SECTION VII

HEALTH IMPACT

Section summary

Life expectancy at birth has risen significantly since the turn of the millennium and its pace is fastest in the WHO African Region, where in 2019 it 64.5 years. There are major challenges for health and social systems to make the most of demographic change among people aged 60, a group that is seeing growth in both the number and proportion in the population. By 2030 one in six people in the world will be 60 years of age or older. Overall, the trend in average adjusted life expectancy in good health is rising in the WHO African Region, and went from 46.7 years to 56.5 years over 2010–2021. This evolution shows a clear improvement in the health and well-being of the Region's population. Women have a longer healthy life expectancy than men, with their 2019 numbers at 57.1 years and 55 years, respectively.

Early childbearing or pregnancy and delivery during adolescence can derail girls' otherwise healthy development into adulthood and have negative impacts on their education, livelihoods and health. Many girls who get pregnant are pressured or forced to drop out of school, which can impact their educational and employment prospects and opportunities. Complications of pregnancy and childbirth are the leading cause of death for girls aged 15–19 years worldwide, and the low-income and middle-income countries account for 99% of the worldwide maternal deaths among women aged 15–49 years.

Africa regularly faces an upsurge in outbreaks of vaccine-preventable diseases. The nearly 17 500 measles cases reported in the WHO African Region between January and March 2022 represent a 400% increase over the same period the previous year. Two doses of measles vaccine, given on time, provide long-lasting protection against this potentially fatal disease. Countries need to achieve and maintain 95% measles immunisation coverage to eliminate the disease. The number of countries using the rubella vaccine in their national programmes continues to rise steadily. As of December 2018, 168 out of the 194 countries in the world had introduced rubella vaccine, and global coverage was estimated at 69%. Mobility of people in the Region, including their displacement due to conflict and natural disasters, coupled with climate change, is changing the ecology and spread of infectious disease vectors, increasing the risk of outbreaks of yellow fever, cholera and malaria.

In 2021, an estimated 1.5 million people were newly diagnosed with HIV. The incidence of HIV infections globally declined by 39% between 2010 and 2020, which was far lower than the 75% target agreed on by the WHO General Assembly in 2016. Measures to slow the spread of COVID-19, along with the added pressures on health systems, have disrupted HIV services. Some 1.1 million people were newly infected with chronic hepatitis B in 2017. Now 28 African countries have a national hepatitis programme. Strategic plans for hepatitis have been developed in 21 countries and 17 countries have hepatitis treatment and testing guidelines that are aligned with WHO guidelines. Every day, more than 1 million people worldwide contract an STI. In 2020, WHO estimated that 374 million people had contracted one of the four STIs of chlamydia, with an estimated 129 million infections; gonorrhoea, with 82 million infections; syphilis, with 7.1 million infections; and trichomoniasis, with 156 million infections. The WHO African Region is particularly affected by the high prevalence of these infections, with impact on the health and quality of life of its people.

The WHO African Region continues to pay the highest price for malaria. In 2020, the Region recorded 228 million cases of malaria, or 95% of all cases, and 602 000 deaths due to malaria, or 96% of all malaria deaths. Some 80% of all malaria deaths in the Region are among under-five children.

For a sub-Saharan African woman, the risk of developing cancer by the age of 75 is 14.1%, with breast cancer – with a risk of 4.1% – and cervical cancer – with a risk of 3.5% – together accounting for half of this risk. For men, the corresponding cumulative incidence of cancer at age 75 is at 12.2%, with prostate cancer, at 4.2%, accounting for a third of this risk. The growth and ageing of the population, urbanisation and lifestyle changes will lead to a rapid increase in the cancer incidence. The absence of preventive measures, the delay in diagnosis, the lack of health workers trained in cancerology and the lack of dedicated facilities and equipment all point to the need for measures for cancer control, which if not taken quickly, will leave cancer mortality to continue to rise at the same rate as its incidence.

Birth anomalies are among the leading causes of child mortality, chronic morbidity and disability. Such diseases and abnormalities may be present at birth or be acquired later. The prevalence in sub-Saharan Africa of low birth weight among newborns measured at birth was 9.76% (95% CI: 9.63% to 9.89%). Among the 10 countries with the highest rates of preterm births in 2016 worldwide, eight were African. Some 84% of stillbirths occur in low-income and lower middle-income countries. In 2019, three out of four stillbirths occurred in sub-Saharan Africa or South Asia. Most stillbirths occur as a result of poor care during pregnancy and childbirth. The lack of investment in antenatal and prepartum services and in strengthening the capacity of nurses and midwives are major challenges. Thus, despite progress in health services to prevent or treat the causes of child deaths, progress in reducing the stillbirth rate has been slow, with a 2.3% decrease per year over the last 20 years.

The WHO African Region's maternal mortality ratio (MMR) remains very high, with more than 525 deaths per 100 000 births in 2017. But sub-Saharan Africa has seen a substantial reduction in MMR of about 38% since 2000, probably associated with improved data collection, changes in life expectancy or changes in disparities between sub-populations.

Over 157 million people in Africa were directly or indirectly affected by disasters during the decade of 2008–2018. In most cases, these were with natural hazards. The most common disasters in Africa are triggered by hydro- meteorological or climatological hazards, mainly droughts, floods, storms and cyclones. Between 2010 and 2018, natural hazard-related disasters resulted in 47 543 deaths.

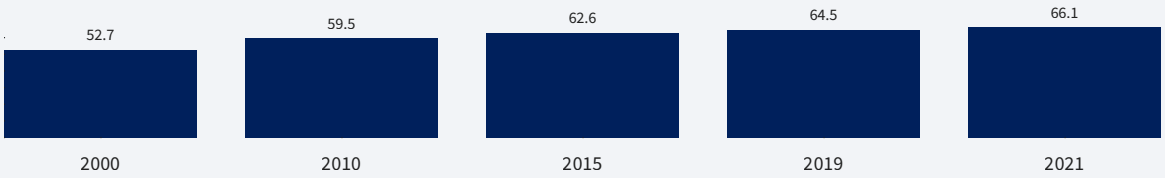
The estimated number of homicide victims in 2017 gives 6.1 per 100 000 population as the average global homicide rate. In most cases, the disparity between the regions in terms of the homicide rate is greater than when considering the absolute numbers of the homicide victims.

Adult mortality in sub-Saharan Africa is poorly studied. In the absence of efficient vital registration systems, adult mortality often must be estimated from imperfect data. Information provided by individuals can also constitute an important statistical heritage that deserves to be more fully exploited.

7.1 Life expectancy and fecundity

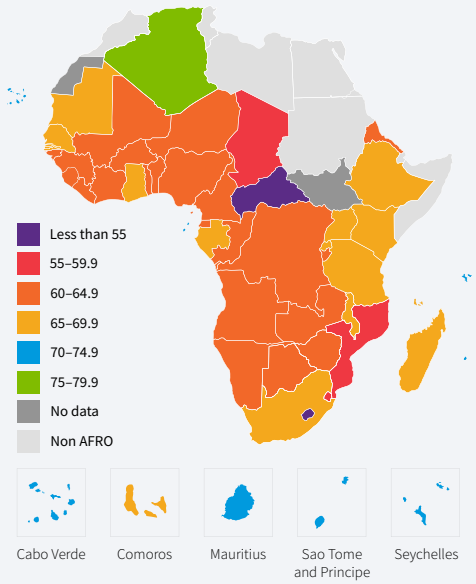
Life expectancy at birth

Figure 7.1.1. Trends in life expectancy in the WHO African Region, 2010–2019, WHO



Life expectancy at birth in 2021was 66.1 years in the Region, with 71.8 years for women and 65.5 years for men. Between 2015 and 2021 it rose faster for women, with an average of 4.9 years than for men, with an increase of 2.9 years. There were special cases of Mozambique, where women's life expectancy went up by 12.2 years, and Niger, where men's life expectancy rose by 6.7 years. On average, the life expectancy rise in the WHO African Region in recent years has been more than 13 years.

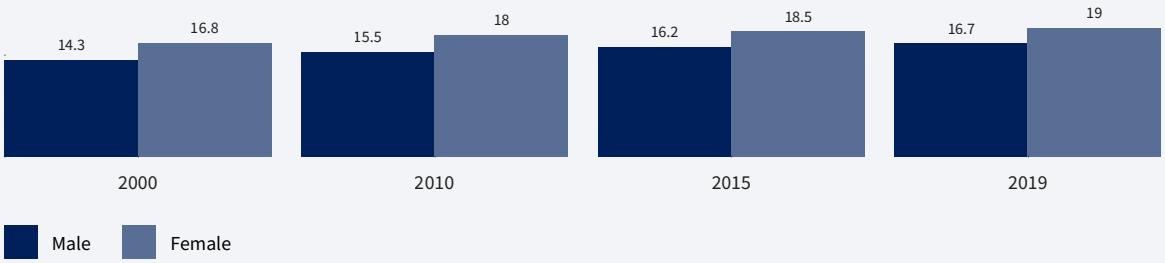
Figure 7.1.2. Life expectancy at birth (years) in the WHO African Region, 2019, WHO



More than half of the countries in the Region have a life expectancy at birth of between 60 and 65 years. However, there are a few countries on the margins of this, notably Lesotho has 50.7 years and the Central African Republic has 53.1 years. The latest data on life expectancy at birth and income group classification indicate that income does not seem to significantly influence life expectancy at birth.

