



WORLD HEALTH STATISTICS 2014

Part II

**Highlighted
topics**

Putting an ending to preventable maternal mortality – the next steps

A major catalyst in the progress made to date in reducing the number of maternal deaths has been the explicitly stated objective of MDG target 5.A to reduce the maternal mortality ratio by three quarters between 1990 and 2015. In addition, the setting of MDG target 5.B on achieving universal access to reproductive-health services has contributed to an accelerated rate of progress. Between the MDG baseline year of 1990 and 2000, the annual rate of decline in the global maternal mortality ratio was 1.4% – between 2000 and 2013 this figure increased to 3.5%. As a result, there were an estimated 289 000 maternal deaths globally in 2013, a decline of 45% from the level in 1990.¹

¹ WHO, UNICEF, UNFPA, United Nations Population Division and the World Bank. Trends in Maternal Mortality: 1990-2013. Geneva: World Health Organization; 2014. In preparation at the time of printing of this report.

Nevertheless, despite the stated aspiration to achieve MDG5 by 2015, it is clear that a number of countries will not reach this goal on time if their currently insufficient rate of progress – or lack of progress – continues (see **Part I: Chart 3**). Recent estimates of national maternal mortality ratios continue to highlight both ongoing global variations (**Fig. 8**) and stark regional inequalities in the lifetime risk of maternal death (**Table 2**).

As 2015 approaches, countries and the international maternal health community are reflecting on the progress made, while at the same time elaborating upon the new targets in the post-2015 landscape that would best encapsulate the ending of preventable maternal deaths. This ambitious but realistic vision to make further significant reductions in maternal mortality ratios is expected to be a key element of the discourse on global development goals beyond 2015. If successful, such a

Figure 8. Variations in national maternal mortality ratio (maternal deaths per 100 000 live births), 2013

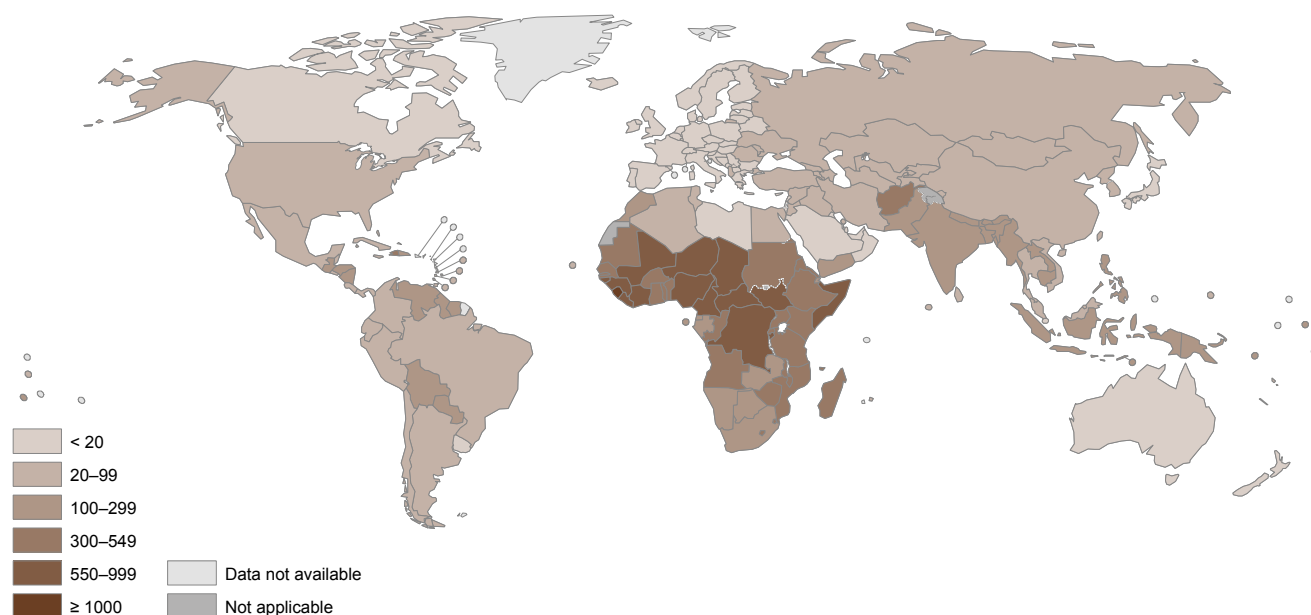


Table 2. Estimated maternal mortality ratio (maternal deaths per 100 000 live births), number of maternal deaths and lifetime risk, by WHO region, 2013¹

Region	Maternal mortality ratio (MMR)	Range of MMR uncertainty		Number of maternal deaths	Lifetime risk of maternal deaths: 1 in
		Lower estimate	Upper estimate		
AFR	500	370	720	171 000	40
AMR	68	52	92	11 000	680
SEAR	190	130	270	68 000	210
EUR	17	14	22	1 900	3300
EMR	170	120	260	26 000	180
WPR	45	32	66	12 000	1200
Global	210	160	290	289 000	190

vision would translate into a maternal mortality ratio of less than 90 per 100 000 live births by 2025, less than 70 by 2030 and less than 50 by 2035 (Fig. 9). With recent demonstrable reductions having been achieved in maternal mortality even in challenging settings, such a target is attainable worldwide.

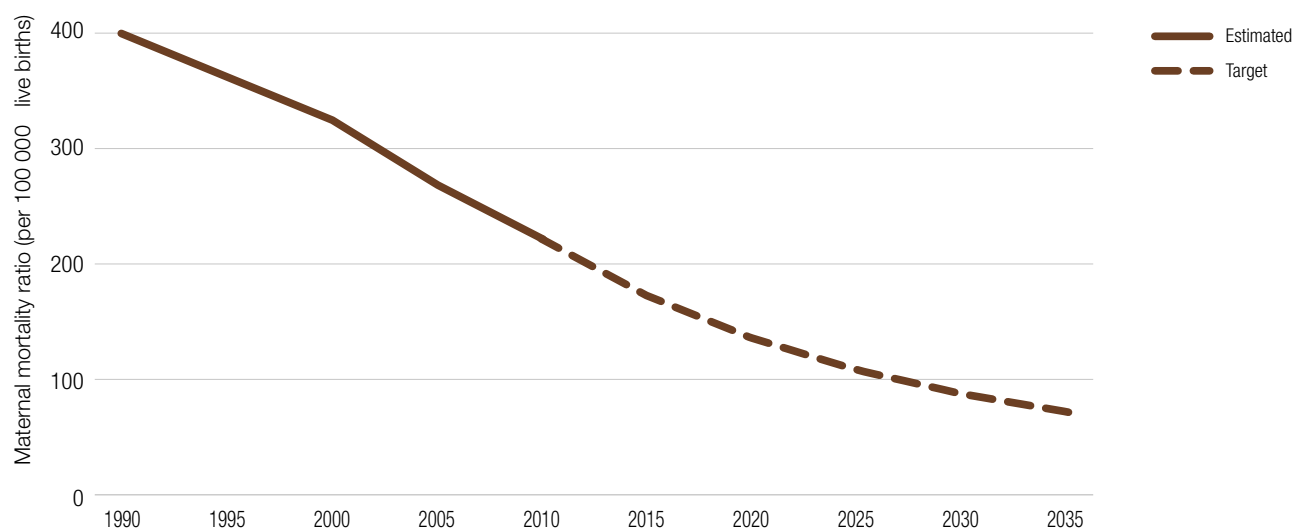
Strategies for achieving and sustaining further reductions in maternal mortality are now needed. Vital to the development of these strategies will be the improved measurement of maternal mortality – documenting not only how many maternal deaths occur but also data on the causes and circumstances leading to each of these deaths. Such information, obtained for example through confidential enquiries or maternal death surveillance and response activities, will enable the coherent development of strategies to respond to needs, target monitoring efforts and ensure collective accountability

and action. Too often, the data that are being collected are of poor quality, bringing only limited returns on the resources used while severely constraining the informed development of programmes and policies. Efforts to understand the causes of maternal death have also been hampered by inconsistency in death attribution, reporting and resultant coding; even within high-quality data sources such as vital registration systems. In 1990, a “checkbox” was added to International Classification of Diseases (ICD) death certificates to indicate whether or not a woman was pregnant, or had recently delivered or terminated a pregnancy. And yet the ongoing misclassification and underreporting of deaths continues to introduce bias into activities aimed at understanding the magnitude and causes of maternal deaths.

