Chapter 2

Health

Key findings

- Women live longer than men in all regions.
- Two out of every five deaths of both women and men in Africa are still caused by infectious and parasitic diseases.
- Women are more likely than men to die from cardiovascular diseases, especially in Europe.
- Breast cancer among women and lung cancer among men top the list of new cancer cases globally.
- Women constitute the majority of HIV-positive adults in sub-Saharan Africa, North Africa and the Middle East.
- The vast majority of the over half a million maternal deaths in 2005 occurred in developing countries.
- The proportion of pregnant women receiving prenatal care is on the rise in many regions.
- Despite intensified efforts for reduction, Africa remains the region with the highest child mortality.
- Data reveal no significant disparity in the proportion of underweight girls and boys.

Introduction

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.[1] The 1995 Beijing Platform for Action emphasizes that women have the right to the enjoyment of the highest attainable standard of physical and mental health.[2] Equipping women with the necessary knowledge and skills to fulfil their health potential is essential to their own well-being as well as that of their children and families. Tackling gender inequalities in the provision of health services will enable all women and men to enjoy healthier lives and ultimately lead to greater gender equality in all areas.

The Millennium Development Goals (MDGs) were adopted in 2000 by UN Member States. Three of the eight MDGs are directly related to health.[3] The three goals are Goal 4 – reduce child mortality, Goal 5 – improve maternal health and Goal 6 – combat HIV/AIDS, malaria and other diseases. Other goals and targets are indirectly related to health, for example, Goal 1 – eradicate extreme poverty and hunger. Not all of the 20 MDG indicators related to health include a gender dimension, which limits their usefulness in terms of evaluating and comparing the health of women and men, or girls and boys, over time and across countries.

The health status of women and men is known to be different during their life courses. This can be partly explained by their biological and physical differences. At the same time, gender norms and values in a given culture, coupled with the resulting socio-economic status and behavioural choices of women and men, can also give rise to gender inequalities in health and access to health care. This chapter reviews the statistical evidence on the global health situation of women and men with particular attention to the sex differentials. Among the dimensions explored from a gender perspective are life expectancy, causes of death, health risk factors and morbidity, HIV and AIDS,

1 WHO, 1948

2 United Nations, 1995a, para. 89.

3 WHO, 2005.

Table 2.1
Life expectancy at birth by region and sex, 1990–1995, 2000–2005 and 2005–2010

	Women			Men		
	1990–1995	2000–2005	2005–2010	1990–1995	2000–2005	2005–2010
Africa						
Northern Africa	68	72	73	64	68	69
Southern Africa	64	51	52	59	49	51
Eastern, Middle and Western Africa	54	55	57	50	52	54
Asia						
Eastern Asia	74	76	77	69	71	72
South-Eastern Asia	66	70	72	62	66	67
Southern Asia	59	65	67	57	62	64
Central Asia	68	70	70	61	61	62
Western Asia	72	75	76	67	71	72
Latin America and the Caribbean						
Caribbean	75	76	77	69	71	72
Central America	73	76	77	67	70	71
South America	72	75	76	66	69	70
Oceania	68	71	73	64	67	68
More developed regions						
Eastern Europe	75	76	77	66	68	69
Western Europe	80	82	83	74	76	78
Other more developed regions	80	83	83	74	77	78

Source: Computed by the United Nations Statistics Division based on data from United Nations, *World Population Prospects: The 2008 Revision* (2009).
Note: Unweighted averages.

reproductive health and the health of children. It should be noted that sometimes the geographical regions employed in this chapter are different from those used elsewhere in this report due to the groupings used in the sources of data. This is indicated in the text where relevant.

A. Life expectancy at birth

1. Levels of and trends in life expectancy at birth

As discussed briefly in Chapter 1 – Population and families, the world witnessed remarkable declines in mortality in the latter half of the twentieth century. This was due to a number of interrelated factors. Overall improvements in living conditions and nutrition, together with advances in medicine and medical treatments, accounted for the reduction everywhere. In addition, improvements in public health in developing countries meant that fewer people died of infectious and parasitic diseases. Expanded immunization programmes also protected a growing number of children from childhood diseases, contributing to significant reductions in infant and child mortality.[4]

Life expectancy at birth denotes the average number of years a newborn child can expect to live given the current levels of mortality in a country. Derived from age-specific mortality rates, it is an indicator that can provide a picture of the overall health status of populations and also allows for investigating the longevity of women and men separately.

It is well known that women live longer than men. This biological advantage for women begins at birth. However, societal, cultural and economic factors can affect the natural advantage females have over males. Studies show that "the gender gap in mortality is smaller in developing countries… because in many of these countries, women have much lower social status than men" and are exposed to risks associated with childbirth, factors that can equalize life expectancies.[5] In developed countries, the gap in life expectancy at birth may decrease as women adopt unhealthy behaviours similar to those of men,[6] such as smoking and drinking.

Women live longer than men in all regions

Table 2.1 shows the life expectancy at birth for women and men since 1990–1995 to quantify

4 United Nations, 2001.

5 Yin, 2007.

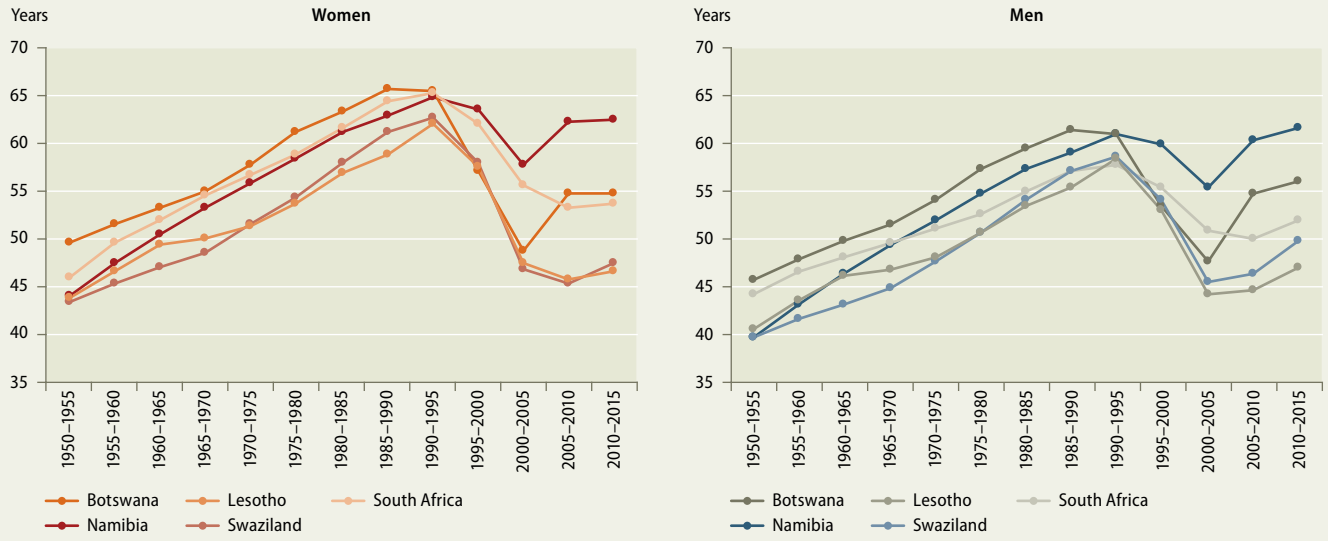
6 Ibid.

recent sex differentials in health. As seen in the table, women's life expectancy at birth exceeded men's in all regions and time periods observed. In 2005–2010, life expectancy at birth was highest in the more developed regions (excluding Eastern Europe) at around 83 years for women and 78 years for men. Women's life expectancy in three regions/sub-regions – Latin America and the Caribbean, Eastern Asia and Western Asia – ranged between 76 and 77 years, while men's was between 70 and 72 years. Life expectancy at birth was the lowest in Southern Africa (52 years for women and 51 years for men) and the rest of sub-Saharan Africa (57 and 54 years, respectively).

Since 1990–1995, life expectancy at birth has increased for both women and men worldwide, with relatively large gains in Northern Africa, South-Eastern Asia and Southern Asia (see table 2.1). The exception to this trend is Southern Africa, which experienced marked decreases in life expectancy during the 1990s due to the spread of the HIV/AIDS epidemic and resulting increases in mortality (see box 2.1). More recently, however, there have been some improvements in life expectancy for women and men in the region due to the development and enhanced availability of medical treatments for HIV, which have led to lower mortality. Hence, life expectancy at birth

Box 2.1

Life expectancy dropped sharply in Southern Africa during the 1990s



Source: United Nations, *World Population Prospects: The 2008 Revision* (2009).

HIV/AIDS, which emerged in the 1980s, had a devastating impact in various regions during the 1990s. This was particularly striking in Southern Africa, resulting in sharp drops in life expectancy in all five countries in the region. By the early 1990s, life expectancy at birth in these countries had reached over 60 years for women and 55 years for men. Within a decade, however, the figure for women declined approximately 7 years in Namibia, 10 years in South Africa and more than 15 years in Botswana, Lesotho and Swaziland.

Men's expectation of life also severely suffered during the same period in these countries. The most affected were men in Lesotho, where the life expectancy dropped by about 14 years in the period 1990–1995 to 2000–2005, and approximately the same declines took place in Botswana and Swaziland. Life expectancy for men in South Africa in the same period fell 7 years and in Namibia around 5 years.

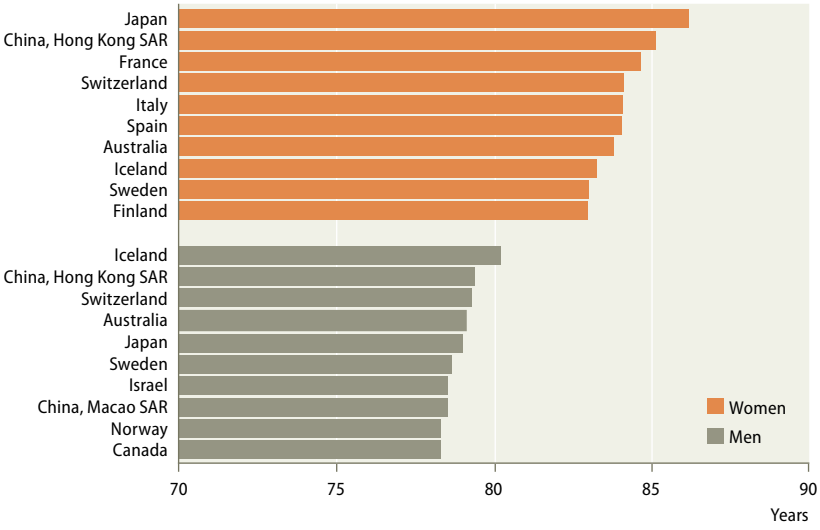
By the late 2000s, the life expectancy at birth for men started showing signs of recovery in all five countries. For women, however, only Botswana and Namibia recorded an increase, and a declining trend continued in Lesotho, South Africa and Swaziland. Consequently, the life expectancy at birth for women in Lesotho and Swaziland fell almost to the level it had been in the late 1950s.

for women in the Southern Africa region, which dropped from 64 to 51 years between1990–1995 and 2000–2005, slightly recovered to 52 years by 2005–2010. The trend was the same for men in the region: the figure declined from 59 to 49 years between 1990–1995 and 2000–2005, followed by a modest rise to 51 years in 2005–2010.

