents/ev\\_060302\\_rd06\\_en.pdf](http://ec.europa.eu/health/ph_determinants/socio_economics/documents/ev_060302_rd06_en.pdf), accessed 22 July 2009).
93. Grantham-McGregor S et al. Developmental potential in the first 5 years for children in developing countries. *The Lancet*, 2007, 369:60–70 ([http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(07\)60032-4/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(07)60032-4/abstract), accessed 13 July 2009).
94. Irwin L, Siddiqi A, Hertzman C. *Early childhood development: a powerful equalizer. Final report of the Early Childhood Development Knowledge Network of the Commission on the Social Determinants of Health*. Geneva, World Health Organization, 2007 ([http://www.who.int/social\\_determinants/themes/earlychilddevelopment/en/](http://www.who.int/social_determinants/themes/earlychilddevelopment/en/), accessed 13 July 2009).
95. *A critical link: interventions for physical growth and psychological development. A review*. Geneva, World Health Organization, 1999 ([http://www.who.int/child\\_adolescent\\_health/documents/chs\\_cah\\_99\\_3/en/index.html](http://www.who.int/child_adolescent_health/documents/chs_cah_99_3/en/index.html), accessed 1 September 2009).
96. *Health literacy, Part I: the basics*. Somerset, World Health Communication Associates. 2009.
97. Schools for Health in Europe [web site]. Woerden, Dutch National Institute for Health Promotion and Disease Prevention, 2009 (<http://www.schoolsforhealth.eu/>, accessed 25 July 2009).
98. Sen G, Östlin P, George A. *Unequal, unfair, ineffective and inefficient. Gender inequity in health – why it exists and how we can change it. Final report to the WHO Commission on Social Determinants of Health*. Women and Gender Equity Knowledge Network, 2007 ([http://www.who.int/social\\_determinants/resources/csdh\\_media/wgekn\\_final\\_report\\_07.pdf](http://www.who.int/social_determinants/resources/csdh_media/wgekn_final_report_07.pdf), accessed 29 July 2009).
99. *What evidence is there about the effects of health care reforms on gender equity, particularly in health?* Copenhagen, WHO Regional Office for Europe, 2005 (<http://www.euro.who.int/Document/E87674.pdf>, accessed 28 September 2009).
100. *Climate change 2007: synthesis report – summary for policymakers. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, Cambridge University Press, 2007 ([http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr\\_spm.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf), accessed 24 July 2009).
101. Menne B et al., eds. *Protecting health in Europe from climate change*. Copenhagen, WHO Regional Office for Europe, 2008 (<http://www.euro.who.int/Document/E91865.pdf>, accessed 24 July 2009).
102. *Impacts of Europe's changing climate – 2008 indicator-based assessment: Joint EEA-JRC-WHO report*. Copenhagen, European Environment Agency, 2008 ([http://www.eea.europa.eu/publications/eea\\_report\\_2008\\_4](http://www.eea.europa.eu/publications/eea_report_2008_4), accessed 24 July 2009).
103. Confalonieri U et al. Human health. In: *Climate change 2007: impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, Cambridge University Press, 2007 (<http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter8.pdf>, accessed 24 July 2009).
104. *Assessment on water supply, sanitation and health in the Mediterranean Region. Regional Assessment EUWI/Med. Euro-Mediterranean Ministerial Conference on Water, Amman, Jordan, 29 October 2008*. Copenhagen, WHO Regional Office for Europe, 2008 ([http://www.medaquaministerial2008.net/documents/state-play-technical-papers/WSS\\_Assessment\\_Oct08.pdf](http://www.medaquaministerial2008.net/documents/state-play-technical-papers/WSS_Assessment_Oct08.pdf), accessed 24 July 2009).
105. *The European health report 2009. Health and health systems*. Copenhagen, WHO Regional Office for Europe, 2009 (<http://www.euro.who.int/Document/E93103.pdf>, accessed 5 January 2010).
106. *WHO workplan on climate change and health*. Geneva, World Health Organization, 2009 ([http://www.who.int/globalchange/wha\\_plans\\_objectives/en/index.html](http://www.who.int/globalchange/wha_plans_objectives/en/index.html), accessed 8 September 2009).
107. *Progress on drinking water and sanitation: special focus on sanitation*. New York, NY, United Nations Children's Fund and Geneva, World Health Organization, 2008 ([http://www.who.int/water\\_sanitation\\_health/monitoring/jmp2008.pdf](http://www.who.int/water_sanitation_health/monitoring/jmp2008.pdf), accessed 23 July 2009).