In 2010, the Secretary-General of the United Nations launched the Global Strategy for Women’s and Children’s Health to mobilize the commitment of governments, civil society organizations and development partners to accelerate progress towards achieving MDGs 4 and 5. Subsequently, the Commission on Information and Accountability for Women’s and Children’s Health was established to:

¹ WHO, UNICEF, UNFPA, United Nations Population Division and The World Bank. Trends in Maternal Mortality: 1990–2013. Geneva: World Health Organization; 2014. In preparation at the time of printing of this report. See report for regional groupings used.

Figure 9. Estimated and target reductions in global maternal mortality ratio, 1990–2035¹



... determine the most effective international institutional arrangements for global reporting, oversight and accountability on women's and children's health.²

One of the 10 recommendations of the Commission specifically focused on improving the measurement of maternal (and child) deaths. This recommendation requires that:

... by 2015, all countries have taken significant steps to establish a system for registration of births, deaths and causes of death, and have well-functioning health

information systems that combine data from facilities, administrative sources and surveys.²

The increased use of innovative approaches such as mobile Health (mHealth) technologies to strengthen the capture, analysis and application of data will be a vital element in meeting this goal. Improvements in the measurement of maternal deaths must then be used to complement strategies for implementing targeted interventions to reduce maternal mortality.

As part of further reducing the levels of maternal mortality, efforts to ensure equity and maintain a human-rights-based approach will be vital. At the same time, there will be a need to respond to changing demographics, meet the specific needs of women in respect of their reproductive health and strengthen health-care systems. Universal access to high-quality health services, including family planning and information and services for reproductive health (especially for vulnerable and at-risk populations), should be placed at the centre of efforts to achieve the vision of ending preventable maternal deaths.

¹ Bustreo F, Say L, Koblin M, Pullum TW, Temmerman M, Pablos-Mendez A. Ending preventable maternal deaths: the time is now. *Lancet, Global Health*. October 2013;1(4):e176–7. doi:10.1016/S2214-109X(13)70059-7 (<http://www.thelancet.com/journals/langlo/article/PIIS2214-109X%2813%2970059-7/fulltext>, accessed 12 March 2014).

² Commission on Information and Accountability for Women's and Children's Health. *Keeping promises, measuring results*. Geneva: World Health Organization; 2011 (http://www.everywomaneverychild.org/images/content/files/accountability_commission/final_report/Final_EN_Web.pdf, accessed 9 March 2014).

Rising childhood obesity – time to act

Historically, a heavy child was regarded as a healthy child and there was widespread acceptance of the concept of “bigger is better”. Today, such perceptions are changing in the face of evidence that obesity in childhood is associated with a wide range of serious health complications and an increased risk of premature illness. Beyond the increased risk of becoming an overweight adult, overweight children are often diagnosed with at least one additional risk factor for cardiovascular disease, such as elevated blood pressure or raised blood cholesterol. In addition, Type 2 diabetes is increasingly prevalent in young children, with lack of physical exercise and unhealthy diet among the typical risk factors. Further health complications can arise, including joint problems and breathing difficulties. In addition to these physical problems a number of potential psychological health issues are also associated with overweight and obese children. Such children often suffer from poor self-image, low self-confidence and even depression – all of which are health problems that can track into adolescence and adult life.

Since its inception in 1986, the WHO Global Database on Child Growth and Malnutrition¹ has been monitoring patterns and trends in overweight and obese children. One of the objectives of this database is to compile, standardize and disseminate the results of nutritional surveys conducted worldwide. For the last several years a UNICEF, WHO and World Bank initiative has been using the data obtained to derive joint global and regional prevalence and number estimates of child stunting, underweight, wasting and overweight. Resulting from the harmonization of survey data and statistical methods, prevalence estimates are derived

¹ WHO Global Database on Child Growth and Malnutrition [online database]. Geneva: World Health Organization; 2012 (<http://www.who.int/nutgrowthdb>, accessed 15 January 2014).

based on the WHO Child Growth Standards² median for:

- stunting – proportion of children with height-for-age below -2 standard deviations (SD);
- underweight – proportion of children with weight-for-age below -2 SD;
- wasting – proportion of children with weight-for-height below -2 SD;
- overweight – proportion of children with weight-for-height above $+2$ SD and including obesity which is defined as above $+3$ SD.

In 2012, an estimated 44 million (6.7%) of children under 5 years of age were overweight or obese worldwide (**Fig. 10**). Based on this latest figure, the global prevalence of overweight and obese children has grown from around 5% in 1990 to 7% in 2012. In the WHO African Region alone the number of overweight children increased from 4 to 10 million over the same period.

Although such overall estimates give an indication of general direction, overweight trends can vary at country level. As long as the majority of national trends remain moderate and the prevalences of overweight children relatively low (**Fig. 11**) there will be a window of opportunity for preventing further increases. For that reason WHO has proposed to its Member States that efforts now be undertaken to halt any further increase in the prevalence of overweight children globally. This objective was one of the six global nutrition targets for 2025 endorsed by the World Health Assembly in 2012.

² WHO Multicentre Growth Reference Study Group. WHO Child Growth Standards: Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age: Methods and development. Geneva: World Health Organization; 2006 (http://www.who.int/childgrowth/standards/technical_report/en/, accessed 10 March 2014).

Figure 10. Number and prevalence of overweight or obese children – globally, 1990–2012¹

