



COMMUNICABLE DISEASES



Introduction

There has been a spectacular increase in the world population's life expectancy since the early 20th century. It began in Europe and by the end of the 19th century this increase spread to all the countries that are today considered developed. At the end of the 19th century, life expectancy in these countries was approximately 40 years, and rose to 80 years by the early 21st century. The industrial and agricultural revolutions, as well as increased income levels, led to improved nutrition and better access to drinking water and sanitation. In turn, these positive factors brought about a significant decline in mortality, followed by a decrease in the birth rate and the stabilisation of the population. Most other countries in the world followed a similar path during the 20th century.

Admittedly, this was not a linear process, nor was it exempt of local exceptions. While some countries benefited from globalisation by combining economic growth and improvements in health conditions (China, Costa Rica, emerging East Asian countries), others failed to achieve the expected economic results and experienced a slower improvement in health conditions – sometimes even a decline. Economic crises (Argentina, Mexico, and Russia) curbed investments in social services and reduced access to essential medicines for disadvantaged populations.

On the whole, the African continent – particularly Sub-Saharan Africa – remains the last major world region where mortality rates – particularly infant mortality rates – continue to be very high and life expectancy low¹. This situation calls for a closer examination of the health and environmental conditions in Sub-Saharan Africa. Particular attention must be paid to nutritional and sanitation conditions, the accessible health infrastructure and personnel and to the health policies adopted at the national and regional level. This chapter provides preliminary information for this study as well as an overview of the main diseases affecting the Sub-Saharan and West African population, the progress achieved in combating them and the challenges that remain.

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www.atlas-westafrica.org

1. Sahel and West Africa Club/ ECOWAS (2007) *Demographic Trends*, Atlas on Regional Integration in West Africa.

I. Some Points of Reference

1.1 Internationally

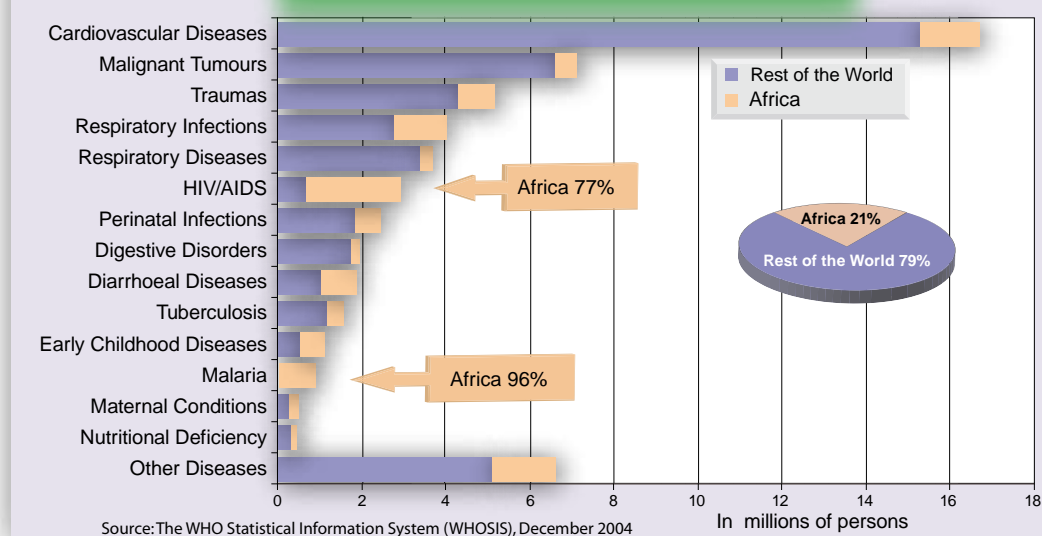
In 2002, the World Health Organization (WHO) recorded 57 million deaths in the world; among them, 17 million (i.e. almost one third) were due to cardiovascular diseases. Infectious diseases were the second main cause of mortality (11 million), especially respiratory infections (4 million), AIDS (Acquired Immunodeficiency Syndrome, 2.9 million) and malaria (0.9 million). These were followed by malignant tumours – responsible for more than 7 million deaths, while traumas caused more than 5 million deaths in 2002.

While the sustainable increase of **life expectancy** at birth is continuing in most countries throughout the world, the trend seems to be slackening in several African countries, with some reversals in certain cases due to AIDS.

Definition

Health-adjusted **life expectancy** (HALE) represents the year-equivalents of full health that an individual can expect to live if exposed at each age to current mortality and morbidity patterns.

Figure 1. Main Causes of Mortality in the World and Distribution in Africa in 2002



1.2 Within Africa

AIDS remains the main cause of death in Africa, with 2.3 million estimated deaths in 2002, followed by respiratory infections, cardiovascular diseases, and malaria, each of which accounts for 1 million deaths. Special attention must be paid to diarrhoeal diseases that cause almost 800,000 deaths in Africa annually.

In Southern Africa, which has the highest prevalence level of HIV (Human Immunodeficiency Virus that eventually leads to AIDS), life expectancy has fallen from 62 years in 1990-1995 to 48 years in 2000-2005. It is expected to fall further to 43 years in the coming decade before a slow recovery begins. There will probably be zero demographic growth in the region between 2005 and 2020. In fact, projections for Botswana, Lesotho and Swaziland indicate a decline in the population.



However, the introduction of ARV (antiretroviral) drugs and the increasingly widespread preventative measures that are now taking root in populations' behaviour are expected to contribute considerably to reducing AIDS-induced mortality in the decades to come.

Demographers predict yet another significant hike in global life expectancy, including in Africa, subject to continued efforts in combating not just HIV/AIDS but also other scourges such as malaria, TB and early childhood infectious diseases.