108. Council Directive 98/83/DC of 3rd November 1998 on the quality of water intended for human consumption. Brussels, European Commission, 1998 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998L0083:EN:NOT>, accessed 23 July 2009).
109. *Consensus statement on small scale water services. Adopted by participants in the workshop on water safety in small-scale water supplies in the European Region: common challenges and needs, Bad Elster, Germany, 26–27 November 2008.* Copenhagen, WHO Regional Office for Europe, 2009 ([http://euro.who.int/watsan/WaterProtocol/20081217\\_2](http://euro.who.int/watsan/WaterProtocol/20081217_2), accessed 28 December 2009).
110. *Mainstreaming gender in integrated water resources management strategies and plans: practical steps for practitioners.* Stockholm, Global Water Partnership Technical Committee, 2005 (Technical Brief 5) ([http://www.gwpforum.org/gwp/library/Tech\\_brief\\_5\\_Gender.pdf](http://www.gwpforum.org/gwp/library/Tech_brief_5_Gender.pdf), accessed 23 July 2009).
111. *Making water a part of economic development. The economic benefits of improved water management and services.* Stockholm, Stockholm International Water Institute, 2005 ([http://www.who.int/water\\_sanitation\\_health/waterandmacroecon.pdf](http://www.who.int/water_sanitation_health/waterandmacroecon.pdf), accessed 23 July 2009).
112. *Albania: World Bank Issues sanctions in water supply project.* Washington, DC, World Bank, 2005 (<http://go.worldbank.org/BL6ZIMVKU0>, accessed 23 July 2009).
113. *The European Union and the Commonwealth of Independent States – statistical comparison.* Brussels, European Communities, 2008 ([http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-30-08-402/EN/KS-30-08-402-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-30-08-402/EN/KS-30-08-402-EN.PDF), accessed 23 July 2009).
114. *Environmental performance review: Belgium.* Paris, Organization for Economic Development and Cooperation, 2007 ([http://www.oecd.org/document/61/0,2340,en\\_2649\\_34307\\_38168061\\_1\\_1\\_1\\_1,00.html#Additional\\_info](http://www.oecd.org/document/61/0,2340,en_2649_34307_38168061_1_1_1_1,00.html#Additional_info), accessed 23 July 2009).
115. Armeni C. *The right to water in Belgium.* Geneva, International Environmental Law Research Centre, 2008 (<http://www.ielrc.org/content/f0802.pdf>, accessed 23 July 2009).
116. Koplan J. *21st century health challenges: can we all become healthy, wealthy and wise?* Supercourse Lectures from Members of the American Epidemiological Society, 2000 (<http://www.bibalex.org/SuperCourse/lecture/lec1361/index.htm>, accessed 23 July 2009).
117. Bates BC et al., eds. *Climate change and water.* Geneva, Intergovernmental Panel on Climate Change, 2008 ([http://www.ipcc.ch/publications\\_and\\_data/publications\\_and\\_data\\_technical\\_papers\\_climate\\_change\\_and\\_water.htm](http://www.ipcc.ch/publications_and_data/publications_and_data_technical_papers_climate_change_and_water.htm), accessed 23 July 2009).
118. *The global burden of disease: 2004 update.* Geneva, World Health Organization, 2008 ([http://www.who.int/healthinfo/global\\_burden\\_disease/GBD\\_report\\_2004update\\_full.pdf](http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf), accessed 15 July 2009).
119. *Guidelines for the safe use of wastewater, excreta and greywater.* Geneva, World Health Organization, 2006 ([http://www.who.int/water\\_sanitation\\_health/wastewater/gsuww/en/index.html](http://www.who.int/water_sanitation_health/wastewater/gsuww/en/index.html), accessed 23 July 2009).
120. Linn JF. *Aid coordination on the ground: are joint country assistance strategies the answer?* Washington, DC, Wolfensohn Centre for Development at Brookings, 2009 ([http://www.brookings.edu/~media/Files/rc/papers/2009/07\\_aid\\_linn/07\\_aid\\_linn.pdf](http://www.brookings.edu/~media/Files/rc/papers/2009/07_aid_linn/07_aid_linn.pdf), accessed 13 August 2009).
121. WHO Maximizing Positive Synergies Collaborative Group. An assessment of interactions between global health initiatives and country health systems. *The Lancet*, 2009, 373:2437–2463.
122. *Concluding statement of the high-level dialogue on maximizing positive synergies between health systems and global health initiatives, Venice, 23 June 2009.* Geneva, World Health Organization, 2009 ([http://www.who.int/healthsystems/VeniceDRAFTconcluding\\_statement\\_July1.pdf](http://www.who.int/healthsystems/VeniceDRAFTconcluding_statement_July1.pdf), accessed 28 September 2009).
123. *WHO Regional Committee for Europe resolution EUR/RC58/R4 on stewardship/governance of health systems in the WHO European Region.* Copenhagen, WHO Regional Office for Europe, 2008 ([http://www.euro.who.int/document/rc58/rc58\\_eres04.pdf](http://www.euro.who.int/document/rc58/rc58_eres04.pdf), accessed 28 July 2009).
124. Means & measures: from policy to action [web site]. Brussels, European Commission, 2009 ([http://ec.europa.eu/development/howgen\\_en.cfm](http://ec.europa.eu/development/howgen_en.cfm), accessed 12 November 2009).
125. Bourguignon F et al. *Millennium Development Goals at midpoint: where do we stand and where do we need to go?* Brussels, European Commission, 2008 ([http://ec.europa.eu/development/center/repository/2008.11.06%20MDG\\_long\\_paper\\_en.pdf](http://ec.europa.eu/development/center/repository/2008.11.06%20MDG_long_paper_en.pdf), accessed 13 July 2009).
126. *Rule of law: a “missing” Millennium Development Goal.* Vienna, United Nations Office on Drugs and Crime, 2008 (<http://www.unodc.org/unodc/en/frontpage/rule-of-law-a-missing-millennium-development-goal.html>, accessed 13 July 2009).
127. *Six questions on the cost of corruption with World Bank Institute Global Governance Director Daniel Kaufmann.* Washington, DC, World Bank, 2004 (<http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20190295~menuPK:34457~pagePK:34370~piPK:34424~theSitePK:4607,00.html>, accessed 13 July 2009).
128. Suhrcke M, Rechel B, Michaud C. Development assistance for health in central and eastern Europe. *Bulletin of the World Health Organization*, 2005, 83:920–927.