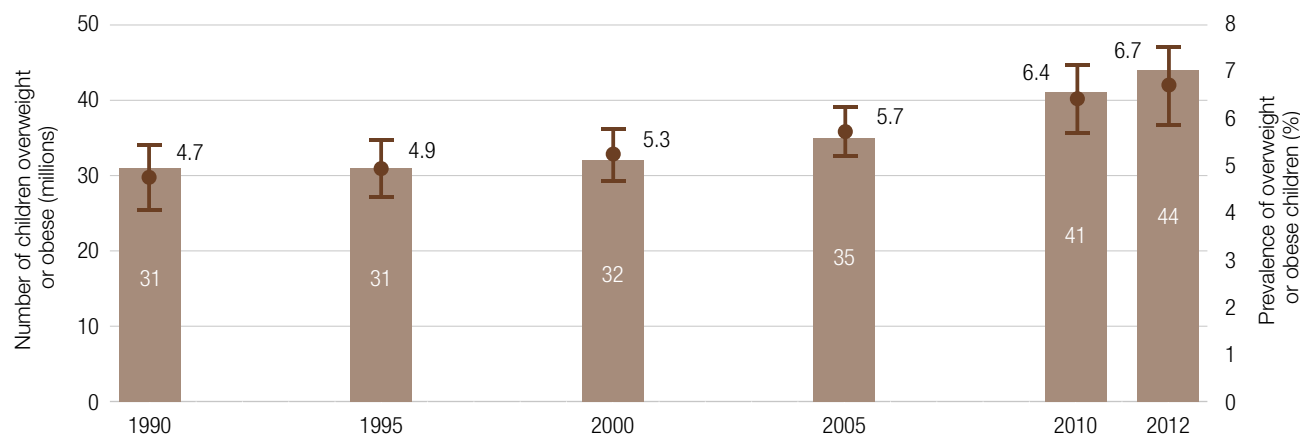
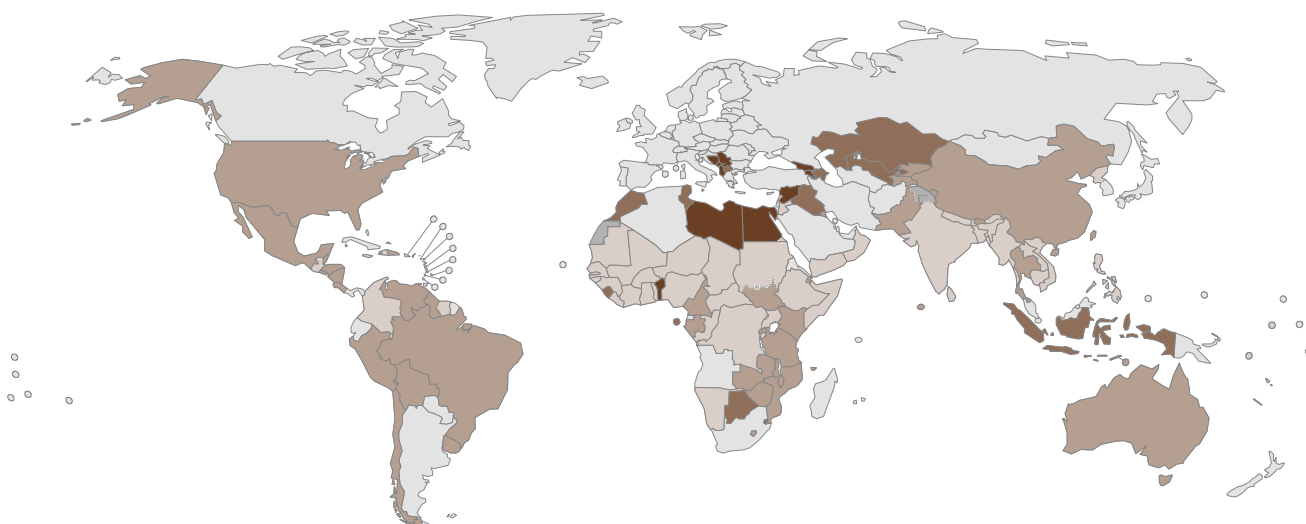


Figure 11. Children aged < 5 years overweight (%), latest available year, 2006–2012



Countries shown without available data may have survey estimates prior to 2006 or use national reference data instead of WHO standards.

Exclusive breastfeeding from birth to 6 months of age is one way to help prevent early child overweight. The WHO Child Growth Standards were based on exclusively breastfed infants to develop a comparison group that reflected good practices. The children included in this cohort were found to be leaner compared with the former international reference used until then. The application of these new standards will thus play an

important role in efforts to prevent increases in the levels of overweight and obese children. Furthermore the application of the WHO standards and associated tools will allow for a comprehensive assessment of child growth to be made. This is important as the use of single indicators alone carries the risk of only partially reflecting the true picture of child nutritional status. Challenges to be tackled include ensuring the availability of adequate equipment and skills for accurately measuring length and height, as this is the key to a comprehensive assessment of childhood undernutrition, overnutrition and stunting.

¹ 2012 Joint child malnutrition estimates – Levels and trends [online database]. New York: UNICEF, Geneva: WHO and Washington, DC: The World Bank (<http://www.who.int/nutgrowthdb/estimates2012>).

Life expectancy in the world in 2012

In 2012, global life expectancy at birth was 68.1 years for men and 72.7 years for women. Among men, life expectancy ranged from a high of 75.8 years in high-income countries to a low of 60.2 years in low-income countries – a difference of 15.6 years (**Fig. 12**). For women, a gap of 18.9 years separates the life expectancy figures in high-income countries (82.0 years) and low-income countries (63.1 years).

As shown in **Table 3**, life expectancy among men is 80 years or higher in nine countries with populations over 250 000, with the highest found in Australia, Iceland and Switzerland (80.5 to 81.2). Among women, the top 10 countries all have life expectancies of 84 years or longer. Women in Japan have the highest life expectancy in the world at 87.0 years, followed by Spain, Switzerland and Singapore.

At the lower end, there are nine countries where both male and female life expectancies are still estimated to be below 55 years. All of these countries are located in sub-Saharan Africa. It should also be noted that estimates of life expectancies in the poorest countries are associated with much greater uncertainty levels due to a lack of reliable data, especially on levels of adult mortality.

Life expectancy at birth has increased by six years since 1990

At the global level both male and female life expectancies have increased by six years since 1990, with gains recorded across all country-income groups (**Fig. 13**). Recent increases have been largest in low-income countries, where both male and female life expectancies increased by around nine years – from 51.2 to 60.2 years for men and from 54.0 to 63.1 years for women. This is more than twice as high as recent gains in high-income countries, and also higher than the gains made in both upper- and lower-middle-income countries.

In low-income countries such gains in life expectancy are equivalent to an average increase of 3 days per week – or 10 hours every day. This has been achieved despite the ongoing HIV/AIDS pandemic affecting many low-income countries in sub-Saharan Africa during this same period. The main driver of this improvement in life expectancy at birth has been the rapid decrease in child mortality seen in many countries over the last decade.

Figure 12. Life expectancy at birth for men and women in 2012, by country income group