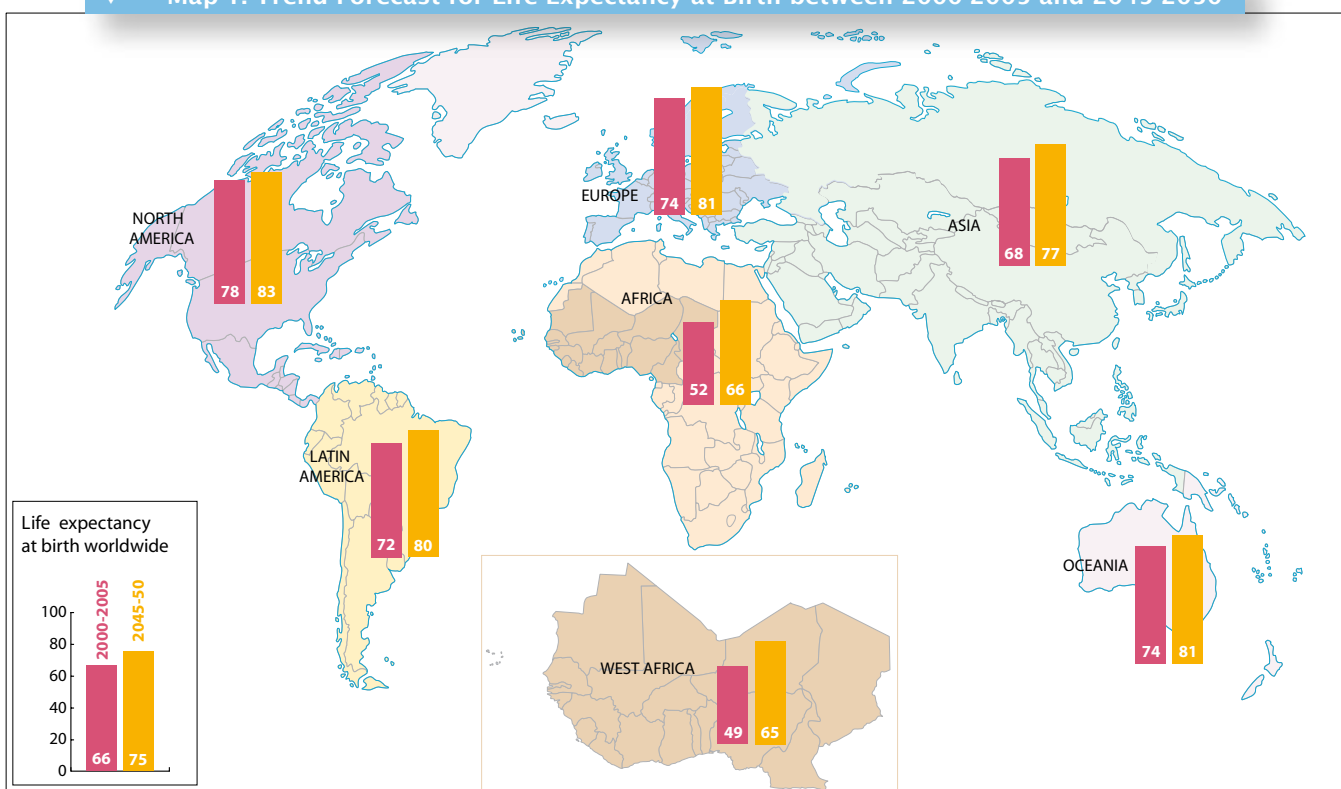
1.3 In West Africa

► Life Expectancy

With the notable exception of Cape Verde, life expectancy at birth in West Africa is below the world average and much lower than in developed countries, where it is now 80 years (see Map 1).

In addition, while many developed countries present relatively similar health-adjusted life expectancy and life expectancy at birth levels, the situation is very different in Africa and consequently in West Africa, where people's health is much more uncertain. Countries such as Burkina Faso, Liberia, Niger and Sierra Leone suffer healthy life year losses as high as 25% of the total life expectancy (see Figure 2). While health-adjusted life expectancy rose quickly between the 1950s and 1970s, there was a slowdown during the last few decades of the 20th century, essentially due to AIDS and other transmissible diseases.

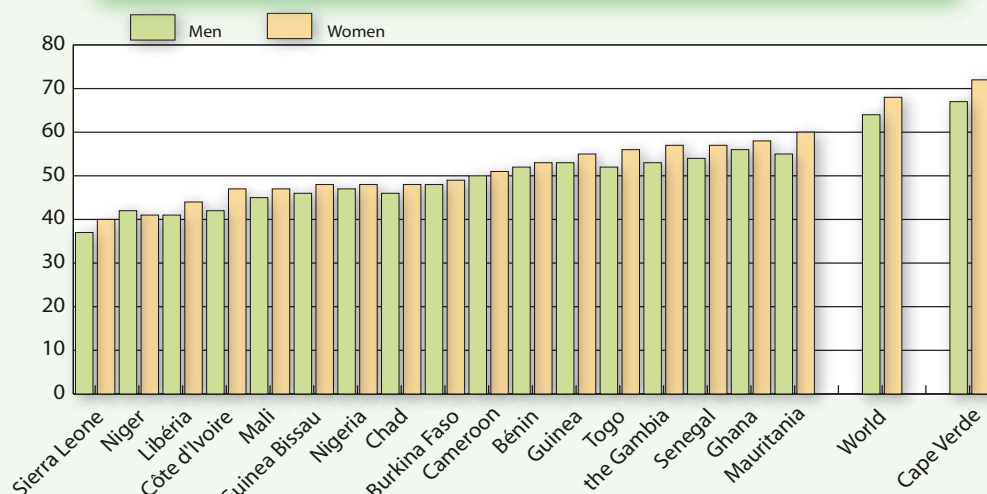
Map 1. Trend Forecast for Life Expectancy at Birth between 2000-2005 and 2045-2050



Source: United Nations, Department of Economic and Social Affairs, Population Division (2007)
World Population Prospects: The 2006 Revision.

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Figure 2. Life Expectancy at Birth for West African Men and Women



Source: WHO, World Health Statistics 2007 Highlights and Tables

► Infant Mortality

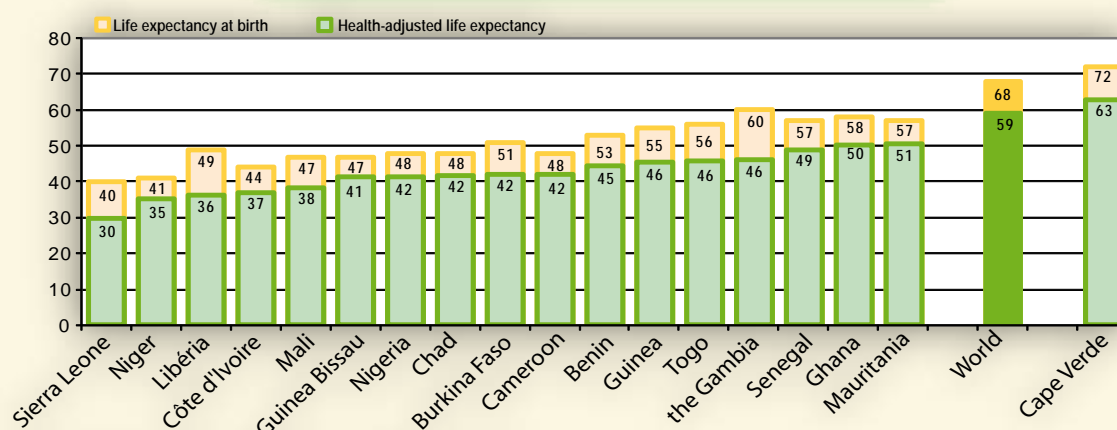
High infant mortality largely explains the gap between life expectancy at birth in Sub-Saharan Africa and in the rest of the world. Sub-Saharan Africa's infant **mortality rate** is about 5 to 6 times higher than Europe's or North America's.

Despite the considerable efforts and progress made (infant mortality has halved since the 1970s), mortality rates among children in the under 5 age group are still very high; one out of every ten Sub-Saharan African children does not live to the age of 1 year (as compared to 1 out of 25,000 in Germany, for example) and one out of ten does not live to be 5 years old. In West Africa, the rates are higher: at 150 per 1,000 live births in Sierra Leone, Liberia and Niger, while with 26 per 1,000, Cape Verde's rate is lower than the world average (51 per 1,000) but still far from the rate of around 5 per 1,000 in developed countries.

