Health through the life course
Children, young women, mothers (Sylvestre Mangouandza)
Key points

- In order to prevent up to two thirds of neonatal deaths, which account for one third of all children’s deaths, countries are improving community engagement for better maternal and newborn care, prevention of mother-to-child transmission (PMTCT) of HIV, access to skilled care during delivery, newborn resuscitation, capacity-building for care of neonates at home, and essential newborn care in health facilities.

- Political commitment at national and international level has improved access to interventions that contribute to child survival, such as preventing and managing diarrhoea and pneumonia, immunization, and ensuring adequate nutrition. Increased vaccination coverage has had an impressive impact on child deaths and disability in the Region, particularly those due to measles and polio; however, coverage levels vary widely between countries.

- To better address adolescent and youth health issues, several countries are developing national standards aimed at providing youth-friendly quality health-care services and laws that require males and females to be 18 years of age or older before marriage. Major health issues affecting young people in the Region include HIV infection, violence and injuries, child marriage, early initiation of sex, and limited access to family planning services.

- The reduction in maternal mortality seen in the Region has been the result of deliberate investment in some countries to address challenges such as financial and geographical inaccessibility to quality maternity services (including removal of user fees for maternity services), introduction of results- and performance-based financing, and institutionalization of maternity waiting homes.

- The health of older people is becoming a major challenge in the Region. A growing number of older people are living with chronic diseases and disability, which increases the demand for a variety of health services. Estimated at 43 million in 2010, the number of people aged 60 years and older in the Region is projected to reach 67 million by 2025 and 163 million by 2050.
For every person, good health is enjoyed when physical, emotional, psychological, social and economic factors are positively balanced to enable a state of physical and mental well-being. Achieving such a balance is difficult, but the factors leading to ill health are different in different parts of the world and at different points in the course of life.

For a child born in the Region in 2011, healthy life expectancy (a calculation of the number of years that a child could expect to live in good health without disease or injury) is 55 years for males and 58 years for females. By comparison, global healthy life expectancy at birth estimates for the same year are 68 years for men and 72 years for women. However, there is considerable variation across the Region. Children born in Sierra Leone have the lowest healthy life expectancies at 46 years for males and 47 years for females, while children born in Mauritius can expect a longer healthy life of 70 years for females and 78 years for males.

Health through the life course addresses population health needs throughout the life course, with a special focus on key stages in life and the transitions between them, defining protective and risk factors, and prioritizing investment in health care and social determinants. This approach considers health as an integrated, dynamic continuum, not a series of isolated health states. This enables the development of responsive, integrated strategies that take into account how multiple determinants interact and affect health throughout life and across generations.

This chapter will examine the threats affecting the health and lives of people throughout the life course, from birth to the senior years. The process to achieve good health starts even before conception: poverty, inadequate nutrition, lack of opportunity, lack of access to education, disempowerment of women and geographical location are all factors that influence the health of the yet-to-be conceived child. Poor health will be passed on from generation to generation if the key health determinants remain unchanged.
In the Region there are periods during which people are highly vulnerable to losing their lives. These are during the neonatal period, infancy (under 1 year), early childhood (less than 5 years of age, Fig. 3.1) and, in females, the reproductive period – both from sexually transmitted diseases and complications during pregnancy, childbirth and the postnatal period. This chapter will look at why children and their mothers are still dying in numbers and of conditions that are no longer seen in many other parts of the world. However, there are many other threats to be considered: conflict, infectious diseases and accidents kill too many young adults, male and female. As more people are living longer lives, NCDs – heart disease, diabetes, arthritis, injuries and long-term disability such as blindness – are increasingly important threats to good health. All these will be discussed as answers to the question: “what works?” later in this chapter.

Fig. 3.1. Distribution of causes of death among children less than 5 years of age, 2011

NCDs: noncommunicable diseases.
Sections in yellow refer to newborns, which total 33.7%.

**Children**

**Newborn babies**

The first 28 days of life, called the neonatal period, is a very risky period for babies in the Region. Although there have been impressive reductions in infant mortality (see Chapter 1), babies born in the Region are still more likely to be born too early, with low birth weight, and in conditions where they are at greater risk of infection (including tetanus), birth trauma and the complications of prematurity. Thus they begin their life cycle at a disadvantage. Many are still being born to mothers who have not had adequate nutrition and antenatal care during pregnancy and were given no skilled care while giving birth and within 2 days after birth. Their mothers are at greater risk of dying during and after delivery, leaving their newborn babies at even greater risk.
of illness and death from inadequate care and suboptimal feeding practices.

One third of the world’s neonatal deaths occur in the Region with approximately three quarters of deaths occurring during the first week of life and almost half being within the first 24 hours. Deaths in this period of life contribute to one third of the deaths of all the children less than 5 years of age. Quality care with simple, accessible, cost-effective interventions can prevent up to two thirds of these deaths.

