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Trends and Projections in Mortality and Morbidity

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Background paper # 1

WOMEN'S HEALTH MEETING: TRENDS AND PROJECTIONS IN MORTALITY AND MORBIDITY

Introduction	3
Definitions and methods.....	3
Global, regional and subregional levels and trends.....	4
Longer lives	4
Changing patterns of mortality.....	5
Mortality and ill-health across the life course	6
Infancy and childhood (birth to 10 years of age).....	6
Adolescence (10-19 years of age)	7
The reproductive years	10
Women and ageing	13
Living with disabilities	14
Social determinants of women's health	15
Case studies of success in aspects of women's health	16
The case of maternal mortality.....	16
The case of access to antiretroviral therapies (ARVs)	17
Policies and efforts made to improve monitoring of women's health.....	18
Conclusion and recommendations	20
Figures and tables	21
References	34

Introduction

This paper presents and discusses the health issues that particularly affect girls and women during the course of their lives. The paper highlights the progress that has been achieved since the 1990s, but also draws attention to the health challenges that women face at key moments in their lives. Not all women have benefited equally from recent progress in health and too many remain unable to reach their full potential because of persistent health, social and gender inequalities and health system inadequacies. These are most acute in poor countries, and among the poorest women in all countries.

There are some conditions that only women experience and that have an impact on their health. Pregnancy and childbirth, despite being normal physiological and social processes, nevertheless carry health risks and require health care. Some health challenges affect both women and men but, because they have a greater or different impact on women, they require responses that are tailored specifically to women's needs. Other conditions affect men and women more or less equally, but women face greater difficulties in getting the health care they need. Furthermore, gender-based inequalities – as in education, income and employment – limit the ability of women to protect their health and achieve optimal health status.¹

This report is based on currently available information but much of this is based on extrapolation from incomplete data. The paper draws attention to serious shortcomings in the systems needed to generate timely and reliable data on the major health challenges that girls and women face, especially in low-income countries. Nonetheless, the available information directs attention to challenges and health concerns that must be addressed urgently if girls and women are to realize fully their human right to health and, by extension, to their economic and social rights.

Definitions and methods

The paper takes a life course approach, examining the health of women at stages in their lives – early childhood (from birth to nine years), adolescence (from 10 to 19 years), reproductive age (from 15 to 49 years), and older ages (from 50 years onwards). While there is overlap across these age groups and many health challenges do not fit exclusively into these stages, the approach fosters a deeper understanding of how things that happen to females during childhood, adolescence, and the reproductive years may affect their own health later in life as well as the health of the children they bear. Paying attention to the health of girls and women today is an investment both for the present and also for future generations. This also implies the need to address the underlying social and economic determinants of women's health – including education, which directly benefits women and is important for the survival, growth and development of their children.

Any analysis of women's health globally and in different parts of the world is dependent on the quality of the underlying data. Unfortunately, the data currently available are patchy and incomplete and many issues have been poorly researched, making it difficult to draw firm conclusions. Much of the evidence available is subject to uncertainty due

associated with the weakness of the underlying data and the statistical techniques used to correct biases and impute missing values. In the interests of clarity we do not specify these uncertainties unless they are very significant but readers should consult the original information sources in order to better understand the level of precision of the statistics quoted.

Despite these limitations, available data are sufficient to draw conclusions about the overall direction of change in women's health. This paper brings together what is currently known and identifies areas where new data need to be generated, available data compiled and analysed, and research undertaken to fill critical gaps in the evidence base.

Global, regional and subregional levels and trends

Longer lives

Life expectancy offers a summary measure that encapsulates overall improvements in health status. By this measure, recent decades have seen immense improvements in women's health. Global life expectancy at birth for women is estimated to have increased from 61.2 years in 1970 to 73.3 years in 2010 (Figure 1).² Increases in life expectancy averaged 3-4 years every decade with the exception of the 1990s during which increases averaged only around 1.6 years. During this so-called "lost decade", improvements in women's health slowed, and only after the turn of the century did they regain the rates of improvements seen during the 1970s and 1980s.

The global figures mask substantial heterogeneity between regions and countries as well as within countries between different population groups. In the Asia and Pacific regions, for example, the highest female life expectancy in 2010 was in high-income countries (85.3 years) and the lowest in the Pacific Island countries of Oceania (62 years) a difference of over 23 years (Figure 2). By contrast, within sub-Saharan Africa, the differences between regions are less marked, ranging from 58.5 in Central sub-Saharan Africa to 62.6 years in Eastern sub-Saharan Africa (Figure 3).

South Asia saw the most rapid increases in female life expectancy between 1970 and 2010, with an improvement of over 40%. Regions with the slowest improvements over the period include Oceania where life expectancy has stagnated (Figure 4), southern sub-Saharan Africa with dramatic declines in female life expectancy due to the HIV epidemic (Figure 5), and Central Asia and Eastern Europe which were adversely affected by the social and economic transitions following the collapse of the USSR (data not shown).

Countries with the highest female life expectancies are high-income countries in Asia and Europe. The highest female life expectancy is observed in Japan, where a woman born in 2010 could expect to live until the age of 85.9 years. Other countries with life expectancies above 85 years included Andorra, Iceland, Switzerland, France, Spain, Italy, Australia, Finland, Sweden, Singapore, and Norway. Note that life expectancy for women in the United States is lower, at 80.5 years. Countries with the lowest life expectancies, at 56 years or below, include Burundi, Zimbabwe, Malawi, Mozambique, Swaziland, Lesotho, Central African Republic and Haiti. In most countries, female life expectancy increased between

1970 and 2010, with particularly large gains in excess of 20 years in Bangladesh, Bhutan, Guatemala, Iran, Oman and Peru. Since 1970, gains in female life expectancy of a decade or more occurred in a number of sub-Saharan countries, notably Angola, Ethiopia, Niger, and Rwanda. However, some countries, notably Central African Republic, Lesotho, Swaziland, Zimbabwe and Haiti saw significant reversals in life expectancy over the period, reflecting the impact of HIV/AIDs and natural disasters (Figure 6).

Changing patterns of mortality

Alongside the declines in levels of mortality and increases in life expectancy, the past two decades have seen significant changes in patterns and causes of mortality among women and girls. Today, women are far more likely to die in old age than was the case twenty years ago. In 1990, globally almost one female death in every four occurred in girls aged below five years old. By 2010, only 13% of female deaths occurred in this age group. In 1990, only one woman in five died at the age of 80 years or older compared with one woman in three in 2010 (Figure 7).

These changing patterns of mortality are associated with declining levels of fertility and child mortality, and increasing average age of the female population. For the most part, the women and girls of the early 21st century are less likely to die than from the infectious diseases during infancy and childhood or from complications associated with pregnancy and childbirth than were their older sisters of the latter part of the 20th century. In 1990, globally, infectious diseases were predominant among the ten leading causes of death, which were, in rank order, stroke, ischaemic heart disease, lower respiratory tract infections, chronic obstructive pulmonary disease, diarrheal diseases, tuberculosis, preterm birth complications, malaria, protein-energy malnutrition, and diabetes. By 2010, the picture had changed, with significant declines in the proportion of female deaths due to tuberculosis, preterm birth complications, and malnutrition and increases in the proportion of deaths due to diabetes, HIV/AIDs, hypertensive heart disease and lung cancer.³

However, the way these global trends are played out varies greatly between different regions and countries, within countries between different groups of the population, and among women at different stages in life. What emerges clearly from the data is that what girls and women suffer and die from depends very much on their age and where they live. In all regions and age groups, girls and women in higher-income countries have lower levels of mortality than those who live in lower-income countries, and are more likely to die at older ages from chronic, mostly noncommunicable conditions. Girls and women living in low-income countries are more likely to die in childhood and from infectious diseases, maternal and nutritional disorders. Across all ages, the highest mortality rates in females are found in sub-Saharan Africa.

In the following sections we present what is known about female mortality at different stages in their lives – infancy and childhood, adolescence, the reproductive ages, and older ages – when girls and women face risks and challenges to their health which must be addressed both for their own sakes and for the sakes of future generations.

Mortality and ill-health across the life course

Infancy and childhood (birth to 10 years of age)

Notwithstanding the recent declines in mortality in children, some 6.8 million boys and girls die prematurely and childhood remains a time of vulnerability to a wide range of health risks. Globally, deaths children of both sexes below the age of five were mainly due to infectious diseases and complications associated with pregnancy and childbirth. In 2010, the five leading causes of deaths in children under five years old globally were lower respiratory infections, preterm birth complications, diarrheal diseases, malaria and neonatal sepsis.⁶

There are important regional variations however. For example, in high-income countries, and in countries of Southeast Asia, East Asia and Oceania, drowning and road traffic injuries were among the 10 leading causes of death in young children. By contrast, in sub-Saharan Africa, mortality in children continued to be dominated by infectious diseases, notably malaria, diarrheal diseases, meningitis and HIV/AIDS, along with perinatal conditions such as preterm birth complications and neonatal sepsis.