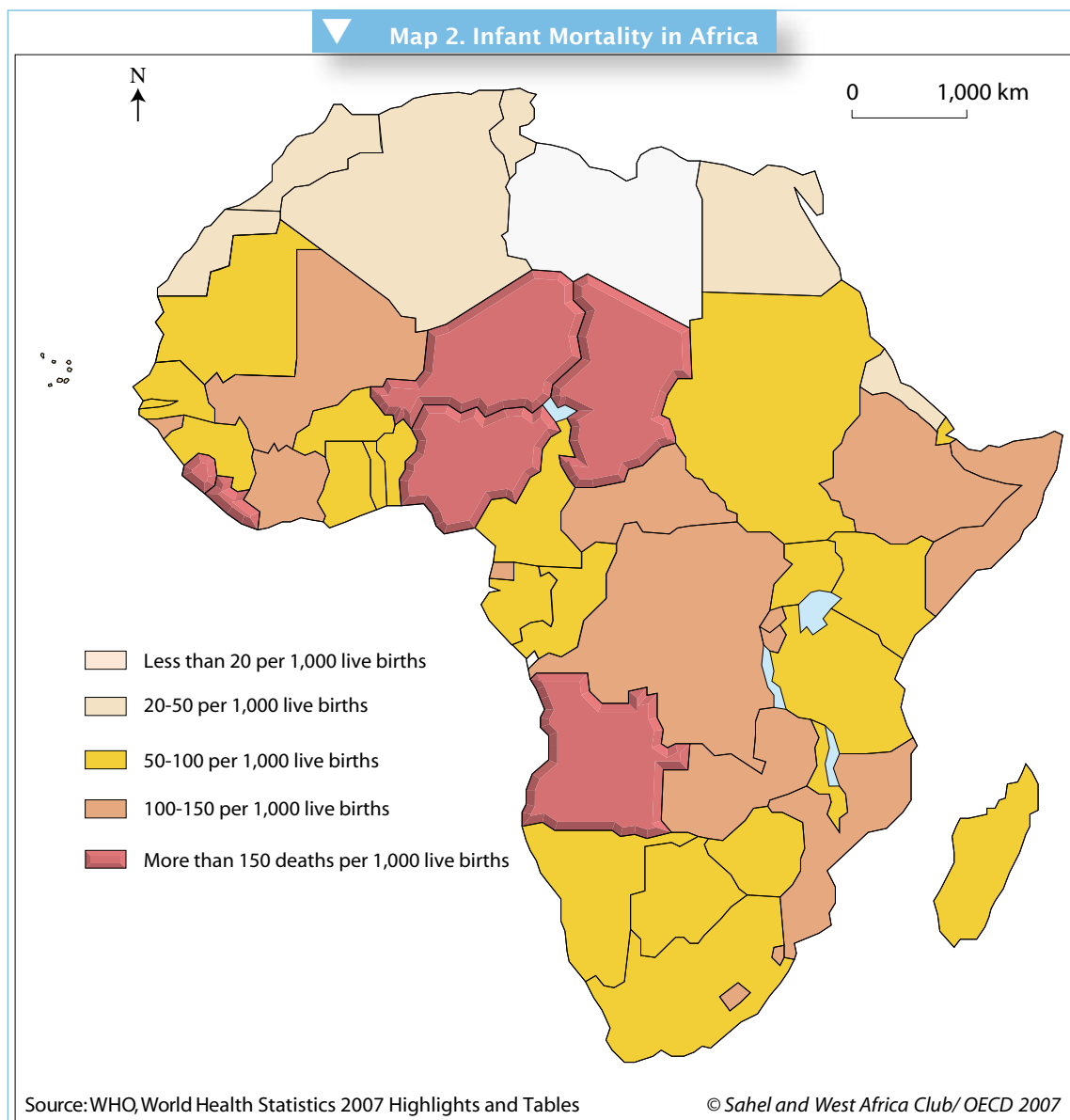
Definition

The **infant mortality rate** is the number of children dying under one year of age divided by the number of live births that year.

Figure 3. Life Expectancy at Birth and Health-adjusted Life Expectancy of West African Women



Source: WHO, World Health Statistics 2007 Highlights and Tables



Apart from perinatal pathologies (accounting for over a quarter of deaths among children below 5 years of age), the main causes of child mortality in this age group are malaria (21%), acute respiratory infections (21%), diarrhoea (16%), measles and malnutrition – often a combination of several of these diseases (see Figure 4).

II. Geography of Diseases in West Africa

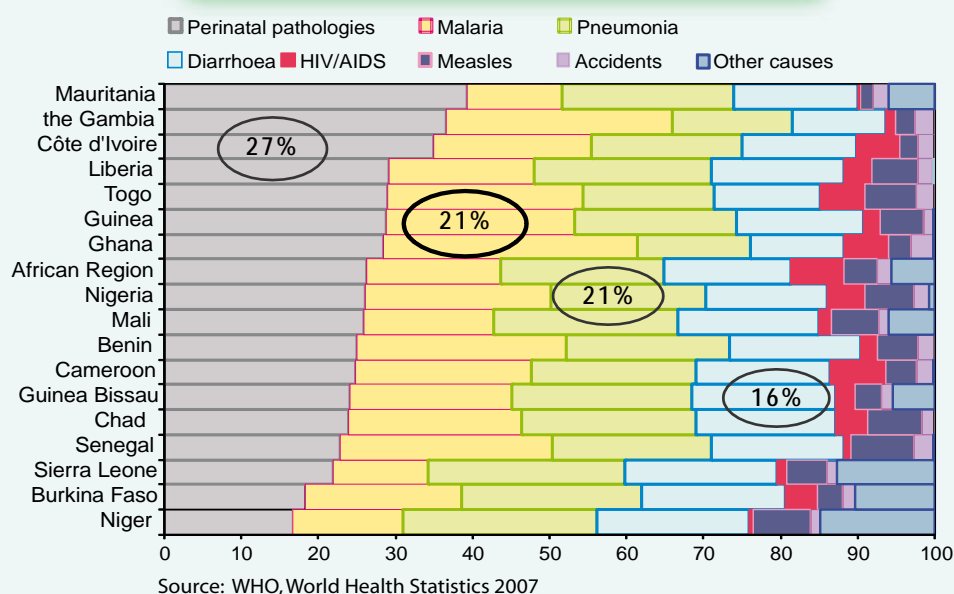
Africa has a warm climate and a rich and varied biosphere, especially in tropical and equatorial regions. Unfortunately, these positive aspects result in the presence of a large variety of diseases affecting many populations.

Malaria is the primary cause of **morbidity** and mortality in West Africa. Other serious tropical diseases include meningitis, cholera, onchocerciasis, trypanosomiasis (100% of world cases), dracunculosis,

Definition

Morbidity reflects the percentage of population exhibiting a certain injury or disease over a given time period (generally 1 year).

Figure 4. Main Causes of Death among Children under 5 Years of Age in West Africa



schistosomiasis, leprosy, yellow fever (90% of world cases) as well as diarrhoeal diseases other than cholera. Acute respiratory diseases and malnutrition complete the landscape of the main pathologies.

Some diseases are present in a specific geographic environment. For instance, onchocerciasis and annual epidemics of meningitis are particularly prevalent in the Sudano-Sahelian region. Other diseases remain limited to a few countries such as Lassa fever in Côte d'Ivoire and Guinea, and Buruli ulcer disease in coastal countries between Côte d'Ivoire and Ghana.

2.1 Encouraging Results

► Poliomyelitis: Towards Eradication

Poliomyelitis, also simply called polio, is an acute infectious disease that is transmitted through contaminated food and water, and multiplies in the intestine, from where it can invade the nervous system and cause paralysis, which is often permanent.