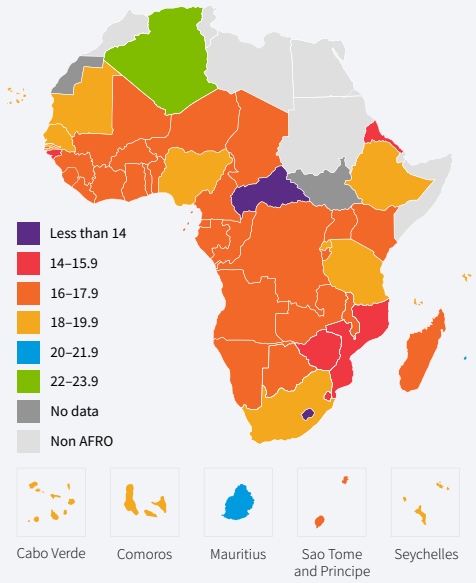
Life expectancy at age 60

Figure 7.1.3. Life expectancy at age 60 in the WHO African Region, 2000–2019, WHO



Life expectancy at age 60 is the average number of years remaining to live beyond the age of 60 under the age-specific mortality conditions of the year. Countries around the world are experiencing a growth in both the number and proportion of older people in the population. By 2030, one in six people in the world will be 60 years of age or older. Between 2020 and 2030, the population aged 60 years and over will increase from 1 billion to 1.4 billion. This population will have doubled to 2.1 billion with 426 million people aged 80 and over, triple the number in 2020.

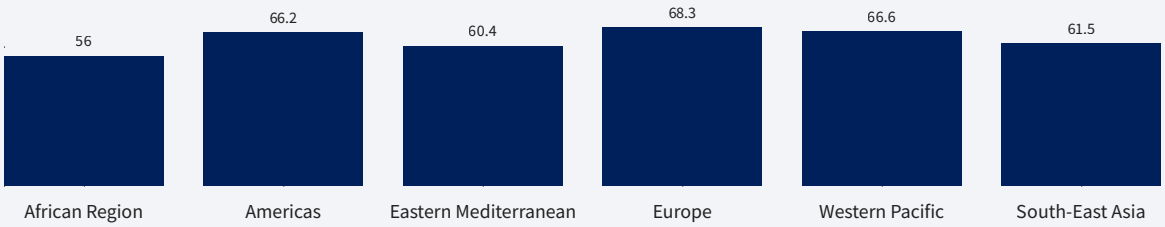
Figure 7.1.4. Life expectancy at age 60 in the WHO African Region, 2019, WHO



In Africa, as elsewhere, the rise in life expectancy is driven by a mosaic of situations. Improvement in living conditions is necessary, but so is the creation of an enabling environment. Life expectancy at 60 in the countries of the WHO African Region is concentrated between 15 and 17.7 years. Algeria and Mauritius are above this range on the one hand and Lesotho and the Central African Republic are below it on the other with 13.4 and 13.2 years of life expectancy at age 60, respectively. Lower middle-income and low-income countries are more often at the bottom of the ranking, and upper middle-income and high-income countries at the top.

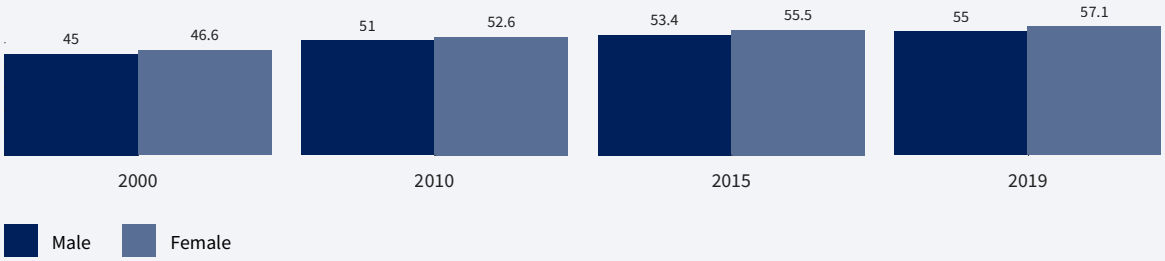
Healthy life expectancy

Figure 7.1.5. Healthy life expectancy at birth in the WHO regions, 2019, WHS



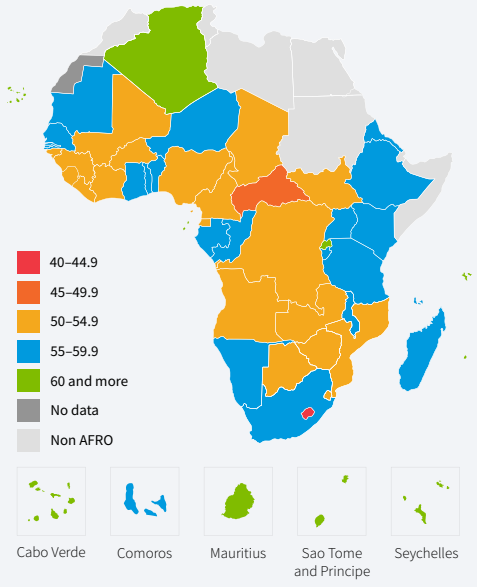
Health expectancy is defined as the number of years one can expect to live in good health. In the context of the SDGs, the analysis of health expectancy is more useful than that of simple life expectancy because it distinguishes between simply living and living in good or poor health.

Figure 7.1.6. Healthy life expectancy at birth in the WHO African Region, 2000–2019, WHO



Overall the average adjusted life expectancy in good health in the WHO African Region is showing a rising trend, and it went from 56.7 to 61.5 years over the period 2015–2021. This evolution is more favourable for women than for men over time.

Figure 7.1.7. Healthy life expectancy at birth in the WHO African Region, 2019, WHO



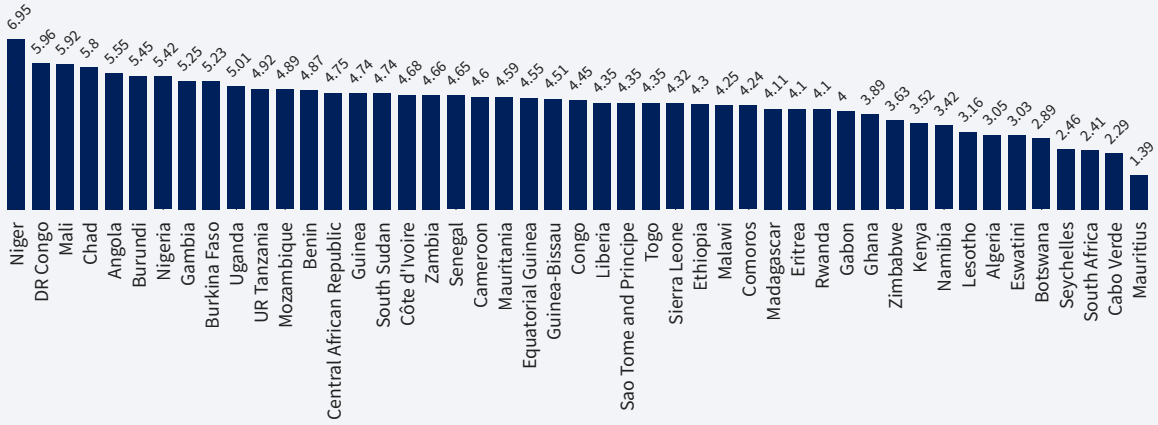
The countries with the highest healthy life expectancy levels in 2019 were Algeria with 66.4 years, Cabo Verde with 64.8 years, Seychelles with 64 years and Mauritius with 63.9 years. The income level of the countries does not explain the differences. The Decade of Healthy Ageing (2021–2030) seeks to reduce health inequities and improve the lives of older people, their families and communities through collective action in the four areas of changing how we think, feel and act towards age and ageism; developing communities in ways that foster the abilities of older people; delivering person-centred integrated care and primary health services responsive to older people; and providing older people who need it with access to quality long-term care.

Adolescent birth rate

Refer to page N° 85

Total fertility rate

Figure 7.1.8. Total fertility rate in the WHO African Region, 2015–2020, UN Population



The fertility rate is declining in all regions, although in Africa it remains high, where it was 4.5 children per woman in 2017, the highest rate of any continent. It has declined over the past 30 years from an average of 6.6 children between 1980.

Fertility levels between 2015 and 2020 showed great variability. For most countries the rate was between 3 and 6 children per woman of childbearing age. Niger stands out with almost a rate of 7 children. Eight of the 10 countries with the highest rates are low-income countries and the other two are lower middle-income countries. At the other end of the scale is Mauritius whose fertility rate is 1.39. With a few exceptions, the countries in the WHO East and Southern subregion have low fertility rates, which is a demonstrating of the demographic transition discussed in the first section of this Atlas.

7.2 Morbidity

New cases of vaccine-preventable diseases

New outbreaks of polio, yellow fever and measles were reported in many countries in the WHO African Region in 2021. For some diseases, the effects are worsening. Inequalities in access to vaccines and the disruption caused by the COVID-19 pandemic, including the severe strain on health systems capacity, have disrupted routine immunisation services in many African countries and led to suspension of immunisation campaigns. The resurgence of outbreaks of vaccine-preventable diseases is a wake-up call. Health systems could be stretched to the limit in epidemic situations with many diseases.

Table 7.2.1. New cases of vaccine-preventable diseases by WHO regions, 2020, WHO

	Congenital Rubella syndrome	Diphtheria	Japanese encephalitis	Measles	Mumps	Neonatal tetanus	Polio	Rubella	Yellow fever
African Region	28	5 387	0	115 364	94 491	1 218	65	48 83	1 110
Eastern Mediterranean	309	295	0	6 119	2 908	634	12	732	0
Europe	2	6	0	10 532	11 487	1	0	92	0
South-East Asia	248	4 002	906	9 389	390	229	1	1 514	0
Western Pacific	14	338	619	6 601	137 932	135	26	2 966	0
Global	603	10 107	1 525	148 005	247 208	2 217	104	10 187	1 110

Diseases such as diphtheria, measles, neonatal tetanus, polio, rubella and yellow fever are more pronounced in the WHO African Region.