**What works?**

Interventions aimed at addressing the causes of neonatal deaths have helped countries to improve newborn survival. These include community engagement for better maternal and newborn care; prevention of mother-to-child transmission (PMTCT) of HIV; access to skilled care during delivery, including newborn resuscitation; and capacity-building for care of neonates at home and essential newborn care in health facilities. Essential interventions improving the survival of newborn babies include exclusive breastfeeding, kangaroo mother care (KMC) for preterm and low-birth weight babies, and prevention and treatment of infections. Although there has been slow progress in the reduction of neonatal deaths, there are countries that have had great success in reducing neonatal mortality. For instance, in Malawi where KMC has been used in health-care settings, neonatal mortality has been reduced from 40 deaths per 1000 live births in 2000 to 24 deaths per 1000 live births in 2012 (Box 3.1).

**Infants and young children**

Infants who have survived the neonatal period are vulnerable to infectious diseases, especially lower respiratory tract infections, diarrhoeal disease, malaria, measles and HIV. These children may also lack access to nutritious food, which increases their risk of developing diseases. When young children do develop illness, many will not have access to life-saving treatments. For example, less than half (48%) will be taken to a health-care clinic if they develop an acute respiratory infection. Only 42% of children with diarrhoea are getting oral rehydration therapy. Zinc supplementation, an effective intervention recommended by WHO, is even less likely to be provided.

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**Box 3.1. Kangaroo mother care in Malawi**

Kangaroo mother care (KMC) is caring for preterm infants by carrying the baby skin-to-skin, usually by the mother. This approach was initially developed in the late 1970s by two doctors in Bogotá, Colombia as a response to high numbers of infant deaths, overcrowding, infections and other problems at health facilities. It has since been developed as a means of reducing infant morbidity and mortality by promoting breastfeeding on demand, thermal maintenance and maternal–infant bonding.

Using KMC to care for stable preterm babies can be especially beneficial in resource-poor settings, as incubators, which are usually in short supply, can be kept for infants with breathing and other life-threatening medical problems. It has been shown to reduce mortality among preterm babies (< 2000 g) in hospitals by 51% if started in the first week of life compared with incubator care. In Malawi, complications from preterm birth contribute to almost four out of every 10 neonatal deaths, claiming more than 5600 lives each year. It is due to this high death rate that the Government of Malawi committed to increasing the use of KMC for preterm babies.

For more than a decade, Malawi has worked to establish KMC units in facilities, has trained service providers, and has revised protocols and policies to include KMC. By 2011, the number of institutions using KMC had increased to 121, up from 18 in 2008. This has been a significant contributor to the reduction of neonatal and under-five mortality, making Malawi one of the few countries in the Region that has already achieved its Millennium Development Goal (MDG) 4 targets.
One third of the population in the Region still lacks access to improved drinking water sources and even fewer have improved sanitation, making it difficult for parents to provide the level of hygiene needed to prevent diarrhoeal disease. Although their chances of survival would be improved by sleeping under ITNs, breathing clean, smoke-free air inside their homes, being exclusively breastfed for the first 6 months of life and being free of malnutrition, few will enjoy this level of protection. Only 37% of children in sub-Saharan Africa are exclusively breastfed for the first 6 months of life. Millions of children less than 5 years of age suffer from different forms of malnutrition. For instance, in 2012, 40% (59 million) of children less than 5 years of age in Africa were found to be stunted (i.e. too short for their age), accounting for over one third of the world’s stunted children. In addition, wasting (being too thin for their height) affected 14.5 million (9.8%), underweight affected 36 million (25%) and overweight affected 9 million (6%) children less than 5 years of age in Africa. The prevalence of various forms of malnutrition in children less than 5 years of age remains very high in some countries of the Region and continues to increase. However, there have also been improvements, for example in Ethiopia where the prevalence of stunting has dropped from 57% in 2000 to 44% in 2011, and Ghana where stunting has fallen from 35% in 2003 to 28% in 2011.

Malnutrition has life-long effects on the health, educational prospects, and the economic and social well-being of children. Stunting leads to short stature, mental impairment, poor performance in school, lower productivity and a reduction of potential income of up to 22%. Malnutrition reduces national economic growth and contributes up to 3% loss in gross domestic prod-
uct due to direct productivity loss, intellectual loss and educational limitation. Stunting also increases the risk of childhood illness and death, and of adult obesity, diabetes and cardiovascular disease. Wasting, which is usually the result of acute significant food shortage and/or disease, is a strong predictor of mortality in young children. Children with severe wasting are nine times more likely to die, if left untreated, than the rest of the under-five population.

The home environment also poses a threat to the health of many children less than 5 years of age in the Region. The majority of households (77%) in Africa use solid fuels (wood, animal dung) for heating their homes and cooking. Burning solid fuel (biomass fuels) indoors produces smoke containing lung-damaging chemicals that make small children prone to pneumonia. When cleaner fuels (electricity, gas) are used in the home, levels of childhood pneumonia drop dramatically. Use of solid fuels for heating and cooking in the home also leads to injuries and deaths from burns and scalds in babies and young children crawling and playing near fires.