Since the WHO adopted a resolution aimed at eradicating poliomyelitis in 1988, considerable progress has been achieved everywhere in the world, including West Africa. Several immunisation campaigns have reduced the number of countries with endemic poliomyelitis from 122 in 1988 to just 7 in 2003. Since 2003, however, the suspension of the vaccination campaign for religious reasons, notably in Nigeria, has caused a rise in the number of cases in this country as well as in Niger, along with a reappearance of cases in formerly polio-free countries. Thus, polio cases were reported in 2004 in Benin, Burkina Faso, Cameroon, Chad,

Table 1. Number of Poliomyelitis Cases in West Africa

Country	2006	2007
Chad	1	20
Cameroon	2	0
Niger	11	11
Nigeria	1,122	286
Total	1,136	317

Source: www.polieradication.org





Box 1. Vaccination: Remarkable progress

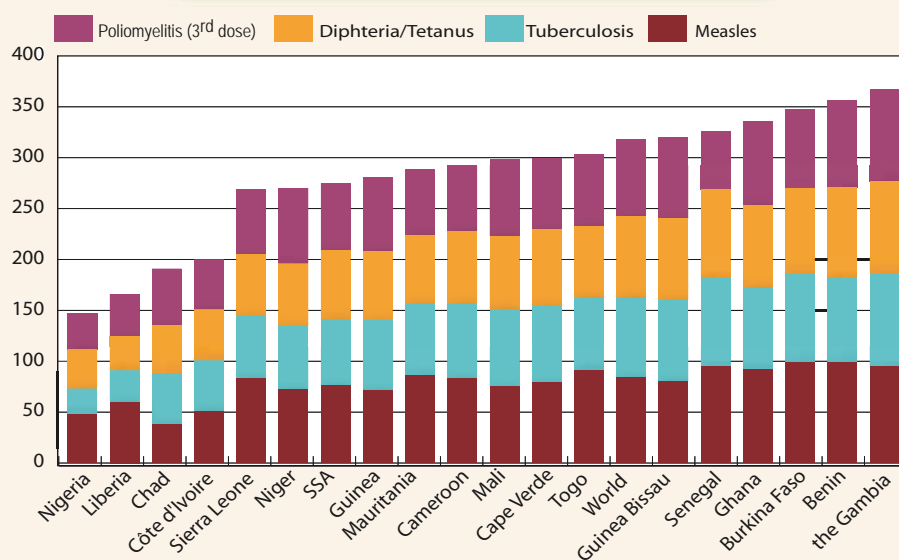
West Africa has achieved tremendous progress in immunisation coverage over the last two decades, with the exception of Chad. This is particularly the case with DPT, BCG and polio vaccines, with the notable exception of Nigeria in the case of polio.

Between 1990 and 2003, several countries considerably improved their vaccination programmes. Niger and Mauritania, with an annual increase of almost 3%, achieved a measles immunisation coverage of respectively 74% and 64%. However, West Africa's coverage overall is by far the lowest in the world. In 2004, only 54% of children were vaccinated against measles. Between 1990 and 2003, vaccine coverage even decreased in Nigeria, as well as in Burkina Faso, Cape Verde and Togo. Only Ghana and the Gambia are likely to achieve a measles vaccination coverage of over 90% in 2010.

While the incidence of childhood transmissible diseases has declined considerably in recent decades, the still fairly low vaccination rates do not allow to forecast their eradication in the near future.

Côte d'Ivoire, Ghana and Togo. In 2005, following renewed immunisation efforts, the number of cases dropped considerably in Niger. Although the number of cases may have decreased substantially in Nigeria (from 1,122 cases in 2006 to 286 in 2007), intense transmission of the wild virus continues in the country.

Figure 5. 2004 Immunisation Coverage – TB, Diphtheria/Tetanus, Poliomyelitis and Measles



Source: The State of the World's Children, Statistics, UNICEF 2007

► Measles: On the Decline

M measles is an acute rash infection, due to a virus of the Paramyxovirus family that essentially affects children from the age of 5-6 months. Contamination occurs through infectious droplets. Measles can be controlled through immunisation.

In 2000, 396,000 Africans died of the measles, accounting for 50% of deaths due to this disease worldwide. In 2006, the figure fell to 36,000 deaths (15% of deaths due to measles worldwide). 80% of deaths occurred in Central and West Africa. The remarkable decline in mortality caused by measles was due to the implementation of a system based on monitoring, preventative vaccination and treatment in 29 countries in 2005, including 10 West African countries. In recent years, epidemics occurred in only less than a quarter of the countries covered by this system: Cameroon (2003-2005), Togo and Benin (2004-2005), and Mali (2004).