Following the collapse of communist regimes, the region of Eastern Europe and the former USSR saw dramatic decreases in longevity during the late 1980s and early 1990s.[7] Between the 1990–1995 and 2005–2010 periods, however, there was a noticeable recovery. The increase was more pronounced for men and ranged from one to five years for most countries. Research shows that this was mainly due to reductions in cardiovascular mortality.[8]

As shown in table 2.1, there were varying trends in sex differences in life expectancy at birth at the sub-regional level. Between 1990–1995 and 2005–2010, half of the sub-regions listed narrowed the gender gaps in life expectancy at birth (Southern Africa, rest of sub-Saharan Africa, Western Asia, Eastern Asia, Caribbean, Eastern Europe, Western Europe and Other more developed regions). In these regions, larger increases in life expectancy for men than women contributed to the convergence except for Southern Africa. In contrast, in two regions (Southern Asia and Oceania) sex differences became wider over time due to larger gains made by women than men. Five regions that showed no change in the difference between female and male life expectancy were South-Eastern Asia, Central America, South America and Central Asia.

Figure 2.1
World's highest life expectancies at birth by sex, 2005–2010



Source: United Nations, *World Population Prospects: The 2008 Revision* (2009).

7 Notzon and others, 1998.

8 Meslé, 2004.

2. Sex differentials in life expectancy at the country level

At the level of countries or areas, women in Japan could expect to live longer than women in any other country in the world, namely 86 years (see figure 2.1). The highest life expectancy at birth for men, however, was only 80 years, recorded in Iceland. Both women and men in China, Hong Kong SAR had the second highest life expectancies in the world (85 and 79 years, respectively).

The countries or areas with the lowest life expectancies at birth for both women and men were concentrated in Africa, along with Afghanistan (see figure 2.2). The lowest life expectancies for women and men were in Afghanistan (44 years for both) and in Zimbabwe (44 years for women and 43 years for men). In contrast to the high life expectancy countries or areas, where sex differentials were noticeably large with greater advantage for women, the gaps were relatively small in countries or areas with low life expectancies.

There are large gaps between women and men in the Russian Federation and the former Soviet republics in terms of their life expectancy

In 2005–2010, the largest sex difference in life expectancy in the world was found in the Russian Federation, where women lived on average 13 years longer than men (73 vs. 60 years). Several other countries of the former USSR also showed differences greater than 10 years between male and female life expectancy at birth (see Statistical Annex). At the opposite end of the spectrum, women in Swaziland lived a little under one year more than men; women and men in Afghanistan lived approximately the same number of years (about 44, as noted above). Other countries with close parity in life expectancy by sex included Botswana, Kenya and Zimbabwe in Africa and Pakistan in Asia.

B. Causes of death

The Tenth revision of the International Classification of Diseases (ICD-10), endorsed in 1990, is internationally recommended for registering

causes of death. Over 100 countries reported detailed information on deaths to the World Health Organization (WHO) in 2007.[9] However, data on causes of death in developing countries are far from complete, and considerable uncertainty exists as to their quality. The following discussion focuses on the differences in the causes of death by sex, primarily using data available from WHO.

1. Deaths grouped by broad causes

In the ICD, deaths are grouped into three overarching categories by cause: (1) deaths from communicable, maternal, perinatal and nutritional conditions; (2) deaths from non-communicable diseases; and (3) deaths from injuries. Using these three broad categories, figure 2.3 depicts the percentage distribution of the causes of death for women and men for 1990, 2000 and 2004 when the most recent data are available. The figure shows that, by 1990, non-communicable diseases were already the most important causes of death for both sexes at the world level. In 2004, they caused 62 per cent of female deaths and 58 per cent of male deaths, while deaths from communicable diseases represented nearly a third of female and male deaths and those from injuries made up 7 per cent of deaths for females and 12 per cent for males. Thus, while the overall patterns of causes of death are similar for women and men, women are more likely than men to die from non-communicable diseases and less likely to die from injuries.

On a global level, women and men exhibited a similar trend in the causes of death between 1990 and 2004: the likelihood of dying from a non-communicable disease slightly increased over time while that from a communicable disease declined. This trend is in line with the so-called "epidemiologic transition theory", which stipulates a transition in which "degenerative and man-made diseases"[10] displace pandemics of infection as the primary causes of morbidity and mortality.[11] While the use of such broad cause groups can help attest to the transition, it is important to recognize that deaths attributable to traditional communicable diseases coexist today with those attributable to non-communicable diseases. Also, with lifestyle or behavioural changes, such as increases in tobacco and alcohol use, the number of deaths caused by non-communicable diseases could

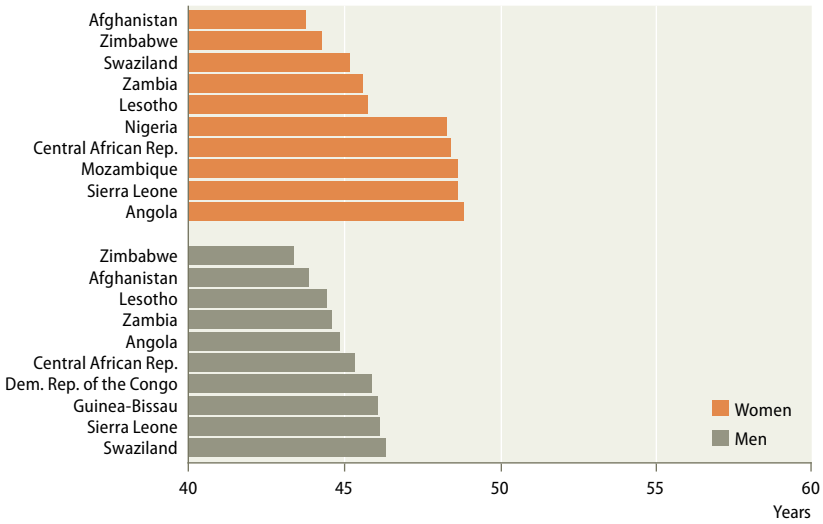
9 WHO, 2009a.

10 Omran, 1971.

11 Ibid.

Figure 2.2

World's lowest life expectancies at birth by sex, 2005–2010



Source: United Nations, *World Population Prospects: The 2008 Revision* (2009).

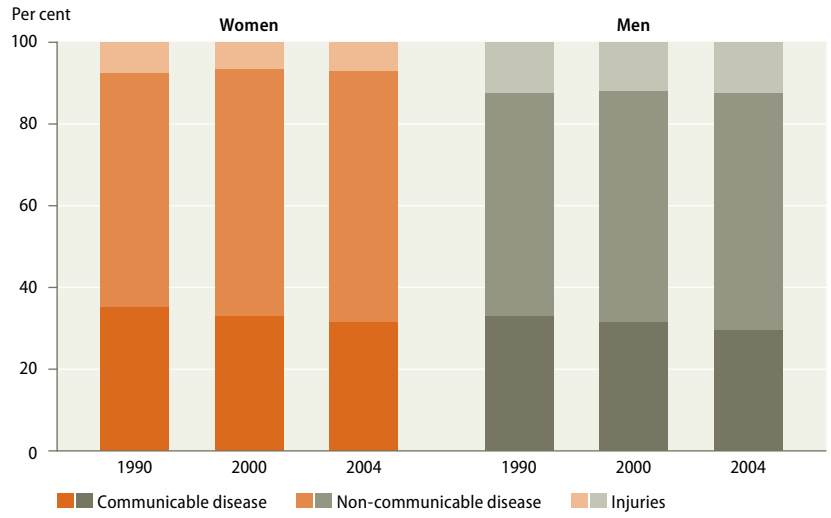
increase further. During the period, the proportion of women and men that died from injuries remained almost unchanged.

2. Leading causes of death

Delving further into specific causes of death and how these are distributed by cause and sex leads to a better understanding of the health situation

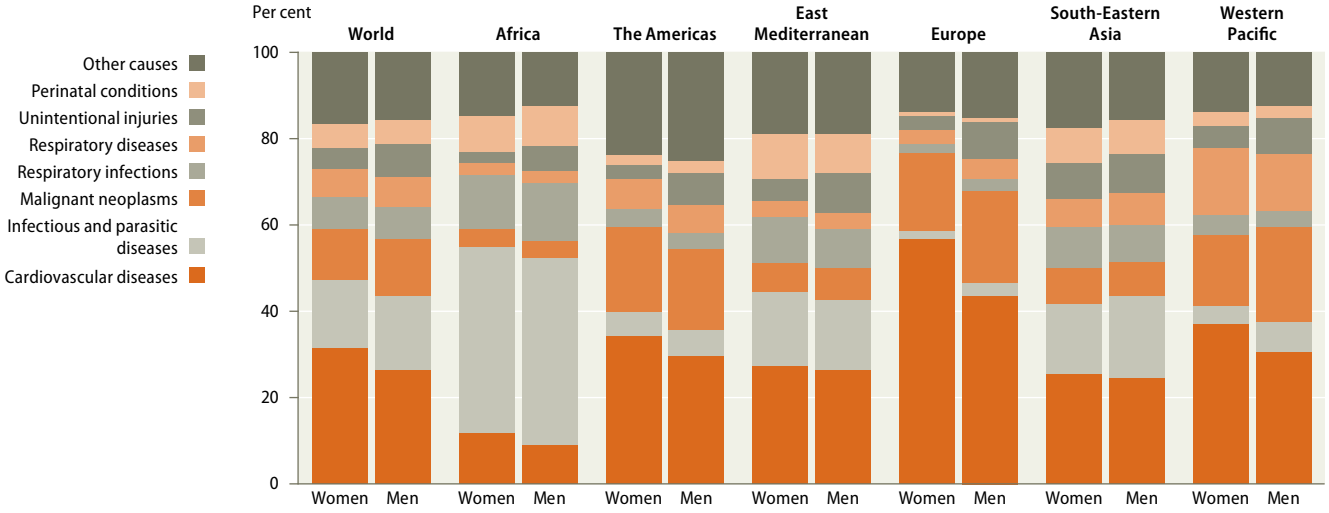
Figure 2.3

Distribution of deaths by three major categories of cause of death and by sex, world, 1990, 2000 and 2004



Sources: Murray and Lopez, *The Global Burden of Disease* (1996), annex table 6I; WHO, *Global Burden of Disease: 2004 Update* (2008).

Figure 2.4
Distribution of deaths by selected causes and by sex, world and regions, 2004



Source: Computed by the United Nations Statistics Division based on data from WHO, *Global Burden of Disease: 2004 Update* (2008).
Note: Unweighted averages. Other causes includes Congenital anomalies, Diabetes mellitus, Digestive diseases, Endocrine disorders, Genitourinary diseases, Intentional injuries, Maternal conditions, Musculoskeletal diseases, Neuropsychiatric conditions, Nutritional deficiencies, Oral conditions, Other neoplasms, Sense organ diseases and Skin diseases.

for women and men. Using lower levels of classification, figure 2.4 highlights the differences in the main causes of death by region[12] and by sex. Globally, cardiovascular disease was the leading cause of death in 2004, causing approximately 32 per cent of female deaths and 27 per cent of male deaths. Infectious and parasitic diseases, including diarrhoea and HIV/AIDS, were the second leading cause of death for both women and men, accounting for about 17 per cent of the total for each. Cancers (or *malignant neoplasms* in medical terminology) ranked third for both sexes in terms of importance, but claimed slightly more deaths among men than women.

The distribution of deaths by cause varies significantly among geographical regions

However, there were considerable variations in the causes of death across major geographical regions, which may stem from differences in demographic structure and prevalence of diseases as well as behavioural factors that are specific to a region. Thus, for example, Africa stands out for its disproportionately high incidence of deaths due to infectious and parasitic diseases (43 per cent for both women and men in 2004). In 2007, sub-Saharan Africa saw an estimated 1.5 million AIDS deaths[13] (see also the section of HIV/AIDS in this chapter). The risk of dying from malaria is also high in Africa. In 2008, there were 243 million malaria cases, causing 863,000 deaths globally, with one out of every 10 cases occurring in sub-Saharan Africa.[14]

The second leading cause of death in Africa after infectious and parasitic diseases was respiratory infections (13 per cent for both women and men), followed by cardiovascular diseases (12 per cent for women and 9 per cent for men). Hence, the overall patterns of leading causes of death showed little differences by sex in Africa, though women were somewhat more likely to die from cardiovascular diseases and men were more likely than women to die from unintentional injuries. It should be noted that deaths related to maternal conditions accounted for 5 per cent of the total female deaths in Africa as opposed to only 2 per cent of female deaths worldwide (data not shown).