Other unintentional injuries are an important cause of disability and death in young children in the Region. A study of unintentional injury in children attending the National Paediatric Emergency Unit in Kampala City, Uganda, found more males were injured (60% of cases) and that the common causes were falls, burns and traffic injuries. Almost half the children (43.8%) had to be admitted, 10% were left disabled and 1% died. This study, and research from Nigeria, found that the main places where these injuries took place were at home, on roads and at school.

A specific form of intentional injury to female children, female genital mutilation (i.e. forcible removal of part or all of the external female genitalia), continues to be practised in many countries in the Region. Children who have this done to them are at risk of death from acute bacterial infection or haemorrhage and are at greater risk of contracting HIV. They are left with lifelong pain, severe psychological trauma from the experience, urinary problems, and are at greater risk of complications during childbirth. Recent research into community reasons for continuing this practice, defined as a form of physical child abuse, indicate that male community members believe that it is women who want to continue the practice, while women agree to it because they believe it is a prerequisite for marriage.

What works?
Some of the interventions that contribute to child survival are: preventing and managing diarrhoea and pneumonia; child survival strategies; political commitment at the national and international level; and immunization.

Ensuring adequate nutrition
Exclusive breastfeeding for the first 6 months of life, with timely introduction of nutritionally adequate and safe complementary foods while breastfeeding continues for the first 2 years of life and beyond, effectively improves infant survival. It has been calculated that early initiation and exclusive breastfeeding promotion and support is associated with a 45% reduction in all-cause and infection-related neonatal mortality, while about 12% of deaths of children aged under 2 years are attributed to suboptimal breastfeeding.

Focusing nutrition interventions on the first 1000 days of a child’s life (and working to ensure that women are well nourished in the 3 months before conception) prevents irreversible harm such as growth retardation and intellectual impairment. Effective interventions include micronutrient supplementation, targeted fortification and food supplementation, management of severe and moderate acute malnutrition, and improving the nutrition of lactating women.

Preventing and managing diarrhoea and pneumonia
Use of vaccines against *Streptococcus pneumoniae* and *Haemophilus influenzae* type b, the two most common bacterial causes of childhood
The health of the people: what works

Pneumonia, and against rotavirus, the most common cause of childhood deaths from diarrhoea, substantially reduces the disease burden and deaths caused by these infectious agents.

Use of simple, standardized guidelines for the identification and treatment of pneumonia, diarrhoea and malaria in the community, at health facilities such as those for integrated management of childhood illness (IMCI), substantially reduces child deaths.

Child survival strategies
The implementation of national child survival strategies in the Region has guided country priorities for improving child survival. These include:

- the IMCI strategy;
- integrated community case management (iCCM) for pneumonia, diarrhoea and malaria, and improving antibiotic treatment for suspected cases of pneumonia in children less than 5 years of age;
- vaccination against common vaccine-preventable diseases;
- use of long-lasting ITNs.

Improving the skills of health workers for managing sick children has enabled them to provide better quality care. A study on the effectiveness and cost of facility-based IMCI conducted in the United Republic of Tanzania in 2003 showed that during the phase-in period, mortality rates in children less than 5 years of age were almost identical in IMCI and comparison districts. Over the next 2 years, the mortality rate was 13% lower in districts using IMCI than in comparison districts, even though other factors, such as the use of mosquito nets, all favoured the comparison districts. The costs of providing child health care using IMCI were similar to, or lower than, those for case management without IMCI. A child survival programme in Niger was able to reduce child mortality at an annual rate of 5.1%, a pace which exceeds that required to meet the MDG 4 target (Box 3.2).

Box 3.2. Child survival programme in Niger

An analysis of the child survival programme in Niger showed that during the period 1998–2009 mortality rates of children less than 5 years of age fell from 226 to 128 deaths per 1000 live births. The study concluded that government policies supporting universal access; provision of free health care for pregnant women and children; and decentralized nutrition programmes contributed to these child survival gains. The study also indicated that the coverage of most child survival interventions, namely insecticide-treated bed nets (ITNs); improvements in nutritional status; vitamin supplementation; treatment of diarrhoea with oral rehydration salts and zinc; care-seeking for fever, malaria or childhood pneumonia; and vaccinations increased during this period. An analysis using the Lives Saved Tool, estimated that in 2009 the lives of 59 000 children aged less than 5 years of age were saved as a result of the introduction of these interventions. During this period, Niger successfully reduced child mortality at an annual rate of 5.1%, a pace which exceeds that required to meet the Millennium Development Goal (MDG) 4 target.

Political commitment at the national and international level
The Global Strategy for Women’s and Children’s Health, launched in 2010, calls for a continuum of care approach to services, aiming to save 16 million lives. Other important contributing initiatives include the Global Vaccine Action Plan, which sets out a strategy for preventing childhood disease through vaccination; a Global Strategy on Infant and Young Child Feeding (2003) and, most recently, a comprehensive nutrition implementation plan to improve maternal, infant and young child nutrition with six global targets by 2015 endorsed by WHO Member States in 2012 (i.e. 40% reduction in stunting; 50% reduction of anaemia in women of reproductive age; 30% reduction in low birth weight; no increase in childhood overweight; increase in exclusive breastfeeding in the first
months to at least 50%; and reduction and maintenance of childhood wasting to less than 5%).