Table 7.2.2. New cases of vaccine-preventable diseases in the WHO African Region, 2010–2020, WHO

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Congenital Rubella syndrome	16	0	69	3	14	78	14	24	18	9	28
Diphtheria	50	13	27	128	1	1 654	2 870	118	1 971	1 140	5 387
Japanese encephalitis	0	0	0	0	0	0	0	0	0	0	0
Measles	199 174	195 620	108 004	171 178	73 914	52 758	36 269	72 603	125 426	618 595	115 364
Mumps	13 836	10 808	2 401	8 147	7	28 492	100 576	41 490	54 482	38 795	94 491
Neonatal tetanus	1 937	1 908	2 049	1 449	835	1 289	1 183	979	1 130	1 151	1 218
Polio	709	398	168	93	51	18	5	22	65	318	65
Rubella	2 754	16 190	10 850	13 739	7 402	5 302	4 157	6 166	11 787	6 027	4 883
Yellow fever	714	2574	246	268	31	35	1040	53	734	360	1110

A number of the vaccine-preventable diseases can be described as having been on the rise in 2020. The WHO African Region accounts for almost all new cases of yellow fever and has had the most cases since 2011. Measles declined globally in 2020 after hitting record numbers in 2019. It is still a real concern for many countries and regions other than Africa.

Twenty countries in the WHO African Region reported measles outbreaks in the first quarter of 2022, eight more than in the first quarter of 2021. The nearly 17 500 measles cases reported in the Region between January and March 2022 represented a 400% increase over the same period the previous year. Two doses of measles vaccine, given on time, provide long-lasting protection against this potentially fatal disease. Countries need to achieve and maintain 95% immunisation coverage to eliminate measles. Among the seven countries in the Region reporting new mumps cases in 2020, Kenya accounted for 56%, Ethiopia and Ghana about 15% each, Burkina Faso almost 12% and Rwanda, Senegal and Comoros the rest.

The elimination of maternal and neonatal tetanus objective, meaning having a prevalence of less than 1 neonatal tetanus case per 1000 live births in every district each year, is based on four strategies: (i) vaccination of pregnant women and women of reproductive age with three doses of tetanus toxoid-containing vaccine; (ii) conducting supplementary immunisation in selected high risk areas; (iii) promoting clean births and cord care; and (iv) conducting surveillance, including case investigation and response.[1] By the end of 2019, six Member States[2] had validated their elimination of maternal and neonatal tetanus at the national level. Of the cases of neonatal tetanus newly reported in 2020 in the WHO African Region, more than 60% were from Chad, the Central African Republic, Angola and Mozambique. More than half of the countries reported at least one case in 2020.

Rates of congenital rubella syndrome are highest in the WHO regions of Africa and South-East Asia, where vaccination coverage is the lowest. Of the 35 countries reporting new cases, Mozambique stood out with 28% of the cases, followed by the Democratic Republic of the Congo and Nigeria with 18% of the cases each, and then Burkina Faso, Zambia and South Africa each with 16%. The rest of the cases were distributed among the other countries.

Thirteen countries in the WHO African Region reported new outbreaks of yellow fever in 2021 compared with nine countries in 2020 and three countries in 2019. By the end of 2019, except for Ethiopia, Uganda and South Sudan, all countries at high risk of yellow fever had introduced routine national yellow fever vaccination.

New cases of IHR-notifiable diseases and other notifiable diseases – meningitis

Some 5–10% of the population carry the meningococcal germ in their throat at any one time. The disease mainly affects babies, preschool children and young people. An outbreak can easily be started by the presence of a sick person in a crowded place or within a family in a confined space. Preparedness and response to a meningitis epidemic require comprehensive planning, which is also essential for progress towards the control and elimination of the disease in Africa. With its goal to eliminate meningitis by 2030, WHO recommends epidemic prevention and control, diagnosis and treatment; disease surveillance; advocacy and information; and aftercare for survivors. Currently, meningitis A vaccine has been introduced into routine immunisation programmes in 11 Member States[3] that lie in the African meningitis belt.

New cases of IHR-notifiable diseases and other notifiable diseases – cholera

The cholera cases reported to WHO have remained high in recent years. In 2020, 323 369 cases and 857 deaths were reported in 24 countries.[4] The discrepancy between these figures and the estimated disease burden arises from the fact that many cases are not recorded because of limitations in the surveillance systems and concerns about the negative impacts on trade and tourism. A multifaceted approach is key to control cholera and to reduce its deaths. The approach used is a combination of surveillance; provision of clean water, sanitation and hygiene; social mobilisation; treatment of those affected; and administration of oral cholera vaccines. Cholera surveillance should be part of an integrated disease surveillance system that should include feedback at the local level and information sharing at the global level.

New cases of IHR-notifiable diseases and other notifiable diseases – lassa fever

An estimated 5000 people die from Lassa fever in West Africa each year and 58 million people are at risk of contracting the virus. In particular, the disease can be serious in pregnant women, with a fetal mortality rate of around 85% and a 30% increase in maternal mortality in the third trimester. It is also an important cause of paediatric hospitalisations in infants up to 2 years old, with high case fatality.

1 WHO (2019), WHO guide to using lot quality assurance-cluster sampling surveys to assess neonatal tetanus mortality. Geneva.
2 Angola, Guinea, Mali, Nigeria, Central African Republic and South Sudan.
3 Burkina Faso, Central African Republic, Chad, Côte d'Ivoire, Gambia, Ghana, Guinea, Mali, Niger and Nigeria.
4 WHO (2021) Cholera Annual Report 2020, Weekly Epidemiological Record 37 September 2021, 96:445–460.

HIV prevalence rate (%)

Some 38.4 million[5] people were living with HIV in 2021 globally and 1.5 million people became newly infected with the virus. In Africa, 25.6 million people were living with HIV that year. These estimates indicate that the HIV prevalence in the African population was about 2.3% in 2021.

World Bank data, also available from UNAIDS sources but covering people aged 15–49 years living with AIDS, report a HIV prevalence of 3.6% for 2020. In 2021 Africa accounted for two thirds of the people living with HIV worldwide.

HIV incidence rate

Refer to page N° 76

Hepatitis B surface antigen prevalence

Hepatitis B surface antigen (HBsAg) is the most important input in the estimation of hepatitis B incidence, which is defined as number of new hepatitis B infections per 100 000 population in a country. A positive or reactive HBsAg test result means that the person is infected with hepatitis B. The estimated overall seroprevalence of HBV surface antigen remains high in African Region at 6.1%[6] and the Western Pacific Region at 6.2%. According to the WHO, HBV infection affects more than 5% of the local population in sub-Saharan Africa, with levels in West Africa at more than 8% in and reaching 15% in some areas. A Rwandan study[7] found the overall prevalence of HBsAg in the country to be 3.9% (12 865/326 652). HBsAg positivity was most prevalent in the over-35 years age group, at 4.2%, and in men, at 4.3%. Most of the studies in East African countries have focused on specific subpopulations, for example people living with HIV, and data for the general populations are mostly unavailable.

Hepatitis B incidence

Almost 1.1 million people were newly infected with chronic hepatitis B in 2017. In 2020, the WHO African Region accounted for 26% of the global burden of hepatitis B and C, with 125 000 associated deaths. About 70% of the world's hepatitis B cases are concentrated in Africa. In the WHO African Region, hepatitis B is highly endemic and probably affects 5% to 8% of the population, especially in West and Central Africa. Twenty-eight African countries now have a national hepatitis programme. Hepatitis strategic plans have been developed in 21 countries, while 17 countries have treatment and testing guidelines aligned with WHO guidelines. The first African hepatitis summit was held in Kampala, Uganda, in 2019 under the theme "Eliminating viral hepatitis in Africa: implementing a viral hepatitis strategy" with the objectives of developing or working towards the implementation of action plans, sharing lessons learnt in the fight against viral hepatitis and building a community of practice for African countries. Sixty million people are living with chronic hepatitis B in the Region, 4.8 million of whom are under-five children.

Sexually transmitted infections (STIs) incidence rate

Every day, more than 1 million people contract an STI worldwide. In 2020 WHO estimated that 374 million people had contracted one of chlamydia, with 129 million cases; gonorrhoea, with 82 million cases; syphilis, with 7.1 million cases, or trichomoniasis, with 156 million cases. The people contracting these four types of curable STIs in the Region was estimated at 63 million in 2012, accounting for 18% of the global incidence. An estimated 490 million people are living with uncomplicated herpes and 300 million women are estimated to be carriers of the human papillomavirus. The WHO African Region is particularly affected by the high prevalence of these infections. STIs have a profound impact on the health and quality of life of a population, including from the high risks of fetal and neonatal morbidity and mortality from syphilis during pregnancy, cervical cancer from human papillomavirus infection, infertility mainly from gonorrhoea and chlamydia, and sexual transmission of HIV infection.

5 UNAIDS (2022), Epidemiological estimates 2022.
6 Spearman C.W. et al. (2017), Hepatitis B in sub-Saharan Africa: strategies to achieve the 2030 elimination targets. Lancet Gastroenterol Hepatol. 2017;2(12):900.
7 Makuza, JD. et al. (2019), Prevalence of hepatitis B surface antigen (HBsAg) positivity and its associated factors in Rwanda, BMC Infectious Diseases, 2019 19:381

TB incidence rate

An estimated 9.9 million people worldwide will have developed TB by 2020 of whom 5.5 million will be men, 3.3 million will be women and 1.1 million will be children. TB is present in all countries and all age groups. Of all new TB cases in 2020, 86% occurred in the 30 countries with the highest burden of the disease. Two thirds of the cases are concentrated in eight countries led by India, then China, Indonesia, the Philippines, Pakistan, Nigeria, Bangladesh and South Africa. The incidence of TB globally is declining by about 2% per year. The cumulative decline between 2015 and 2020 was 11%, just over half of the target set in the Strategy to End TB, which aimed for a 20% reduction during that period. An estimated 66 million lives were saved by TB diagnosis and treatment between 2000 and 2020.