In Europe, by contrast, the share of deaths caused by infectious and parasitic diseases was almost negligible, and sex differentials in causes of death

12 Throughout the causes of death section, the regional grouping is based on the WHO regions, which do not correspond directly to the regional groupings based on the UNSD classification used elsewhere in the chapter.

13 UNAIDS, 2008a.

14 WHO, 2009b.

were more pronounced. The majority of female deaths (57 per cent) in this region were attributable to cardiovascular diseases, while for males these accounted for 44 per cent of the total. Higher female than male mortality from cardiovascular diseases may be partly due to the fact that many women in the region survive to the ages at which such diseases take their largest toll.[15] Cancer was the second leading cause of death for both sexes in Europe. Unintentional injuries ranked third as a cause of death in terms of importance but affected more men than women.

Women in Europe are more likely than men to die from cardiovascular diseases

The distribution of deaths by cause is somewhat similar between the Americas and Western Pacific, with cardiovascular diseases as the most important cause of death and cancer as the second for both sexes. As was the case for Europe, cardiovascular diseases led to higher mortality among women than men. The likelihood of dying from respiratory diseases is higher in Western Pacific than in any other region, and such deaths made up 16 per cent of the total deaths for women there and 13 per cent for men.

In Eastern Mediterranean and South-Eastern Asia, causes of death were more diverse than in other regions: while cardiovascular diseases and infectious and parasitic diseases were the two leading causes, neither constituted more than 30 per cent of the total. In South-Eastern Asia, the share of deaths caused by infectious and parasitic diseases was higher for men (19 per cent) than women (16 per cent).

3. Cancer morbidity and mortality

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. While people of all ages are affected, the risk usually increases with age and the number of cases is rising worldwide partly because of ageing populations. Already, it is the third leading cause of death at the global level, accounting for about 12 per cent of female deaths in 2004 and 13 per cent of male deaths in 2004 (see previous section).

The most recent global estimates on new cancer cases and cancer deaths were produced by Garcia and others by applying age-specific cancer rates from GLOBOCAN 2002[16] to the corresponding age-specific population for 2007.[17] According to the estimates, there were more than 12 million new cancer cases in the world that year. An estimated 7.6 million people also died of cancer in 2007 – more than 20,000 people every day. Men outnumber women in terms of both new cancer cases and cancer deaths. Looking in depth at data on cancer morbidity and mortality reveals marked sex differences in terms of cancer site.

Breast cancer for women and lung cancer for men head the list in new cases of cancer

The percentage distribution of the number of new cases and deaths attributed to cancer site for women and men is summarized in table 2.2. Around the world, the two most commonly diagnosed cancers among women are related to their reproductive functions. Breast cancer was the most common, accounting for 23 per cent of new cases, which was more than double the second most common – cervix uteri cancer – which made up 10 per cent. Other common cancer sites among women included colon/rectum, lung/bronchus, ovarian and stomach. In the more developed regions, breast cancer (27 per cent), colon/rectum cancer (14 per cent), lung/bronchus cancer (8 per cent) taken together represented nearly half of newly diagnosed cancers. Cancer of the cervix, which is linked to chronic infectious conditions and therefore preventable, was less common in the more developed regions and ranked only seventh in terms of importance accounting for only 4 per cent of new cases.

Among men at the global level, lung cancers including bronchus cancers had the highest incidence, representing 17 per cent of total new cases, followed by prostate cancer (12 per cent) and colon/rectum cancer and stomach cancer (10 per cent each). Lung cancer, which is considered highly related to tobacco use, was equally common in the more developed and less developed regions. The incidence of prostate cancer was notably high among men in the more developed regions, with the largest proportion or 19 per cent of the total. Indeed, nearly three quarters of recorded prostate cancer cases occurred in the more developed countries, which could be partly due to improved detection.

15 United Nations, 2001.

16 GLOBOCAN 2002 is a project of WHO to estimate the incidence and prevalence of and mortality from 27 cancers for all countries in the world in 2002.

17 Garcia and others, 2007.

Table 2.2
Number of new cancer cases and cancer deaths and percentage distribution by site, for women and men, 2007

	World		More developed regions		Less developed regions	
	New cases	Deaths	New cases	Deaths	New cases	Deaths
Women						
Breast	23	14	27	16	19	13
Cervix uteri	10	9	4	3	15	13
Colon/Rectum	9	9	14	13	6	6
Lung/Bronchus	8	11	8	14	7	10
Ovary	4	4	4	5	4	4
Stomach	7	9	5	7	8	10
Other sites	40	44	38	42	42	45
Total	**100**	**100**	**100**	**100**	**100**	**100**
Number (in thousand)	**5717**	**3314**	**2479**	**1272**	**3168**	**2022**
Men						
Colon/Rectum	10	7	13	11	6	5
Esophagus	5	7	..	3	8	9
Liver	8	11	3	5	12	15
Lung/Bronchius	17	22	18	28	16	19
Prostate	12	6	19	9	5	4
Stomach	10	12	7	9	14	14
Other sites	38	35	40	36	39	34
Total	**100**	**100**	**100**	**100**	**100**	**100**
Number (in thousand)	**6615**	**4335**	**2948**	**1648**	**3587**	**2658**

Source: Computed by the United Nations Statistics Division from Garcia and others, *Global Cancer Facts and Figures* (2007), p. 3.
Note: Unweighted averages. The total number excludes non-melanoma skin cancer. Estimates for regions combined do not sum to worldwide totals. Due to rounding, the sum of categories might not equal 100. New cases of esophagus cancer for men in more developed regions included in the other sites category.

The distribution of cancer deaths by site is somewhat different from that of new cases, as it reflects, in addition to the degree of awareness and detection practices, the availability and quality of medical treatments, which vary by type of cancer. Worldwide, breast cancer topped the cancer deaths among women with an estimated 465,000 deaths annually. It contributed 14 per cent of total cancer deaths, despite making up 23 per cent of new cancer cases, suggesting that it has a relatively lower mortality rate than other cancers. If it is caught early enough, women (or men) have a high survival rate, which emphasizes the importance of early detection through the use of medical tools such as mammography screening.[18]

In the more developed regions, cancer deaths among women were primarily from breast cancer, lung/bronchus cancer and colon/rectum cancer. Breast cancers in high-income countries could be associated with factors such as increasing longevity, being overweight, the use of hormone replacement therapy, lack of breastfeeding practices and low fertility.[19] In the less developed regions, breast and cervix uteri cancers are the most common, contributing about 13 per cent each to the total cancer deaths. Cervix cancer can be prevented by regular screening examinations using a PAP smear and the removal of any pre-cancerous lesions. While PAP smears are relatively easy to administer in low resource settings compared to technologically intensive mammography, such services are not yet readily available in many developing countries.

For men, lung cancer accounted for the largest share or 22 per cent of total cancer deaths globally. In the more developed regions, deaths due to lung cancer made up as much as 28 per cent of cancer deaths, more than colon/rectum cancer. In the less developed regions, one out of five cancer deaths were caused by lung/bronchus cancer, while liver and stomach cancers were also common cancer sites.

C. Morbidity and health risk factors

Morbidity refers to a diseased state, disability or poor health due to any cause. It is well known that demographic, socio-economic and environmental

18 "Mammography is a low-dose x-ray procedure that allows visualization of the internal structure of the breast" and is considered highly accurate. See American Cancer Society, 2007.

19 WHO, 2008b.

factors as well as biological risk factors affect the types of diseases individuals develop. In addition, some behavioural factors can be linked to increases in morbidity. For instance, alcohol consumption, tobacco use, lack of physical activity and poor nutrition status can result in negative health outcomes. The research shows that men are more likely than women to gravitate toward higher risk behaviours such as cigarette smoking, heavy drinking and gun use.[20] This section addresses sex differentials in selected health risk factors, namely alcohol consumption and tobacco use, as well as morbidity due to obesity and diabetes.

1. Alcohol consumption

Sex-disaggregated data on alcohol consumption are not widely available as the measurement of alcohol use can be challenging to obtain due to different cultural norms, drink sizes and the amount of alcohol used in the drinks.[21] Nonetheless, it is important to discuss alcohol consumption from a gender perspective as it affects the health of women and men differently through chronic illness or accidents.[22] For example, an extreme effect is seen in the Russian Federation where, according to a recent study, alcohol associated excess in mortality accounts for 59 per cent of deaths in men and 33 per cent of deaths in women aged 15–54 years.[23]

Alcohol is addictive for both women and men. However, men tend to consume more than women in all regions of the world.[24] According to data[25] available from WHO, the percentages of current drinkers[26] were more similar between women and men in the more developed regions than in the less developed ones.[27] For example, 81 per cent of women and 89 per cent of men in Eastern Europe were reported as drinkers in 2000. The largest gender differences in alcohol consumption were found in the sub-region of the Western Pacific[28], where 30 per cent of women and 84 per cent of men were current drinkers. The lowest percentages of women and men who drink alcohol were found in regions where the majority of the population was Muslim. Thus, only 1 per cent of females in the Eastern Mediterranean region[29] were reported to be current drinkers compared to 17 per cent of men.

Men are more likely than women to be current drinkers in all countries and at all ages

Figure 2.5 shows the percentage of current drinkers by sex and age group in selected developing countries in the early 2000s.[30] The proportion varied greatly among the eight countries observed. However, it revealed that men were more likely than women to be current drinkers in all the countries and at all ages. Striking gender differences in alcohol consumption characterized India and Sri Lanka, where less than 10 per cent of women in all age groups were current drinkers compared to between 24 and 40 per cent of Indian men and over 50 per cent of Sri Lankan men. While there was a general trend that the percentage of current drinkers declined with age, older age groups were reported to be drinking more than younger ones in Nigeria and Uganda. Argentinean women and men had the highest levels of current drinkers among the eight countries.

Engagement of young people in heavy alcohol consumption is often a public health concern. Research shows that in general boys drink more than girls. For example, in the Czech Republic almost a third of males aged 18–24 years consumed five or more standard drinks in one sitting at least once a week, compared to only 9 per cent of 18–24 year old females.[31] Boys were not only more likely than girls to drink but also to drink heavily, except in several European countries where levels of drinking among young females had risen to or surpassed those among young males.[32]

2. Tobacco use

Similar to alcohol consumption, tobacco use is more common among men than women. In many countries women have traditionally not smoked or used tobacco as frequently as men. However,

20 Yin, 2007.

21 Bloomfield and others, 2003.

22 WHO, 2004.

23 Zaridze and others, 2009.

24 Wilsnack and others, 2005.

25 Throughout the section on alcohol consumption, the regional grouping is based on the WHO regions.

26 Current drinkers are defined as people who have taken an alcoholic drink in the past 12 months.

27 Wilsnack and others, 2005.

28 WHO sub-region Western Pacific B (e.g. China, Philippines and Viet Nam).

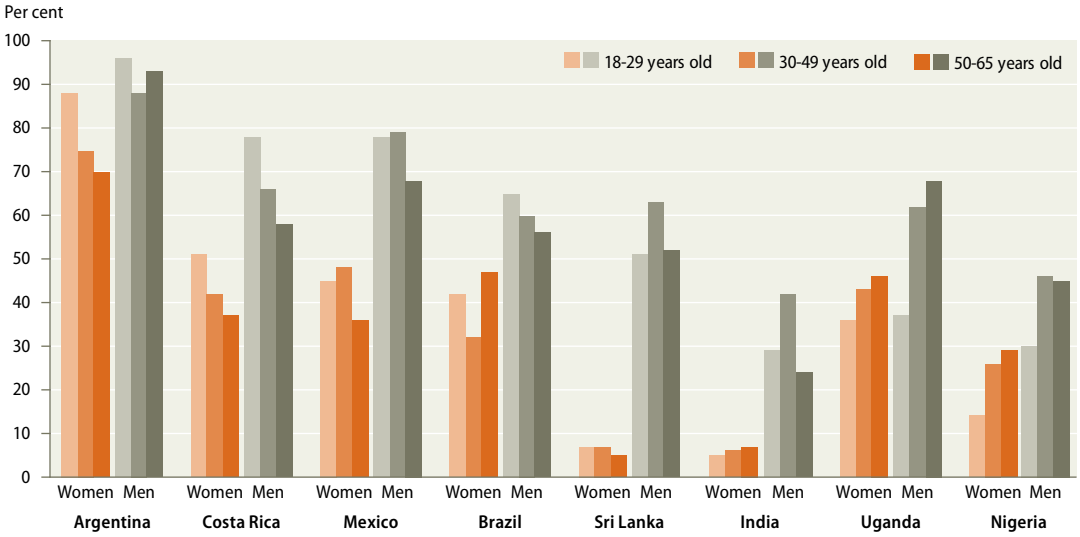
29 WHO sub-region Eastern Mediterranean D (e.g. Afghanistan, Pakistan).