Overall, global, regional and national efforts have contributed to increased population coverage of high-impact child survival interventions, especially improving access to antibiotics for treatment of respiratory infections; increasing total health expenditure; continuing the reduction of individual out-of-pocket expenses; reducing the prevalence of underweight children; and reducing maternal deaths.

Other factors that have contributed to accelerating the reduction in under-five mortality rates in the Region include the estimated 84% reduction in the number of measles deaths between 2000 and 2011 and treatment of pregnant women with HIV that has prevented transmission of the HIV virus from mother to child (see Chapter 4). The incidence of malaria also fell by 33% between 2000 and 2010, which has a significant impact on child survival, as malaria most commonly affects children less than 5 years of age in the Region.

**Immunization**

One intervention that has had an impressive effect on reduction of child deaths and disability in the Region is immunization, particularly that for measles and polio. Three decades ago, routine childhood immunization was almost non-existent in Africa. Today there is much greater public awareness of the benefits of vaccines; a competent workforce has been built up to procure, transport, store and administer these vaccines; and data are being collected and disseminated rapidly and efficiently, revealing progress achieved and pitfalls encountered. Immunization now also serves as a means to deliver other life-saving interventions, such as vitamin A supplementation, distribution of ITNs for protection against malaria, and deworming medicine distribution for treating intestinal worms.

However, while routine vaccination of children has been established in all countries of the Region, levels vary widely from 99% coverage in Eritrea (measured by coverage of the DTP3 vaccination) to only 33% in Equatorial Guinea. In 2012, coverage of DTP3 even declined in some countries, most notably the Central African Republic, Equatorial Guinea and Nigeria. As a result, despite 18 countries reporting DTP3 coverage of over 90%, the regional average is 72% (Fig. 3.2), considerably below the global average of 83%.

Inequity – lower education levels, lower incomes, living in rural areas – tends to be associated with lower levels of coverage, although some countries (e.g. Gambia, Ghana, Malawi, Rwanda and Swaziland) have reduced the inequity gap in immunization coverage.

The African Vaccination Week is a regional initiative started in 2010 to draw attention to the right of every person, in particular women and children, to be protected from vaccine-preventable diseases. Throughout the week, activities and information campaigns are used to introduce and reinforce vaccines and other high-impact life-saving interventions. The number of countries participating has grown from 35 to 43, with each country selecting the interventions (such as vitamin A, deworming, ITNs, soap) and vaccines. Priority is given to reaching children in hard-to-reach areas. In 2013, more than 180 million people were vaccinated with oral polio vaccine in 23 countries during African Vaccination Week. Other vaccines such as the measles rubella, pneumococcal conjugate, diphtheria–tetanus–pertussis, yellow fever, hepatitis b, and the human papillomavirus vaccines were provided, as were 31.5 million vitamin A, and 21.2 million deworming tablets. At the same time, 6.4 million children were screened for malnutrition and 3.8 million kits for improving water, sanitation and hygiene were distributed.

**What works?**

**Polio: close to eradication**

Polio, a disease that leaves children crippled for life, has been eliminated from most countries in the Region. In 1988, when WHO and partners
established the Global Polio Eradication Initiative, aiming to eradicate polio, the disease was paralysing over 1000 children per day and was active in all countries of the Region. In 2006, a total of 1189 polio cases were confirmed from nine of the 46 countries in the Region. In 2013, the Region reported 80 confirmed polio cases from four countries (Fig. 3.3). Only one country in the Region, Nigeria, remains endemic for wild poliovirus transmission and, even in this country, the number of confirmed cases has been dramatically reduced.

The factors that have contributed to the progress in polio eradication in the Region are:

- personal commitment of political leaders;
- implementation of intensive surveillance activities in all countries of the Region;
- a polio laboratory network made up of 16 laboratories providing critical information, including genetic sequencing data;
- innovative approaches in social mobilization and communication to overcome misconceptions and rumours;
- cross-border collaboration and the implementation of synchronized immunization campaigns across large numbers of countries simultaneously;
- use of improved vaccines and new technologies to improve vaccination coverage.

**Fig. 3.2.** Diphtheria tetanus toxoid and pertussis (DTP3) immunization coverage among 1-year-old children (%) in the WHO African Region, 2013

Measles: towards elimination
The estimated number of measles deaths in the Region has declined by 88%, from 354,900 in 2000 to 41,400 deaths in 2012. Numbers of officially reported measles cases have also dropped, from 520,102 cases in 2000 to 106,052 in 2012 (Fig. 3.4). The Democratic Republic of the Congo accounted for 68% of the cases reported in the Region in 2012. The percentage of eligible children given a first dose has improved from 56% to 73% between 2000 and 2012 (according to the WHO and UNICEF estimates, Fig. 3.4), and in 2012, nine countries achieved measles vaccination coverage of 95%, while 15 had coverage of 90% or more.