In most parts of the world, the two decades between 1990 and 2010 have seen dramatic declines in the proportion of infant and child deaths in infancy and childhood caused by infectious diseases. For example, in Latin America and the Caribbean in 1990, the leading cause of mortality in girls under five was diarrheal diseases; by 2010, this cause ranked only 6th, deaths having fallen from over 50,000 in 1990 to around 7,000 in 2010.⁶ In North Africa and the Middle East, there have been significant declines in the proportion of female deaths due to both diarrheal diseases and protein-energy malnutrition. Southeast Asia, the Pacific and Oceania saw important declines in the proportion of deaths among girls due to measles and tetanus. In sub-Saharan Africa, measles dropped from the 5th leading cause of death in girls to the 13th. On the other hand, sub-Saharan saw big increases in the proportion of deaths in children due to malaria and HIV/AIDS as well as complications associated with childbirth.⁶

In general, because of their inherent biological advantage, girls are usually less likely to die in childhood than boys are. However, they also face social, cultural and gender-based disadvantages that place their health at risk. Historically, in countries such as Bangladesh, China, India, Nepal and Pakistan, mortality rates in children under five were higher among girls than boys.⁸ In recent years, however, the female disadvantage has lessened in most countries. Nonetheless, data from household surveys indicate that this female disadvantage has tended to persist in India and may have worsened in some other countries such as Nepal and Pakistan. By contrast, recently released data for Bangladesh show that the gap has narrowed significantly over time and females under five years currently have lower mortality rates than males.⁴

In some settings, societal discrimination against females and parental preference for sons result in skewed sex ratios. In India, for instance, the 2001 census recorded only 93 girls per 100 boys – a sharp decline from 1961 when the number of girls was nearly 98. In some parts of India there are fewer than 80 girls for every 100 boys. Low sex ratios have also been recorded in other Asian countries – most notably China where, according to a survey in 2005,

only 84 girls were born for every 100 boys. This was slightly up from 81 during 2001–2004, but much lower than 93 girls per 100 boys as shown among children born in the late 1980s.³

Female genital mutilation (FGM) affects some 3 million girls in Africa each year.⁵ It is estimated that 92.5 million girls and women above the age of 10 years in Africa are living with the consequences of FGM. Although available data are incomplete, it appears that there have been small decreases in the extent of FGM in recent years. However, the data indicate a growing tendency for FGM to be carried out by health professionals, a decline in the average age at which FGM is performed, and a marked increase in the proportion of girls who undergo FGM before the age of five years.

Many of the health problems faced by adult women have their origins in childhood. Addressing the health needs of infants and children, preventing malnutrition, abuse and neglect and ensuring a supportive environment in early childhood will help girls to achieve optimal physical, social and emotional development and will avoid a significant burden of disease associated with chronic diseases, including mental health disorders and substance abuse, later in life.

Adolescence (10-19 years of age)

For young women, adolescence is usually a time of low mortality, good health, and opportunities for growth and development. But this is also a time of major physical, social and emotional changes and can present risks, particularly in terms of sexual activity and substance use. Girls need support to deal with these changes and avoid becoming vulnerable to behaviors that put their future health at risk. The health of adolescents today, and the risks to which they are exposed, set the stage for their health and development as they mature into adults.

The highest rates of mortality in adolescent girls are found in Africa and South-East Asia. In developing countries as a whole in 2010, the leading causes of death among adolescent girls aged 15-19 years old were, in rank order: self-harm, maternal disorders, road traffic injuries, malaria, fire-related injuries, HIV/AIDS, respiratory infections, diarrheal diseases, tuberculosis and interpersonal violence.⁶ In sub-Saharan Africa, communicable diseases including HIV/AIDS were important causes of death in young women along with maternal causes. In more developed countries, the pattern was quite different; the leading causes of death among adolescent girls included external causes (road injuries, self-harm and interpersonal violence) as well as noncommunicable conditions such as leukemia, congenital anomalies, drug use and brain cancer.

The prominence of self-harm among the leading causes of death among adolescent girls is a stark reminder of the vulnerability of young people as they navigate the passage from childhood to adulthood. Since adolescence is a time of social, emotional and physical change, it is perhaps not surprising to find that young women are at significant risk of mental health problems such as unipolar depressive disorders, schizophrenia and bipolar disorders.⁹

A striking recent development has been the growing importance of interpersonal violence as a cause of death among adolescents. In Central Latin America, interpersonal violence is the leading cause of death among 15-19 year old girls. In Southern sub-Saharan

Africa, interpersonal violence ranks second only to HIV/AIDS as the leading cause of death among female adolescents.⁶

Pregnancy and childbirth can be risky for very young adolescents. Although adolescent birth rates have been declining globally they remain high in parts of Africa and Asia.⁶ Some 38% of girls in developing countries, notably in Asia, marry before the age of 18, and 14% before the age of 15.⁷ Adolescent pregnancy is more common in those who living in poverty, in rural areas, and among the less educated. In developing countries, complications of pregnancy and childbirth are the leading cause of death in young women aged between 15 and 19 years. About 15% of total maternal deaths worldwide, and 26% in Africa, occur among adolescents.⁸ The adverse health effects of adolescent childbearing are reflected in the poor health of their infants: perinatal deaths (stillbirths and deaths within the first week after birth) are 50% higher among babies born to mothers under 20 years of age than among those born to mothers aged 20–29 years.

Because many adolescents face unwanted pregnancy, rates of unsafe abortion among young women are high: in sub-Saharan Africa, which has the highest burden of ill-health and death from unsafe abortion, one in four unsafe abortions is among adolescents aged 15–19 years. Even when they do not result in death, the immediate and long-term health consequences of unsafe abortions – which include haemorrhage, reproductive tract infections and infertility – can be severe.

In 2010, about 3.2 million women 15–24 years old were living with HIV. Young women are particularly vulnerable to HIV infection, due to a combination of biological factors, lack of access to information and services, and social norms and values that undermine their ability to protect themselves. Their vulnerability may increase during humanitarian crises and emergencies when economic hardship can lead to increased risk of exploitation such as trafficking and increased reproductive health risks related to the exchange of sex for money and other necessities. Because young women tend to have sex with older men who are more sexually experienced and more likely to be infected with HIV, adolescent girls are much more likely to be infected than young men of the same age. The discrepancy is most stark in sub-Saharan Africa where, in 2010, 71% of the people 15–24 years old living with HIV were women. Eliminating new HIV infections among children requires ensuring that HIV prevention services reach this population and keep adolescent girls HIV-negative.

Unsafe sexual activity is not the only important risk to health for adolescent girls. In several European countries, alcohol consumption increased among female adolescents between 1993 and 2003.⁹ Data from 37 low-income and middle-income countries indicate that 14% of girls aged 13–15 years reported drinking alcohol in the past month compared to 18% of boys.¹⁰ Because of male–female differences in body weight and body water content, girls are more vulnerable than boys to the psychoactive effects of alcohol and are therefore more likely to suffer the consequences of its use – including violence, unintentional injuries and vulnerability to sexual coercion.¹¹

Many adolescent girls take up smoking during adolescence and there is evidence that tobacco advertising is increasingly targeting girls and women.¹² Data from 151 countries

indicate that approximately 10% of adolescents (12% among boys and 7% among girls) smoke cigarettes and 10% use tobacco products other than cigarettes (e.g. pipes, water pipes, smokeless tobacco, and bidis).¹³ Smoking among girls is more common in high-income countries than in lower-income countries.¹⁴

Poor diet and physical inactivity are important risk factors for chronic diseases, leading to premature death and disability in adulthood. Adolescence is a time when girls start to take decisions about the food they eat and the physical activity they engage in (although in impoverished communities their choices are limited). Poor habits can lead to overweight and obesity. Obese adolescents tend to grow up to be obese adults and are thus exposed to a higher risk of diseases such as osteoarthritis, diabetes and cardiovascular diseases at a younger age than those who are not obese.¹⁵ While adolescent girls in many countries still suffer from undernutrition, data from 20 low-income and middle-income countries show that around 12% of school-going 13–15-year-old girls are overweight.

Physical activity is not only crucial to avoiding weight gain but is also an important factor in improving adolescents' control over anxiety and depression. Physically active adolescents more readily adopt other healthy behaviours – including avoiding tobacco, alcohol and drug use – and show higher academic performance at school.²⁰ However, data from 36 low-income and middle-income countries indicate that 86% of girls do not meet recommended levels of physical activity, which is a far higher proportion than among boys.¹⁶

In all regions, adolescent girls face significant burdens of disease associated with mental health problems. In high-income countries, neuropsychiatric conditions such as unipolar depressive disorders, schizophrenia and bipolar disorders are responsible for a large share of the burden of ill-health among female adolescents.⁶ The risk factors driving these disorders go well beyond adolescent identity crises or peer pressure; they include exposure to violence (childhood sexual abuse, parental domestic violence, corporal punishment at school, bullying and sexual coercion), the devaluation or restriction of girls' opportunities, and poverty (especially where this affects the adolescent's ability to attend school). Lack of care for such conditions during adolescence can have serious repercussions as young people grow into adulthood and older age.

The implications of these findings are that it is important to ensure that adolescent girls have access to both primary and secondary education, including comprehensive skills-based sex education, and opportunities for adequate diet and physical activity. They need protection from early marriage, exploitation and abuse, including the prevention of intimate partner violence and sexual violence. Furthermore, female adolescents need to be able to access and use health services, particularly for sexual, reproductive and mental health care. Policy measures to limit tobacco and alcohol use and to improve road safety are important. Improved age and sex disaggregation of health information and intervention research will help to highlight the particular needs of adolescent girls and the approaches to address them. Societies as a whole must provide the support that girls need to deal successfully with the physical and emotional changes of adolescence and to make a healthy transition to adulthood.

The reproductive years

For many women, the years between puberty and menopause (roughly the ages of 12/15 to 45/49 years) offer multiple opportunities for personal fulfillment and development. However, this can also be a time of health risks associated with sex and reproduction that may result in a significant burden of mortality and disability. The burden of ill-health in this age group is particularly high in Africa due to high rates of mortality and disability associated with HIV/AIDS and pregnancy-related conditions.

Patterns of mortality during the reproductive years differ greatly between low-income countries and high-income ones. In the latter, the three leading causes of female deaths are, in rank order, breast cancer, self-harm, and road traffic injuries. Together these account for more than one in every four deaths. In contrast, the three leading causes of death in low-income countries are HIV/AIDS, maternal conditions and tuberculosis, which together account for one in every two deaths.⁶

Maternal mortality (i.e. the death of a woman during pregnancy, delivery or the postpartum period) is a key indicator of women's health and status, and shows most poignantly the difference between rich and poor, both between countries and within them. Estimates vary, but around a quarter of a million maternal deaths occur every year and, of these, 99% happen in developing countries.^{17,18} Given appropriate care, maternal mortality should be a very rare event. In high-income countries there are on average 16 maternal deaths per 100 000 live births, whereas this figure averages 410 per 100 000 live births in low-income countries.¹⁷ Where high fertility is the norm, women face such risks with each pregnancy. Thus, a woman in sub-Saharan Africa may face a lifetime risk of death during pregnancy and childbirth as high as one in 46, compared with only one in 3,800 in developed regions.