Malaria parasite prevalence among children aged 6–59 months

The WHO African Region continues to pay the highest price for malaria. In 2020, the Region recorded 228 million malaria cases, which was 95% of all cases, and 602 000 malaria deaths, which was 96% of all malaria deaths. Of all the malaria deaths in the Region 80% are among under-five children. Several new vector control tools and technologies have been submitted to the WHO in 2022 for approval, calling for new recommendations if they are found to be effective. These include new types of insecticide-treated nets, space-based mosquito spraying, genetic forcing techniques, and sweet baits designed to attract and kill Anopheles mosquitoes. WHO welcomes the recent approval of new medicines. For children, there has been a scientific breakthrough in the form of a malaria vaccine, which is an additional tool to reduce malaria cases and deaths in children in countries with moderate to high transmission. WHO estimates that the vaccine, if deployed on a large scale, could save the lives of an additional 40 000 to 80 000 African children each year.

Malaria incidence rate

From 2000 to 2019, the Region made considerable progress in reducing its malaria burden. Disease incidence, that is cases per 1000 population at risk of malaria, had fallen from 368 to 222.9. From 2019 to 2020, malaria cases increased from 213 million to 228 million, the malaria incidence rate rose from 222.9 to 232.8 cases per 1000 population at risk of malaria, malaria deaths increased from 534 000 to 602 000, and the mortality rate rose from 56 to 61.5 deaths per 100 000 population at risk of malaria. Progress has stagnated in countries with moderate or high malaria transmission. COVID-related consequences are also having an impact on this disease.

Nigeria and Congo account for just over one third of the Region's malaria cases,[8] and the deaths in these two countries represents 45% of all deaths in the Region. The Region has not met the AWG targets for 2020 for reductions in the disease incidence or the 2020 targets for reductions in disease incidence and mortality. The results are 38% and 40% lower than these targets, respectively.

Cancer incidence

Cancers already account for 10% to 20% of morbidity on the African continent.[9] According to the United Nations, the burden of cancer is expected to almost double in the next 20 years as the population ages, to reach 1.5 million new cases and 1 million deaths annually by 2040. A paper by the International Agency for Research on Cancer (IARC) published in *The Lancet Oncology* and echoed by the UN report estimated that there would be 801 392 new cancer cases and 520 158 cancer deaths yearly in sub-Saharan Africa by 2020. Female breast cancer, with 129 400 cases, and cervical cancer, with 110 300 cases, account for two out of the 10 common cancers diagnosed. The most common types of cancer diagnosed in women are breast cancer, which ranked first in 28 countries, and cervical cancer, which ranked first in 19 countries. The most common types of cancer in men were prostate cancer, with 77 300 case, liver cancer, with 24 700 cases, and colorectal cancer, with 23 400 cases. Prostate cancer has the highest incidence among the cancers in men in 40 sub-Saharan African countries.

8 WHO (2021), Malaria report 2021, Regional data and trends

9 Gombé, C., Godet, J. and Gueye, S. (2017), les Cancers en Afrique francophone, Alliance des Ligues francophones Africaines et Méditerranéennes contre le cancer (ALIAM), Paris.

The risk for a sub-Saharan African woman to develop cancer by the age of 75 is 14.1%, with breast cancer, at 4.1%, and cervical cancer, at 3.5%, accounting for half of this risk. For men, the corresponding cancer incidence at age 75 is 12.2%, with prostate cancer at 4.2%, accounting for a third of this risk. Cancer occurs at any age, even in children, but its incidence increases almost exponentially from the age of 40 in women and 45 in men.

The growth and ageing of the population, urbanisation and lifestyle changes will lead to a rapid increase in cancer incidence. The absence of preventive measures, the delay in diagnosis, the lack of health workers trained in cancerology, and the lack of dedicated facilities and equipment all mean that, if measures are not taken quickly to tackle cancer, mortality levels associated with it will continue to rise at the same rate as incidence. This scourge is increasingly affecting populations in low-income and middle-income countries, where poverty, inadequacies in health systems and in training of health professionals, poor health education, and social or cultural prejudices are important challenges.

Percentage of births with birth defects or anomalies

Birth anomalies are among the leading causes of child mortality, chronic morbidity and disability. There are currently no reliable estimates of the number of children born with a serious congenital disorder with genetic, infectious or environmental causes.[10] A study published in the *BMJ Global Health* journal that had been conducted in 51 hospitals providing paediatric surgical care in 19 sub-Saharan African countries from October 2016 to April 2017, shows that in sub-Saharan Africa, gastroschisis and anorectal malformation resulted in 75.5% and 11.2% deaths, respectively, compared with 2% and 3%, respectively, in high-income countries. Congenital malformations involving the intestinal tract have particularly high mortality rates in low-income and middle-income countries, as many of the cases require emergency surgical care after birth. Member States in the Africa Region need to improve their process for early detection of congenital diseases to prevent child deaths.

Prevalence of congenital heart defects

The most common serious congenital disorders are heart defects, neural tube defects and Down's syndrome. Congenital heart disease is a cardiac abnormality that occurs during the formation of the heart in the intrauterine life. The incidence is estimated to be 7–8 per 1000 births. Several studies reported by African authors show variable but comparative prevalence among the countries, but the studies[11] all concordantly underline the worrying nature of congenital heart disease in Africa. The differences in the prevalence of congenital disorders could be related to factors such as the selection criteria for adult patients, the paediatric series or the ultrasound series.

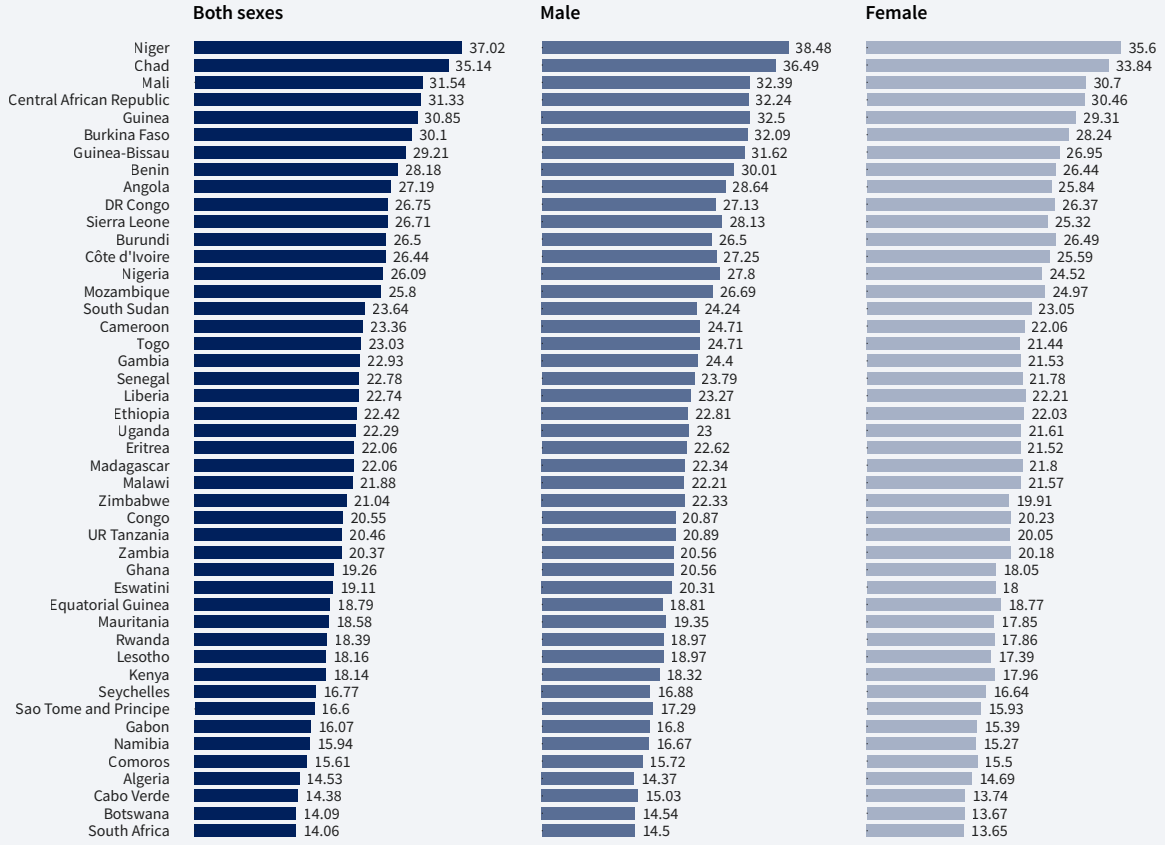
The group with a high frequency of congenital heart disease is aged 1 month to 30 months and it accounts for 55% of the cases. Congenital heart disease in children is a reality in Africa, but its frequency in all the series reported is certainly an underestimate because, except in South Africa, accessibility of Doppler echocardiography is difficult. The penetration of cardiac ultrasound in hospital practice, especially for antenatal screening, remains low in the countries of the WHO African Region, and staff experienced in rare paediatric cardiology are mostly confined to large urban centres.[12]

10 WHO (2010), Congenital malformations, Report of the Secretariat, A63/10.
11 Kinda, G. and al (2015), "Congenital heart disease: epidemiological and echocardiography aspects about 109 cases in Pediatric Teaching Hospital Charles de Gaulle (CDG CHUP) in Ouagadougou, Burkina Faso. Pan Afr Med J. 2015; 20: 81. Published online 29 January 2015, accessed 30 August 2022
12 Les cardiopathies congénitales dans les pays en développement: défis et perspectives (2018) In Annales Africaines de médecine, Editorial Volume 12 n°1: décembre 2018 available at https://anafrimed.net/editorial-les-cardiopathies-congenitales-dans-les-pays-en-developpement-defis-et-perspectives/ accessed 30 August 2022

Figure 7.2.3. Prevalence of congenital heart defects (per 1 million births) in the WHO African Region, 2010–2019, IHME

The prevalence of heart defects in Africa is higher in boys than in girls. A decline in the prevalence of congenital heart defects was observed in the WHO African Region between 2010 and 2019. The level of the decline over the decade was 7.4% per million births, with the level going from 24.4 per million newborns to 22.6. The decline affected both female and male newborns, although it was more marked among boys at 8.2% than among girls at 7.4%.