30 Data are from Obot and Room, 2005. This was a collaborative effort to better understand the gender dimensions of alcohol use in various cultural settings.

31 WHO, 2004.

32 Jernigan, 2001.

Figure 2.5
Current drinkers by age group and sex, selected developing countries, early 2000s



Source: Room and Selin, Problems from men's and women's drinking in eight developing countries (2005), p. 214.

the rise in tobacco use among younger females in high-population countries is one of the most ominous potential developments of what is described by WHO as an epidemic.[33] In particular, smoking during pregnancy can harm both a women and her unborn baby, causing a number of problems including preterm delivery, low birth weight and sudden infant death syndrome. Many smoking cessation programmes, therefore, target pregnant women as a priority population.

The gender gap in tobacco use is small in the more developed regions and in South America

As figure 2.6 clearly depicts, males are more likely to smoke than females regardless of the world[34] region. The proportion of smokers among persons aged 15 years and over ranged from 10 per cent in Central America to 52 per cent in Eastern Asia for males and from less than 1 per cent in Northern Africa to 23 per cent in Western Europe for females. The highest prevalence rates of female smokers apart from Western Europe were Eastern Europe (21 per cent), South America (17 per cent) and Other more developed regions (16 per cent). For males, tobacco use exceeded 30 per cent in many regions: Eastern Asia (52 per cent), Eastern Europe (43 per cent), South-Eastern Asia (36 per cent) and Central Asia (32 per cent). The largest differences between the percentage of females and males smoking cigarettes were found in Eastern Asia, South-Eastern Asia, Northern Africa and Central Asia. The gender gap in tobacco use was relatively small in the more developed regions and in South America.

While there are still significant differences between females and males in the level of smoking in many regions, a recent WHO study found alarming increases in tobacco use among women, particularly in Eastern, Central and Southern Europe.[35] It was found that in most European Union countries, teenage girls were as likely to smoke as boys, if not more so. At the country level, more women than men reported smoking cigarettes in Sweden. For example, an estimated 18 per cent of Swedish females and 15 per cent of Swedish males smoked cigarettes daily.[36]

Figure 2.7 displays the prevalence of smoking in ten selected countries of Eastern and South-Eastern Asia. Among these countries, the proportion of men who smoke cigarettes daily ranged from 30 per cent in Thailand to 58 per cent in Indonesia. The prevalence of smoking in China is 57 per cent, which yields over 300 million male smokers there.[37] In contrast, the prevalence of smoking among females

33 WHO, 2008c.

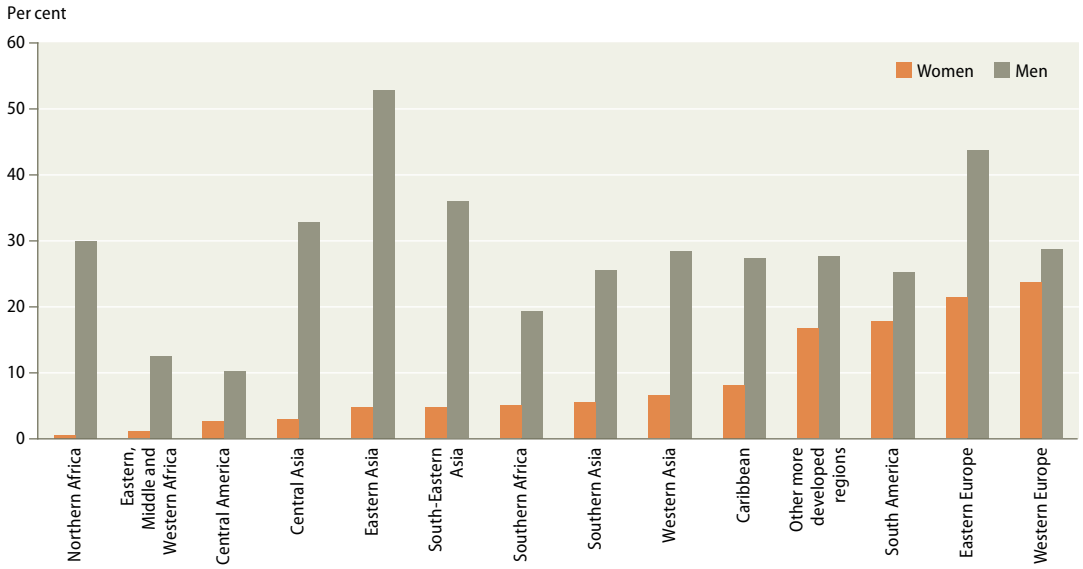
34 For this analysis, prevalence of daily cigarette smokers (at least 1 cigarette per day) was used. Data are age-standardized estimates considered comparable across countries; they are taken from Appendix III of WHO, 2008c. Estimates prepared are based on the latest available surveys on tobacco use prevalence from 135 Member States. (See the Technical Note II and Appendix III of the above report for more detailed information on the data criteria and selection).

35 WHO, 2008c .

36 Ibid.

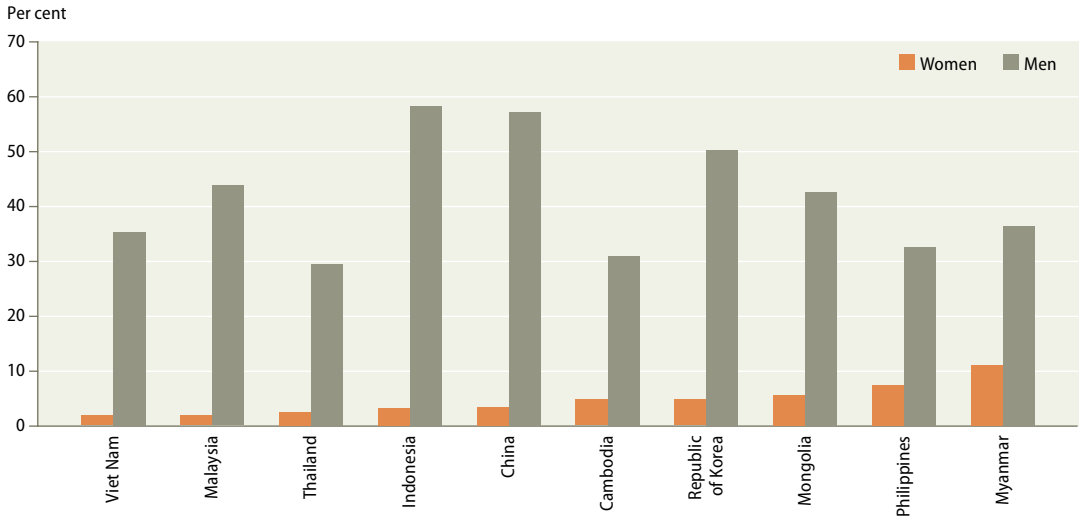
37 Ibid.

Figure 2.6
Smoking prevalence among persons aged 15 or over, by sex and region, 2008



Source: Computed by the United Nations Statistics Division based on data from WHO, *WHO Report on the Global Tobacco Epidemic, 2008* (2008).
Note: Unweighted averages.

Figure 2.7
Smoking prevalence by sex, selected countries in Eastern and South-Eastern Asia, 2008



Source: WHO, *WHO Report on the Global Tobacco Epidemic, 2008* (2008).

in these countries remained low, ranging from just 2 per cent in Viet Nam to 11 per cent in Myanmar.

3. Obesity

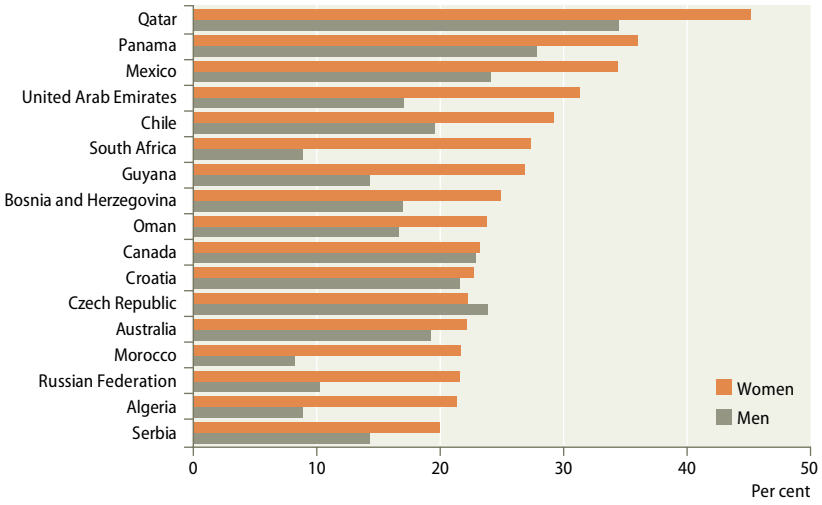
Obesity,[38] often the result of sedentary lifestyles and unbalanced diets, puts an individual at increased risk for many diseases and health problems including hypertension and diabetes. Once considered as a problem of the developed countries, obesity can be seen today in many parts of the world. WHO estimates that globally in 2005 there were approximately 1.6 billion adults (aged 15 years and over) who were overweight and at least 400 million obese adults.[39] It is projected that the number will continue to grow to about 2.3 billion and more than 700 million, respectively, by 2015.

38 A person is classified as obese if her or his body mass index (BMI), defined as a person's weight in kilograms divided by height in meters squared, exceeds 30 (for an adult aged 18 years and older).

39 WHO, 2006.

Figure 2.8

Prevalence of obesity for countries with over 20 per cent of women who are obese, 2000–2008 (*latest available*)



Source: International Obesity Task Force, Global Prevalence of Adult Obesity (2009).

Obesity has become a serious health problem for women in the Arab countries

Figure 2.8 displays data[40] for 17 countries where the prevalence of obesity exceeded 20 per cent among women aged 25–64 years old. Qatar and United Arab Emirates were among the countries with the highest levels of adult obesity, with 45 per cent and 31 per cent of females considered obese, respectively. In the Arab countries, obesity is seen as a serious health problem for women as lifestyles change to become more urban and sedentary; cultural and social factors may also play a role in that women and girls are not encouraged to engage in sports.[41]

Three of the top five countries with high prevalence of obesity are located in Latin America. In Panama and Mexico, 36 and 34 per cent of women respectively were considered obese, though there was also a significant percentage of men who were obese in both countries (28 per cent in Panama and 24 per cent in Mexico).

In all the countries observed, except the Czech Republic, more females than males were classified as obese. The largest sex difference was seen in South Africa, where 27 per cent of women and 9 per cent of men were classified as obese. In contrast, the difference in obesity rate by sex was not significant in countries such as Canada and Croatia.