Unsafe abortion causes a significant proportion of maternal deaths. Again estimates vary, but globally, around 21.6 million women experience an unsafe abortion worldwide each year 18.5 million of which take place in developing countries (Figure 8). An estimated 47 000 women die from complications of unsafe abortion each year and deaths due to unsafe abortion remain close to 13% of all maternal deaths.¹⁹ The evidence shows that women who seek an abortion will do so regardless of legal restrictions. Abortions performed in an illegal context are likely to be unsafe and provided by unskilled persons in unhygienic conditions.²⁰ Poor women and those affected by crises and conflicts are particularly at risk. The use of modern contraception has reduced the need for induced abortion, yet women, especially when they are young or unmarried, often face difficulty in obtaining contraception.

Women's ability to plan the number and timing of the children they bear has greatly reduced the health risks associated with pregnancy and is an important success story. The use of contraception in developing countries rose from 8% in the 1960s to 62% in 2007.²¹ Even so, significant unmet needs remain in all regions. For instance, in sub-Saharan Africa, one in four women who wish to delay or stop childbearing does not use any family planning method. Reasons for non-use include poor quality of available services, limited choice of methods, fear or experience of side-effects, and cultural or religious opposition. Gender-

based barriers are also a factor, as is lack of access to services, particularly for young people, the poorer segments of the population, and those who are not married.

The prevalence of HIV infection in women has increased since the early 1990s and is most marked in sub-Saharan Africa, particularly Southern Africa. In 2005–2006, median HIV prevalence among pregnant women attending antenatal care was above 15% in eight Southern African countries.²² Infection was acquired primarily through heterosexual transmission. In all regions, HIV disproportionately affects female sex workers and injecting drug users, as well as the female partners of infected males.

Globally, women constituted around half of adults (15 years and older) living with HIV in 2010, according to UNAIDS estimates (Figure 9).²³ That proportion has shifted very little in the past 15 years. The burden of HIV on women, however, varies considerably by region and is heaviest in sub-Saharan Africa where 1.4 times more adult women than men were living with HIV in 2010. Women comprised 59% of the adults living with HIV in sub-Saharan Africa in 2010, as they have for most of the past decade. The Caribbean is the only other region where women outnumber men among adults living with HIV; they comprised 53% of the adults living with HIV in 2010 (this pattern largely results from the fact that women outnumber men in Haiti, which has the greatest epidemic in the Caribbean). Two regions have experienced slight increases in the proportion of women among people living with HIV in the past decade or more: Latin America (35% in 2010 versus 32% in 2001) and North America and Western and Central Europe (26% in 2010 versus 25% in 2001). Elsewhere the proportion has hardly shifted.

HIV is the leading cause of death and disease in women of reproductive age globally.¹² Women's particular vulnerability to HIV infection stems from a combination of biological factors and gender inequality. Some studies show that women are more likely than men to acquire HIV from an infected partner during unprotected heterosexual intercourse.²⁴ The risk posed by this biological difference is compounded in cultures that limit women's knowledge about HIV and their ability to negotiate safer sex. Stigma, violence by intimate partners, and sexual violence further increase women's vulnerability. Fewer young women than young men know that condoms can protect against HIV.²⁵ And while women report increased condom use during high-risk sex, they are generally less likely to protect themselves than men are.²⁶

Female drug users and sex workers are particularly vulnerable; stigma, discrimination and punitive policies only increase their vulnerability.²⁷ The rate of HIV infection among female sex workers is high in many parts of the world, and a large proportion of women who use drugs also engage in sex work.²⁸ In prisons, the proportion of drug users among females is higher than among males. Economic vulnerability is a key factor driving HIV infection among women and often associated with migration, which increases high-risk behaviours among women.

In 2010, an estimated 1 490 000 women living with HIV were pregnant, a number that has remained relatively stable since 2005. Although the global number of people newly infected with HIV has declined, in sub-Saharan Africa, the region with the largest number of pregnant women living with HIV, the estimated number of pregnant women living with HIV

was 1 400 000 in 2005, declining only slightly to 1 360 in 2010.

On a more positive note, in recent years women have benefited from increased access to HIV prevention, treatment and care. Data disaggregated by sex on the number of people receiving and needing antiretroviral therapy are available from 109 low- and middle-income countries, representing 95% of the 6.65 million people receiving treatment in 2010. Women represented 58% of the people receiving antiretroviral therapy and 51% of those who need it. Overall, antiretroviral therapy coverage was higher among women, estimated at 53%, versus 40% among men (see case study below).

The combination of biological and social factors (including humanitarian crises) that makes women more vulnerable to HIV infection also makes them far more likely than men to have sexually transmitted infections – particularly chlamydia and trichomonas. Because the symptoms tend to be less evident in women than in men, and because women overall have more limited access to diagnosis and treatment services, women's infections are detected later and thus go longer without treatment. Delays in diagnosis and treatment, coupled with women's greater biological vulnerability to complications from untreated infection, result in women suffering far greater morbidity due to sexually transmitted infections than men do. Treatable infections – such as gonorrhoea, chlamydia, syphilis and trichomoniasis – not only give rise to acute symptoms but also provoke chronic infection. The longer-term consequences of sexually transmitted infections include infertility, ectopic pregnancy and cancers, as well as increased vulnerability to HIV infection. Sexually transmitted infections increase the risk of adverse pregnancy outcomes, including stillbirths, low-birth-weight infants, neonatal deaths and congenital syphilis. In addition, women bear much of the stigma associated with these infections.²⁹

Women in Latin America and sub-Saharan Africa are most at risk, with one in approximately four women having one of the four treatable infections at any point in time. The human papillomavirus (HPV) is important to women's health largely because of its relationship to cervical cancer and other genital cancers. Infection with HPV is widespread and 10% of women with normal cervical cytology at any point in time are positive for HPV in the cervix. HPV is more prevalent in less developed countries where it stands at 13% overall, while in the more developed regions it is estimated to be at 8%. The highest prevalence of HPV is in Africa where it is estimated that one in five women is affected. HPV is highly transmissible, and most sexually active men and women will acquire an HPV infection at some time in their lives. Whereas most HPV infections are short-lived and benign, persistent genital infection with certain genotypes of the virus can lead to the development of ano-genital precancers, cancers and genital warts.

Cervical cancer is globally the second most common type of cancer among women and virtually all cases are linked to genital infection with HPV. It is estimated there were more than 500 000 new cases of cervical cancer with an estimated 225 000 deaths worldwide in 2010.²² Almost 80% of cases today occur in low-income countries, where access to cervical cancer screening and prevention services is almost non-existent. A highly effective vaccine against HPV is available but cost and accessibility limit its use in less developed

countries. Cervical cancer can also be prevented through regular screening coupled with treatment, but this is rarely available in most developing countries.

Although men are just as likely to be infertile as women, their female partners are more often stigmatized and blamed when couples fail to produce offspring. In high-income countries, infertility is often associated with late start of childbearing, but can be resolved through easy and affordable access to infertility treatments. In low-income countries, much infertility is caused by sexually transmitted and other infections as well as the complications from unsafe abortion. In poorer countries, involuntary primary infertility (i.e. the inability to bear any children) is often low compared to involuntary secondary infertility (i.e. the inability to have another child after having given birth to at least one).

Data from 47 developing countries (excluding China) show that in 2004 an estimated 187 million couples were affected by infertility – approximately 18 million with primary infertility and the remaining 169 million with secondary infertility. The percentage of couples with primary or secondary infertility was highest in countries of sub-Saharan Africa (30%) compared to countries in South-Central Asia (28%), South-East Asia (24%) and countries in Latin America and the Caribbean (16%).³⁰

Women and ageing

Women represent a growing proportion of older adults because they tend to live longer than men. Worldwide in 2011, 53% of adults aged 50 years and over were women, a proportion that rises to 59% at age 70 and above.³¹ Most of these older women live in less developed countries. In 2011, 555 million women aged 50 years or older lived in low-income and middle-income countries, compared with 280 million in high-income countries. As a result of population growth and ageing, these numbers are projected to increase to 1.5 billion in developing countries and 379 million in developed countries by 2050.

Over the age of 50, noncommunicable diseases, particularly cancers and cardiovascular diseases, become the biggest causes of death among women, regardless of the level of economic development of the country in which they live. The single exception is in sub-Saharan Africa, where communicable diseases remain the chief causes of female deaths up to the age of 60 years. Cardiovascular diseases account for 45% of older women's deaths globally, while a further 15% of deaths are caused by cancers – mainly cancers of the lung, breast, colon, and stomach.³² Chronic respiratory conditions, mainly chronic obstructive pulmonary disease, cause another 10% of older women's deaths.

In 2010, the ten leading causes of death among women aged 50-69 globally were ischaemic heart disease, stroke, chronic obstructive pulmonary disease, diabetes, breast cancer, lung cancer, lower respiratory tract infections, cirrhosis, tuberculosis, cervical cancer and stomach cancer.⁶ Between 1990 and 2010, tuberculosis appears to have declined in terms of the proportion of female deaths, but there have been increases in the proportions due to diabetes lung cancer and cervical cancer.

The predominance of noncommunicable diseases as causes of mortality in older women is true all over the world with the exception of sub-Saharan Africa where infectious diseases such as respiratory infections, malaria, tuberculosis and HIV/AIDS continue to

feature prominently among the leading causes of death. Even here, however, over the past 20 years there have been significant increases in the proportion of female deaths due to noncommunicable conditions such as diabetes and cervical cancer.

These changing patterns of mortality among women reflect not only increasing average age of the female population but also new patterns of behavior. Two decades ago, for example, use of tobacco and alcohol was traditionally much higher among men than women. More recently, however, smoking rates among females have started to approach those of males; the health consequences (e.g. increased rates of cardiovascular diseases and cancers) will emerge in the future. In low-income and middle-income countries, alcohol use is generally higher among men. However, in many higher-income countries, male and female patterns of alcohol use are beginning to converge. As women increasingly behave like men do, they will face similar risks of death and ill-health in later life.