129. *Health in times of global economic crisis. implications for the WHO European Region, Oslo, Norway, 1–2 April 2009. Meeting report.* Copenhagen, WHO Regional Office for Europe, 2009 ([http://www.euro.who.int/document/HSM/Oslo\\_report.pdf](http://www.euro.who.int/document/HSM/Oslo_report.pdf), accessed 28 September 2009).
130. Kaufmann D, Kraay A, Mastruzzi M. *Governance matters VIII: aggregate and individual governance indicators 1996–2008.* Washington, DC, World Bank, 2009 (Policy Research Working Paper 4978) ([http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1424591](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1424591), accessed 18 August 2009).
131. *Counterfeit medical products: report by the Secretariat.* Geneva, World Health Organization, 2009 (document A62/13) ([http://apps.who.int/gb/ebwha/pdf\\_files/A62/A62\\_13-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/A62/A62_13-en.pdf), accessed 28 July 2009).
132. *Russian Economic Report, No. 19, June 2009.* Washington, DC, World Bank, 2009 (<http://siteresources.worldbank.org/INTRUSSIANFEDERATION/Resources/305499-1245838520910/rer19-eng.pdf>, accessed 24 July 2009).
133. *Quality of medicines within the public sector drug procurement system in the Republic of Kyrgyzstan.* Copenhagen, WHO Regional Office for Europe, 2008 ([http://www.euro.who.int/pharmaceuticals/NIS/20080527\\_1](http://www.euro.who.int/pharmaceuticals/NIS/20080527_1), accessed 28 July 2009).
134. *Implementing the internationally agreed goals and commitments in regard to global public health.* Geneva, United Nations Economic and Social Council, 2009 (<http://www.un.org/en/ecosoc/newfunc/amr2009.shtml>, accessed 14 July 2009).
135. *Declaration of Alma-Ata. International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September 1978.* Geneva, World Health Organization, 1978 ([http://www.who.int/publications/almaata\\_declaration\\_en.pdf](http://www.who.int/publications/almaata_declaration_en.pdf), accessed 25 November 2009).
136. *Monitoring of the achievement of the health-related Millennium Development Goals: report by the Secretariat.* Geneva, World Health Organization, 2009 (document A62/10) ([http://apps.who.int/gb/ebwha/pdf\\_files/A62/A62\\_10-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/A62/A62_10-en.pdf), accessed 26 July 2009).
137. *Climate change and health: report by the Secretariat.* Geneva, World Health Organization, 2008 (document A61/14) ([http://apps.who.int/gb/ebwha/pdf\\_files/A61/A61\\_14-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/A61/A61_14-en.pdf), accessed 19 July 2009).
138. *Paris Declaration on aid effectiveness. ownership, harmonisation, alignment, results and mutual accountability.* Paris, Organization for Economic Development and Cooperation, 2005 (<http://www.oecd.org/dataoecd/11/41/34428351.pdf>, accessed 29 July 2009).
139. *Millennium Development Goals – impact of the financial crisis on developing countries. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.* Brussels, European Commission, 2009 ([http://ec.europa.eu/development/icenter/repository/COMM\\_NATIVE\\_SEC\\_2009\\_0445\\_4\\_MDGS\\_EN.pdf](http://ec.europa.eu/development/icenter/repository/COMM_NATIVE_SEC_2009_0445_4_MDGS_EN.pdf), accessed 12 November 2009).