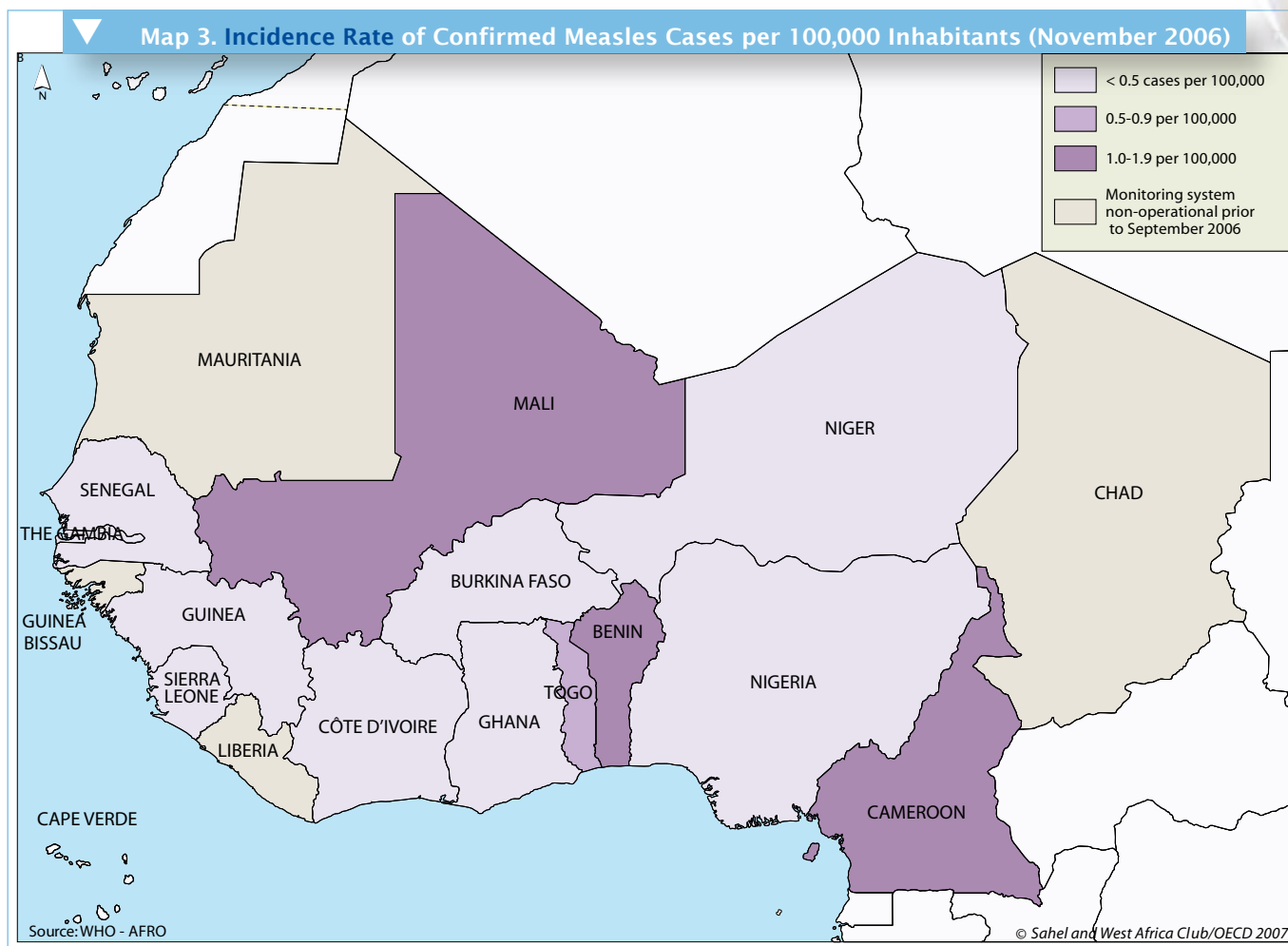
Definition

The **incidence or incidence rate** is the frequency of new cases. It represents the number of new disease cases per population at risk during a given time period. It is one of the indicators of morbidity.

► Neonatal Tetanus: Almost Eliminated

Neonatal and maternal tetanus are caused by an infection with *Clostridium tetani* during deliveries occurring in unhealthy conditions.

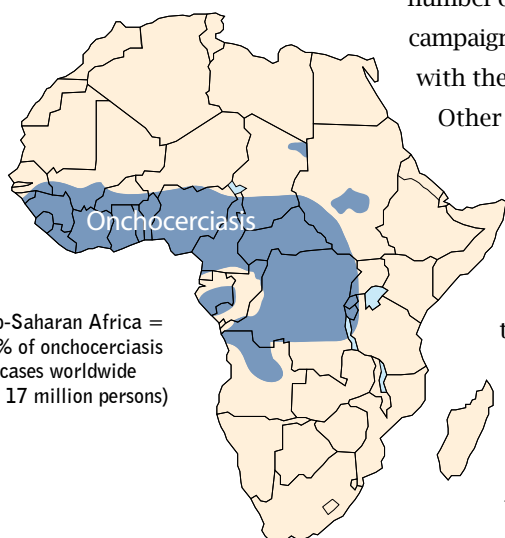
Neonatal and maternal tetanus remains one of the main causes of death for newborns and mothers in Africa. It can be prevented by rigorous



hygiene, immunisation and the administration of antibodies in case of contamination.

Twenty-eight countries account for 90% of worldwide cases. Sixteen of them are in Africa, including 12 in West Africa. Faced with a persistent number of cases reported, the WHO initiated a neonatal tetanus eradication campaign in 2000. Considerable progress was achieved up to 2005, especially with the elimination of the disease in several countries, including Togo.

Other countries, including Benin, Ghana, Guinea and Mali, are very likely to eradicate the disease in the short term.



Sub-Saharan Africa =
99% of onchocerciasis
cases worldwide
(i.e. 17 million persons)



► Onchocerciasis: Considerable Progress

Onchocerciasis or «river blindness» is a parasitic infection transmitted through the bite of an infected black fly of the *Simulium* species. Onchocerciasis causes serious cutaneous lesions and irreversible blindness in its last stage.

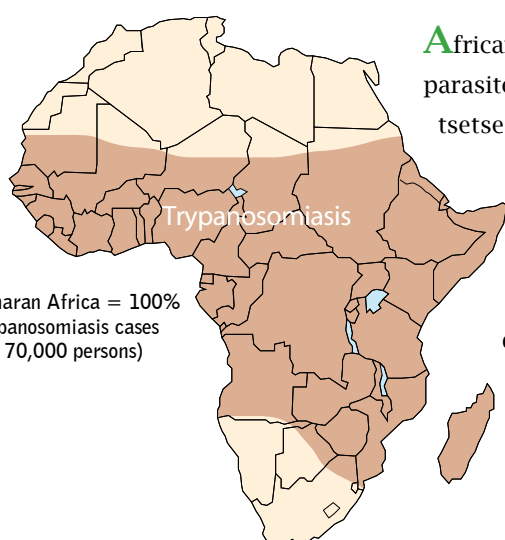
Onchocerciasis is particularly rife in West and Central Africa, with an estimated 120 million people exposed to the disease.

It has a considerable impact on the economies of affected countries as it reduces people's capacity to work and prevents farming in fertile river valleys. The fight against onchocerciasis began in West Africa in the 1970s. According to the WHO, the Onchocerciasis Control Programme (OCP) helped prevent 600,000 new cases in 11 of the region's countries between 1974 and 2002, while over 20 million hectares of arable land along the rivers were freed of this disease.

Capitalising on the OCP experience, a pan-African programme was initiated in 1995, making it possible to protect millions of people and repopulate extensive agricultural areas through preventative measures based on the use of biological larvicides for the antivectional treatment of stagnant waters.

► Trypanosomiasis: Significant Decline in Cases

African human Trypanosomiasis (sleeping sickness) is caused by a parasite transmitted to man through the bite of an infected glossina or tsetse fly.



Sub-Saharan Africa = 100%
of trypanosomiasis cases
(i.e. 70,000 persons)

Trypanosomiasis is one of the most neglected diseases in the world. It affects disadvantaged populations in remote rural Sub-Saharan Africa regions. This disease was almost eradicated towards the mid-1960s, but the slackening of surveillance and discontinuing of antivectional programmes led to its resurgence in several regions over the last 30 years. Almost 40,000 cases were recorded in 1998, but it is estimated that 300,000 to 500,000 more cases remained undiagnosed and untreated. More than 60 million persons are at risk in 36 countries.

Prevalence may vary from one country to another and from one region to another within the same country. In 2005, major outbreaks were observed in Angola, the Democratic Republic of the Congo and Sudan. Transmission seems to have stopped in countries such as Botswana, Burundi, Ethiopia, the Gambia, Guinea Bissau, Liberia, Namibia, Niger, Senegal, Sierra Leone and Swaziland, where no new cases have been reported for several decades. But it is difficult to assess the current situation in several endemic countries for lack of adequate surveillance and diagnostic methods.

The disease is also difficult to prevent and treat. Detection and management of patients requires well-trained staff and well-equipped health centres. Without treatment, the disease inevitably leads to death. In 2000, the WHO set up a surveillance system in endemic countries along with free medical supplies.

In 2005, surveillance was reinforced and the disease's incidence declined considerably throughout the continent: from 27,240 in 2001 to 17,620 in 2004.

Table 2. New Trypanosomiasis Cases Detected in 2004 in West Africa

Countries	
Burkina Faso	2
Nigeria	10
Cameroon	17
Guinea	17
Côte d'Ivoire	72
Chad	483
Total	601

Source: The Weekly Epidemiological Record, 24 February 2006, 81st year - No. 8, 2006, 81, 69-80

Definition

Prevalence means the percentage of persons affected by a certain disease at a given time in a given population. It is one of the indicators of morbidity..