Living with disabilities

We have presented data on the changing levels and patterns of mortality among women and girls and have drawn attention to the major gains in life expectancy and changing cause patterns of mortality over time and across women's lives. But the fact that women are living longer today than they were twenty or more years ago does not necessarily mean that they are living healthier lives. Healthy life expectancy (HALE) summarizes mortality and non-fatal health outcomes into a single measure of the average health of populations. Estimating HALE is more complex than estimating life expectancy and the available data on incidence and prevalence of disabilities are generally not so widely available or as reliable as data on mortality. However, recent work for the Global Burden of Disease 2010 has produced estimates of HALE for globally and for 187 countries for 1990 and 2010.³³ Globally, in 2010, female HALE at birth was 61.8 years, an increase of four years compared with 1990. Countries with the highest female healthy life expectancies in 2010 were (in rank order) Japan, South Korea, Spain, Singapore, Taiwan, Switzerland, Andorra, Italy, Australia, and France. Countries with the lowest female healthy life expectancies were (in rank order) Liberia, Burundi, Afghanistan, Malawi, Zimbabwe, Mozambique, Swaziland, Lesotho, Central African Republic, and Haiti.

Across countries and over time, life expectancy has a strong, positive correlation with healthy life expectancy but HALE rises more slowly than life expectancy especially at older ages. As life expectancy increases, the gap between life expectancy and healthy life expectancy also increases, widening even more with increasing age. By age 50 years, each year of gain in life expectancy is associated with only just over seven months of healthy life expectancy. Thus, for older women, increasing life expectancy tends to be associated with an expansion of time spent living with disabilities. With global life expectancy at birth in 2010 at 73.3 years, on average a woman born in 2010 could expect to spend over 11 years of her life living with one or more disabilities.

Ways should be found to extend and enhance the quality of life for older women. This is a twofold challenge which involves both taking action early on to prevent the development of chronic disease and providing health care specifically designed to manage the health

problems women encounter as they age. Keeping older women healthy, fit and active not only benefits the individual but also makes sound economic and social sense; preventive interventions can help reduce the costs of long-term care for chronic conditions. However, this cannot be achieved without significant forward planning and public health action. The challenges to health systems are particularly acute in high-income countries with low levels of fertility and growing proportions of older people in the population. But they are increasingly relevant in today's low- and middle-income countries where the trends identified above have emerged only recently and health systems remain largely geared to the health needs of younger women, especially those of reproductive age, and to the management of communicable diseases.

Social determinants of women's health

An analysis of health status and trends is incomplete without an understanding of the social, cultural, political and economic factors that directly and indirectly affect women's health. These underlying determinants of health – particularly gender inequality – render girls and women more vulnerable to health threats and impede their access to health-related information and care.

Poverty and low socioeconomic status are associated with worse health outcomes. Data from 66 developing countries show that child mortality rates among the poorest 20% of households are almost double those in the richest 20%.³⁴ In both high-income and low-income countries, levels of maternal mortality may be up to three times higher among disadvantaged ethnic groups than among other women.^{35,36} There are similar differentials in terms of use of health-care services. For instance, women in the poorest households are least likely to have a skilled birth attendant with them during childbirth.

Women living in poverty face particular health risks due to infectious diseases and noncommunicable, chronic conditions. Infectious and parasitic diseases are associated with nutritional deficiencies, unsafe water and sanitation, and poor environmental conditions. Chronic conditions such as respiratory diseases are often due to smoke from solid fuels used for cooking and heating. At the same time, new health challenges include overweight and obesity, lack of exercise, use of tobacco and alcohol, violence against women, and environmental risks such as poor urban air quality and adverse climate change.

The adverse impact on health of low socioeconomic status is compounded for women by gender inequities. Gender inequalities in the allocation of resources such as income, education, health care, nutrition and political voice are strongly associated with poor health and reduced well-being. In many countries and societies, women and girls are treated as socially inferior. Behavioural and other social norms, codes of conduct and laws perpetuate the subjugation of females and condone violence against them. Unequal power relations and gendered norms and values translate into differential access to and control over health resources, both within families and beyond. Thus, across a range of health problems, girls and women face differential exposures and vulnerabilities that are often poorly recognized. Actions to address social determinants include, for example:

- Legal and social measures that protect women's rights;
- Policies that support equal access to formal employment for women and gender equality in the workplace;
- Action to encourage girls to enrol in and stay in school, including promoting later marriage;
- Measures to increase access to education, including sexuality education, and education on tobacco and alcohol, diet, physical activity, and road safety;
- Measures to provide economic opportunities for women;
- Measures that increase access to water, fuel and time-saving technologies;
- Strategies to change discriminatory norms, practices and behaviours;
- Action to end all forms of violence against women, including in conflict situations;³⁹
- Increasing opportunities for older women to contribute productively to society, while supporting them in their caring and other roles where needed.

Women face particular problems in disasters and emergencies. Available data suggest that there is a pattern of gender differentiation at all stages of a disaster: exposure to risk, risk perception, preparedness, response, physical impact, psychological impact, recovery and reconstruction.³⁷ In situations of conflict and crisis, women are often at greater risk of sexual coercion and rape.³⁸ In the midst of natural disasters and armed conflicts, access to health services may be even more restricted than normal, contributing to physical and mental health problems that include unwanted pregnancy, and maternal and perinatal mortality. Even when health care is available, women may be unable to access it because of cultural restrictions or their household responsibilities.

Case studies of success in aspects of women's health

The case of maternal mortality

Recent estimates show that maternal mortality has declined dramatically with deaths declining from an estimated 543,000 a year in 1990 to 287,000 in 2010.³⁹ High levels of maternal mortality are now concentrated in Sub-Saharan African and South Asian countries (Figure 10). According to estimates produced by the UN agencies, although few countries have made sufficient progress to achieve the MDG target, 15 countries are on track to do so, including Bangladesh, Bhutan, Cambodia, China, Egypt, Eritrea, Iran, Lao PDR, Maldives, Nepal, Oman, Romania, Syria and Viet Nam. (Figure 11) According to the Countdown to 2015 initiative, Equatorial Guinea is also on track.⁴⁰ Using the estimates developed by the Institute for Health Metrics and Evaluation, only Rwanda is on track to achieve the target; the UN estimates put Rwanda in the "making progress" category.⁴¹ Given the confidence intervals around many of the estimates of maternal mortality, these differences in opinion are not surprising. They highlight the continuing weakness in empirical data from countries needed to permit reliable and regular tracking of progress on this important health and development

indicator.

At least part of the explanation of the declines in maternal mortality lies in increasing use of skilled attendants at delivery (Figure 12). However, the countries that have the achieved the most progress in reducing maternal mortality do not all share the same high levels of skilled attendant at delivery, although all have seen gains over the past two decades (Figure 13). In Bangladesh, for example, levels of skilled attendant delivery have improved but remain low by global standards and compared with other countries such as Cambodia, Egypt and Rwanda.

While access to care during childbirth is clearly important, other factors such as declining fertility, improved maternal nutrition, access to emergency care when complications arise in home deliveries and improvements in the social determinants of women's health – education, income – all play a part. Indeed, the impact of socio-economic factors on use of skilled birth attendant is shown clearly by available evidence on differentials in use of care among the poorest households compared with the least poor (Figure 14). A recent in-depth study of levels, trends and determinants of maternal mortality in Bangladesh examined changes in the causes of maternal deaths as well as changed in behaviours and in socioeconomic conditions. The study concluded that the 40 per cent decline in maternal mortality observed between 2001 and 2010 could be explained by reductions in fertility, and increases in the use of medical care both for normal and complicated deliveries, both of which are influenced by increased female education and economic growth.⁴²

The case of access to antiretroviral therapies (ARVs)

Although the proportion of women living with HIV has stabilized at about 35%, globally, women constituted half the adults aged 15 years and older living with HIV in 2010. Many of these women acquired HIV during unprotected sex with their regular male partners.

However, there are a number of encouraging signs. Population-based surveys conducted in selected low-income countries in sub-Saharan Africa show that increasing numbers of women are having HIV tests and receiving antiretroviral therapies for themselves and for their children. For example, although women's knowledge of their HIV status remains broadly inadequate, the proportion of people who report having ever had an HIV test is higher among women than men. Several countries have achieved significant increases in the percentages of pregnant women tested for HIV and in several priority countries for eliminating mother-to-child transmission, the majority of pregnant women have had an HIV test (Figure 15).

Data disaggregated by sex on the number of people receiving and needing antiretroviral therapy are available from 109 low- and middle-income countries, representing 95% of the 6.65 million people receiving treatment in 2010. Women represented 58% of the people receiving antiretroviral therapy and 51% of those who need it. Overall, antiretroviral therapy coverage was higher among women, estimated at 53%, versus 40% among men. However, this pattern does not apply to all regions. Women are especially advantaged compared with men in East, South and South-East Asia and in sub-Saharan Africa. In

contrast, in Latin America and Caribbean, coverage of antiretroviral therapy is higher among men than women. Globally, some 40% of pregnant women received the most effective antiretroviral regimens in 2010 (Table 1). Despite progress, much remains to be accomplished, particularly in reducing inequalities in ARV coverage within countries and in scaling up primary prevention strategies.

Policies and efforts made to improve monitoring of women's health.

Improvements in planning and implementing policies for women's health and in monitoring results depend on investments in strategic information systems for the collection and use of data disaggregated by sex and age, and the tracking of progress towards global targets and other indicators relevant to women's health and survival.

Currently, reliable data on critical aspects of women's health are not available because of the weakness of country health information and statistical systems. For example, maternal mortality, a powerful indicator both of women's health and the status of a health system, is poorly measured in most low-income settings. Women are "more than mothers". Policy-makers have a responsibility to monitor and deal with a range of other serious health problems that affect women. A concerted effort is required to better document these issues, many of which are currently invisible or neglected.