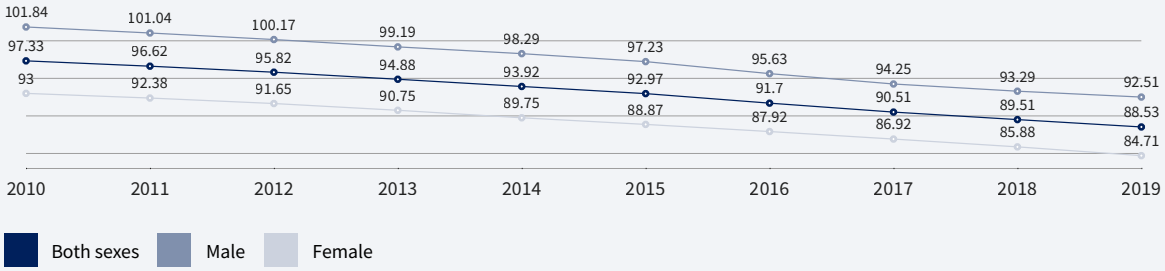
Figure 7.2.4. Prevalence of congenital heart defects (per 1 million births) in the WHO African Region, by sex and by country, 2019, IHME



The prevalence of congenital heart defects in 2019 was 22.6 per 1 million births, and there was a difference between girls, who were less exposed, and boys. Except for Burundi, where there was perfect equality, and four other countries,[13] where only data for boys were available, this difference is respected. The countries with the highest prevalence of congenital heart defects also had very low incomes, such as Niger, Chad, Mali, Central African Republic and Guinea.

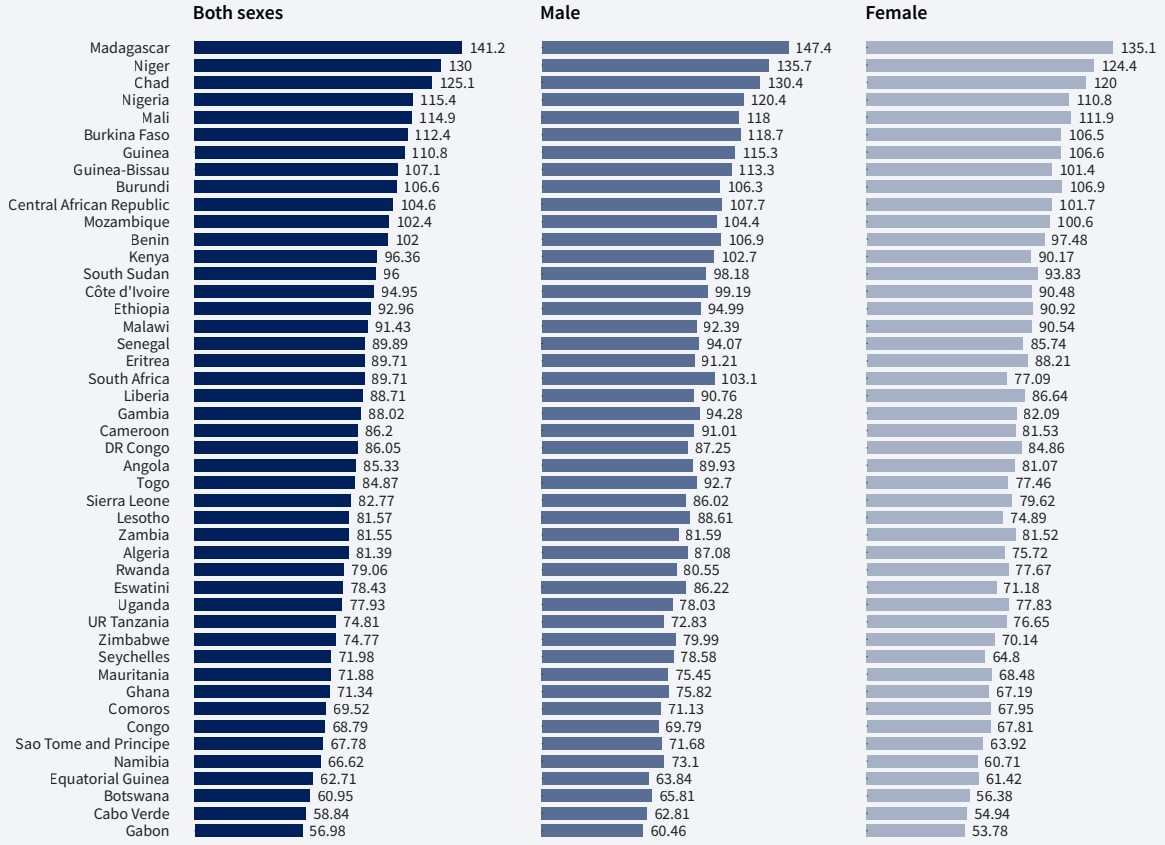
13 Zimbabwe, Tanzania, Ghana and Eswatini

Figure 7.2.5. Prevalence of births with defects/anomalies (per 1 million births) in the WHO African Region, by sex, 2010–2019, IHME



The prevalence of births with defects in the WHO African Region shows sex differences, with boys being more affected than girls. The prevalence of anomalies per 1 million births in 2019 was 92.51 for boys and 84.71 for girls, with the average at 88.53. For both boys and girls, there was a continuous and marked decline in the prevalence between 2010 and 2019, averageing 9.2% for boys and 8.9% for girls.

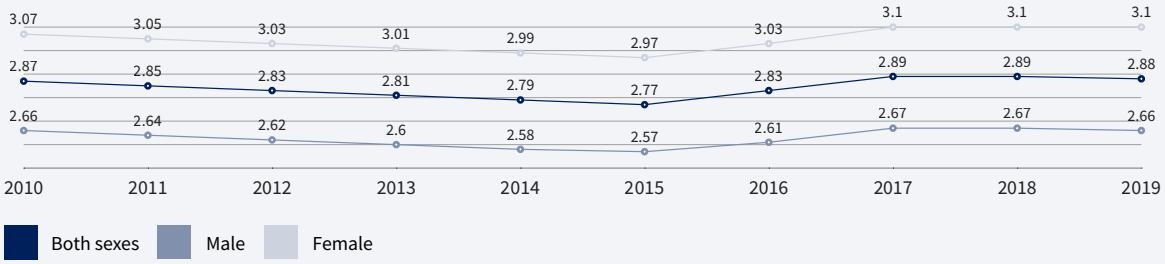
Figure 7.2.6. Prevalence of births with defects (per 1 million births) in the WHO African Region, by sex and country, 2019, IHME



The average prevalence of congenital anomalies in the WHO African Region is 88.5 per million births, but differences exist between countries, ranging from 141.2 to 68.8. At the country level, Madagascar, Niger, Chad, Nigeria and Mali are the countries with the highest prevalence of congenital anomalies.

Prevalence of congenital neural tube defects

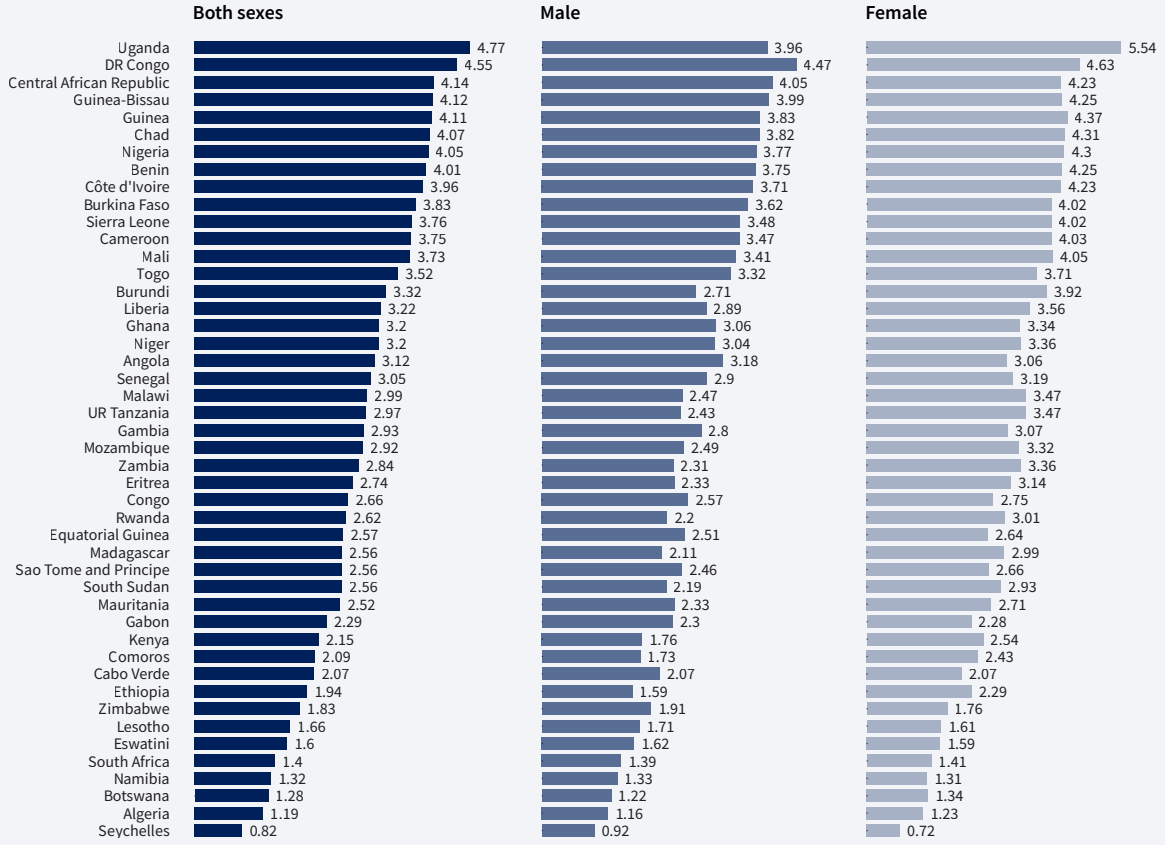
Figure 7.2.7. Prevalence of congenital neural tube defects (per 1 million births) in the WHO African Region, by sex, 2010–2019, IHME



Neural tube defects are among the most serious and common of congenital anomalies. They are embryopathies that occur in the first weeks of an embryo's intrauterine life during the genesis of the central nervous system.