# ANNEX 1. Examples of actions needed to progress towards the MDGs, by health system function

This is in no way an exhaustive or prioritized list of activities to attain the MDGs. The purpose of this table is solely to facilitate reflection on a health-system-wide approach to the MDGs, drawing from selected examples.

MDG	Service delivery	Stewardship	Resource generation	Financing
<b>MDG 1 – Eradicate extreme poverty and hunger</b>	<p>Strengthened cross-sectoral mechanisms, particularly at primary health care level, for action on poverty as a determinant of health.</p> <p>Increased availability of regular check-ups of under-fives and counselling to mothers on safe and adequate infant and young child feeding.</p> <p>Enforcement and monitored implementation of the international Code of Marketing of Breast-milk Substitutes.</p>	<p>Improved information systems to monitor health inequities; advocating for strengthened social protection systems.</p> <p>Expanded promotion of the production of staple foods fortified with iron and folic acid.</p> <p>Expanded promotion of the establishment of networks within the community ensuring a monitoring and bottom-up approach, including all relevant actors and stakeholders such as the Baby-friendly Hospital Initiative and the Nutrition-friendly Schools Initiative.</p>	<p>Increased awareness among public and private health providers of how to take account of poverty and exclusion when delivering services.</p> <p>Scaled-up training of primary health care nurses and doctors on infant and young child feeding counselling and the inclusion of nutrition education in school curricula.</p>	<p>Improved distribution of funding according to people's ability to pay, avoiding impoverishment as a consequence of ill-health or service usage.</p> <p>Increased funding of schemes for disadvantaged households to access healthy food commodities.</p>
<b>MDG 2 – Achieve universal primary education</b>  <b>(Focus on ECD, which facilitates progress towards MDGs 1 and 2)</b>	<p>Strengthened integration of services for ECD, comprising: breastfeeding and nutrition support; support to/care of mothers before, during and after pregnancy; parenting and caregiver support; child care; early education starting around 3 years of age; and services for children with special needs.</p>	<p>Instigated or strengthened cooperation for ECD by the health sector with family support, nutrition, and educational systems and services.</p>	<p>Scaled-up training of health and social workers on ECD to improve the delivery of joint services (including adapting and building capacity in the IMCI Care for Development counselling course and guidelines).</p>	<p>Sustained cross-sectoral funding for ECD programmes; in resource-scarce environments, start with services for the most disadvantaged children with a long-term view towards universal provision.</p>
<b>MDG 3 – Promote gender equality and empower women</b>	<p>Improved delivery of services that address gender considerations so as to ensure the equal availability, quality and responsiveness of services for women and men.</p>	<p>Increased/refined mechanisms to ensure transfer of gender equality from the values level to concrete implementation in health policies.</p> <p>Strengthened health information systems gathering and using social determinants of health and gender analysis.</p>	<p>Enhanced participation of women in health sector decision-making bodies.</p> <p>Scaled-up attention to gender inequalities in informal care as part of the human resources for health agenda.</p>	<p>Additional attention to how health-financing mechanisms interact with and reinforce gender inequities.</p>