Better data are also needed for monitoring the performance of the health system in increasing coverage with essential interventions, particularly where inequities are an issue. This is critical for identifying the various ways in which women and their health are being left behind, whether it be as a result of insufficient progress in improving health, or widening inequalities, or □ for some health conditions and in some situations □ the emergence of new problems or the worsening of old ones. Progress in scaling up services towards the provision of universal access is patchy and uneven for most of the interventions that could make a difference to the common health problems that affect women. Some services, such as antenatal care, are more likely to be in place than others such as those related to mental health, sexual violence and cervical cancer screening and care. For many girls and women, the services simply do not exist, or cannot be reached. For example, large numbers of mothers in rural areas are excluded from life-saving care at childbirth simply because of lack of access to hospitals where emergency obstetric care can be provided. Only a small minority of the population enjoys access to a reasonable range of services – leading to a pattern of mass deprivation. At the other extreme are countries where a large part of the population has access to a wide range of services but a minority is excluded □ a pattern of marginalization. The barriers to access are many; use of health services is often constrained because of women's lack of decision-making power or the low value placed on women's health. Documenting and mapping exclusion from various essential services can be a useful tool for planning and can also serve as a baseline against which to measure progress in coverage. In many countries – especially those experiencing stagnation or reversal – the main challenge is to extend the network of health services and build up the range of interventions. In other countries, the determinants of specific patterns of exclusion must be tackled.

The Millennium Development Goals have been vitally important in providing impetus to accelerate action towards health goals within the context of development despite many other competing claims on the world's attention. The existence of a separate goal on maternal mortality draws attention to the lack of progress in this area, and has attracted both political and financial support for accelerating change. The addition of the target on universal access to reproductive health, in line with previous commitments on women's health, has helped to broaden the scope of the goal. However, the focus remains limited to one aspect of women's lives, albeit a critical one. There is now a need to extend attention to the many other challenges to, and determinants of, women's health.

Several recent initiatives have contributed to improved understanding and efforts to better track progress in women's health. One example is the Countdown to 2015 initiative, which promotes the use of indicators of health policies and health systems as critical complements to tracking coverage of interventions for the improvement of maternal, newborn and child health. The initiative proposes selected indicators to assess specific policies in relation to evidence and information, governance and leadership, quality and efficiency of care, financing of health services, and health workforce availability. Further work of this kind would help health leaders and governments identify the steps that must be taken to remove policy and health system impediments to progress, and to support the development of more effective accountability systems.

More recently, the Commission on Information and Accountability for Women's and Children's Health, established in December 2010, developed a framework to ensure that promises of resources for women's and children's health are kept and that results are measured. The accountability framework identifies a core set of indicators for results and resources, proposes an action plan to improve health information systems, and explores opportunities to improve access to information through information technology. The Commission issued 10 recommendations focus on ambitious, but practical actions that can be taken by all countries and all partners. The recommendations fall into three groups: better information for better results (including strengthening systems for registration of births, deaths and causes of death, and health information systems that combine data from facilities, administrative sources and surveys); better tracking of resources for women's and children's health; and better oversight of results and resources: nationally and globally.

There is growing global momentum to strengthen vital registration systems, which are the only source of continuous and complete data on births, deaths and causes of death and enable the identification of disparities across population groups and geographies, thus enabling a right-based approach to the development and implementation of health programmes. The UN economic and social commissions in Africa (ECA) and Asia-Pacific (ESCAP) have developed regional strategic plans to support national strategies that bring country stakeholders and development partners together to raise awareness of the benefits and feasibility of improving vital registration systems. Such systems can generate more reliable and timely data on the broader patterns of mortality among both women and men and establish a basis for more accurate monitoring of women's health across the life course.⁴³ This is becoming ever more important as women live longer and face the challenges of

chronic, noncommunicable conditions later in life. Knowing how many women die and from which causes of death will be essential for the development of sound and effective prevention and care strategies.

Universal civil registration is crucial not only because it generates data but also – and crucially – because it helps safeguard human rights. Every individual has the right to obtain documentary evidence of identity from birth, and for that proof of identity to be securely registered and to publicly recognize family relationships. In March 2012, the Human Rights Council reaffirmed, “...the human right of everyone to be recognized everywhere as a person before the law...”. Moreover, by providing legal identity to individuals and contributing to their social identity, civil registration enables individuals to access benefits, as internationally agreed on, *inter alia*, in the International Covenant on Economic, Social and Cultural Rights, the United Nations Millennium Declaration and the Declaration on the Right to Development. In this regard, civil registration is especially important for people in poverty, migrants, ethnic minorities and other marginalized groups as individuals from these groups represent the majority of the undocumented.

Conclusion and recommendations

This overview shows that while the health of girls and women has much improved over the past 60 years, the gains have been unevenly spread. In many parts of the world, women's lives, from childhood to old age, are diminished by preventable illness and premature death.

Women's health matters not only to women themselves. It is also crucial to the health of the children they will bear. Paying due attention to the health of girls and women today is an investment not just for the present but also for future generations. This implies addressing the underlying social and economic determinants of women's health – including education, which directly benefits women and is important for the survival, growth and development of their children.

A major challenge in summarizing women's health around the world is the paucity of reliable data. Even maternal mortality, one of the most egregious threats to women's health in the developing world, remains poorly measured. There are gaps in our understanding of the way that most health threats affect females as distinct from males, and of the differential effects on girls and women of health interventions and services. Not enough is known about how health systems should be structured and managed to respond effectively to the particular needs of girls and women – especially the poorest and most vulnerable among them. There is a need for better data, for more research, for more systematic monitoring of the health of the female half of the world, and for addressing the barriers that girls and women face in protecting their health and in accessing health care and information.

Figures and tables

Figure 1 – Estimated trends in global female life expectancy at birth 1970-2010

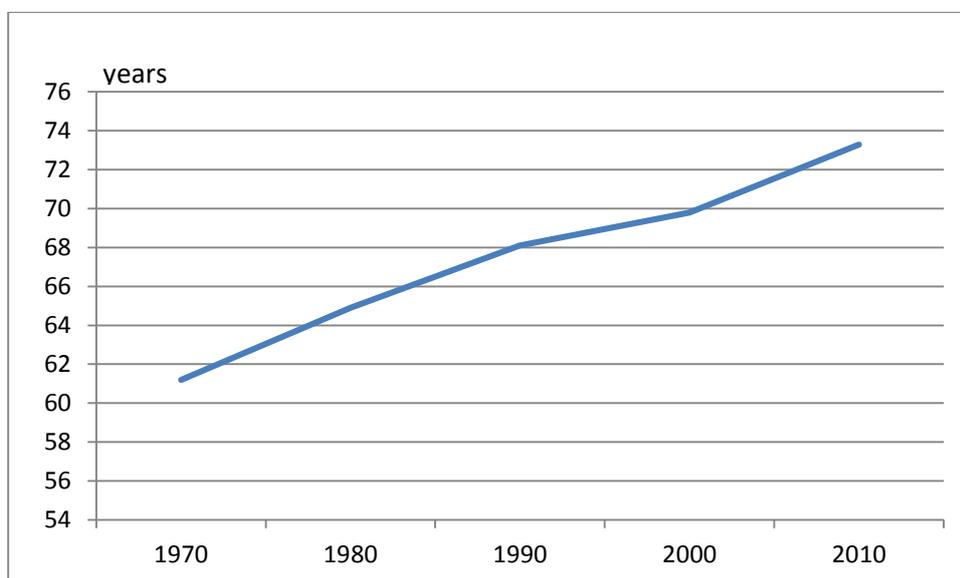


Figure 2 – Estimated trends in female life expectancy at birth in the Asia-Pacific regions, 1970-2010

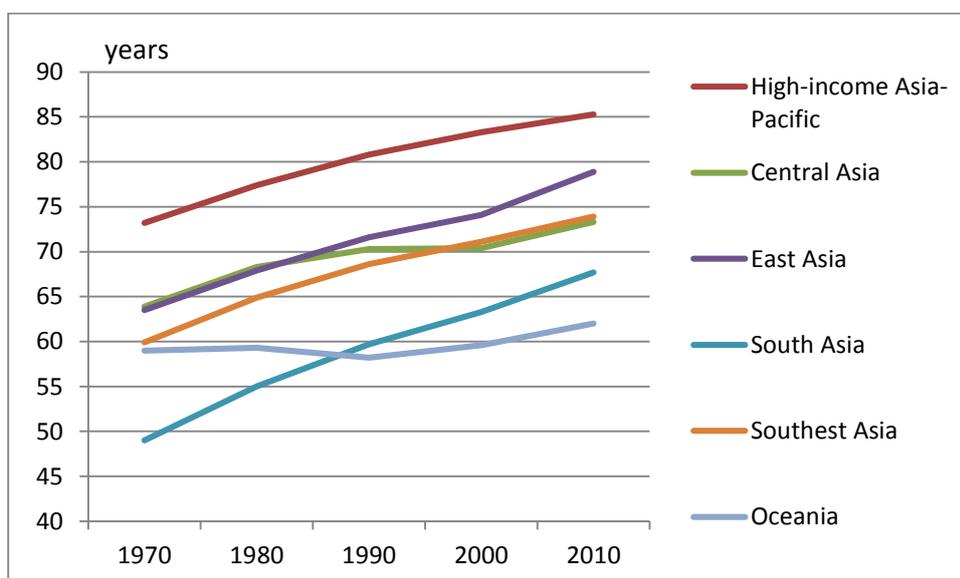


Figure 3 – Estimated trends in female life expectancy at birth in sub-Saharan Africa, 1970-2010