Vitamin B9 as folic acid or folate is essential for many body functions. Folate is useful for DNA synthesis and repair, among other things, and is involved in the rapid division and growth of cells. Periconceptional folic acid supplementation in cases of deficiency in a woman is effective in preventing neural tube defects.[14] Over the 10 years between 2010 and 2019, the prevalence of neural tube defects has remained relatively stable, affecting an average of 2.88 births per million newborns, although there was a slight decline in the middle of the decade, with the level dropping to 2.77 defects per million births. Female newborns are affected more often than are male newborns.

Figure 7.2.8. Prevalence of congenital neural tube defects (per 1 million births) in the WHO African Region, 2019, IHME



14 Bantouré, O. (2017) Knowledge, attitudes and prevention practices of neural tube anomalies in women attending prenatal consultation in the Niamey-Niger Region

In the WHO African Region, the gender differences in neural tube defects observed at the regional level are not always marked within the countries. The countries with the lowest risk are Ethiopia, Zimbabwe and Eswatini. And those with the highest prevalence of neural tube defects are Uganda and the Democratic Republic of the Congo. When gender difference is considered, the prevalence ranking for factors is sometimes reworked.

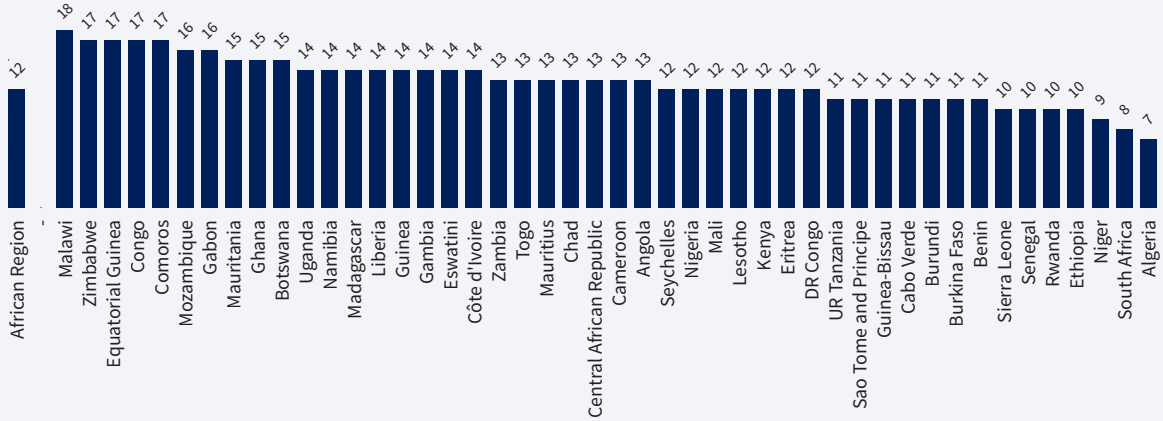
Early motherhood, multiparity and lack of access to certain health services are among the risk factors incriminated. But also the lack of a national policy for the fortification of certain foods with folic acid, the lack of analysis of health data on congenital malformations and of information on knowledge, attitudes and prevention practices, etc. are series of priorities that states must set themselves in order to limit the consequences of congenital anomalies and prevent them.

Prevalence of low birth weight

Birth weight is one of the main determinants of perinatal survival, and low birth weight is associated with infant morbidity and mortality and the risk of developmental disorders and diseases in later life. The prevalence of low birth weight in sub-Saharan Africa among newborns weighed at birth was 9.76% (95% CI: 9.63% to 9.89%). New female sex, non-participation in personal health care decision-making and wide intergenerational intervals, the woman's relationship status (divorced/separated) and twin pregnancies are associated with increased chances of low birth weight. On the other hand, a high education level for the woman and husband, antenatal care, older maternal age and multiparity are associated with a reduced incidence of low birth weight. A study[15] based on prevalence data from 35 sub-Saharan countries found the magnitude of low birth weight to be high in these countries. The findings suggest that it is important to place greater emphasis on women who lack support, have multiple pregnancies or are in poor health care decision-making circumstances.

Prevalence of preterm births or preterm birth rate

Figure 7.2.9. Prevalence of preterm births (per 100 live births) in the WHO African Region, 2010, WHO



Each year, nearly 15 million babies are born prematurely, that is before completing 37 weeks of gestation, which represents more than 1 in 10 newborns, with the rate varying between 5% and 18%. The prevalence is increasing in Africa. More than 60% of the global preterm births occur in Africa and South Asia. This is a global problem, however, and even though the poorest countries have an average of 12% of babies born prematurely, higher income countries are not very far behind with 9%.

15 Tessema, ZT. (2021), Prevalence of low birth weight and its associated factor at birth in sub-Saharan Africa: A generalised linear mixed model.

Among the 10 countries with the highest rates of preterm births[16] per 100 live births in 2016, eight were African.[17] Survival rates for preterm babies show striking inequalities between countries. In low-income countries, half of all babies born at 32 weeks (2 months too early) die because they lack care that could be provided affordably such as warmth, breastfeeding and basic care for infections and respiratory problems. Continuity of obstetric care where effective obstetric services exist reduces prematurity by about 24%. Quality care before, between and during pregnancies ensures that a woman has a positive pregnancy experience.

The five countries with the highest prevalence of prematurity in 2010, all of them with a prevalence of more than 17% were Malawi, Zimbabwe, Equatorial Guinea, Republic of the Congo and Comoros. Algeria, South Africa and Niger had prematurity rates that were lower than 10%. The prematurity has a socioeconomic component and a sociocultural dimension. The average rate of prematurity of in the Region in 2010 was 12%, and only 14 countries had rates below that.

BOX 4. **Neonatal outcomes**

The weight of a newborn and its gestational age are two correlated neonatal outcomes that determine its survival. Most of the time, pregnant women and even most professionals date the pregnancy from the last menstrual period. The importance of knowing the gestational length is so as to measure the child's ability to adapt to a pulmonary respiratory mode if born before term, that is before 260 days of the pregnancy. This precision will also play a role in qualifying the mortality to be attributed to a newborn in case of death or stillbirth. This element is still crucial in classifying the type of prematurity according to the WHO definition, as well as in determining the vital prognosis, risk of disability or the life expectancy a priori or viability. A pregnancy lasts on average 40 weeks. A baby born before the 37th week is called premature. The definition of prematurity has evolved over time. No births are known to have occurred before the 22nd week of gestation and very few births have occurred after the 44th week. There are many causes of prematurity, including medical conditions affecting the pregnant woman, such as genitourinary infections, generalised infections such as malaria and TB etc., uterine anomalies and placental problems, and also threats of hypertension, diabetes, sickle cell disease, etc. In addition, there are risk factors such as being too young or too old, multiparity, smoking, alcohol, unhealthy living conditions, low level of education, domestic violence, pollution and diet. A preterm delivery heightens the risk of preterm delivery for the next child by three times. The facilities in neonatal and intensive care units must be able to meet the demands of premature and low birth weight babies, with qualified and trained staff to save the lives of newborns. The prevention of low birth weight (less than 2500 grams) and prematurity (younger than 37 weeks) is a public health challenge where health promotion is an approach to be considered, especially in the African context.

16 Liu, L. et al (2016) Global, regional, and national causes of under–5 mortality in 2000–15: an updated systematic analysis with implications for the Sustainable Development Goals. Lancet. 2016;388(10063):3027–35.

17 Malawi (18,1%), Comoros (16,7%), Congo (16,7%), Zimbabwe (16,6%), Equatorial Guinea (16,5%), Mozambique (16,4%), Gabon (16,3%) and Mauritania (15,4%).

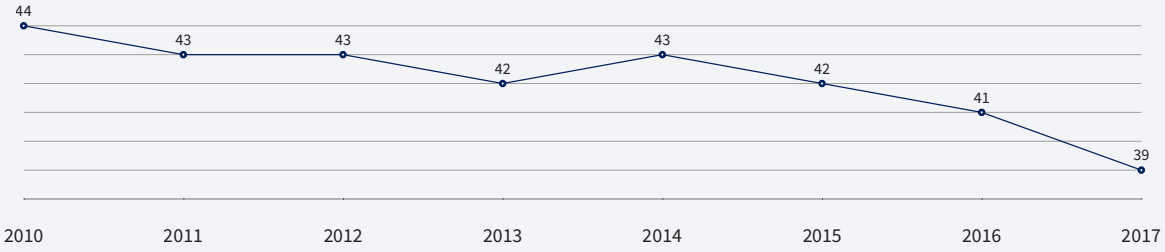
7.3 Mortality by cause

Maternal mortality ratio

Refer to page N° 70

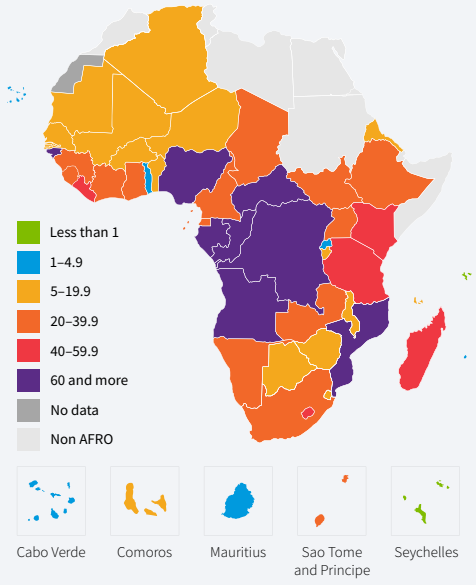
TB mortality rate

Figure 7.3.1. TB mortality rate (per 100 000 population) in the WHO African Region, 2010–2017, WHO



Africa has had more than 500 000 deaths from TB each year, with nearly 2.5 million cases reported in 2019, representing 25% of the global disease burden. Yet TB screening and treatment is free in all countries. The mortality rate from TB in the WHO Region declined between 2010 and 2017, going from 44 per 100 000 people to 39 per 100 000.