Sentinel surveillance in preparation for introduction of new vaccines
By the end of 2013, all countries in the Region, except South Sudan, had introduced vaccines against *Haemophilus influenzae* type b (one of the major causes of childhood meningitis), while 29 out of 47 countries in the Region had introduced pneumococcal conjugate vaccine (which prevents a major cause of pneumonia) into their national immunization programmes. Data from ongoing surveillance have also contributed to increased awareness of the high mortality that rotavirus diarrhoea causes in children. This triggered a decision to introduce rotavirus vaccines in 19 countries and an accelerated introduction of these vaccines is expected to continue in all countries in the Region.

**Young people**

Young people – defined as individuals aged 10–24 years, which includes adolescents (10–19 years) and youth (15–24 years) – in the Region face rapid social, technological and cultural changes that expose them to new ideas and attitudes. Social, political and economic upheavals, lack of job opportunities, and failure to remain in school are serious challenges for young people in the Region, limiting their choices and leading to emotional distress, conflict, a sense of powerlessness and risk-taking behaviour.

Major health issues affecting young people in the Region include HIV infection, violence and injuries, early initiation of sex and child marriage, and limited access to family planning services. About 41% of new annual HIV infections are occurring in adolescents and HIV is now the leading cause of adolescent death in sub-Saharan Africa. Adolescent girls are at higher risk of developing and dying from HIV, which is responsible for nearly one third of deaths in 16–19-year-old girls. They are also at risk of contracting wart virus – human papilloma virus (HPV) – leading to cervical cancer in later life. Cervical cancer is now the leading cause of cancer death in women in Africa, and the Region accounts for the world’s highest burden of cervical cancer.

Violence in general, and in particular sexual violence against young girls often linked to forms of sexual predation, is prevalent in many African countries. A study carried out in Swaziland in 2007 found that 33% of females aged 13–24 years reported having experienced some...
form of sexual violence before reaching 18 years of age. Traumatic fistula – rupture of the vagina, creating an opening into the bladder or bowels – is increasingly being reported as a consequence of violent sexual assault in young girls. Female genital mutilation, which involves partial or total removal of the female external genitalia by cutting, burning or scraping, is inflicted on more than 2 million girls between the ages of 4 and 12 years. It is estimated that about 12 million girls between the ages of 10 and 14 years have had sequelae of female genital mutilation, notably in Ethiopia, Kenya, Nigeria and Uganda.

The prevalence of child marriage in the Region varies substantially across countries, with the highest (75%) in Niger. Fig. 3.5 shows the information on early marriage in some of the countries in the Region. Early initiation of sex, including through early marriage, is associated with a high adolescent pregnancy rate, estimated at 117 per 1000 in the Region. Married girls (those married before 18 years) are vulnerable to sexual and reproductive ill health, with potentially life-threatening consequences. Access to family planning, crucial for young people, is very limited owing to the lack of adequate health-care services tailored to their needs, the lack of accurate information and counselling, and the persistence of financial and psychosocial barriers.

In line with international and regional standards, 32 African countries have laws that require males and females to be 18 years of age or older before marriage, while 18 countries have a discriminatory minimum age, meaning that females and males are allowed to marry at different ages, or below 18 years of age.
What works?

Youth friendly services
To better address adolescent and youth health issues in the Region, 23 countries are developing national standards for quality health-care services aimed at being youth-friendly (Box 3.3 gives an example of such services from Zimbabwe). The strategy uses HIV prevention and the control of early pregnancy as entry points to tackle other health issues, such as tobacco and alcohol use.

HPV vaccine
HPV has been shown to cause almost all cervical cancer. Vaccines that protect against the two most common strains of HPV are now being introduced in Africa as part of the comprehensive strategy to prevent and control cervical cancer. HPV vaccination provides a major opportunity to link with other adolescent health interventions. However, it does not replace the need for regular screening and education about safe sexual behaviours.

For example, in South Africa, national introduction resulted in successful vaccination of 325 642 out of 373 109 girls for a dose 1 coverage of 87%. South Africa (a non-GAVI Alliance eligible country) completed the first round of its nationwide introduction of the HPV vaccination targeting 9-year-old girls in school grade 4, under the leadership of the Minister of Health in close collaboration with the Minister of Basic Education. Many challenges were overcome, including misinterpretation and rumours, successful vaccine price negotiation, collaboration between health and education ministries to support joint school health programmes, and enhanced capacity for vaccine storage and distribution.

Fig. 3.5. Percentage of women aged 20–24 years that were married before the age of 18 years in selected countries of the WHO African Region, 2004

The health of the people: what works

Adult women

Women in the Region are more likely to die from communicable diseases (e.g. HIV, tuberculosis and malaria), maternal and perinatal conditions, and nutritional deficiencies, than women in other regions. Globally, about 468 million women aged 15–49 years (30% of all women) are thought to be anaemic, at least half because of iron deficiency and most of these anaemic women live in Africa (48–57%). Anaemia and iron deficiency, which are associated with fatigue, physical weakness and increased susceptibility to infections, need to be tackled before women become pregnant to reduce their risks of poor maternal health and having low-birth-weight babies.