MDG	Service delivery	Stewardship	Resource generation	Financing
<b>MDG 4 – Reduce child mortality</b>	Improved capacity of primary health care and referral services to provide quality and integrated care/IMCI for newborn babies and young children in continuum.  Ensured regular monitoring of quality of services.  Improved equitable access to and utilization of immunization services through provision of optimized mix of service delivery strategies.	Strengthened capacity of health authorities to develop and implement policies and action plans from a life-course and multisectoral perspective.  Improved monitoring and supportive supervision systems for child health services.  Regular update of evidence-based protocols (IMCI, neonatal care).  Strengthened, evidence-based decision-making on immunization through use of tools.	Regularly updated pre-service and in-service training curricula for health professionals and capacity-building of national cadres in IMCI, child nutrition and evidence-based medicine guidelines.  Improved availability and use of essential medicines in health facilities.  Guaranteed well-trained immunization staff with the right skill mix and safe, accessible and appropriately used vaccines and supplies.	Improved capacity for costing effective child health programmes and interventions.  Improved ability of countries to mobilize and efficiently use domestic and external resources to achieve target levels of immunization performance.
	<b>MDG 5 – Improve maternal health</b>	Ensured universal access to quality maternal/perinatal and reproductive health services at all levels of care.  Ensured universal coverage of key evidence-based, cost-effective and age-appropriate interventions.  Establishment and monitoring of effective maternal and perinatal referral system, with timely and effective emergency obstetric care in place.  Integrated preventive efforts with treatment and care.	Supported and monitored implementation of maternal/perinatal and reproductive health policies.  Improved data collection, analysis and use, and implementation of quality improvement mechanisms (such as maternal and perinatal mortality and morbidity case reviews).  Ensured interventions and services accessible to adolescent girls and mothers	Improved production of professionals with the right skills mix and regard to the special needs of adolescents.  Appropriate well-maintained commodities and equipment at all levels of maternal/perinatal and reproductive health care.
<b>MDG 6 – Combat HIV/AIDS, malaria and other diseases</b>	<b>HIV/AIDS</b>			
	Increased integration of services for the prevention, treatment and care of HIV, TB, other communicable diseases and drug dependence.	Sustained political commitment and mobilization of resources through advocacy and partnership.	Need for improved knowledge and appropriate evidenced-based training that integrates training and service delivery.	Increased and more targeted funding for HIV prevention efforts for most at-risk populations (notably injecting drug users, but also men who have sex with men, sex workers, prisoners and migrants).
	<b>Malaria</b>			
	Improved epidemiological services, information systems and operational research for malaria elimination.	Strengthened cross-border collaboration to address situations in which there is a risk of spread of malaria between neighbouring countries.	Ensured numbers of dedicated staff and sufficient technical expertise to guide malaria elimination programmes.	Identified new possibilities and approaches for additional resource mobilization for malaria elimination.