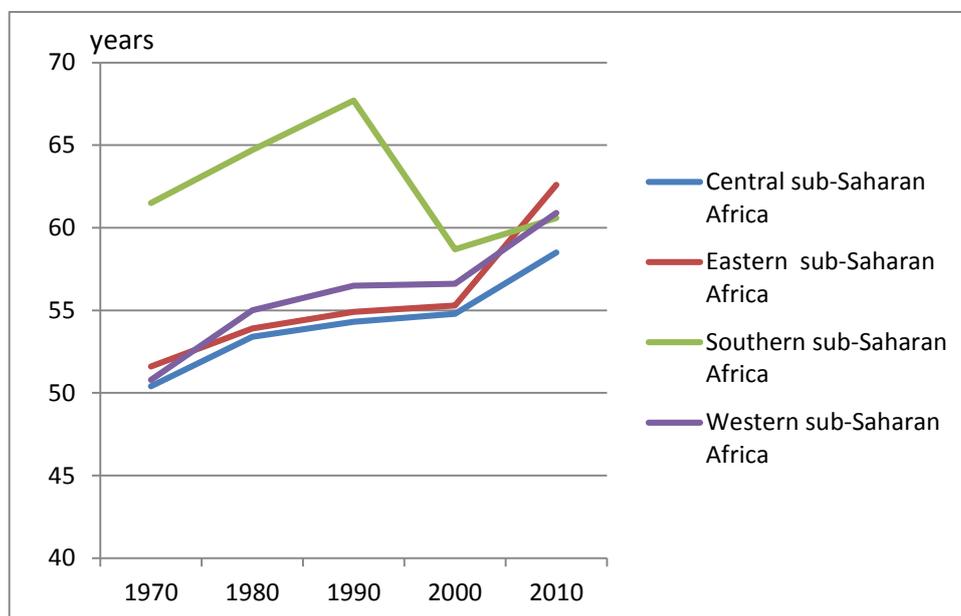
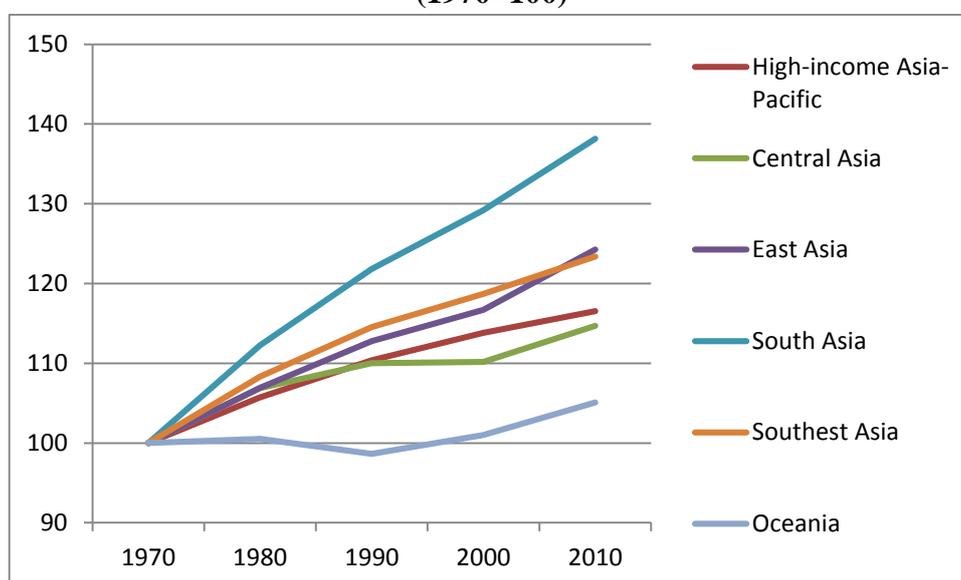


Figure 4 – Index of female life expectancy at birth, Asia and Pacific regions, 1970-2010 (1970=100)



**Figure 5 – Index of female life expectancy at birth, sub-Saharan Africa, 1970-2010
(1970=100)**

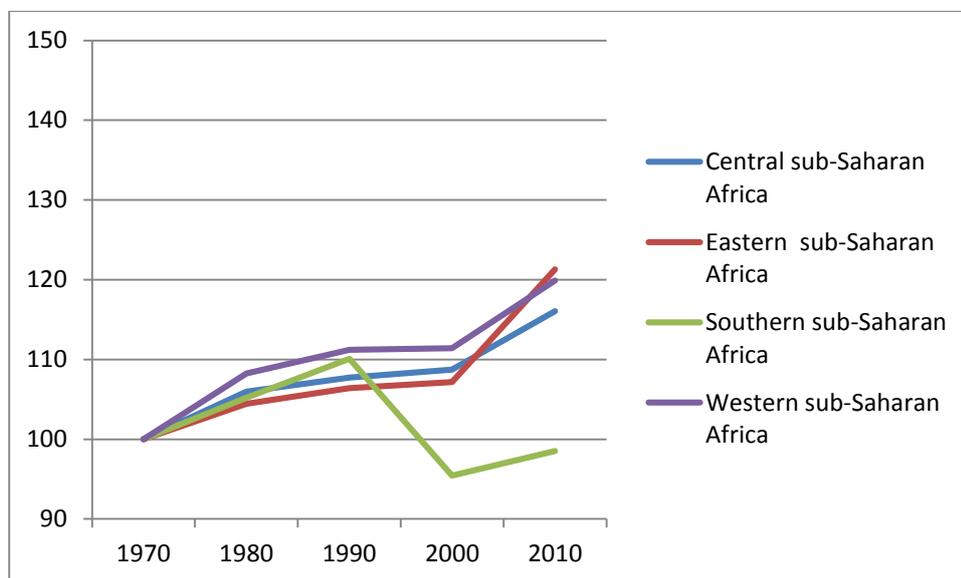


Figure 6 – Changes in life expectancy at birth, females, 1970-2010

Source: Wang et al (2013)

Figure 7 – Distribution of deaths in females globally, 1990 and 2010

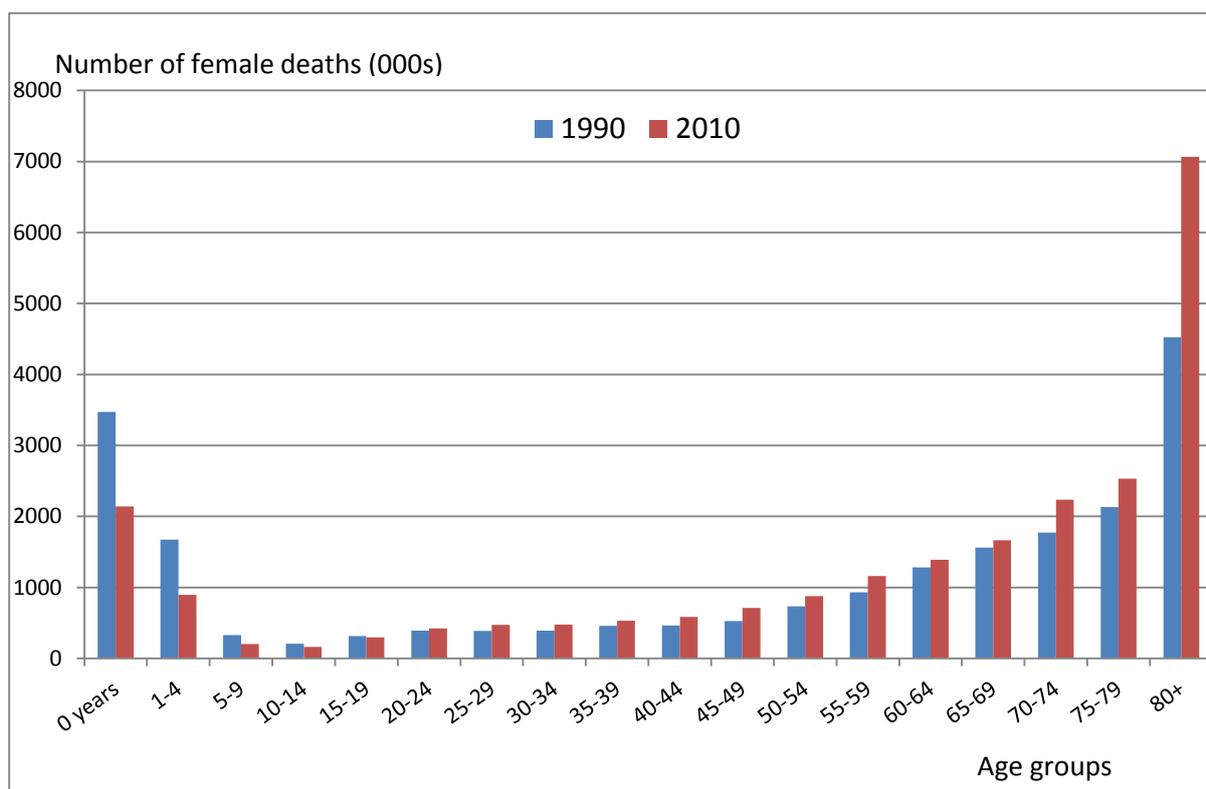


Figure 8 – Estimated annual number of unsafe abortions, globally and by major regions, 2003 and 2008.