Preventing this toll of unnecessary deaths requires support for optimal nutrition, access to family planning and comprehensive and responsive health care available at all times, including before conception, during pregnancy and after delivery. However, the solution needs a more fundamental change than simply providing better services. Genuine socioeconomic empowerment of women is essential for achieving better outcomes. Until women are recognized as a vital social and economic resource that should not be squandered, the political will to preserve their lives and protect their health will remain weak.

While HIV and the complications of pregnancy and childbirth are the major killers of women in their reproductive years, African women are increasingly at risk of NCDs, notably cardiovascular diseases, breast and cervical cancers, diabetes and chronic respiratory diseases. Increasing levels of overweight and obesity are leading to a range of chronic illnesses, including diabetes, high blood pressure and heart disease, that are affecting women disproportionately in the Region (see Chapters 4 and 5).

Family planning

Family planning is closely related to maternal and infant health and survival, as well as socioeconomic development. Compelling evidence shows that family planning can help prevent one third of maternal deaths by allowing women to delay motherhood, space births, avoid unintended pregnancies and unsafe abortions and stop childbearing when the desired family size has been reached. Spacing births also reduces child malnutrition and neonatal and infant mortality. Despite this, use of contraception is still low and unmet need for contraception remains high in many parts of Africa. In surveys of married women aged 15–49 years carried out

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**Box 3.3. Adolescent and youth-friendly health services in Zimbabwe**

In 2009, Zimbabwe, with the technical support of the World Health Organization (WHO), conducted a pilot project focusing on behaviour change among young people and delivery of effective, quality health services for this age group. The purpose of the pilot project was to reduce unwanted pregnancies among nursing students at Parirenyatwa Nursing School. The problems identified before launching the project were: high pregnancy rates; high unsafe abortion rates; high rate of unmet needs among students who had discontinued their studies; and lack of friendly health-care services tailored to young people.

The pilot project was a student-run programme, so young people were involved in the planning, implementation and monitoring of all activities. As students who attended the health facilities were treated with respect and their privacy and confidentiality were protected, more than 75% of students used the services.

Key results after 3 years of implementation were:

- the pregnancy rate reduced from 21 in 2009 to 2 in 2011;
- the number of unsafe abortions reduced from 5 in 2009 to 1 in 2011;
- students from other schools and nursing colleges and the university began to use the service;
- similar services have been established in two other nursing schools in Harare;
- planning for nationwide provision of such services began in 2011.
between 2005 and 2012 in the Region, one quarter of women reported an unmet need for family planning (Fig. 3.6). This translates into more than 47 million women without access to family planning in the Region, a number considerably higher than that reported in other parts of the world.

A modest increase in the contraceptive prevalence rate was registered in the Region between 2007 and 2012 (from 23% to 27%). The total fertility rate (the number of births a woman would have by the end of her reproductive life) dropped from 6.2 to 4.8 between 1990 and 2012.

**What works?**

Achieving greater use of contraception requires access to, and availability of, appropriate commodities and services at both health facility and community level. This depends on political commitment and leadership. For example, the contraceptive prevalence rate in Madagascar rose from 5% in 1992 to 29% in 2009, due to strong government commitment that enabled the inclusion of family planning targets in national development plans and the provision of free contraceptives in all public health facilities. Awareness campaigns at both national and community levels contributed towards greater understanding of the benefits of family planning for women and birth spacing for child survival.

**Pregnancy and childbirth**

Every time a woman conceives a child she is embarking on a very dangerous phase of her life. While pregnancy is a time of increased risk for all women, the risk of death and disability is considerably greater for women living in the Region. This has been so for many decades and, while the rates of maternal death have been reduced by almost half, from 960 per 100 000 live births in 1990 to 510 per 100 000 live births in 2013, women are still dying too often because they have been denied the skilled care and support needed to diagnose and treat lethal complications of pregnancy.

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**Fig. 3.6. Percentage of unmet need for family planning (married women ages 15–49 years) by WHO region, 2005–2012**

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage of unmet need for family planning</th>
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<tbody>
<tr>
<td>African</td>
<td>24.7</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>20.2</td>
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<tr>
<td>South-East Asia</td>
<td>14</td>
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<tr>
<td>European</td>
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<tr>
<td>Americas</td>
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<tr>
<td>Western Pacific</td>
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<td>Global</td>
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Achieving greater use of contraception requires access to, and availability of, appropriate commodities and services at both health facility and community level.
The major conditions killing women in pregnancy and childbirth have changed over the past few decades. Previously, infection and anaemia were the major killers, but these, while still important, are no longer the leading causes of death. In 2010, haemorrhage (34%) and hypertensive disease of pregnancy (19%) (Fig. 3.7) were given as causes for more than half of maternal deaths in sub-Saharan Africa. Both these conditions need a skilled attendant to diagnose the problem, and access to a well-equipped health centre to manage it effectively. Severe bleeding after birth can kill a healthy woman within 2 hours if she is unattended, but even those in hospitals with skilled carers will die if blood and blood products are not available. Managing hypertensive disease of pregnancy requires knowledge and experience to detect signs of deterioration and a supply of appropriate medication to avert the convulsions, internal organ haemorrhage and ultimate death that follows.