4. Diabetes

The number of people with diabetes is projected to rise in the future

Diabetes is a group of heterogeneous disorders with the common elements of hyperglycaemia and glucose intolerance due to insulin deficiency, impaired effectiveness of insulin action, or both. Diabetes is becoming a major global health concern. Worldwide, an estimated 285 million people have diabetes in 2010, and the number is projected to rise to 439 million by 2030.[42] It is a significant health concern for developed countries but even more so for developing countries, where 70 per cent of cases are estimated to be found. The rapidly growing global diabetes epidemic also means that pre-gestational and gestational diabetes contribute substantially to 'high-risk' pregnancies; these may already be a leading cause of high-risk pregnancies in some countries.

Figure 2.9 shows the sex differences in the prevalence of diabetes by sub-regions in 2007. The prevalence for women varied greatly from a low of 3 per cent in sub-Saharan Africa (excluding Southern Africa) to a high of over 11 per cent in Central America and the Caribbean.

The data exhibit higher prevalence of diabetes for women than men in the majority of regions. For instance, in the Caribbean, the percentage of women who had diabetes was 4 percentage points higher than that of men. The sub-regions where more men than women had diabetes included Other more developed regions (excluding Eastern and Western Europe) and Central Asia.

D. HIV and AIDS

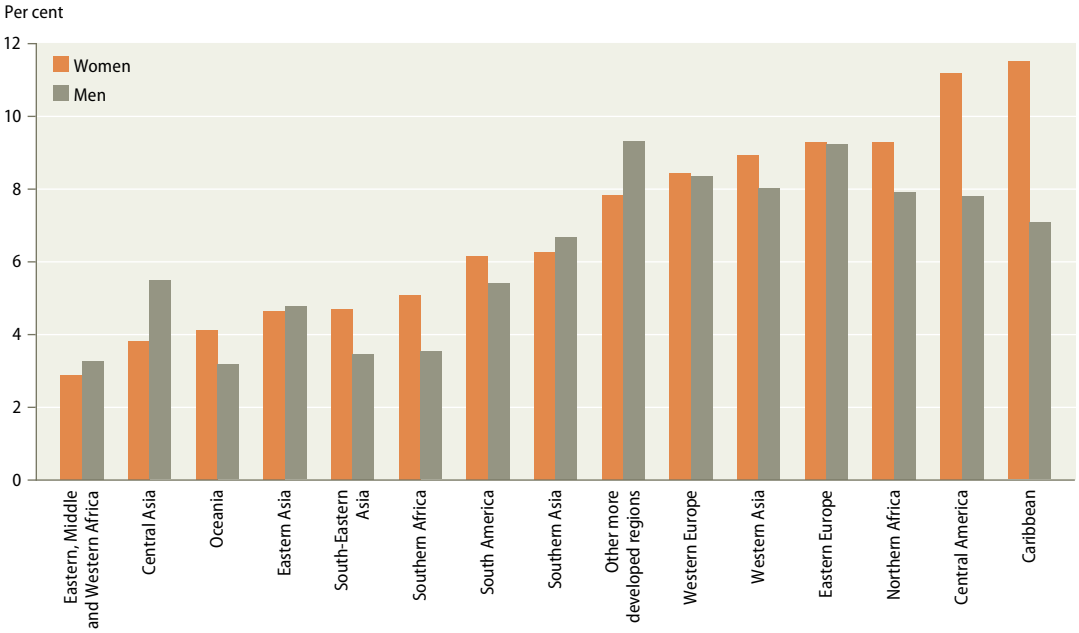
Since it was first recognized in the early 1980s, HIV/AIDS has been a critical health issue for women and men. The epidemic continues to undermine development efforts worldwide as it most often afflicts populations already beset by poverty. It particularly affects the working-age population, preventing women and men from

40 Global prevalence of adult obesity data from national surveys is collected and compiled by the International Obesity Task Force, which is part of the International Association for the Study of Obesity. For more details, see *http://www.iotf.org/database/documents/GlobalPrevalenceofAdultObesityJuly2009.pdf* and *http://www.iaso.org*.

41 UNDP, 2005a.

42 International Diabetes Federation, 2009.

Figure 2.9
Prevalence of diabetes by region and sex, 2007



Source: Computed by the United Nations Statistics Division based on data from International Diabetes Federation, *Diabetes Atlas* (2008)
Note: Unweighted averages.

making full contributions to development and impoverishing families. At the household level, the epidemic increases the burden of care and erodes savings. MDG 6 calls for halting and beginning to reverse the spread of HIV/AIDS by 2015.

1. Prevalence of HIV/AIDS

About half of adults living with HIV are women

The estimates produced for 2001 and 2007 by UNAIDS[43] show that the prevalence of HIV appeared to be stabilizing (see table 2.3). Worldwide[44], a total of 33 million adults and children were estimated to be living with HIV in 2007, a modest increase from 30 million in 2001. During this period, the percentage of adults aged 15–49 years with HIV remained the same at 0.8 per cent of the population, and approximately half of them were women. Increased access to antiretroviral drugs, especially in developing countries, has made it possible for those infected with the virus to survive longer. Indeed, the annual number of deaths due to AIDS slightly declined to 2 million in 2007 from its peak of 2.2 million in 2005.

Sub-Saharan Africa, especially Southern Africa, has been the region hardest hit by the epidemic (see also the discussion in section A of this chapter on the impact of HIV/AIDS on life expectancy). In 2007, two thirds of those living with HIV in the world, or 22 million people, were found in sub-Saharan Africa. The adult HIV prevalence in the region was as high as 5 per cent, while it was below 1 per cent in most other world regions, and women accounted for almost 60 per cent of all HIV-positive adults. It should be noted that within sub-Saharan Africa there was a wide variation in the prevalence rates among countries, ranging from less than 1 per cent in Comoros to 26 per cent in Swaziland.

The modes of HIV transmission vary among regions

Other sub-regions with large population living with HIV were South and South-East Asia, where over 4 million people were estimated to be infected with the virus in 2007. Unlike sub-Saharan Africa, however, men outnumbered women among HIV-positive adults, making up 63 per cent of the total. Indeed, men constituted the majority of HIV-positive adults in all regions except sub-Saharan Africa, North Africa and the Middle East and the Caribbean.

43 UNAIDS, 2008a.

44 Throughout the section on HIV/AIDS, the regional grouping is based on the classification used by UNAIDS.

Table 2.3
Prevalence of HIV/AIDS by sex and region, 2001 and 2007

	Number of people living with HIV/AIDS (*in thousands*)		Percentage of adults (15–49 years) living with HIV/AIDS		Percentage of women among HIV-positive adults	
	2001	2007	2001	2007	2001	2007
World	**29 500**	**33 000**	**0.8**	**0.8**	**51**	**50**
Sub-Saharan Africa	20 400	22 000	5.7	5.0	59	59
North Africa and Middle East	300	380	0.3	0.3	54	54
South and South-East Asia	4 200	4 200	0.4	0.3	37	37
East Asia	490	740	0.1	0.1	27	27
Oceania	25	74	0.2	0.4	18	30
Latin America	1 400	1 700	0.5	0.5	32	32
Caribbean	210	230	1.1	1.1	46	50
Eastern Europe and Central Asia	650	1 500	0.4	0.8	28	31
Western and Central Europe	610	730	0.2	0.3	26	27
North America	1 100	1 200	0.6	0.6	17	21

Source: UNAIDS, *Report on the Global AIDS Epidemic* (2008).
Note: Oceania includes Australia, Federated States of Micronesia, Fiji, Marshall Islands, New Zealand, Palau, Papua New Guinea and Tuvalu.

According to the data,[45] heterosexual sex was the most common mode of transmission in sub-Saharan Africa, the Caribbean and Oceania. In Asia, there was no one primary mode of transmission, with injecting drug use and unprotected sex, including sex work and heterosexual sex, all important contributors. In Eastern Europe and the Middle East and North Africa, sharing needles and unprotected sex with sex workers were the most common modes of transmission, while infection was primarily transmitted in both North America and Latin America through sex between men.

Research shows that women are more vulnerable than men to contracting HIV, due both to biological susceptibility as well as to social, economic and cultural pressures.[46] Unequal gender relations within and outside the family often limit the ability of women to protect themselves from HIV infection. Refusing unprotected sex is a challenge for women who are dependent on men socially and economically and therefore have limited bargaining power. Furthermore, sex outside of the union and multiple sexual partnerships are often culturally tolerated for men (though not for women), and hence a married woman can be vulnerable to HIV infection because of her husband's concurrent sexual relations.

45 UNAIDS, 2008a.
46 Matlin and Spence, 2000.

2. Knowledge of HIV

Knowledge of HIV among young adults does not exceed 45 per cent in any of the less developed regions

Part of the differentials in the level of HIV infection can be attributed to varying knowledge about transmission and prevention. Figure 2.10 shows data on the knowledge about transmission and prevention of young adults aged 15–24 years by sub-region, derived from surveys conducted mostly in developing countries between 2005 and 2007. It should be underscored that in no region with data does the proportion of young adults, regardless of sex, who have knowledge of HIV and its prevention exceed 45 per cent. This is far below the target of 95 per cent to be achieved by 2010, which was one of the goals set at the United Nations General Assembly Special Session on HIV/AIDS in 2001.[47]

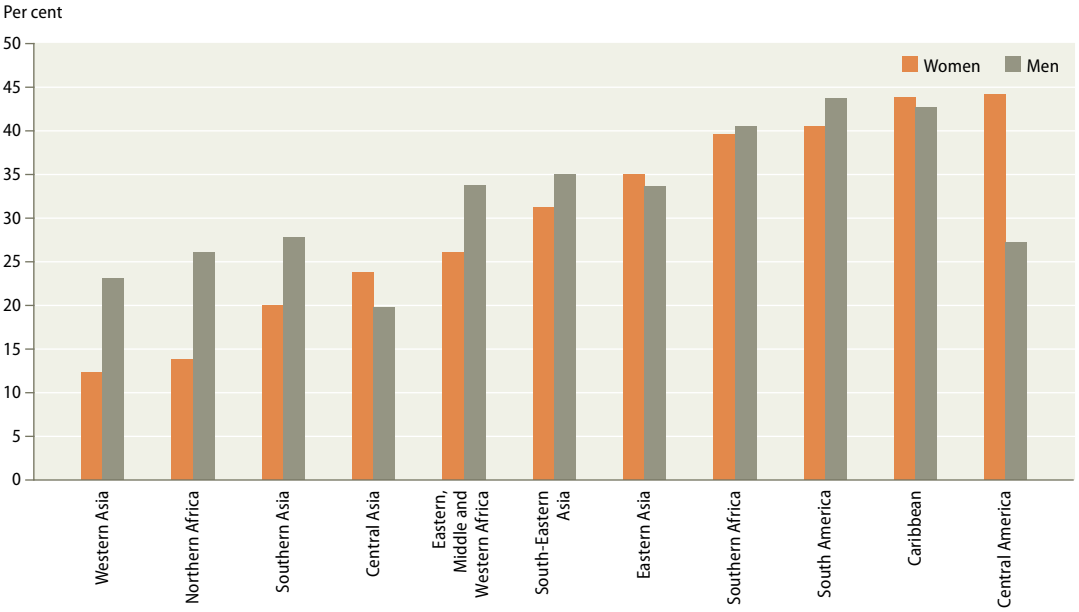
Knowledge of HIV among young women is relatively high in the Caribbean, Central America and South America, as more than 40 per cent of them were aware of the infection and its prevention. At the other end of spectrum, only 12 per cent of young women had an understanding of the virus in Western Asia. At least two out of five young men in the Caribbean, Southern Africa and South America had knowledge of HIV, whereas the level in Central Asia was about half that and as low as 20 per cent.

Central America stands out for the large gap there between young women and men with knowledge of HIV transmission and prevention. As of the mid-2000s, 44 per cent of girls had knowledge compared to 27 per cent for boys, a marked difference of 17 percentage points. A knowledge gap of more than 10 percentage points also exists in Northern Africa and Western Asia, but with young men being more knowledgeable of HIV than young women. In the other world regions, the knowledge gap by sex was relatively small.