MDG	Service delivery	Stewardship	Resource generation	Financing
MDG 6 – Combat HIV/AIDS, malaria and other diseases	Tuberculosis			
	Increased capacity at primary care level to address the social determinants of TB and deliver patient-focused TB services.	Harmonized TB control planning processes with sector-wide planning frameworks and national health strategies.  Streamlined TB surveillance as part of the national surveillance.	Improved laboratory networks and drug supply management systems.  Increased capacity-building of staff to address respiratory diseases, including TB, MDR-TB and XDR-TB.	Further streamlined TB financing with national health strategy budgeting.  Application of international TB funding to strengthening of health systems.
MDG 7 – Ensure environmental responsibility	Climate change			
	Increased preparedness for addressing the potential health effects of climate change, including those of extreme weather events.	Strengthened advocacy for health across sectors through the use of evidence on the relationship between health and environmental exposures.  Support to efforts for increased energy-saving and environmentally friendly measures being applied within the health sector.	Empowered health policy-makers and workforce enabled to prevent, anticipate, detect and respond to the health effects of climate change.	Financial resources for climate change measures (e.g. national impact, vulnerability and adaptation assessments, and adaptation plans).
	Water and sanitation			
MDG 8 – Develop a global partnership for development	Ensured continuous supply of safe water and provision of adequate sanitation at all health service delivery points.	Increased health sector capacity to advocate for health concerns in Integrated Water Resource Management programme and equitable access.	Improved technical knowledge by health care workers and health sector policy-makers of water and sanitation issues.	Increased funding for health centres serving areas where there is least access to safe water and adequate sanitation.
	Donor/aid coordination (in relation to ODA for health) <sup>a</sup>			
	Strengthened, integrated primary health care, inclusive of disease-specific work.	Improved harmonization and alignment of donor/aid programming in support of sectoral priorities of the government.	Continued untying of aid (i.e. removal of restrictions that prevent countries from buying the goods and services they need from whomever and wherever they can get the best quality at the lowest price).	Improved predictability of ODA through the provision of 3–5-year forward information on donors' planned aid to partner countries.  Augmented sector-allocable ODA to basic social services.  Improved harmonization of donor financing.
Essential medicines				
Improved prescribing and use of medicines.	Strengthened, comprehensive pharmaceutical policies and regulation.	Streamlined medicine supply systems and facilitated use of generics.	Sustained financing for increased public expenditure on medicines.	

<sup>a</sup> Donor/aid coordination, in keeping with the principles of the Paris Declaration and the Accra Agenda for Action, is an important means of ensuring efficiency of improved levels and use of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation).

## **ANNEX 2. Selected relevant web sites of the WHO Regional Office for Europe**

### **MDG 1. Eradicate extreme poverty and hunger**

- <http://www.euro.who.int/socialdeterminants>
- <http://www.euro.who.int/financing>
- <http://www.euro.who.int/Nutrition>

### **MDG 2. Achieve universal primary education**

- <http://www.euro.who.int/ENHPS>

### **MDG 3. Promote gender equality and empower women**

- <http://www.euro.who.int/gender>

### **MDG 4. Reduce child mortality**

- <http://www.euro.who.int/childhealthdev>

### **MDG 5. Improve maternal health**

- <http://www.euro.who.int/reproductivehealth>

### **MDG 6. Combat HIV/AIDS, malaria and other diseases [ including TB]**

- <http://www.euro.who.int/aids>
- <http://www.euro.who.int/malaria>
- <http://www.euro.who.int/tuberculosis>

### **MDG 7. Ensure environmental sustainability**

- <http://www.euro.who.int/globalchange>
- <http://www.euro.who.int/watsan>
- <http://www.euro.who.int/envhealth>