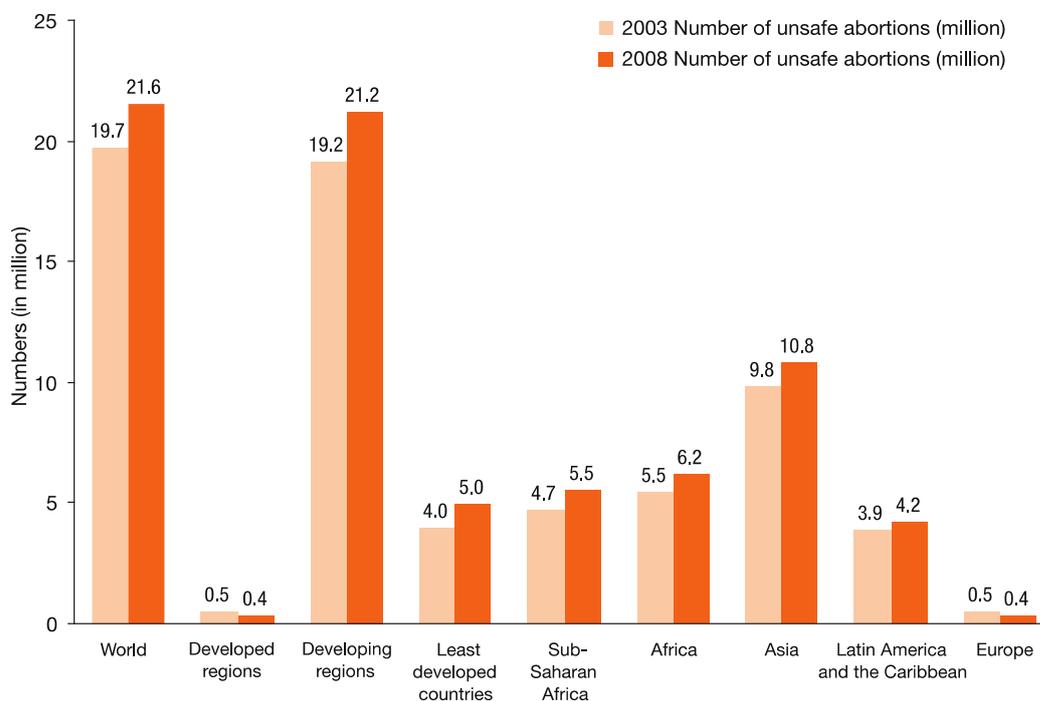
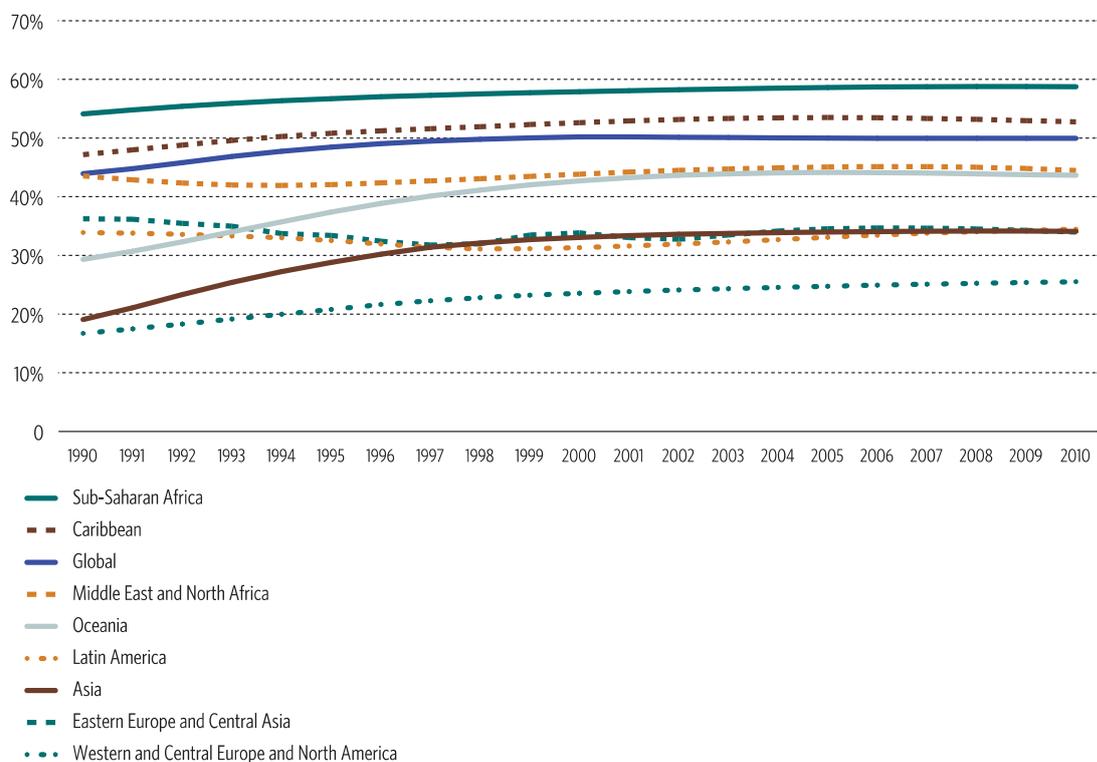
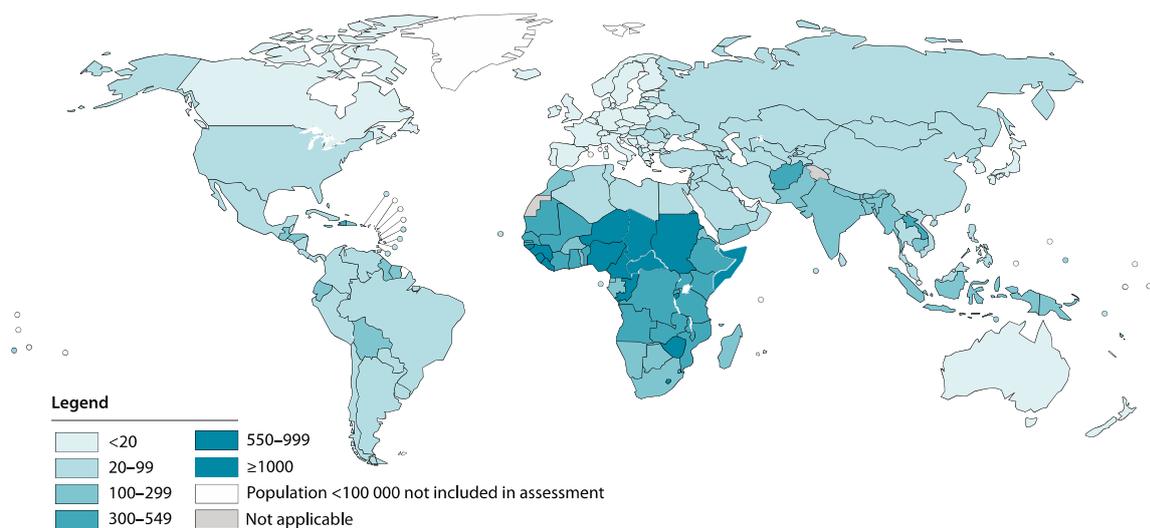


Figure 9 – Estimated percentage of adults (15+ years) living with HIV who are female, by geographical region, 1990–2010



*Created under the auspices of the ICPD Secretariat in its General Assembly mandated convening role for the review of the ICPD Action Programme.

**Figure 10 – Distribution of countries by estimated maternal mortality ratio
(deaths per 100 000 live births), 2010**



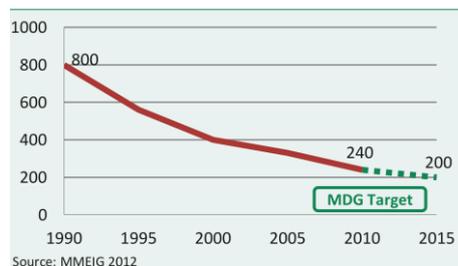
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Dotted lines and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

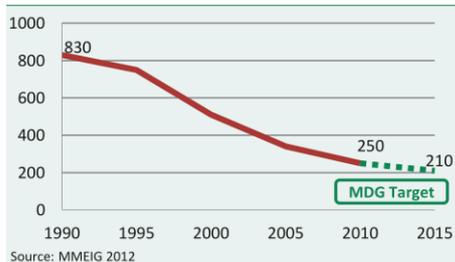
Source: World Health Organization, World Bank, UNICEF, United Nations Population Fund (2012) Trends in maternal mortality: 1990 to 2010. ISBN 978 92 4 150363 1 (NLM classification: WQ 16) © World Health Organization 2012

Figure 11 – Trends in levels of maternal mortality 1990-2010 and MDG 2015 targets, Bangladesh, Cambodia, Egypt, Rwanda

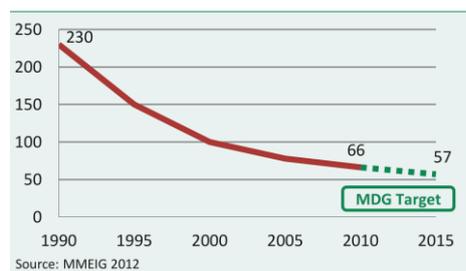
Bangladesh



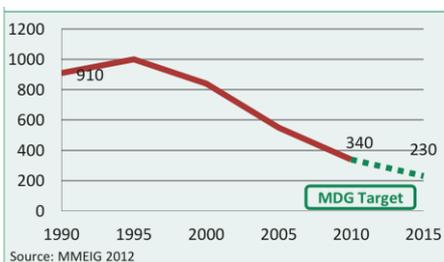
Cambodia



Egypt

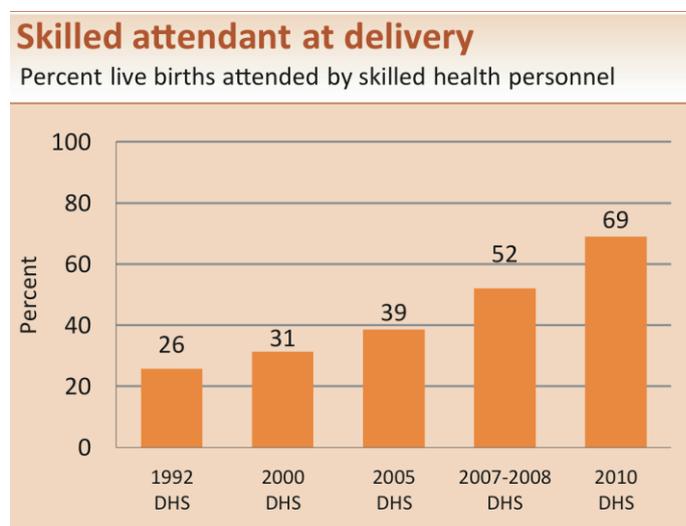


Rwanda



Source: WHO and UNICEF (2012) Country profiles <http://www.countdown2015mnch.org/country-profiles>

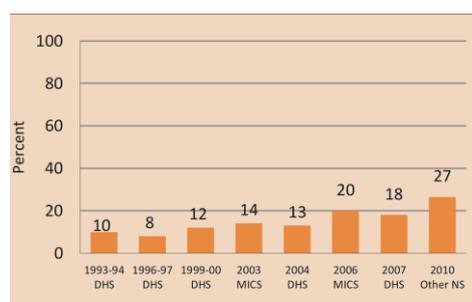
Figure 12 – Trends in coverage of skilled attendant at delivery in Countdown countries 1992-2010