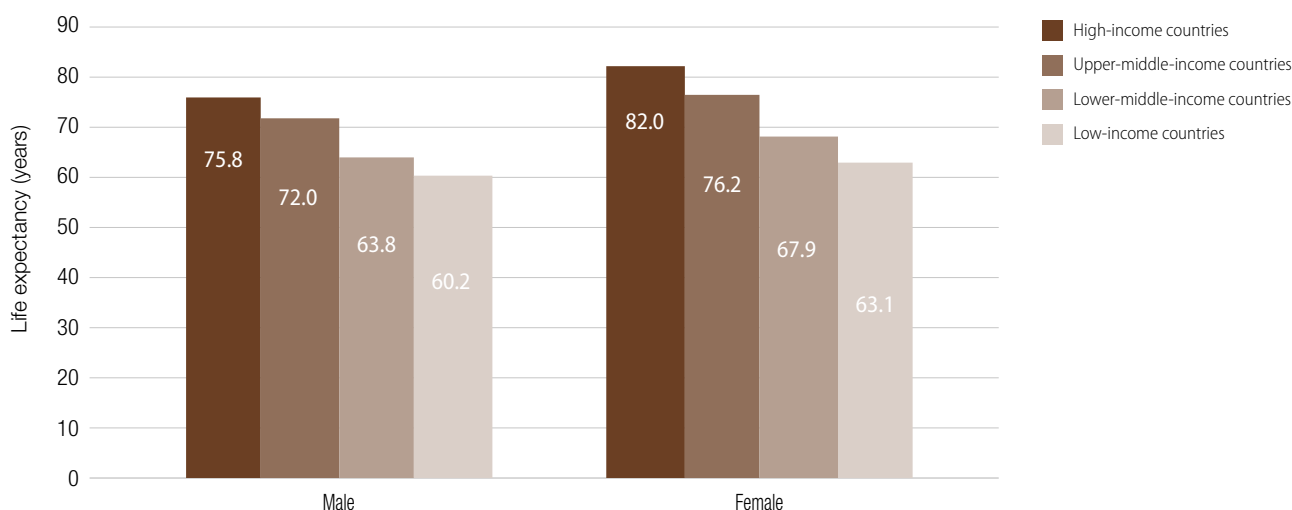
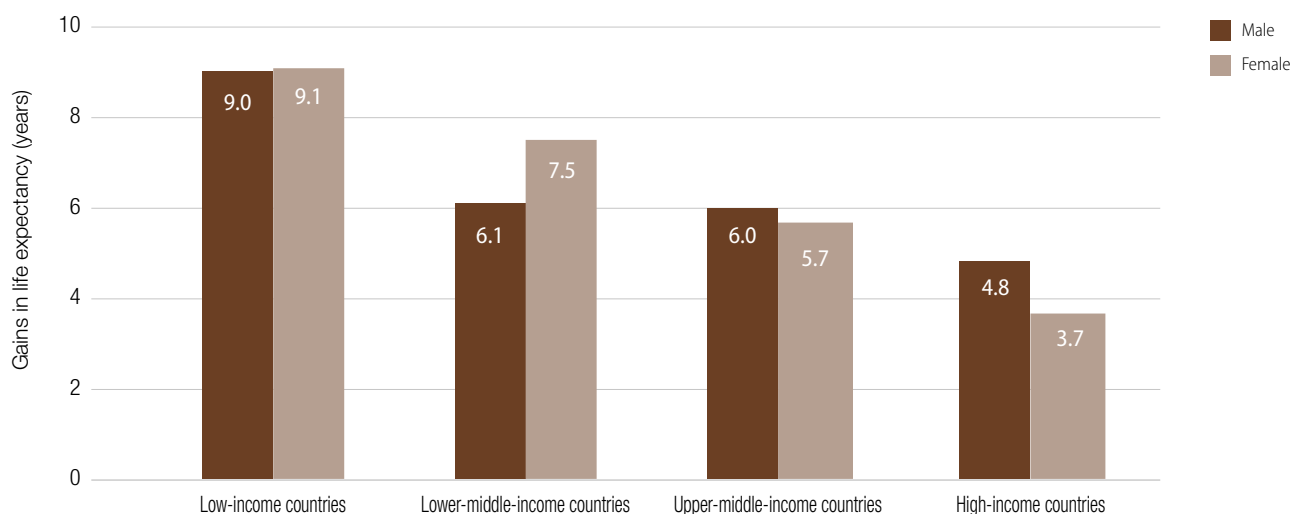


Table 3. Life expectancy at birth among men and women in 2012 in the 10 top-ranked countries

Men			Women		
Rank	Country	Life expectancy	Rank	Country	Life expectancy
1	Iceland	81.2	1	Japan	87.0
2	Switzerland	80.7	2	Spain	85.1
3	Australia	80.5	3	Switzerland	85.1
4	Israel	80.2	4	Singapore	85.1
5	Singapore	80.2	5	Italy	85.0
6	New Zealand	80.2	6	France	84.9
7	Italy	80.2	7	Australia	84.6
8	Japan	80.0	8	Republic of Korea	84.6
9	Sweden	80.0	9	Luxembourg	84.1
10	Luxembourg	79.7	10	Portugal	84.0

Countries with a population below 250 000 are omitted due to uncertainty in life-expectancy estimates.

Figure 13. Years gained in life expectancy 1990–2012, by sex and country income group



At the national level, 24 countries gained more than 10 years in life expectancy (both sexes combined) between 1990 and 2012. Of these countries, 12 were in the WHO African Region and five in the WHO South-East Asia Region, along with Afghanistan, Cambodia, the Islamic Republic of Iran, the Lao People's Democratic Republic, Lebanon, South Sudan and Turkey.

The top six individual gains recorded were in Liberia (19.7 years) followed by Ethiopia, Maldives, Cambodia, Timor-Leste and Rwanda. Among high-income countries, the average gain was 5.1 years, ranging from 0.2 years in the Russian Federation to 9.2 years in the Republic of Korea.

Women continue to live longer than men

Women live longer than men all around the world. The gap in life expectancy between the sexes was 4.6 years in 1990 and had remained the same by 2012. As shown in **Fig. 14**, this gap is much larger in high-income countries (more than six years) than in low-income countries (around three years). There are also differences in trends across different country income groups. Among high-income countries, the gap narrowed by one year; mainly due to larger reductions in recent decades in male smoking rates than in female smoking rates. The experience in low- and middle-income countries has been mixed. Among lower-middle-income countries the gap is widening. However, due to lower-quality data, the reasons for this change are unclear. Potential contributing factors include historical increases in tobacco smoking rates among men but not women, and recent decreases in the maternal mortality ratio.

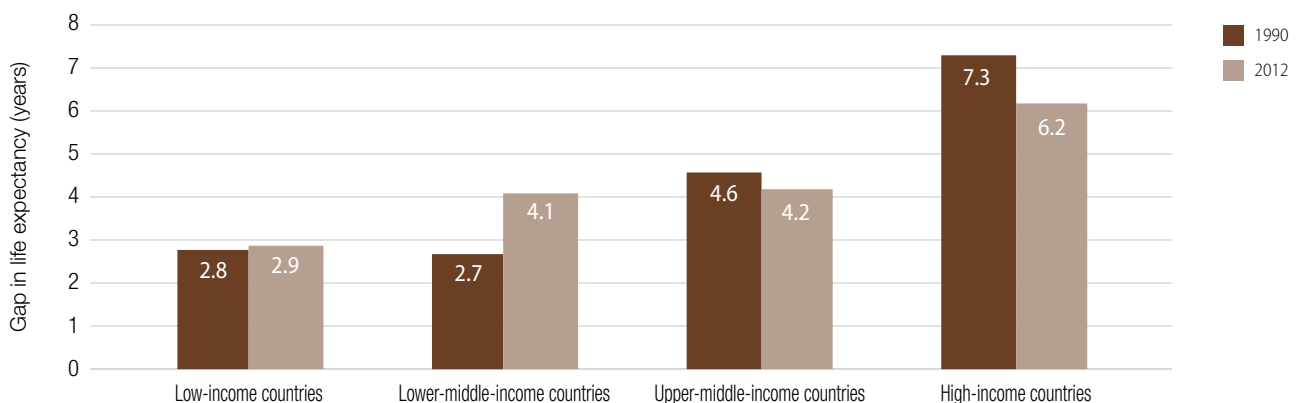
Older adults are also living longer

Globally, between 1990 and 2012, life expectancy at age 60 increased from 16.6 years to 18.5 years for men and from 19.7 years to 21.5 years for women. Life expectancies at age 60 were longer and the increases

larger in high-income countries. In such countries, life expectancy at age 60 had increased by almost as much as life expectancy at birth – around three years for both men and women. By 2012, a 60-year-old Japanese woman could expect to live another 29.1 years, which is a 4.4 year increase on what her prospects would have been in 1990. Much of the impressive gain seen in male life expectancy at birth in Australia stems from reductions in older-age mortality levels. Australian male life expectancy at age 60 increased from 19.0 years in 1990 to 23.8 years in 2012.