Access to skilled care tends to be determined by wealth and geography. Surveys performed from 2000 to 2011 found big differences in access to a skilled attendant during birth for the richest and poorest women. The widest gaps (more than 70% difference) between the poorest and richest were in Guinea, Madagascar and Nigeria, and the smallest gap, of around 20%, was in Sao Tome and Principe.

Levels of antenatal care have increased in most other regions of the world, so that it is now the norm for pregnant women to have at least four antenatal care visits and to have a skilled person – a nurse, midwife or medical practitioner – care for them throughout childbirth. However, this is not the norm in many parts of the Region, particularly in remote rural areas or among the poorest groups. Only 12 countries reported antenatal care coverage with four visits at levels of 68–78%. In other words, even in the best-performing countries, one third of pregnant women are not receiving adequate care.

Lack of education, living in rural areas and lack of financial resources are all factors associated with poor antenatal care – although this varies between countries. The widest gaps between coverage among the non-educated and the highest educated were seen in Chad, Ethiopia, Mali, Niger and Nigeria (e.g. in Nigeria, coverage was 31% among the non-educated and 88% among the highest educated). However, in several countries there was very little difference in coverage between the wealth quintiles. For instance, in Rwanda coverage was 97% and 99% in the poorest and richest quintiles, respectively.

**Fig. 3.7. Main causes of maternal death in sub-Saharan Africa, 2010**

Vaccination rates against tetanus – a common cause of neonatal deaths, especially where women give birth in unhygienic conditions without a skilled birth attendant – has been low in the Region. Only one third of countries have achieved protection levels of at least 80% among women of childbearing age.

**What works?**

The reduction in maternal mortality seen in the Region has been the result of improvement of services in some countries where deliberate investments have been made to address challenges such as financial and geographical inaccessibility to quality maternity services. Removal of user fees for maternity services, which has been introduced in 24 countries; institutionalization of maternity waiting homes in some countries, including Eritrea (Box 3.4); and introduction of results- and performance-based financing in Rwanda have all contributed to the reduction of maternal mortality in the past decade (Box 3.5).

**Box 3.4. Maternity waiting homes – a strategy to improve access to emergency obstetric care in Eritrea**

To overcome high death rates during childbirth among nomadic women and those living in remote areas, Eritrea introduced maternity waiting homes in 2006. These enabled women living far from centres providing skilled obstetric services to travel and stay close to such a centre before they were due to give birth. The high maternal mortality rate among women living in remote areas and in nomadic groups was attributed to the “second delay” – delay in getting to the health facility even when the decision to seek care has been made on time. Maternity waiting homes increase access to skilled birth attendance and hence reduce deaths, for example due to haemorrhage. Eritrea has since reduced its maternal mortality rates every year and is now one of the countries in the Region on track to achieve the Millennium Development Goal (MDG) target of reducing maternal deaths.

**Box 3.5. Impact of national health system reforms on maternal and child health in Rwanda**

In 1994, post-genocide Rwanda was struggling to provide adequate care for maternal- and child-health services. Challenges included a severe health workforce shortage, limited infrastructure, poor access to skilled care and inadequate coverage of emergency obstetric and newborn care. In response, the Government of Rwanda focused on health system strengthening and governance; quality maternal, neonatal and child services, including use of Kangaroo Mother Care; strong community involvement; family planning; community-based health insurance; and a performance-based financing system. The combination of supply and demand side interventions contributed to an increase in coverage and access to maternity services. As a result, maternal mortality decreased from 910 per 100 000 live births in 1990 to 340 per 100 000 in 2010, a decrease of more than 50%. In addition, the under-five mortality rate decreased by 63%, from 151 deaths per 1000 live births in 1990 to 55 per 1000 live births in 2012.

Increased financing from domestic resources and from the Global Fund has helped countries to provide antiretroviral medicines to more pregnant women living with HIV. The percentage of pregnant woman with HIV being treated with antiretroviral therapy (ART) has gone up from 34% in 2009 to 63% in 2012 and is above 80% in 12 countries. This has led to a decline in AIDS-related maternal deaths between 2008 and 2010 in high-burden HIV countries such as Botswana, Swaziland, Zambia and Zimbabwe.

**Adult males**

Men are less likely to live as long as women, even though women have higher rates of HIV and face such high risks of death during childbirth. They are also likely to die from or suffer chronic disease and disability from communicable diseases such as HIV, tuberculosis and malaria, the com-
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Complications of high blood pressure, poor diets, conflict, road traffic accidents, occupational conditions, abuse of alcohol, and depressive disorders. In some countries, such as Uganda, alcohol abuse is the leading cause of premature death and disability.