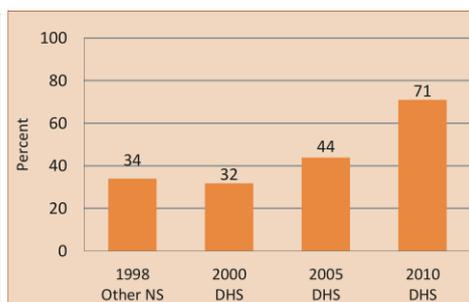
Source: WHO and UNICEF (2012) Countdown to 2015 Building a Future for Women and Children. The 2012 Report ISBN: 978-92-806-4644-3 © World Health Organization and UNICEF 2012

Figure 13 – Trends in skilled attendant at delivery in Bangladesh, Cambodia, Egypt and Rwanda

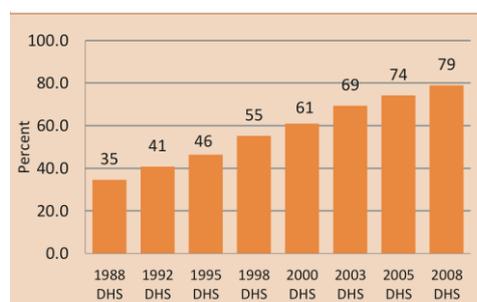
Bangladesh



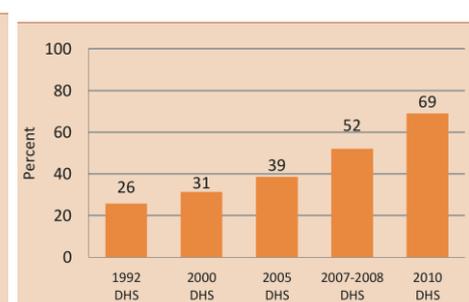
Cambodia



Egypt

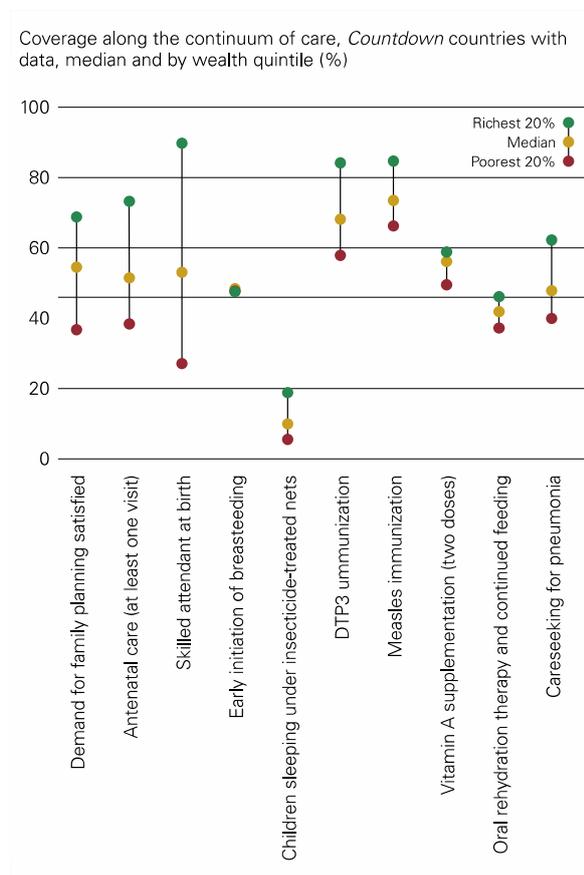


Rwanda



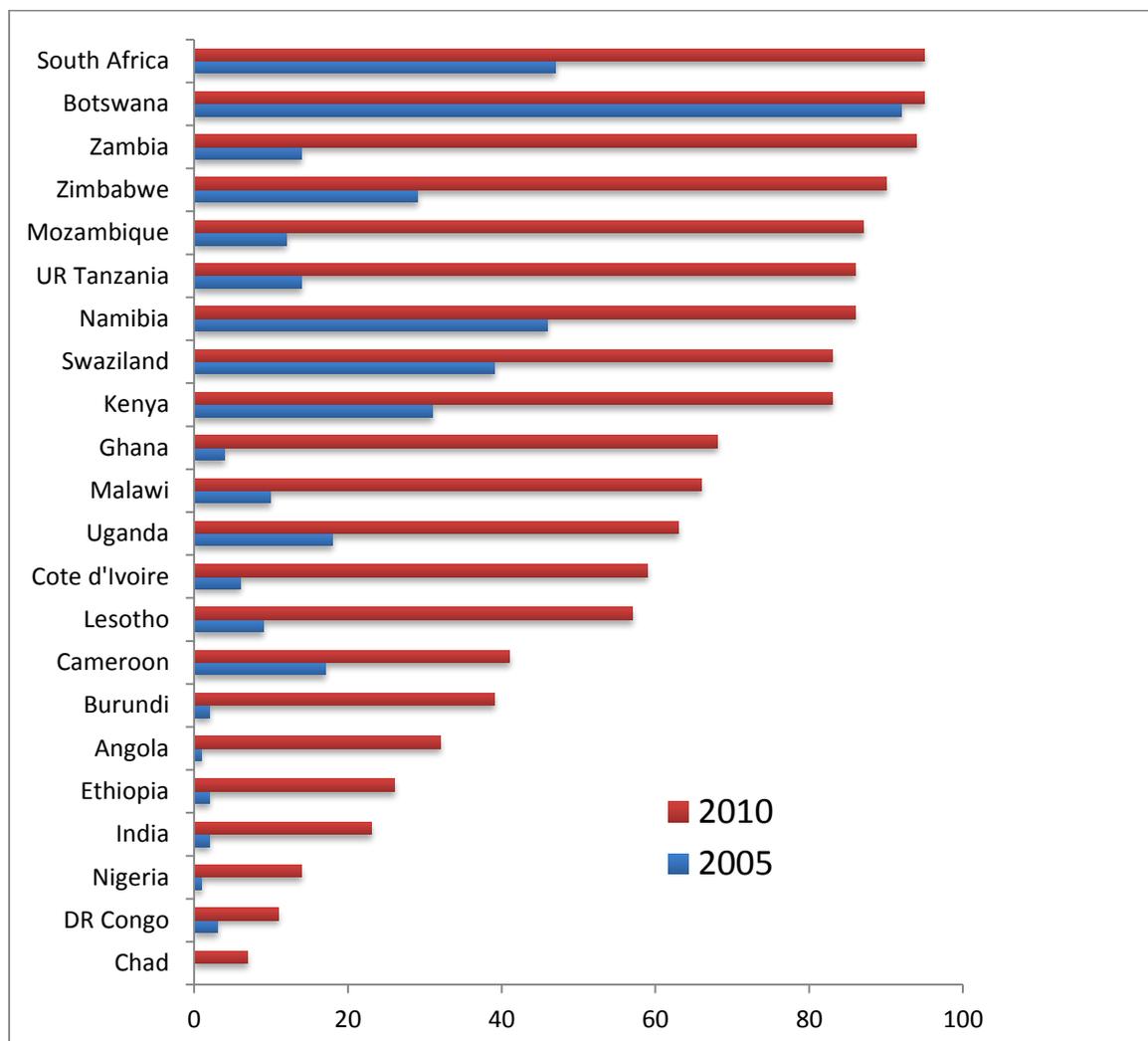
Source: WHO and UNICEF (2012) Country profiles <http://www.countdown2015mnch.org/country-profiles>

Figure 14 – Inequities in coverage of maternal and child care by intervention in Countdown countries by median and wealth quintile



Source: WHO and UNICEF (2012) Countdown to 2015 **Building a Future** for Women and Children. The 2012 Report ISBN: 978-92-806-4644-3 © World Health Organization and UNICEF 2012

Figure 15 – Estimated percentage of pregnant women tested for HIV in the 22 priority countries for eliminating mother- to-child transmission, 2005 and 2010



Source UNAIDS GLOBAL HIV/AIDS RESPONSE – Epidemic update and health sector progress towards Universal Access – Progress Report 2011

Table 1 – Estimated number of women living with HIV receiving the most effective

*Created under the auspices of the ICPD Secretariat in its General Assembly mandated convening role for the review of the ICPD Action Programme.

antiretroviral regimens for preventing mother-to-child transmission, low- and middle- income countries, by geographical region, 2010

Geographical region	Number of pregnant women living with HIV receiving the most effective antiretroviral regimens (excluding single-dose nevirapine) for preventing mother-to-child transmission	Estimated number of pregnant women living with HIV who need antiretroviral medicine for preventing mother-to-child transmission	Estimated coverage with the most effective regimens, as recommended by WHO
Sub-Saharan Africa	674 000	1 360 000 [1 200 000-1 500 000]	50% [45-56%]
Eastern and southern Africa	600 700	940 000 [840 000-1 000 000]	64% [57-71%]
Western and central Africa	73 300	410 000 [360 000-470 000]	18% [15-20%]
Latin America and the Caribbean	15 000	25 600 [17 000-33 000]	59% [46-90%]
Latin America	11 700	18 300 [11 000-25 000]	64% [47-95%]
Caribbean	3 300	7 300 [5 900-9 000]	46% [37-57%]
East, South and South-East Asia	12 200	73 800 [53 000-95 000]	16% [13-23%]
Europe and Central Asia	14 700	18 600 [15 000-22 000]	79% [65-94%]
North Africa and the Middle East	600	14 200 [9 900-19 000]	4% [3-6%]
All low- and middle-income countries	716 500	1 490 000 [1 300 000-1 600 000]	48% [44-54%]

Note: Some numbers do not add up because of rounding.

a Annex 6 provides country-specific data.

Source UNAIDS GLOBAL HIV/AIDS RESPONSE – Epidemic update and health sector progress towards Universal Access – Progress Report 2011

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