Almost all high-income countries collect data on causes of death. These data indicate that falls in mortality from cardiovascular diseases are the main driver of rising life expectancy at age 60 for both men and women. For women, this reduction can probably be attributed in approximately equal measure to improved prevention and management of the metabolic risk factors for cardiovascular disease, such as hypertension, and to improved treatment of cardiovascular conditions. Men have also benefited from declining rates of tobacco use. In low- and middle-income countries, life expectancy at age 60 has improved, but not as quickly as in high-income countries. These increases ranged from one to two years since 1990. Nevertheless, the experience of high-income countries demonstrates that substantial scope exists for improving life expectancy at age 60 in these countries.

Figure 14. Gap in life expectancy between women and men, by country income group, 1990–2012



Years of life lost due to premature mortality – trends and causes

The total number of deaths from specific causes does not provide a good metric for informing public health priorities. Such a measure, for example, assigns the same weight to a death at age 80 as it does at age 30 or even at 1 year of age. The preponderance of noncommunicable diseases (NCDs) such as ischaemic heart disease and cerebrovascular disease in cause-of-death rankings is therefore potentially misleading and may not appropriately reflect the impact of premature mortality.

In **Part III: Table 2**, estimates are presented of the years of life lost (YLL) in 2012 in three broad disease categories. YLL is a measure of premature mortality that takes into account both the frequency of deaths and the age at which it occurs. YLL are calculated from the number of deaths at each age multiplied by

a global standard life expectancy for the age at which death occurs (**Box 1**). The overall patterns of premature mortality at global and regional levels are summarized below in terms of YLL.

What were the leading causes of YLL in 2012?

The top three causes of YLL in 2012 were ischaemic heart disease, lower respiratory infections (such as pneumonia) and stroke. **Fig. 15** summarizes the 20 leading causes of YLL in that year for both sexes combined. Half of the top-20 causes comprise infectious diseases, and maternal, neonatal and nutritional causes (referred to as “MDG conditions”) while the other half consist of NCDs or injuries.

Box 1: YLL due to premature mortality

YLL due to premature mortality are calculated from the number of deaths at each age multiplied by a global standard life expectancy of the age at which death occurs. For the YLL reported in *World Health Statistics 2014*, the standard life table is based on the projected frontier life expectancy for 2050, with a life expectancy at birth of 92 years.¹ The standard reference life table is intended to represent the potential maximum life expectancy of an individual at a given age, and is used for both males and females. A death at birth will thus result in 92.0 YLL, a death

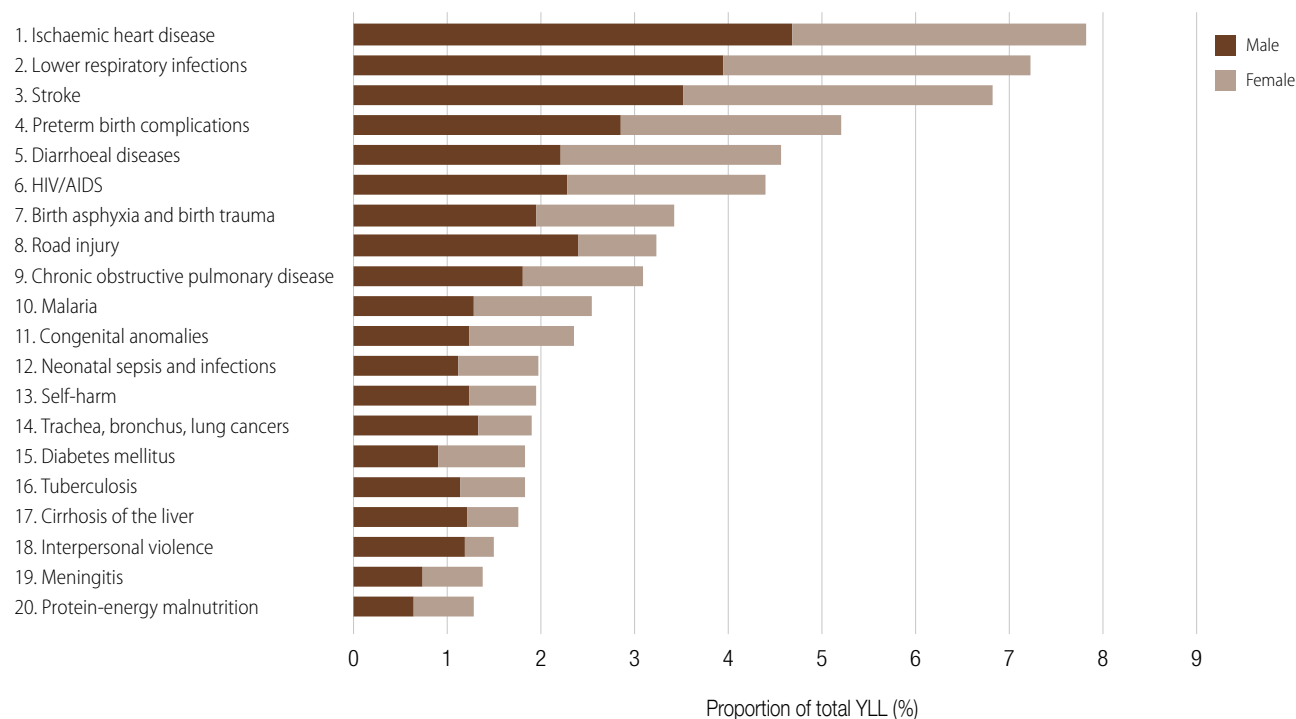
at age 30 in 62.1 YLL and a death at age 70 in 23.2 YLL.

This standard differs from the previous WHO standard which was based on separate life tables for males and females, with life expectancy at birth of 82.5 and 80.0 years respectively. The age weighting and time discounting previously applied in the calculation of YLL are also no longer done. Detailed estimates of YLL for 2000 and 2012 are available by country, region, age, sex and cause of death in the Global Health Observatory.²

¹ WHO methods and data sources for global burden of disease estimates 2000–2011. Global Health Estimates Technical Paper WHO/HIS/HSI/GHE/2013.4. Geneva: World Health Organization; 2013 (<http://www.who.int/healthinfo/statistics/GlobalDALYmethods.pdf?ua=1>, accessed 11 March 2014).

² Global Health Observatory [online database]. Geneva: World Health Organization (<http://apps.who.int/gho/data/node.main.686?lang=en>, accessed 6 March 2014).

Figure 15. The 20 leading causes of YLL – globally, 2012



What causes changed most between 2000 and 2012?

During the period 2000–2012, a major shift occurred in the main causes of YLL, away from MDG conditions and towards NCDs and injuries, with the proportion of YLL due to MDG conditions declining in almost every country in the world. Countries in which MDG conditions were responsible for the most YLL in 2000 are generally those in which the greatest reductions have taken place, including many African countries. Countries are, however, in very different stages of this epidemiological transition (**Fig. 16**). For example, there are 22 African countries in which MDG conditions are still responsible for more than 70% of all YLL. At the other end of this epidemiological shift, there are 47 countries in which MDG conditions cause less than 10% of all YLL.