While HIV is a very important cause of death and disability in males in the Region, the prevalence is lower in males than females. However, because HIV is largely spread through heterosexual activity in the Region, changing male behaviour (e.g. encouraging condom use at all times and specific interventions like male circumcision) is vital to the prevention and control of the epidemic.

Violence

Violence is a problem for both genders, but it is males who both suffer from and cause greatest suffering through conflict and violence. Children subjected to violence are at risk of growing into violent adults. Violence is preventable. Evidence from both high-income countries and low- and middle-income countries shows strong relationships between levels of violence and potentially modifiable factors such as economic inequality, access to firearms, access to and harmful use of alcohol, and poor monitoring and parental supervision of children.

Violence takes a variety of forms and can occur in different contexts. It includes child abuse and neglect by parents and caregivers; violence between adolescents and young adults; violence between intimate partners; violence associated with property crimes, rape and other sexual violence; workplace violence; and the abuse of the elderly by relatives and other caregivers. The risk factors for violence are related to a combination of personal, family, community and societal factors, which are detailed later in this chapter.

Of the total of 657.4 million DALYs lost in the Region, 2% was from intentional injuries in 2002. (Violence and injuries are the second leading cause of death and loss of DALYs in South Africa, with an overall injury death rate of 157.8 per 100 000 people, which is nearly double the global average. In South Africa, most homicides of women are linked to intimate partner violence and the national rate of intimate partner violence-linked mortality is more than twice as high as the rate in the United States of America.)

Socioeconomic factors such as poverty, the role of women, and HIV/AIDS, can all have an impact on the prevalence of interpersonal violence. In a study in townships in the Western Cape in South Africa it was found that 26% of women experienced interpersonal violence linked to alcohol. Social acceptance of violence also plays a role. A study in a rural population in KwaZulu-Natal (South Africa) that aimed to identify sociodemographic risk factors associated with adult injury-related deaths found that the root causes of violent and accidental deaths were linked to social inequality, poverty and alcohol abuse.

There is a growing body of scientific evidence showing that programmes to address the underlying causes of violence are effective in reducing the rate of new cases. Controlling access to firearms reduces the number and extent of injuries caused by violence. And when, despite preventive actions, violence does occur, strong health systems providing pre-hospital and emergency medical care can reduce the number of deaths and other negative health consequences.

Older men and women

More people in the Region are living longer lives. Estimated at 43 million in 2010, the number of people aged 60 years and older in sub-Saharan Africa is projected to reach 67 million by 2025 and 163 million by 2050. Ageing is becoming a major challenge as it increases the demand for a variety of health services as a growing number of older people are living with chronic diseases and disability.

In most countries in the Region, health systems do not make adequate provision for
older people and are not prepared to respond to the needs of their rapidly ageing populations. There is a lack of health-care services specifically catering for older people, infrastructure is inappropriate, and geriatric medicine and gerontology are not adequately covered in health-training institutions. Other support systems, such as housing, transportation, water and sanitation, are currently unable to meet the basic needs of a growing ageing population. Active ageing, which refers to optimizing opportunities to improve health, participation and security to enhance quality of life as people age, has not been addressed adequately, and the need for accessible and appropriate care for elderly people has not yet been met in the Region.

Women account for an estimated 54% of people aged 60 years and above. However, gender-based inequities, disparities in economic power, and the undermining effects of traditional and cultural practices contribute immensely to poverty in older women. Poverty is, in turn, closely associated with ill health and has significant consequences for women’s access to health services. For older women, age and gender discrimination can lead to disempowerment and result in poor health outcomes, victimization and even death.

While infectious diseases remain the biggest overall killers, rates of NCDs are rising rapidly in the Region, particularly in older people. However, little attention is being paid to risk factors such as diets high in fat, sugars and salt, physical inactivity and tobacco use (see Chapter 5). In addition, in most countries of the Region, the health systems remain unprepared to respond to the needs of the ageing population: health-care facilities focusing on elderly people are lacking, infrastructure is inappropriate, and health professionals are not well trained in old age care and active ageing (active ageing refers to the process of seizing and optimizing opportunities for physical, social and mental well-being throughout the entire life course in order to extend healthy life expectancy). The need for accessible and adequate care for the elderly is not met.

In conclusion, the spectrum of illness that people of the Region are exposed to throughout their life course varies greatly, from the old foes, malnutrition, infection, complications of childbirth and childhood diseases, to new challenges...
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– increasingly illness caused by lifestyle such as heart disease, diabetes, overweight and obesity
– problems often starting in childhood. However, as this description of the health threats that people in the Region face as they journey through life reveals, many of the diseases they succumb to are preventable. For instance, it is widely recognized that maternal and child deaths have their roots in denial of human rights and inequities, which manifest, for example, in violence against women and children, the under-prioritization of services and goods that only women and children require, and lack of accountability mechanisms to respond to preventable deaths in vulnerable population groups.

The next chapters on disease threats and on health determinants will look at what is currently being done to prevent the diseases described in this chapter from developing – and how much more needs to be done. ■

Bibliography


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