HIV/AIDS has proven to be more than just a disease and has placed significant burdens on family members, especially women. The primary caregivers for sick patients are usually women and girls within a family. It is estimated that in Africa women account for two thirds of all caregivers

47 Declaration of Commitment on HIV/AIDS: "Global Crisis – Global Action", adopted at the United Nations General Assembly Special Session on HIV/AIDS in 2001.

Figure 2.10
Knowledge of HIV and its prevention among youth aged 15–24 years, less developed regions, 2005–2007



Source: Computed by the United Nations Statistics Division based on data from UNAIDS, *Report on the Global AIDS Epidemic* (2008).
Note: Unweighted averages.

for people living with HIV.[48] HIV/AIDS has also led to a large number of orphans, who are taken care of by other family members or institutions. In Africa, where 77 per cent of the world's 15 million AIDS orphans live, it is often grandmothers who take responsibility for this care.

E. Reproductive health

The reproductive years of women are from puberty through menopause, and this is the period when most women experience important life events such as entry into sexual union, marriage and childbearing. However, it is also a time of particular health risks, especially related to pregnancy and childbirth, which cause ill health and death for many women of childbearing age. The Programme of Action adopted at the International Conference on Population and Development in Cairo in 1994 acknowledges the critical importance of reproductive health to development.[49] The Beijing Platform of Action also underscores that all persons are to have access to a broad range of reproductive health services, as well as the freedom to exercise informed choice in determining the number and spacing of their children and the services needed to go safely through pregnancy and childbirth.[50]

The overall health of women during their reproductive years allows them to contribute to the economy, society and their families not just at this stage of their lifecycle but through the rest of their lives.

Goal 5 of the Millennium Development Goals calls for improving maternal health by reducing the maternal mortality ratio by three quarters and by achieving universal access to reproductive health. Each year, more than half a million women die from causes related to pregnancy and childbirth.[51] Many of them could be saved if they were provided with access to prenatal care and skilled attendants at birth as well as appropriate modern technology to deal with emergency obstetric care situations when needed. Another important way to achieve better reproductive health is to ensure that all women have access to contraceptives.

1. Prenatal and delivery care

Prenatal care is known to improve the outcome of pregnancy and birth for both mother and child. It not only monitors the health of the mother and foetus but also allows for the identification of potential complications. In addition, it can provide women with information about needed nutrition during pregnancy and breastfeeding.

48 UNAIDS, 2008b.
49 United Nations, 1995b.
50 United Nations, 1995a.
51 UNICEF, 2008a.

Table 2.4
Women receiving prenatal care, deliveries attended by a skilled attendant and deliveries in health facilities, by region, 1996 and 2000–2008 (*latest available*)

	Percentage pregnant women receiving prenatal care (at least 1 visit)		Percentage deliveries attended by a skilled attendant		Percentage deliveries in health facilities	
	1996	2000–2008	1996	2000–2008	1996	2000–2007
Africa						
Northern Africa	65	80	66	82	57	78
Southern Africa	86	92	67	78	64	72
Eastern, Middle and Western Africa	66	79	42	53	37	48
Asia						
Eastern Asia	93	94	95	98	89	94
South-Eastern Asia	77	77	64	62	52	48
Southern Asia	49	68	39	52	28	46
Central Asia	90	94	93	96	92	91
Western Asia	82	91	82	89	79	86
Latin America and the Caribbean						
Caribbean	95	96	88	92	86	79
Central America	75	90	70	82	62	76
South America	79	91	80	86	76	85
Oceania	**84**	**..**	**81**	**81**	**87**	**..**
Eastern Europe	**97**	**97**	**99**	**100**	**98**	**99**

Sources: 1996 data from United Nations, *The World's Women 2000: Trends and Statistics* (2000), p. 61, figure 3.8; 2000–2007/8 computed by United Nations Statistics Division based on data from the United Nations Statistics Division MDG database (accessed in August 2009).
Note: Unweighted averages.

As the data in table 2.4 show, the levels of prenatal care that women received varied among sub-regions. In the period 2000–2008, the overwhelming majority (over 90 per cent) of women in Southern Africa, Central and South America, the Caribbean, Eastern Asia, Central Asia, Western Asia and Eastern Europe received prenatal care at least once while pregnant. In contrast, only 68 per cent of women in Southern Asia received prenatal care during their pregnancy.

The proportion of women who receive prenatal care increased in many world regions

Since the mid-1990s, the percentage of women receiving prenatal care at least once during their pregnancy has increased in many regions of the world. The improvement was particularly notable in Southern Asia, where the proportion rose by 19 percentage points to reach 68 per cent in 2000–2008. An increase of over 10 percentage points was also seen in Central America, Eastern, Middle and Western Africa, Northern Africa and South America during the same period. Against this positive trend was South-Eastern Asia, where the percentage of pregnant women who received prenatal care at least once remained at 77 per cent over the period.

Another important way to help more women survive pregnancy and childbirth is to provide them with access to skilled birth attendants such as trained nurse-midwives, trained traditional birth attendants or medical doctors. Skilled birth attendants can diagnose the need for emergency obstetric care and, if necessary, transfer the patient to a medical facility for treatment such as a caesarean section. A skilled birth attendant is essential to decrease maternal injuries, such as haemorrhages and obstructed labour, that can result in fistula or death.[52]

As the data in table 2.4 show, compared to the mid-1990s, women in the 2000s had more access to skilled birth attendants at delivery in all sub-regions except Oceania and South-Eastern Asia. Almost all women had access to a skilled birth attendant in Central Asia (96 per cent), Eastern Asia (98 per cent) and Eastern Europe (100 per cent). While some improvements were seen, still barely half of deliveries were attended by a skilled professional in Eastern, Middle and Western Africa or Southern Asia. It is estimated that an additional 350,000 midwives are needed globally to improve maternal health and allow for safer deliveries.[53]

The proportion of women who deliver a baby in health facilities increased in most regions

The likelihood of a woman delivering her baby in a health facility also varied across sub-regions, but it has shown an increase in most of them (see table 2.4). For the most recent period 2000–2007, births occurred almost solely in a health facility in Central Asia, Eastern Asia and Eastern Europe. In contrast, a minority took place in a health facility in Eastern, Middle and Western Africa, Southern Asia and South-Eastern Asia. It is worth noting that the proportion of women who delivered in health facilities increased markedly between 1996 and 2000–2007 in Northern Africa from 57 to 78 per cent and in Southern Asia from 28 to 46 per cent.

The availability of health facilities with access to emergency obstetrics is critical in cases where the mother experiences complications in labour and can be key to lowering the number of maternal

52 UNICEF, 2008b.
53 Obaid, 2009.

deaths. However, in many countries, especially in the less developed regions, lack of availability of health facilities, coupled with inadequate transportation infrastructure sometimes prevents pregnant women from getting to a medical facility and receiving the emergency care they need.

2. Maternal mortality

Most maternal deaths are caused directly by obstetric complications including post-partum haemorrhage, infections, eclampsia[54] and prolonged or obstructed labour. However, there are also significant indirect causes that heighten the risk of maternal deaths such as anaemia, iodine deficiency, malaria and HIV/AIDS.[55] Furthermore, gender inequality can also increase the chance of physical complications during pregnancy and childbirth as well as maternal mortality.[56] For instance, women may be delayed or prevented from access to obstetric care in situations where they need the permission of a male relative to do so.

The statistical challenge of maternal mortality cannot be overemphasized: obtaining reliable data on maternal deaths is extremely difficult. The reporting of maternal deaths often lacks accuracy, and there are problems of underreporting of unknown degrees. In addition, the periodicity of reporting varies, often with large intervals. Measuring maternal mortality is especially challenging in countries with poor civil registration systems, which are the primary source of data on deaths. Consequently, existing statistics are often not adequate to directly monitor the level of maternal mortality and it is necessary to rely on indirect estimates. The latest maternal mortality estimates[57] for 2005 utilize data from civil registration systems, household surveys and censuses and apply various statistical methods to develop the estimates.[58]

MDG 5 on improving maternal health is one of the goals towards which least progress has been made.[59] Gains in reducing maternal mortality remain slow in many developing countries, despite the fact that many deaths could be prevented if women had access to basic maternity and health-care services. Thus, as of 2005, there were still an estimated 536,000 women who died of complications during pregnancy, childbirth or in the six weeks following delivery (see table 2.5). Of these, the overwhelming majority (533,000) occurred in the less developed regions. Sub-Saharan Africa alone recorded 270,000 maternal deaths in 2005, indicating that half of world maternal deaths occurred in the region. The second highest number of maternal deaths was observed in Southern Asia, with 188,000 deaths in the same year.

Table 2.5
Number of maternal deaths, maternal mortality ratio and lifetime risk of maternal death by region, 2005

	Number of maternal deaths	Maternal mortality ratio (MMR)	Lifetime risk of maternal death, 1 in:
World	**536 000**	**400**	**92**
More developed regions	960	9	7 300
CIS countries	1800	51	1 200
Less developed regions	533 000	450	75
Africa	**276 000**	**820**	**26**
Northern Africa	5 700	160	210
Sub-Saharan Africa	270 000	900	22
Asia	**241 000**	**330**	**120**
Eastern Asia	9 200	50	1 200
South-Eastern Asia	35 000	300	130
Southern Asia	188 000	490	61
Western Asia	8 300	160	170
Latin America and the Caribbean	**15 000**	**130**	**290**
Oceania	**890**	**430**	**62**

Source: WHO, *Maternal Mortality in 2005* (2007), p. 16, table 2.
Note: CIS (Commonwealth of Independent States) countries included are: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, the Republic of Moldova, the Russian Federation and Ukraine. Estimates for more developed regions and less developed regions exclude CIS countries.

Almost all maternal deaths occur in the less developed regions

The MDGs call for improvements in maternal health by reducing the maternal mortality ratio (MMR) by three quarters between 1990 and 2015. MMR is defined as the number of maternal deaths during a given time period per 100,000 live births during the same period. Globally, in 2005, the MMR was 400. There exists a striking divide in maternal mortality between the more developed and less developed regions: the MMR was as low as 9 in the former, whereas in the latter it was 450 on average. Within the less developed regions, the ratio ranged widely from 50 in Eastern Asia to 900

54 Eclampsia is seizures (convulsions) in a pregnant woman that are not related to brain conditions.

55 UNICEF, 2008a.

56 UNDP, 2005b.

57 A Working Group, consisting of WHO, UNICEF, UNFPA and the World Bank, prepared estimates for 1990, 1995, 2000 and, most recently, 2005; however, due to changing methodologies the estimates are not compared over time in this report.

58 WHO, 2007.

59 United Nations, 2009d.

in sub-Saharan Africa. There were 14 countries with MMRs of at least 1,000, of which 13 were in the sub-Saharan African region. The other country was Afghanistan (see Statistical Annex).

The data on the lifetime risk of a woman dying from complications related to pregnancy or childbirth show an echo of the health inequality between women in the less developed and more developed regions. Not only is the level of MMR in less developed regions far too high, but the difference in the magnitude of risk between the more developed and less developed regions is much too wide: in the latter regions a woman had a 1 in 75 lifetime risk of maternal death, compared to 1 in 7,300 in the former. Pregnancy and childbirth were very risky for women who lived in the less developed world, especially in sub-Saharan Africa where 1 in 22 women had a lifetime risk of maternal death, as well as in Southern Asia and Oceania where the risk was 1 in some 60 women.

3. Infertility and childlessness of women

Infertility is the biological inability to have children. It has consequences for the lives of women and men in all societies. Infertility is often the result of untreated sexually transmitted infections (STIs) or can happen after a complicated childbirth or after an abortion, especially an unsafe, illegal one. Primary infertility refers to the situation when a woman has regular sexual intercourse and has not become pregnant after a specified amount of time (usually one year). Women who have secondary infertility already had a pregnancy at least once but are not able to get pregnant again. While both women and men have infertility issues, this section looks at the infertility of women.