What are the main contributors to change?

As outlined in the previous highlight section, the world has witnessed major gains in life expectancy in recent decades. This has resulted from a substantial decline in YLL for almost all of the leading causes for the year

2000 (**Fig. 17**). The biggest declines have been observed for measles (79% lower in 2012 than in 2000) followed by diarrhoeal diseases (40% lower), malaria (32% lower) and tuberculosis (32% lower).

Globally, the proportion of YLL resulting from NCDs has increased from 38% in 2000 to 47% in 2012. This reflects the successes achieved in reducing mortality from a number of leading communicable diseases. Combined with reduced levels of neonatal, infant, child and maternal mortality, and the resulting substantial increases in life expectancy now seen in many developing countries, people are increasingly surviving to ages at which NCDs are the primary causes of death. Of the leading 15 causes of YLL shown in **Fig. 17**, ischaemic heart disease and stroke were two of the three causes for which YLL increased between 2000 and 2012. Such changes also have implications for overall rankings as ischaemic heart disease overtook lower respiratory infections as the leading cause of YLL in the world. The 14% increase in YLL due to road injury deaths reflects increasing levels of motorization in developing countries which more than outweighs reductions in YLL caused by road injuries in developed countries. In contrast, global YLL decreased for several other important causes of injury, for example suicide (–12%) and drowning (–23%).

Figure 16. Countries are at different stages of the epidemiological transition away from MDG conditions as the main causes of YLL



Figure 17. Changes in YLL due to leading causes – globally, 2000–2012

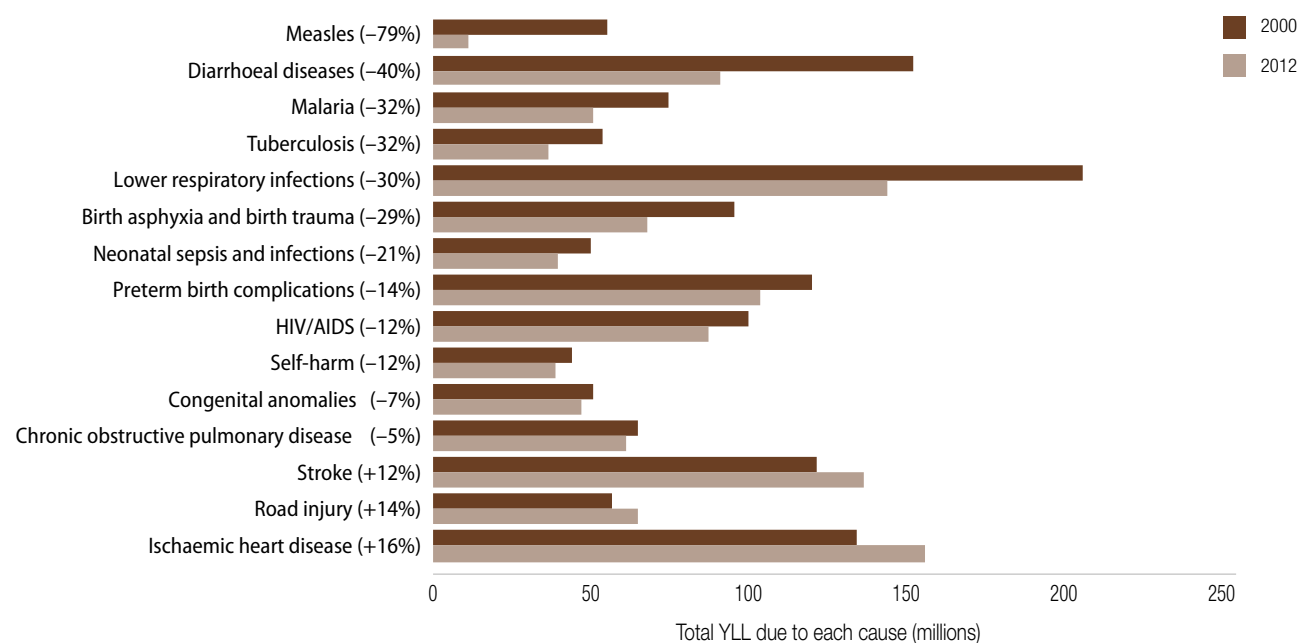
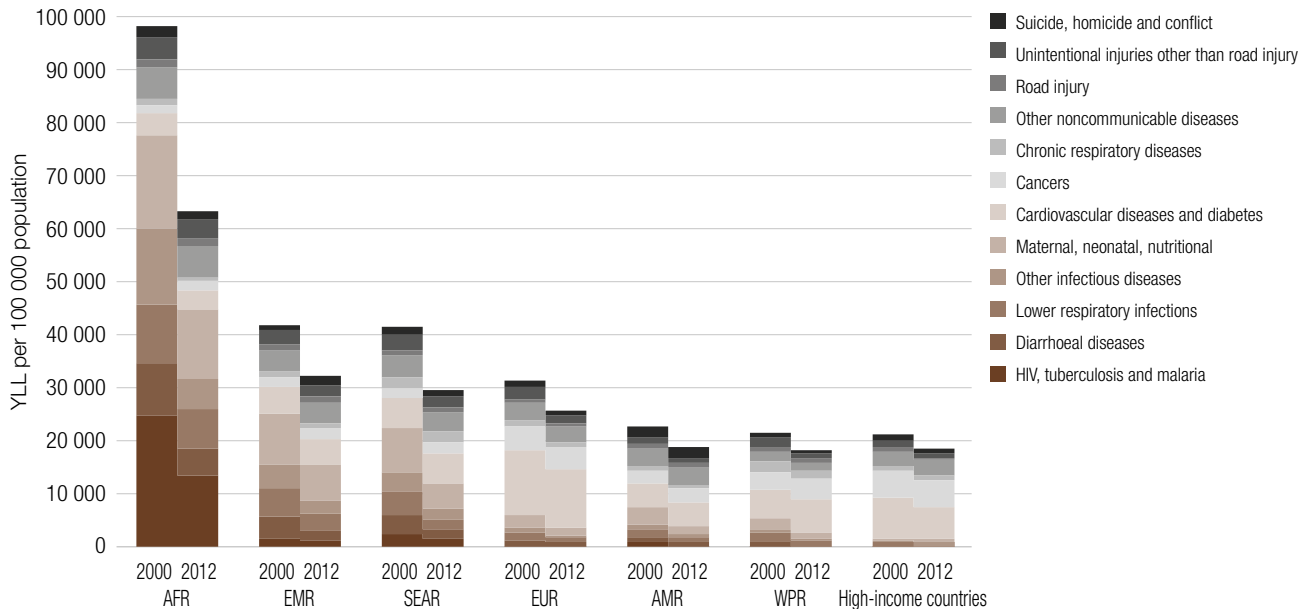


Figure 18. Contribution of major causes of death to YLL per 100 000 population in low- and middle-income countries in each WHO region and in high-income countries worldwide, 2000 and 2012



What are the patterns of YLL in different WHO regions?