Figure 7.3.2. TB mortality rate (per 100 000 population) in the WHO African Region, 2017, WHO



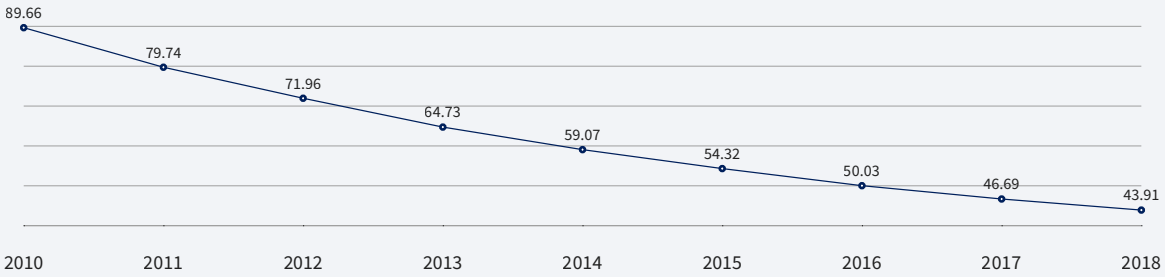
The differences in TB mortality among the countries in the Region are marked. A large proportion of the countries in the West African subregion have the lowest TB mortality rates, while high rates are more prevalent in the Central African subregion, while the rates in East and Southern African subregion seem to be between these two.

TB mortality rates vary widely. They range from 98 per 100 000 people in Gabon to 0.3 per 100 000 people in the Seychelles. There appears to be no relationship between TB mortality rates and the income level of the countries. For example, with Gabon, a high middle-income country, has the highest TB mortality rate in the WHO African Region.

AIDS-related mortality rate

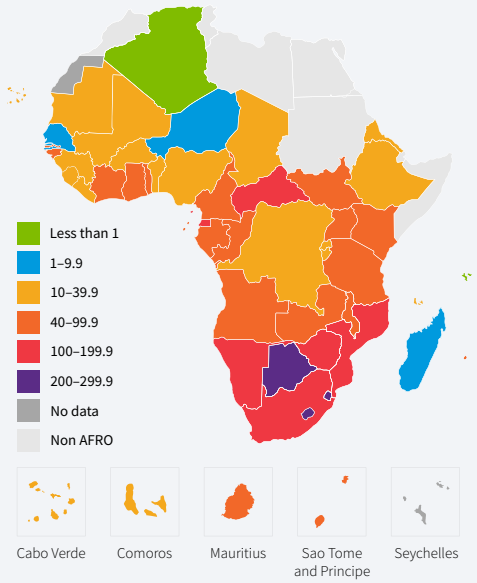
The number of the global AIDS-related deaths in 2021 was estimated to be around 650 000, compared with 2 million [1.6 million–2.7 million] in 2004 and 1.4 million [1.1 million–1.8 million] in 2010. AIDS-related deaths have declined by 68% since their peak in 2004 and by 52% since 2010. The decline levels since 2010 are 57% among women and girls and 47% among men and boys.

Figure 7.3.3. AIDS-related mortality rate (per 100 000 population) in the WHO African Region, 2010–2018, WHO



The decline in AIDS mortality is holding steady. Based on data for 2021 with 420 000 (340 000–530 000) as the estimated deaths for the year, the mortality rate would be around 37.4 per 100 000 people in the WHO African Region. Among the countries in the Region, AIDS mortality rates varied widely for 2018, from 289.3 deaths per 100 000 people for Lesotho to 0.5 deaths per 100 000 people for Algeria.

Figure 7.3.4. AIDS-related mortality rate (per 100 000 population) in the WHO African Region, 2018, WHO

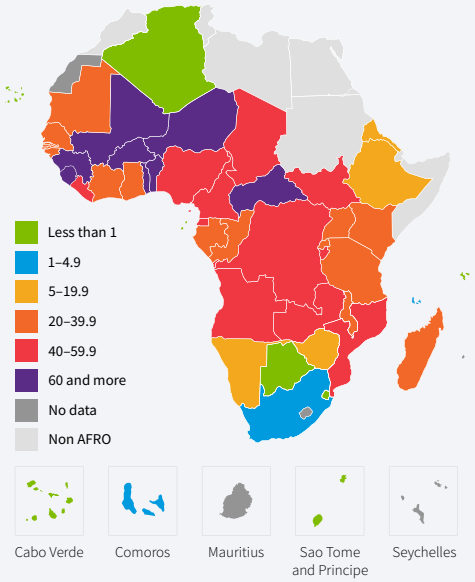


Member States from the high-middle incomes group were among the top half of the countries with the highest AIDS-related mortality rates in 2018. The countries within the East and Southern Africa subregion had higher mortality rates than the other countries in the Region, with the rates being much higher in the southernmost part. The West African subregion had more favourable data for AIDS-related deaths within its countries.

Malaria mortality rate

The new methodology applied in 32 countries in sub-Saharan Africa to determine the contribution to death levels by different causes in 2020 found malaria to have been responsible for an estimated 627 000 deaths, 69 000 more than the previous year. Almost two thirds (47 000) of these deaths were due to disruptions during the COVID-19 pandemic, while the rest were associated with the change in the WHO methodology and were independent of the disruptions associated with COVID-19.

Figure 7.3.5. Malaria mortality rate (per 100 000 population) in the WHO African Region, 2018, WHO



The new estimates on malaria deaths highlight the fact that the WHO African Region continues to bear the heaviest burden of malaria, with 96% of all malaria deaths in 2020 occurring in the Region and with under-five children under being the primary victims of the disease and constituting 80% of all malaria deaths in the Region. The downward trend in the malaria mortality rates has been maintained since 2000. Malaria mortality fell from 30.1 deaths per 100 000 population at risk of malaria in 2000 to 13.8 in 2019 and to 15.3 in 2020. An estimated 10.6 million malaria deaths were averted worldwide between 2000 and 2020, 95% of which were averted in the WHO African Region.

Malaria mortality rates are correlated with countries' income levels. West and Central African countries are more vulnerable to the disease than are East and Southern Africa countries. The *WHO global technical strategy for malaria control 2016–2030* (GTS) calls for reducing of malaria incidence and mortality rates by at least 40% by 2020. In 2020, the global mortality rate was 15.3 deaths per 100 000 people at risk of malaria, while the target was 8.9, a gap of 42%. The situation remains precarious, especially in sub-Saharan Africa, where the burden of malaria is still unacceptably high and where the convergence of several threats poses an additional challenge to efforts to control the disease.

Premature noncommunicable disease (NCD) mortality

Refer to page N° 80

Mortality from household and ambient air pollution

Refer to page N° 86

Mortality from unsafe water, unsafe sanitation and lack of hygiene

Refer to page N° 86

Mortality from unintentional poisoning

Refer to page N° 87

Suicide rate

Refer to page N° 81

Death rate due to road traffic injuries

Refer to page N° 83

Number of deaths, missing persons and persons affected by disaster per 100 000 people

Refer to page N° 107

Mortality rate due to homicide

Refer to page N° 109

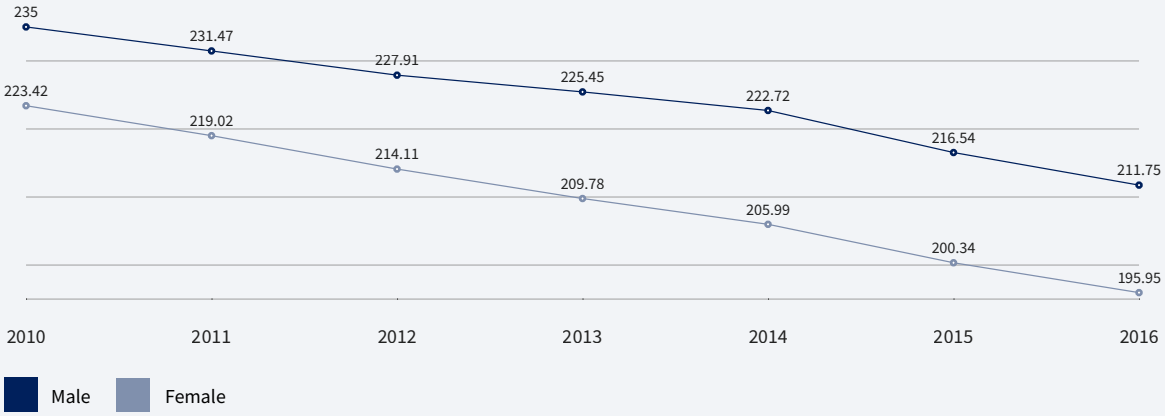
BOX 5. **COVID-19 mortality in Africa from 2020 to 2022**

The general slowdown of the COVID-19 pandemic was confirmed on the continent in the first quarter of 2022 despite some episodic resurgences, particularly in the southern zone. A study by The Lancet has some optimism about the evolution of the disease in 2022, indicating that the total number of cases of infection in Africa should be 166.2 million this year, compared with 227.5 million in 2021. Mortality is expected to fall by 94% in 2022. In 2021, COVID-19 killed 113 102 people on the continent, an official figure of more than 300 deaths every day. Current projections are for 23 000 deaths for the whole of 2022, or about 60 a day. Many public health experts have long believed that the number of cases was greatly underestimated, and researchers announced in late 2021 that the actual death toll was likely seven times higher. Because of the large number of asymptomatic people, these data are unreliable. Underestimation is a real problem and beyond Africa in its occurrence. In April 2022 the WHO Regional Office for Africa estimated that the true toll was probably even higher than these various assessments suggested. Some 65% of the African population would have been infected with COVID-19 since 2020, which would be 97 times higher than the official statistics. The figures are constantly changing, but some data can be mentioned with certainty. The (official) milestone of 12 million people being infected, 4 million of them in South Africa alone, was passed in the first quarter of 2022, while the number of deaths now exceeds 254 000. At the end of last year, Madagascar reached the symbolic milestone of 1000 COVID-19 deaths and Zimbabwe reached 5000 deaths. South Africa reached 100 000 COVID-19 deaths in March 2022.