Estimates of female infertility are derived from data on childlessness, usually from a demographic survey such as the Demographic and Health Surveys (DHS). However, voluntary childlessness can complicate estimation procedures. In the more developed regions, childlessness is higher than in the less developed regions, and there is an increasing trend in the number of women and men who remain voluntarily without children, often referred to as "childfree". In developing countries, childlessness is less frequently a matter of choice and is more often linked to infertility. In some cultures, women who do not have children can be shunned by their partners and families and sometimes even by society at large. It should be also noted that as data are retrospective and based on the results of reproductive histories, recall bias is an issue to consider in the estimation procedure. Women might have had a live birth that resulted in an infant death many years before the survey and therefore report no live births at the time of the survey.[60] This might cause an overestimation of infertility.

Based on the analysis of data collected in 46 countries between 1994 and 2000, it was found that the overwhelming majority or 96 per cent of married women aged 40–44 had one or more surviving children.[61] However, infertility is an issue worldwide. As seen in figure 2.11, childlessness – as measured by married women aged 40–44 years who have had no fertile pregnancies – ranged from less than 1 per cent in Kyrgyzstan to 7 per cent in the Central African Republic. Relatively high levels of infertility among women, exceeding 3 per cent, were found in Cameroon, Central African Republic, Chad, Comoros, Dominican Republic and Madagascar. Infertility of women was seen in every less developed region but varied among countries in the respective region. Relatively high prevalence of primary and secondary infertility in sub-Saharan Africa can be explained by a high incidence of STIs and infections related to childbirth and abortion.

Recent estimates suggest that in mid-2002 there were 186 million ever-married women aged 25–49 in developing countries who were infertile.[62] Of those, approximately 168 million had secondary infertility and 18 million had involuntary primary infertility. Furthermore, the same study estimated that approximately 3 per cent of ever-married women aged 25–49 were childless. Due to advances in medical technology, women and men have options to treat primary and secondary infertility and achieve a pregnancy and birth, but the availability of technology varies by country and region.

4. Contraceptive use

Availability of contraceptives allows women and men to have control over the timing and the number of desired children by preventing an unintended pregnancy. The barrier methods of contraception, such as condoms, also help to protect individuals from HIV and other STIs. It is often argued that contraceptive use is a way to increase women's autonomy and to reduce their exposure to pregnancy as well as unsafe abortions. However, the balance of power between women and

60 Rutstein and Shah, 2004.

61 Ibid.

62 Ibid. Note that the estimate does not include China.

men at the couple level could shape the decision to use contraception and the type of method(s).

Data on contraceptive use, often obtained from surveys covering nationally representative samples of women of reproductive age, are available for most countries.[63] It is estimated that as of 2007 contraceptive prevalence had reached 63 per cent among married couples or those in union worldwide (see table 2.6), up only slightly from 61 per cent in 1998[64]. In developed countries, nearly 70 per cent of women aged 15–49 who were married or in union were practicing some method of contraception. Contraceptive use in the less developed regions averaged 62 per cent.

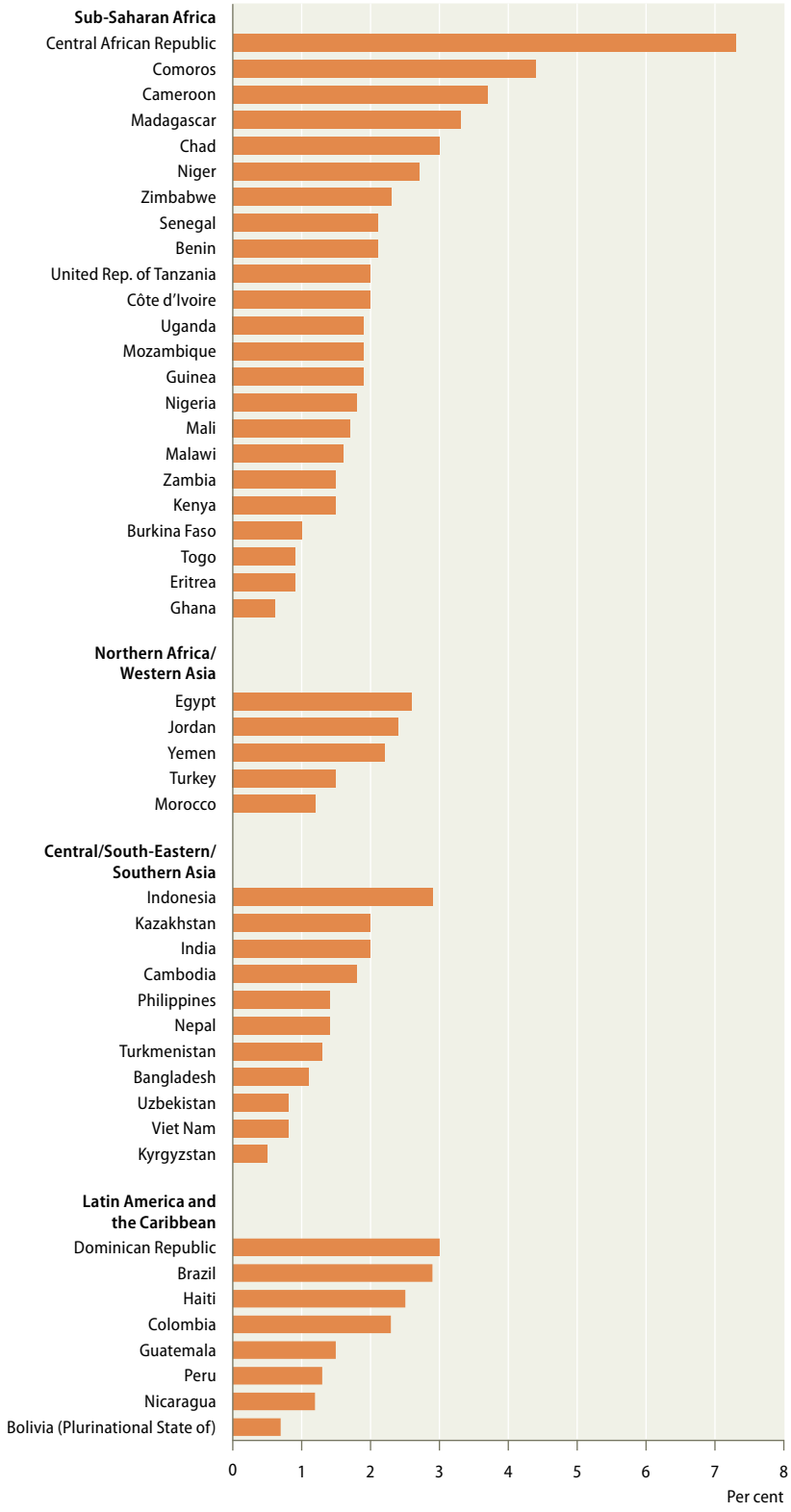
Traditional methods of contraception are more prevalent in the more developed regions

In both the more developed and less developed regions, the majority of women using contraception relied on modern methods (59 and 56 per cent, respectively). However, the specific methods used differed markedly between the two regions. In the less developed regions, female sterilization (22 per cent) and the intrauterine device (IUD) (15 per cent) made up the majority of contraceptive use (see table 2.6). In the more developed regions, by contrast, the most commonly used methods were the pill (18 per cent) and the male condom (16 per cent) (data not shown).[65] In Japan, condom use accounted for more than 40 per cent of methods used. Traditional methods, despite relatively low effectiveness in preventing pregnancy, were more commonly used in the more developed than less developed regions – 11 per cent vs. 6 per cent. These methods were mainly periodic abstinence and withdrawal.

The level of contraceptive use was comparable in Asia, Latin America and the Caribbean and Northern America at around 70 per cent. In these sub-regions, more than 20 per cent of women of reproductive age resorted to sterilization to prevent unwanted pregnancies. In Asia, one in every four women of reproductive age stated that they were sterilized for the reason of contraception. Indeed, female sterilization was the method used by 37 per cent of women in India and 33 per cent in China in the early 2000s.[66] While the overall use of contraception was generally high in Europe

63 United Nations, 2009b.
64 United Nations, 2003.
65 United Nations, 2009b.
66 Ibid.

Figure 2.11
Women aged 40–44 and married five or more years who had no fertile pregnancies, 1994–2000 (*latest available*)



Source: Rutstein and Shah, Infecundity, infertility, and childlessness in developing countries (2004), p.10.

Table 2.6
Contraceptive prevalence among women and women with unmet need for family planning, by region, 2007

	Contraceptive prevalence (*per cent*)					
		Modern method				
			Of which			
	Any method	Any modern method	Female sterilization	IUD	Any traditional method	Percentage with unmet need
World	63	56	20	14	7	..
More developed regions	70	59	8	9	11	..
Less developed regions	62	56	22	15	6	11
Africa	28	22	2	5	6	22
Asia	67	61	25	18	6	9
Europe	71	56	4	14	14	..
Latin America and the Caribbean	72	64	30	7	7	11
Northern America	73	69	20	2	4	6
Oceania	59	53	12	1	6	..

Source: United Nations, *World Contraceptive Use 2009* (2009).
Note: Contraceptive prevalence is percentage using contraception among women who are married or in union. Unmet need for family planning is the ratio of the number of women of reproductive age married or in union who are fecund, not using contraception and who report that they do not want any more children or wish to delay the next child divided by the number of women of reproductive age who are married or in union.

at 71 per cent, the reliance on traditional methods also remained high in the region (14 per cent). Traditional methods were particularly common in countries of Eastern and Southern Europe such as Albania (38 per cent).[67]

The prevalence of contraceptive use is notably low in Africa

Africa is the region where the prevalence of contraceptive use was considerably lower, with only 28 per cent of women of reproductive age who were married or in union using any method. This is reflected, in turn, in the high level of unmet need for family planning in the region: it was estimated that 22 per cent of African women of reproductive age were in need of contraception, pointing to the gap between the desire to use contraception and the actual use.

5. Induced abortions

The number of abortions performed in developing countries shows only a negligible decline

Unwanted pregnancies due to the lack of contraception or contraceptive failure may, in some cases, result in induced abortions. Globally, there were an estimated 42 million induced abortions in 2003, compared to 46 million in 1995 (see table 2.7). During this period, the estimated number of unsafe abortions remained at around 20 million per year.[68] The majority of the declines in the abortion incidence between 1995 and 2003 took place in the more developed regions, where they fell from 10 million to 7 million, while the less developed regions registered only a modest reduction in the number, from 36 million to 35 million.

In 2003, an overwhelming majority of abortions in the world (five in six) were performed in developing countries where access to safe abortions tended to be limited. Some 26 million abortions were recorded in 2003 in Asia alone. Note, however, that this reflects the region's population size. In fact, the abortion rate, defined as the number of abortions per 1,000 women aged 15–44 years, was equally high in three less developed regions – Africa, Asia and Latin America and the Caribbean – at around 30 per 1,000 women.