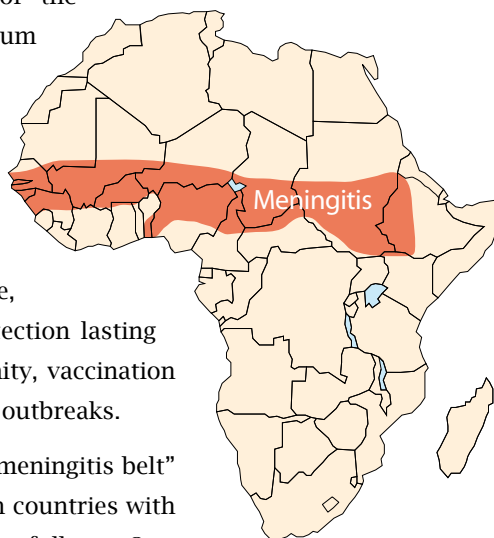
2.2 Three still Highly Active Epidemic Diseases

► Meningococcal Meningitis

Meningococcal meningitis is a bacterial infection of the meninges caused by *Neisseria meningitidis*, a bacterium which is transmitted from one person to another through contaminated droplets of nasal and oral secretions, often emitted by asymptomatic carriers.

In West Africa, the start of each year is marked by meningitis epidemics affecting children and adolescents in particular. Despite the existence of an effective vaccine, there is no routine immunisation. Due to limited protection lasting only for 3 to 5 years and the absence of group immunity, vaccination campaigns are carried out more in reaction to epidemic outbreaks.

The most affected countries are those located in the "meningitis belt" spreading from Ethiopia to Senegal, i.e. Sudano-Sahelian countries with a warm, dry climate. Epidemics occur annually, but also follow a 3-to 5-year cycle, with a very high number of cases in some years alternating with less intense years. 1997 and 2002 were years with high epidemic levels, with 60,000 and over 33,000 reported cases respectively and a 13% **lethality** rate in 2002 in Burkina Faso. Fewer cases were reported in 2005 and 2006 (less than 6,000 in 2006). On the other hand, in 2007, there were once again major epidemics with more than 38,000 cases reported, including over 26,000 in Burkina Faso. Lethality was 8% and varied extensively between less than 3% in Ethiopia and 25% in Côte d'Ivoire. Over the last few years there has been an emergence of a highly



Definition

The **lethality** is the ratio between the number of deaths due to a disease and the number of persons affected by this disease.

aggressive *Neisseria* strain, the NM W135, which could be one of the factors responsible for the high lethality recorded in some of these countries.

New polyvalent vaccines against several strains of *Neisseria meningitidis* should be effective for a longer term and could be used in routine vaccination programmes, which would make it possible to eliminate major meningitis epidemics in a relatively near future.

► Cholera



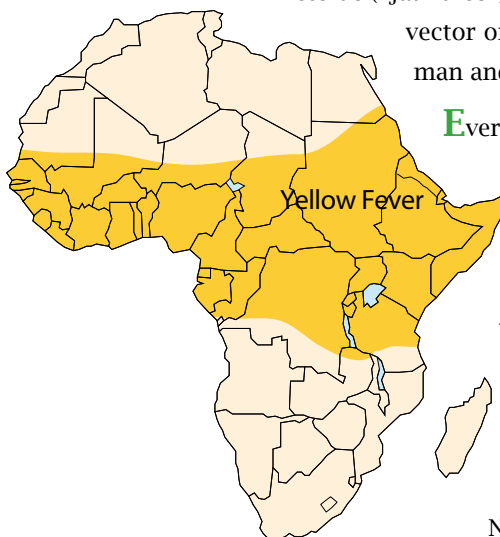
Cholera is a diarrhoeic disease caused by *Vibrio cholerae*, a curved-rod shaped bacterium that was discovered in 1883. The most acute form is fatal in over half the cases if left untreated (from a few hours to three days). Contamination is oral, of faecal origin, through drinking water or contaminated food items.

In 2005, the WHO reported 130,000 cholera cases in the world, with 95% in Africa and 60% in West Africa alone. Linked to poverty and unhealthy sanitary conditions, the disease breaks out every year, particularly during the rainy season.

Characterised by severe diarrhoea and dehydration, cholera leads to the death of approximately 1% of those infected, particularly young children and the elderly, who are more fragile. A vaccine is available, but only offers partial, short-term immunity. Since 1970, West Africa has suffered periodic epidemic outbreaks. More serious outbreaks occurred during the first few years of the 21st century in most of the region's countries. In 2007, there were major outbreaks in Senegal, Sierra Leone and Guinea, among others, due to the widespread floods affecting the region.

► Yellow Fever

Yellow fever is a viral haemorrhagic disease caused by the amaril virus, a member of the Flaviviridae family. The qualifier «yellow» is due to the icterus («jaundice») observed in some patients. Mosquitoes are the main vector of the disease, which is transmitted from monkeys to man and then from man to man.



Every year, approximately 200,000 people across the world suffer from yellow fever, which causes about 30,000 deaths, most of which in Africa. Despite the existence of an effective vaccine, practically all West African countries are considered at risk of yellow fever epidemics. After a strong resurgence of the disease in the 1980s, the yellow fever vaccine's introduction in the routine vaccination schedule as well as the intensification of surveillance helped reduce the number of cases substantially.

Nevertheless, epidemic outbreaks recur regularly: in 2005, Cameroon, Côte d'Ivoire, Ghana and Guinea reported confirmed cases of yellow fever.

2.3 Persistent Scourges

► Malaria: A Stubborn Disease

Malaria is a mosquito-borne disease caused by *Plasmodium*, a parasite transmitted through the bite of a female anopheles mosquito, leading to fever, pain and sweating.

In 2005, malaria caused over one million deaths across the world, over 90% on the African continent, home of the most severe form of malaria, caused by *plasmodium falciparum*, as well as of the most formidable malaria-transmitting mosquito species.

It is also in Africa that the highest degree of pharmacoresistance is found, as more affordable classical medicines are becoming increasingly ineffective against malaria in most African countries.

Finally, most African countries neither have the infrastructure nor the resources necessary to organise effective and sustainable anti-malaria campaigns.

Malaria is one of the primary causes of infant mortality in children below the age of 5 in Africa (21%). It is also responsible for 40% of public health expenditure, for over 30% of hospital admissions and 50% of external consultations in high transmission areas.

In addition, malaria also has negative impacts on the economy. Economic growth in high transmission countries has always been lower as compared to malaria-free countries. In fact, economists hold it responsible for an annual growth deficit of up to 1.3%.

Over a third of reported malaria cases occur in West Africa.

Their distribution indicates a very strong concentration of cases in Nigeria and Ghana, which alone account for 40% of reported West African cases.

Decades of fighting malaria, including prophylactic and curative treatments, vector control measures (larvicides, insecticides, mosquito nets, etc.) and continuing education have not succeeded in reducing this disease's toll. Recently, the parasites' growing chemoresistance, DDT's (modern insecticide) discontinuation and the construction of artificial dams for agriculture have kept malaria among the topmost African diseases. At the same time, efforts towards the creation of a vaccine have been in vain, as the latest results only provide partial and brief protection. Over the last few years, the Global Fund's integrated and extensive malaria control approach, including DDT's reintroduction, as well as the advent of new, more effective medicines, have raised hopes of controlling malaria, if not eradicating it.