Fig. 18 summarizes the contribution made by major causes of death to premature mortality rates (measured in terms of YLL per 100 000 population) in low- and middle-income countries in each of the six WHO regions, as well as in high-income countries worldwide. In the WHO African Region, the level of YLL due to communicable diseases alone exceeds the level due to all causes combined in each of the other regions. When maternal, neonatal and nutritional conditions are added, these causes account for around 70% of all YLL in the WHO African Region in 2012, compared with less than 50% in the WHO South-East Asia Region and WHO Eastern Mediterranean Region. In even greater contrast, such causes account for only 8% of YLL in high-income countries. Also clearly shown in **Fig. 18** is the continuing impact of HIV, tuberculosis and malaria on YLL in the WHO African Region, despite recent substantial reductions in these and other MDG conditions. Despite a 36% fall in the overall YLL rate for the WHO African Region following such reductions the level of YLL in this region remains twice that of the next-highest region.

The impact of cardiovascular diseases as a cause of premature mortality in eastern Europe is apparent in **Fig. 18**, especially compared with high-income countries. Recent research has highlighted the role of alcohol and alcohol-drinking patterns in contributing to this very high level of premature mortality,¹ which results in male YLL rates for this region being 40% higher than those for males in high-income countries. In 2012. The impact of high levels of cardiovascular diseases and injuries in males results in a male–female YLL ratio of 1.54 in eastern Europe – higher than that observed in any other part of the world except Latin America and the Caribbean.

The contribution made by injuries to YLL rates ranges from a high of 21% of YLLs in 2012 in Latin America and the Caribbean to a low of 10% in the WHO African

¹ Zaridze D, Lewington S, Boroda A, Scélo G, Karpov R, Lazarev A et al. Alcohol and mortality in Russia: prospective observational study of 151 000 adults. *Lancet*, Early Online Publication. 31 January 2014. doi:10.1016/S0140-6736(13)62247-3 (<http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2813%2962247-3/abstract>, accessed 12 March 2014).

Region. This two-fold variation across regions conceals much higher variations for some of the specific causes of injuries. For example, there is a 17-fold variation in interpersonal violence (highest in Latin America and the Caribbean; lowest in eastern Europe) and a 29-fold variation in burns (highest in the WHO African Region; lowest in Latin America and the Caribbean).

The YLL metric clearly highlights that, despite the considerable gains made, the global aspiration to substantially reduce mortality from MDG conditions has not yet been achieved in parts of the world – particularly in Africa, the Middle East and South Asia. This same metric provides compelling evidence of the need to now accelerate efforts to address the substantial and growing burden of premature mortality caused by NCDs as the world moves towards the post-2015 global health agenda.

Civil registration and vital statistics – the key to national and global advancement

Complete information from a civil registration and vital statistics (CRVS) system – that is, the registering of all births and all deaths and the recording of causes of death – represents one of the most valuable assets a country can have. Not only does the registration of births, deaths and other vital events provide individuals with critical documentation that enables them to realize a range of economic and social rights, the production of reliable information on fertility, mortality and causes of death in a population is central to governance, and to health, economic and social policy-making. Cause-specific mortality statistics by age, sex and geographical location derived from civil registration systems are instrumental in guiding national, regional and global health priorities.

Reporting cause-of-death statistics

Although reliable cause-of-death reporting is crucially important in health policy development and planning, cause-of-death reporting remains one of the most challenging aspects of CRVS. Overall, only around one third of all deaths worldwide are recorded in civil registries along with cause-of-death information.¹

In order to produce globally comparable cause-of-death statistics, countries should use the International Classification of Diseases (ICD) as the standard for classifying causation. The ICD is updated and revised to reflect the latest knowledge available on the etiology of major diseases and health conditions. **Fig. 19** shows the number of reporting countries over time along with an indication of which revision of the ICD

was used. One striking feature has been the variable time lag between the introduction of a new revision of the ICD and its roll-out in countries. From ICD-7 to ICD-8 and from ICD-8 to ICD-9 the adoption of each new revision happened relatively quickly. However, the corresponding rate of change from ICD-9 to ICD-10² was slower, and it took until 2005 (around a decade) to achieve a level of 90% of countries using ICD-10. Some countries – including Denmark, Switzerland and Turkey – never adopted ICD-9, moving instead directly from ICD-8 to ICD-10. WHO is currently developing the 11th revision of the ICD. From a statistical perspective, ICD revision presents a number of challenges due to breaks in the statistical series. Although WHO recommends that countries maintain dual systems for a period of transfer from one revision to the next, this represents a considerable burden for coders and is not always done. Moreover, interim updates of the ICD between major revisions also occur, making the tasks of coders even more complex.

As is also shown in **Fig. 19**, only around 32 countries regularly reported cause-of-death information in the mid-1950s. This number increased to 66 countries in the mid-1970s and to 90 countries in the mid-1990s. Since then, however, the average number of countries annually reporting cause-of-death information in line with the ICD has virtually stagnated at 97 out of a total of 194 countries.

There is also a huge disparity among countries in the production of cause-of-death statistics. Whilst high-income countries have been generating such information on a routine basis for many years, the majority of low- and middle-income countries continue to struggle

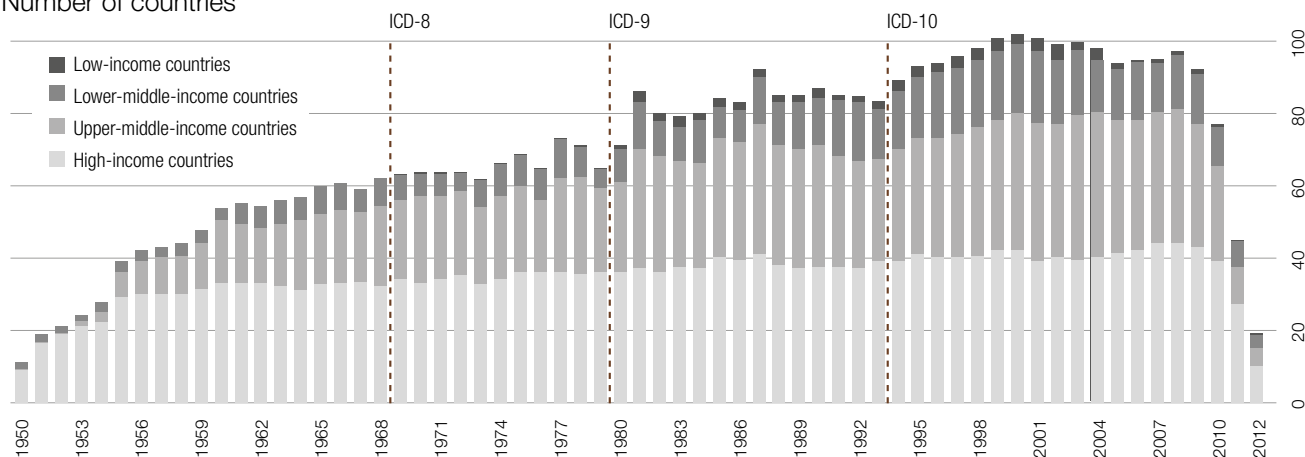
¹ World Health Statistics 2012. Geneva: World Health Organization; 2012 (http://apps.who.int/iris/bitstream/10665/44844/1/9789241564441_eng.pdf?ua=1&ua=1, accessed 12 March 2014).

² International Statistical Classification of Diseases and Health Related Problems, Tenth Revision, 2010 Edition. Geneva: World Health Organization; 2012 (<http://apps.who.int/classifications/icd10/browse/2010/en>, accessed 31 March 2014).