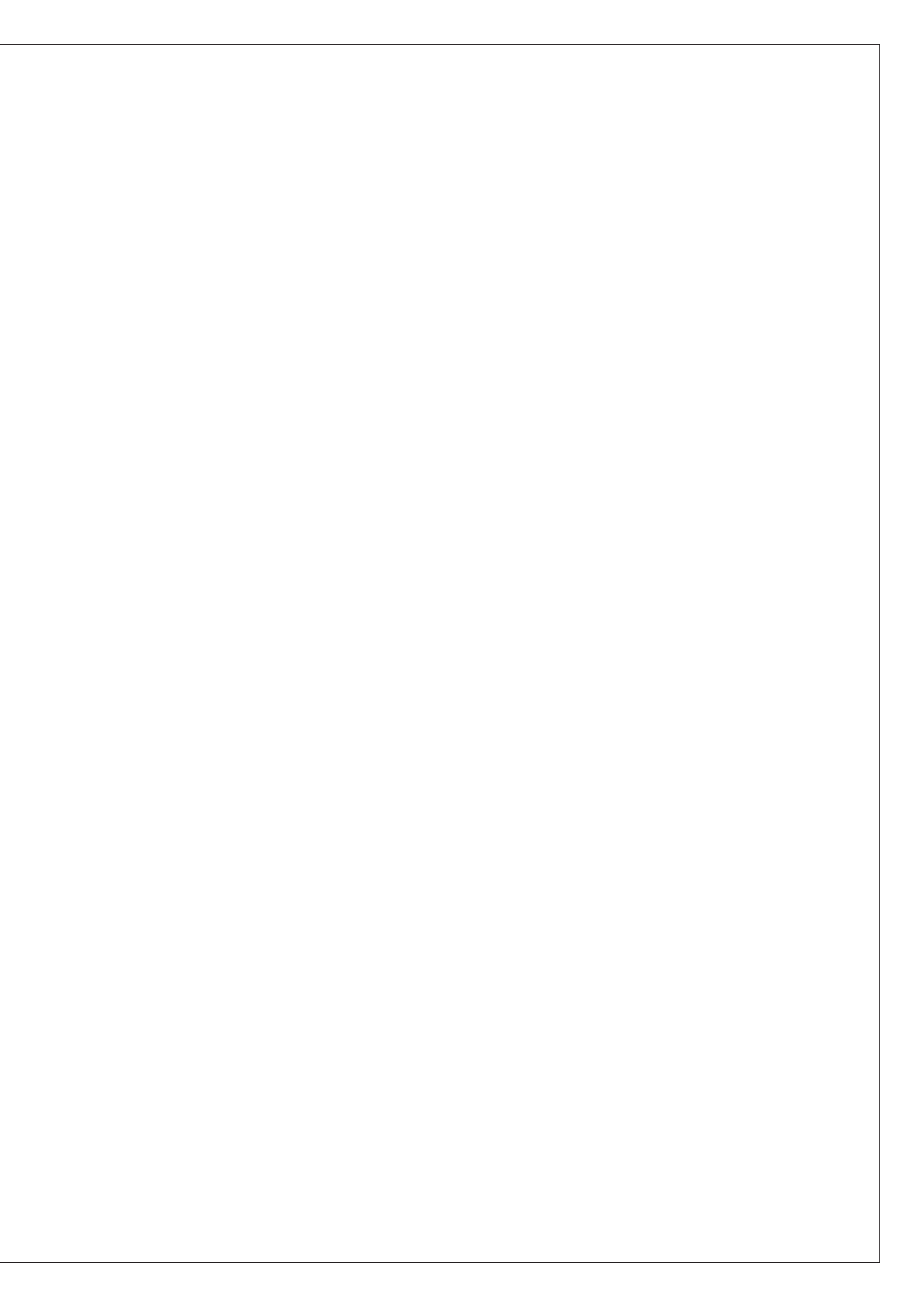
### **MDG 8. Develop a global partnership for development**

- <http://www.euro.who.int/pharmaceuticals>



# NOTES

## NOTES



## 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.

### Member States

Albania  
Andorra  
Armenia  
Austria  
Azerbaijan  
Belarus  
Belgium  
Bosnia and Herzegovina  
Bulgaria  
Croatia  
Cyprus  
Czech Republic  
Denmark  
Estonia  
Finland  
France  
Georgia  
Germany  
Greece  
Hungary  
Iceland  
Ireland  
Israel  
Italy  
Kazakhstan  
Kyrgyzstan  
Latvia  
Lithuania  
Luxembourg  
Malta  
Monaco  
Netherlands  
Norway  
Poland  
Portugal  
Republic of Moldova  
Romania  
Russian Federation  
San Marino  
Serbia and Montenegro  
Slovakia  
Slovenia  
Spain  
Sweden  
Switzerland  
Tajikistan  
The former Yugoslav Republic of Macedonia  
Turkey  
Turkmenistan  
Ukraine  
United Kingdom  
Uzbekistan



9 789289 042024 >

**Original: English**

The Millennium Development Goals (MDGs) are a historic framework providing focus and accountability in addressing some of the world's most pressing development challenges. In the 53 Member States of the WHO European Region, there have been significant advances in meeting some of the MDGs, as evidenced in this report. However, there are also areas where action has stagnated and persisting inequities in progress between and within countries. With only five years left for the fulfillment of many of the MDG targets—and in light of threats including the food price, economic and financial, and environmental crises—now more than ever before the decision to scale up commitment and action is needed.



## World Health Organization Regional Office for Europe

Scherfigsvej 8, DK-2100 Copenhagen Ø, Denmark  
Tel.: +45 39 17 17 17. Fax: +45 39 17 18 18. E-mail:  
postmaster@euro.who.int  
Web site: www.euro.who.int