New approaches in malaria control include mosquitoes that are genetically modified to destroy the plasmodium, biological larvicides such as **Bti** or **Neem**, etc.

Definition

The *Bacillus thuringiensis* var. *israelensis* H-14 or **Bti** is a bacterium that produces a toxin fatal to insect larvae, but completely safe for humans and the environment.

Neem is a tree that has long been known for its anti-malaria properties.

A decoction of its leaves or roots is used in malaria prevention and treatment.



Box 2. The Global Fund to fight AIDS, Tuberculosis and Malaria

was set up to substantially increase resources for the fight against these three most devastating diseases in the world and to direct these resources towards the regions that needed them most. In 2000, leaders of the G8 countries initiated the establishment of a Global Fund for raising and directing resources following the identification by several public health experts of a number of effective measures to prevent and treat AIDS, tuberculosis and malaria that could change the evolution of these diseases if they were implemented at a large scale. In 2002, the Global Fund's Board approved the first Round of grants to 36 countries.

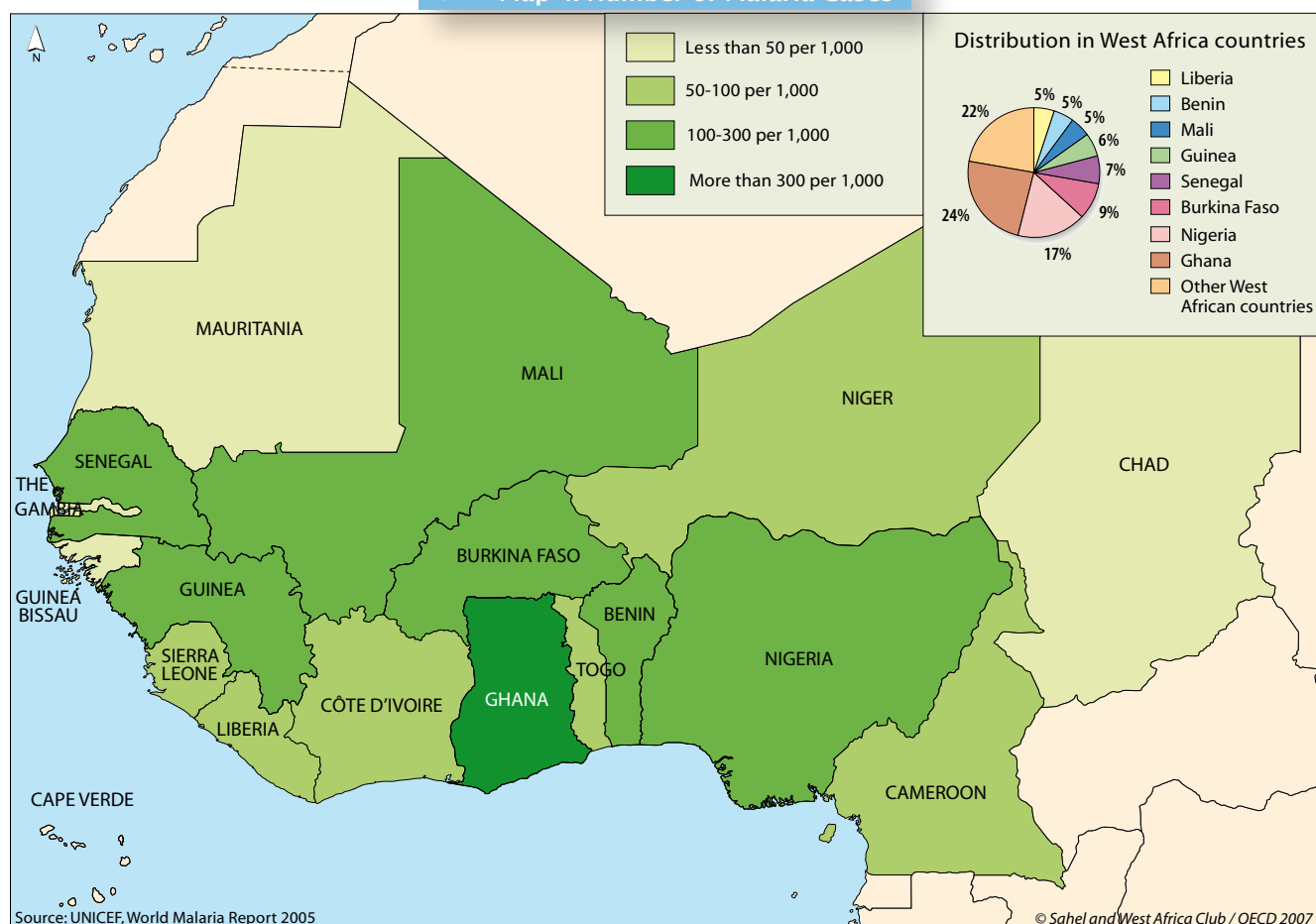
► HIV/AIDS: A certain stabilisation

HIV stands for Human Immunodeficiency Virus. The virus destroys certain lymph cells that defend the body against micro-organisms and cancer cells, thus impairing the body's immune system. Opportunistic infectious diseases and certain cancers may then develop. When a person is affected by a series of such diseases, they are said to suffer from AIDS, the Acquired Immunodeficiency Syndrome. An HIV positive person is one who develops antibodies following an HIV infection. An HIV positive person does not necessarily have AIDS.

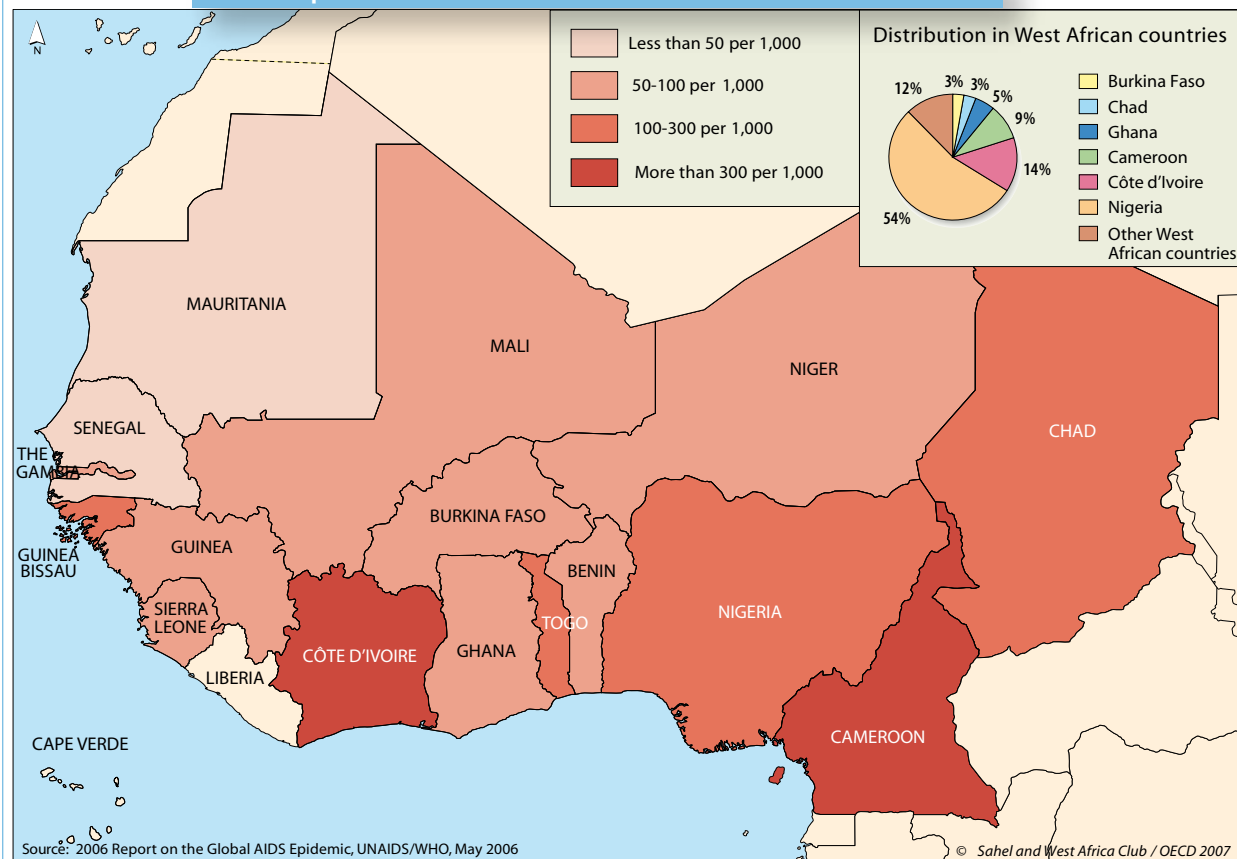
HIV can be transmitted through sexual intercourse, blood transfusions, and from mother to child during birth or during breast-feeding.