Figure 19. Trends in cause-of-death data reporting, by country income group and by ICD revision

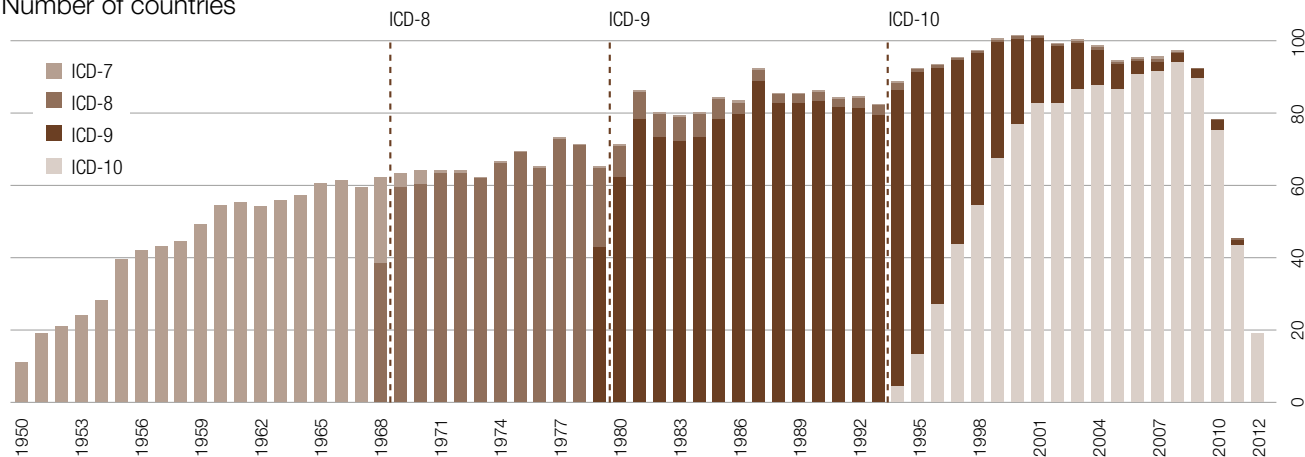
By income group

Number of countries



By ICD

Number of countries



Because of the typically observed lag of 18–24 months before countries report finalized latest data, it should not be inferred from these charts that reporting for the most recent years has decreased.

The implementation year of the ICD revisions are indicated by the dashed lines.

to produce cause-of-death statistics due to dysfunctional CRVS systems, outdated legal frameworks, lack of awareness and capacities for accurate cause-of-death certification on the part of physicians, and lack of training and capacities among statistical coders.

Nevertheless, over the last decade several countries have made remarkable progress in the collection of cause-of-death data, including the Islamic Republic of Iran, South Africa and, lately, Turkey. This development is part of a broader approach to strengthening CRVS systems in order to register all births and deaths, and to accurately record all causes of death.

Laying the foundations for strengthened CRVS systems – a global momentum

Demand for CRVS as a foundation of legal identity and vital policy data has resulted in an increased global momentum and commitment towards improvement. Many countries are systematically assessing their CRVS systems, including in terms of the role health systems can play in improving them (see below). In some countries, national-level committees have been established to oversee CRVS systems improvement in accordance with carefully developed national plans. In many countries high-level political commitment exists for the strengthening of CRVS systems, and for the reporting of progress through regional structures. For example:

- In Africa, ministers with responsibility for civil registration have endorsed CRVS systems strengthening as a priority, and will meet with ministers of health at the end of 2014 to consider the best way forward.
- In Asia-Pacific, senior officials have endorsed a regional approach to CRVS, and ministers for civil registration, health and statistics will meet in late 2014 to endorse a regional plan. In addition, Pacific health ministers have twice endorsed the importance of CRVS systems strengthening as a priority activity.
- In the WHO Eastern Mediterranean Region, health ministers have endorsed a plan for country-level improvement of CRVS systems, with most countries

in the region having now completed comprehensive national CRVS systems assessments.

- In Latin America, significant work has been undertaken to strengthen both civil registration and vital statistics, with progress reported annually to health ministers on a regional committee.

It is clear that global political commitment to CRVS systems strengthening is growing, and that countries are now taking the further steps necessary to assess and plan the improvements that continue to be urgently needed.

CRVS systems strengthening – creating strong foundations for a global resource

The health sector is not only a beneficiary of CRVS information – it is also a strong contributor to the CRVS system. Several countries, including Mozambique, have shown that they can make progress in improving CRVS through their health sector. In many well-functioning systems, the health sector contributes information which confirms events such as births and deaths, while medically certifying the cause of death. In less-functional systems, a strong focus on demonstrating results and accountability for health outcomes has resulted in an upsurge in health-sector interventions to track vital events – notably births, deaths and causes of death – in order to better understand the scale of the challenges in areas such as maternal and under-five mortality, and to develop and monitor interventions for addressing them.¹

Some countries report partial cause-of-death information using interim approaches such as Sample Registration with Verbal Autopsy (SAVVY), mortality surveillance in selected sites, or through hospital-reporting systems – as occurs, for example in the Lao People's Democratic Republic. Trials of new technologies, such as maternal and child health tracking systems and mobile phone notifications of births and deaths, are being

¹ World Health Statistics 2012. Geneva: World Health Organization; 2012 (http://apps.who.int/iris/bitstream/10665/44844/1/9789241564441_eng.pdf?ua=1&ua=1, accessed 12 March 2014).

tested using community health structures. These and other approaches and developments will be crucially important in the provision of future support for CRVS system improvements in countries.

In December 2013, a joint technical meeting was organized by WHO and partner agencies on strengthening CRVS systems through innovative approaches in the health sector. The outcome report of this meeting¹ highlighted the role of the health sector in this endeavour, and identified a range of principles and good practices by which it could best contribute to broader CRVS system strengthening. Meeting participants also acknowledged the growing global momentum towards improving CRVS systems and highlighted the means by which the health sector could play its full part in this effort.

CRVS systems and the data and information they generate are increasingly being acknowledged as invaluable assets in driving forward national and global advancement. In the past three years, greater global awareness and national political commitment has been achieved in this area than has ever been the case previously. Recently, a United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) regional steering group declared a “CRVS decade” with the explicit target of achieving universal civil registration and generating high-quality vital statistics.²

It is clear that without well-functioning CRVS systems that capture all births, all deaths and all causes of death there will be no “data revolution” to drive the

health aspirations of the post-MDG agenda.³ With an ever-increasing focus now being placed on sustainable results, the role of the health sector in strengthening CRVS systems will only become more prominent, and will involve the harnessing of technological and other innovations as key enablers of progress. Building on current commitments and on the progress already made, the systematic strengthening of CRVS systems must become a crucial focus of action for 2015 and beyond.

¹ Using innovative approaches in the health sector to strengthen and modernize civil and vital statistics (CRVS) systems: guiding principles and good practices. Report of a technical meeting sponsored by WHO in collaboration with Canada, UNICEF, USAID and the World Bank, 17–18 December 2013, Geneva (http://www.who.int/healthinfo/civil_registration/crvs_meeting_dec2013_report.pdf?ua=1, accessed 13 March 2014).

² UNESCAP Regional Steering Group for CRVS 2014 [Communiqué]. First Meeting of the Regional Steering Group for Civil Registration and Vital Statistics (CRVS) in Asia and the Pacific. 11 December 2013, Bangkok (<http://www.unescap.org/sites/default/files/RSG%20CRVS%20Communique.pdf>, accessed 13 March 2014).

³ A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development. The Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, 2013 (<http://www.post2015hlp.org/wp-content/uploads/2013/05/UN-Report.pdf>, accessed 13 March 2014).