7.4 Mortality by age

Adolescent mortality rate

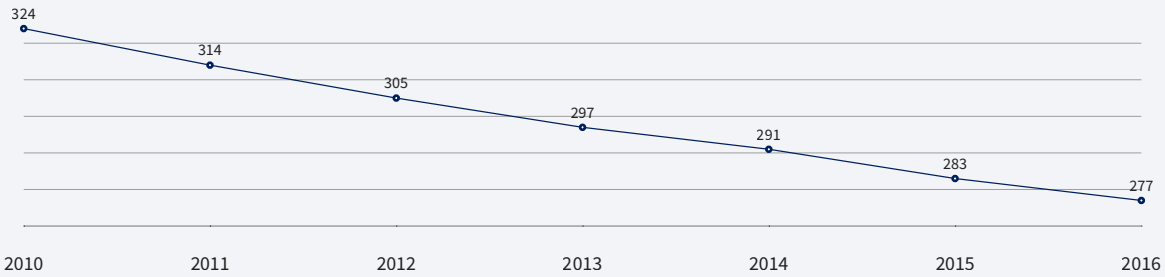
Figure 7.4.1. Adolescent mortality rate (100 000 adolescents) in the WHO African Region, 2010–2016



The adolescent mortality rate has decreased in recent years and at equal among both girls and boys. The downward trend is parallel, although it appears to be slightly more pronounced for females. Between 2010 and 2016, the mortality rates per 100 000 adolescents fell from 235 to 211.8 for young men and from 223.4 to 196 for young women. There are differences in adolescent mortality rates among countries, while within the countries the differences remain between males and females. For example, Nigeria's adolescent mortality rate ranks fourth for women and fifteen for men.

Adult mortality rate for ages between 15 and 60 years

Figure 7.4.2. Adult mortality rate (per 1000 population) in the WHO African Region, 2010–2016, WHO



Adult mortality in the WHO African Region declined from 2010 to 2016 by 14.5%. In the Region and globally, the data describe male mortality as excess in almost all countries.

Adult mortality in sub-Saharan Africa remains poorly studied.[18] In the absence of efficient vital registration systems, adult mortality often must be estimated from imperfect data. Among these data is the information provided by individuals on the survival of their relatives such as parents, brothers, sisters, etc. that researchers have started looking at as it constitutes an important statistical heritage that deserves to be more fully exploited, given the many epidemics Africa has experienced.

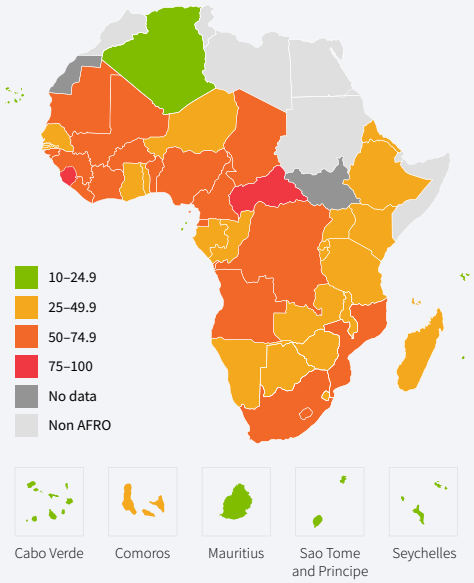
18 Masquelier, B. (2010) Estimation de la mortalité adulte en Afrique subsaharienne à partir de la survie des proches: Apports de la microsimulation, Première edition, Presses Universitaires de Louvain

Under-five mortality rate

Refer to page N° 72

Infant mortality rate

Figure 7.4.3. Infant mortality rate (per 1000 live births) in the WHO African Region, 2019, WHO



The mortality rate among children under the age of one year in Africa in 2020 was around 41.6 deaths per 1000 live births. Infant mortality on the continent had decreased significantly compared with 2000, when approximately 81 newborns and infants per 1000 died before one year of age.

Two countries are strongly marked by this indicator. One is Sierra Leone, with a statistic that is associated to the lack of adequate hospitals and health facilities, the consequences of the Ebola crisis of 2015, a high level of malnutrition and problems with access to clean water. The second one is the Central African Republic, which has insufficient monitoring of pregnant women owing to a lack of qualified health personnel and health facilities lacking equipment such as incubators for premature newborns.

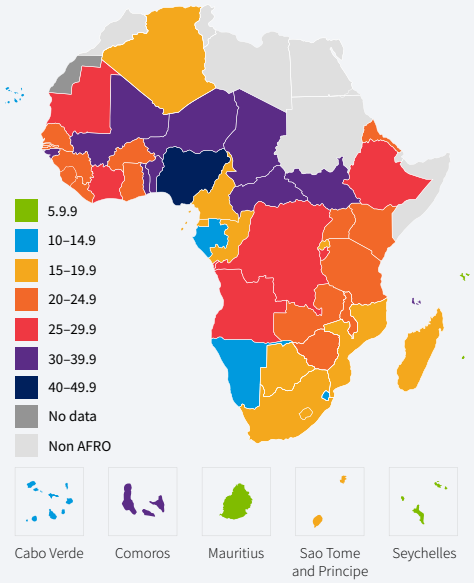
Neonatal mortality rate

Refer to page N° 74

Stillbirth rate

According to the report, “A low-key tragedy: the global burden of stillbirth,” 84% of stillbirths occur in low-income and lower middle-income countries, and in 2019, three out of four stillbirths occurred in sub-Saharan Africa and South-East Asia. The report describes a stillbirth as the birth of an infant without signs of life at 28 weeks of pregnancy or more. Every 16 seconds a mother somewhere in the world experiences the horrific ordeal of giving birth to a stillborn child. It is estimated that nearly 2 million babies are stillborn each year. In sub-Saharan Africa, about 50% of stillbirths occur during labour.

Figure 7.4.4. Stillbirth rate (per 1000 total births) in the WHO African Region, 2015



Stillbirth rates are related to the socioeconomic level of countries. Low-income countries have more stillbirths in their population. In the WHO African Region, the high middle-income to high-income countries are among the 12 countries with the lowest stillbirth rates. The regional range is 9.5 in Mauritius and Seychelles to 42.9 in Nigeria. Despite progress in health services to prevent or treat the causes of child deaths, progress in reducing the stillbirth rate has been slow, with the level declining at an average of 2.3% per year over the last 20 years.

References

1 WHO (2019), WHO guide to using lot quality assurance-cluster sampling surveys to assess neonatal tetanus mortality. Geneva.

2 Angola, Guinea, Mali, Nigeria, Central African Republic and South Sudan.

3 Burkina Faso, Central African Republic, Chad, Côte d'Ivoire, Gambia, Ghana, Guinea, Mali, Niger and Nigeria.

4 WHO (2021) Cholera Annual Report 2020, Weekly Epidemiological Record 37 September 2021, 96:445–460.

5 UNAIDS (2022), Epidemiological estimates 2022.

6 Spearman C.W. et al. (2017), Hepatitis B in sub-Saharan Africa: strategies to achieve the 2030 elimination targets. Lancet Gastroenterol Hepatol. 2017;2(12):900.

7 Makuza, JD. et al. (2019), Prevalence of hepatitis B surface antigen (HBsAg) positivity and its associated factors in Rwanda, BMC Infectious Diseases, 2019 19:381

8 WHO (2021), Malaria report 2021, Regional data and trends

9 Gombé, C., Godet, J. and Gueye, S. (2017), les Cancers en Afrique francophone, Alliance des Ligues francophones Africaines et Méditerranéennes contre le cancer (ALIAM), Paris.

10 WHO (2010), Congenital malformations, Report of the Secretariat, A63/10.

11 Kinda, G. and al (2015), "Congenital heart disease: epidemiological and echocardiography aspects about 109 cases in Pediatric Teaching Hospital Charles de Gaulle (CDG CHUP) in Ouagadougou, Burkina Faso. Pan Afr Med J. 2015; 20: 81. Published online 29 January 2015, accessed 30 August 2022

12 Les cardiopathies congénitales dans les pays en développement: défis et perspectives (2018) In Annales Africaines de médecine, Editorial Volume 12 n°1: décembre 2018 available at https://anafrimed.net/editorial-les-cardiopathies-congenitales-dans-les-pays-en-developpement-defis-et-perspectives/ accessed 30 August 2022

13 Zimbabwe, Tanzania, Ghana and Eswatini

14 Bantouré, O. (2017) Knowledge, attitudes and prevention practices of neural tube anomalies in women attending prenatal consultation in the Niamey-Niger Region

15 Tessema, ZT. (2021), Prevalence of low birth weight and its associated factor at birth in sub-Saharan Africa: A generalised linear mixed model.

16 Liu, L. et al (2016) Global, regional, and national causes of under–5 mortality in 2000–15: an updated systematic analysis with implications for the Sustainable Development Goals. Lancet. 2016;388(10063):3027–35.

17 Malawi (18,1%), Comoros (16,7%), Congo (16,7%), Zimbabwe (16,6%), Equatorial Guinea (16,5%), Mozambique (16,4%), Gabon (16,3%) and Mauritania (15,4%).

18 Masquelier, B. (2010) Estimation de la mortalité adulte en Afrique subsaharienne à partir de la survie des proches: Apports de la microsimulation, Première edition, Presses Universitaires de Louvain