The number of abortions performed in Eastern Europe had halved from 6 million in 1995 to 3 million in 2003. While greatly reduced, the abortion rate in the sub-region (44 per 1,000 women in 2003) were still notably high, even exceeding that in the less developed regions. One study[69] suggests that women in Armenia, Azerbaijan and Georgia would have an average of three abortions each if current levels prevailed throughout their

67 Ibid.

68 Singh and others, 2009.

69 Sedgh and others, 2007.

reproductive lives. A substantial proportion of women in Eastern Europe continue to depend on traditional methods of contraception (see the section on contraceptive use), and it is only recently that access to modern contraceptives has improved.[70]

It is estimated that nearly 26 per cent of the world's people live in countries whose laws prohibit abortion entirely or permit it only to save a women's life.[71] While there are only six countries and areas that do not permit abortion on any grounds – Chile, Dominican Republic[72], El Salvador, the Holy See, Malta and Nicaragua[73] – the circumstances under which abortion can be legally obtained in other countries vary widely. In countries such as India and South Africa, abortion is available on broad grounds but access to services provided by qualified personnel remains uneven.[74]

Granting women safe and legal access to abortion along with access to modern contraceptives and sex education has shown, in the long run, to reduce the number of abortions. Where restrictive abortion laws make it difficult to obtain a safe abortion, women who have an unwanted pregnancy tend to turn to unsafe abortions.[75] This may endanger their lives – unsafe abortions claim the life of approximately 68,000 women each year.[76] It is estimated that there are about 19–20 million abortions done annually by individuals without the requisite skills, of which 97 per cent are in developing countries.[77]

F. Health of children

MDG 4 calls for a reduction in child mortality. Many of the health problems that women and men face in adulthood have their origin in childhood. It is of critical importance for children to have a healthy start as this can have life-long implications for them. In particular, the well-being of girl children needs be ensured.

70 Singh and others, 2009.

71 Boland and Katzive, 1998.

72 United Nations, 2010.

73 United Nations, 2007.

74 Singh and others, 2009.

75 WHO defines an unsafe abortion as any procedure to terminate an unintended pregnancy done either by people lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both.

76 Grimes and others, 2006.

77 Ibid.

Table 2.7
Number of abortions and abortion rate by region, 1995 and 2003

	Number of abortions (*in millions*)		Abortion rate	
	1995	2003	1995	2003
World	46	42	35	29
More developed regions	10	7	39	26
Less developed regions	36	35	34	29
Africa	5	6	33	29
Asia	27	26	33	29
Europe	8	4	48	28
Eastern Europe	6	3	90	44
Latin America and the Caribbean	4	4	37	31
Northern America	2	2	22	21
Oceania	<1	<1	21	17

Source: Singh and others, *Abortion Worldwide* (2009).
Note: Abortion rate is defined as the number of abortions per 1,000 women aged 15–44 years.

1. Mortality among children under 5

The past decades saw unprecedented declines of mortality in childhood, contributing greatly to the increase in life expectancy. According to United Nations estimates, mortality under age 5 dropped from 109 deaths per 1,000 live births in 1980–1985 to 71 deaths per 1,000 live births in 2005–2010, which represented a 35 per cent reduction. Despite considerable improvements in child mortality, however, 9.6 million children worldwide are still dying every year before they reach 5 years old.[78]

Although declining, child mortality is still high in developing countries, especially in Africa

Much of the reduction in child mortality occurred in the less developed regions, where the rate fell from 122 deaths to 78 deaths per 1,000 live births between 1980–1985 and 2005–2010. Such notable improvements have been explained by a number of factors, including increased immunization coverage, higher caloric intake made possible by rising agricultural productivity, use of oral rehydration therapies during episodes of diarrhoea, use of insecticide-treated mosquito nets, better access to insecticides, more effective therapies and treatments, as well as improved water and sanitation.[79] All of these have contributed to reduce the incidence of disease at younger ages and prevent deaths when disease strikes.

78 United Nations, 2009c.

79 WHO, 2009a.

Table 2.8
Under 5 mortality rate per 1,000 live births by sex, 1995–2000, 2000–2005 and 2005–2010

	Girls			Boys			Difference		
	1995–2000	2000–2005	2005–2010	1995–2000	2000–2005	2005–2010	1995–2000	2000–2005	2005–2010
World	84	77	71	85	77	71	0	0	0
More developed regions	10	8	7	11	10	8	2	1	1
Less developed regions	93	85	78	93	85	78	0	0	0
Africa	156	142	130	169	154	142	13	12	12
Southern Africa	72	81	65	88	95	80	16	15	16
Asia	76	68	61	71	63	56	-5	-5	-5
Europe	11	9	8	14	12	10	3	2	2
Latin America and the Caribbean	36	28	24	45	36	31	9	8	7
Northern America	8	8	7	8	8	7	0	0	0
Oceania	36	33	30	43	36	31	7	3	2

Source: United Nations, World Population Prospects DEMOBASE (2009).

Table 2.8 displays the estimates of mortality under age 5 over the past 15 years, by region and sex. Globally, the mortality of girls and boys fell at the same pace during this period. While most regions have experienced steady declines in child mortality for both sexes, the Southern African region is distinguished by its unique trends. For both girls and boys, child mortality increased from the late 1990s to the early 2000s, registering a peak at 81 deaths per 1,000 live births for girls and 95 deaths per 1,000 per live births for boys in 2000–2005. It is likely that HIV/AIDS contributed to the increases in child mortality during the period.

Despite the considerable improvements in child mortality, the level continues to be high in the less developed regions, and the differences with the more developed regions have only slightly narrowed. In 2005–2010 the under 5 mortality of girls in the less developed regions (78 deaths per 1,000 live births) was 11 times higher than that in the more developed regions (7 deaths per 1,000), while that for boys was 78 deaths for the less developed regions and only 8 deaths for the more developed regions.

Africa is the most difficult place for children to survive. Child mortality was still highest in that region, at 130 female child deaths per 1,000 live births for girls and 142 for boys. These deaths are mainly from preventable causes such as pneumonia, diarrhoea and malaria, and many of them occur during the neonatal period. Relatively high child mortality also characterized Asia. At the other end of spectrum, the lowest child mortality was found in Northern America and Europe, registering a rate below 10 deaths per 1,000 live births, regardless of the sex of the child.

Typically, mortality is higher among boys than girls. There are specific biological reasons which explain this. For example, male babies are more prone to congenital abnormalities that can result in higher mortality in the early years of life. However, in some countries the reverse is true. In 2005–2010, an excess of female child mortality was pronounced in Asia, especially in Afghanistan, China, India and Pakistan (see Statistical Annex).

2. Underweight

Proper nutrition is a key determinant of health for children. One estimate suggests that undernutrition is an underlying cause in more than one third of child deaths.[80] One indicator to measure the nutrition status of children in a country is the proportion of underweight children. As of 2007, 148 million children under 5 years old were considered to be underweight for their age, with two thirds of them living in Asia and a quarter in Africa.[81] Contributing factors include lack of access to nutritious foods and infection, as well as poor feeding practices. Other socio-economic factors such as low levels of family income, lack of education of parents and lack of access to health care also increase the risk of children being underweight.

Figure 2.12 displays the percentage of girls and boys under 5 years of age who are underweight.

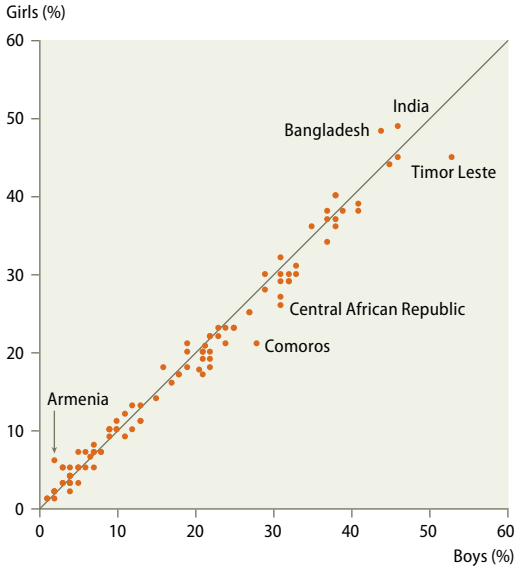
80 Ibid.
81 UNICEF, 2008, p. 23

The data were gathered from surveys, including Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Survey (DHS), conducted in 102 countries between 2000 and 2007. The percentage of underweight children varied greatly among countries where data were available. It was very high in some countries, such as Bangladesh, India and Timor-Leste, where over 40 per cent of children, both girls and boys, were found to be underweight.

The clustering of country data along the diagonal line indicates that in most countries there existed little difference in the proportion of girls and boys who were underweight, suggesting that female children enjoyed the same nutritional status as male children, although at varying levels. The exceptions to the pattern include Armenia, Bangladesh and India where girls were more underweight than boys by a margin of more than 3 per cent. On the other hand, in several African countries including Central African Republic and Comoros as well as in Timor-Leste, boys were more likely than girls to be underweight. Underlying causes of these disparities by sex need to be explored.

Figure 2.12

Percentage underweight among boys and girls under 5 years of age, 1998–2007 (*latest available*)



Source: Macro International, MEASURE DHS STATcompiler (2009).

3. Immunization

Investing in young children entails providing preventive care such as routine vaccinations that have saved millions of lives. Vaccination rates have been steadily climbing worldwide, pushed by successful immunization campaigns. National Immunization Days had been instituted in some developing countries since the 1980s in addition to routine immunizations;[82] they began with efforts to prevent the spread of polio by immunizing all children under 5. Today, Child Health Days have proven to be a cost-effective way to raise awareness widely and scale up quality health services for children, including delivery of vaccinations.

The DHS collect information from mothers about the vaccination of their children aged 12–23 months. Using these data from 70 developing countries between 1998 and 2007, table 2.9 shows the proportion of girls and boys who received three doses of polio and DPT vaccinations.

Polio vaccination is one of the recommended childhood immunizations, and it is encouraged for children to have four doses. There was a significant variation in the coverage of polio vaccination among the less developed regions. In Northern Africa over 90 per cent of children received three doses. In Morocco, for example, the rate of polio immunization by 2003–2004 had reached 96 per cent for girls and 95 per cent for boys. The coverage is also generally high in Southern Asia and Central Asia, where the proportion exceeded 80 per cent for both girls and boys. However, there

Table 2.9

Proportion of girls and boys receiving three doses of polio and DPT vaccinations, by region and sex, 1998–2007 (*latest available*)

	Polio		DPT	
	Girls (%)	Boys (%)	Girls (%)	Boys (%)
Africa				
Northern Africa (3)	90	91	93	92
Southern Africa (5)	77	77	81	81
Eastern, Middle and Western Africa (31)	60	59	57	57
Asia				
Central Asia (4)	87	89	88	88
South-Eastern Asia (5)	67	67	74	74
Southern Asia (5)	86	87	78	76
Western Asia (5)	52	54	54	54
Latin America and the Caribbean				
Caribbean (3)	66	65	67	67
Central America (5)	73	72	68	72
South America (5)	70	70	74	75

Source: Computed by the United Nations Statistics Division based on data from Macro International, MEASURE DHS STATcompiler (2009).
Note: Unweighted averages; the numbers in brackets indicate the number of countries averaged.

82 UNICEF, 2007.

were regions where rates could still improve. For example, barely half of children received three polio immunizations in Western Asia.

The DPT vaccine protects children from diphtheria, pertussis and tetanus (DPT), and five doses are commonly given to children between the ages of two months to five years. The immunization rates were high in Northern Africa, Southern Africa and Central Asia, with more than 85 per cent of children receiving three doses of the vaccine. The lowest rates were found in sub-Saharan Africa and Western Asia.

There exist little sex disparities in polio and DPT immunization

At the regional level, data reveal few disparities by sex of child in either polio or DPT immunization coverage. Detectable difference by sex was found only in Central America, where the DPT immunization rate for boys (72 per cent) was somewhat higher than for girls (68 per cent). At the country level, however, several countries recorded significant sex differences in immunization coverage. For instance, the polio immunization rate among girls in Madagascar in 2003–2004 was 70 per cent, which was 14 percentage points higher than that among boys. On the other hand, the proportion of children who received three doses of polio vaccination in Azerbaijan in 2006 was not only very low, but the rate for boys (24 per cent) exceeded that of girls (18 per cent) by a significant margin.

In sum, the recent statistical evidence on sex differentials in underweight and immunization coverage do not support the prevalent notion that anti-female bias might be causing better distribution of food and health treatment for boys than girls. At the country level, sex disparities in nutritional status of children and health-care provision were observed in some countries. However, the direction of disparities was not consistent.