AIDS in Africa has had an unprecedented devastating impact: life expectancy has fallen drastically, millions of children have been orphaned, health professionals are being decimated by the disease and economies are being destroyed. Despite the introduction of highly active antiretroviral drugs and the significant reduction in their prices, it is essentially developed countries that continue to benefit from these treatments to which only a fraction of HIV positive Africans have access. In June 2006, 6.5 million persons

▼ Map 4. Number of Malaria Cases



Map 5. AIDS Cases and Prevalence in West African Adults



needed antiretroviral drugs, to which only 25% in low and medium income countries had access.

Contrary to developed countries, women and girls are the most affected in Africa and the disease is predominantly transmitted through heterosexual intercourse.

West Africa is less affected than the continent's southern and eastern regions, but no West African country is left untouched, with Côte d'Ivoire being the most affected: 7.1% of its adult population is estimated to be HIV positive.

The screening and care of HIV positive persons is still largely insufficient. The stigmatisation of people living with HIV is a strongly de-motivating factor for screening. The cost of antiretroviral treatments is out of reach for most patients.

Prevention campaigns are being carried out to make people aware of the importance of safer sexual behaviour and the prevention of mother-to-child transmission. Finally, the significant fall in antiretroviral prices and funding of larger-scale distribution programmes have at least led to improved if not widespread access to these drugs.

Over the last few years, the epidemic has stabilised in most of the region's countries, along with reduced HIV prevalence in Burkina Faso

Sub-Saharan Africa =
67% HIV cases
(i.e. 22.5 million persons)



Sub-Saharan Africa =
25% of TB cases
(i.e. 2.4 million persons and
0.5 million deaths per year)

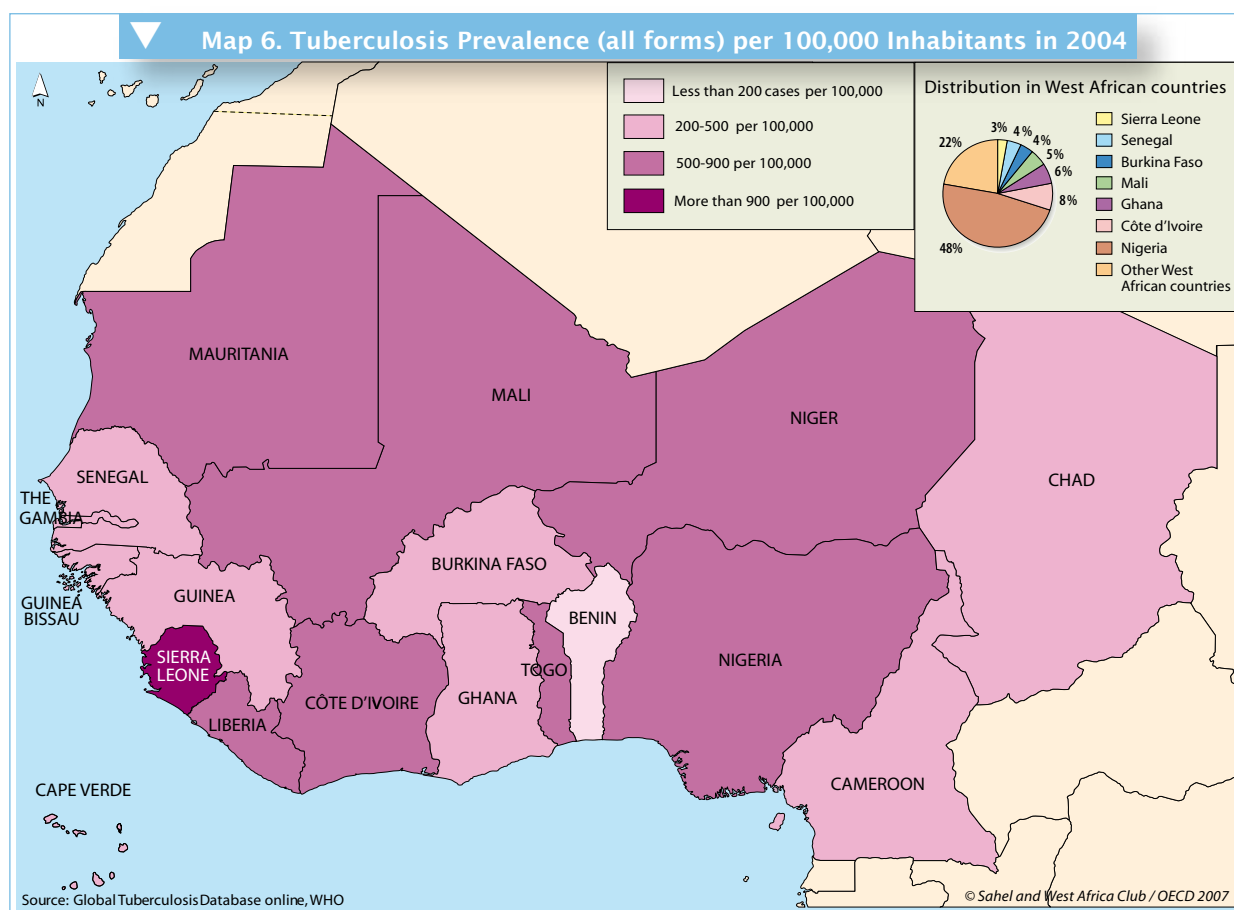
and Togo's urban areas. A similar trend has been observed in other African countries, in particular Uganda, Kenya and Zimbabwe, especially in adults of reproductive age. Similarly, surveillance studies of West Africa's sex workers indicate a fall in prevalence and often increasingly safer sexual behaviour.

Condoms have become commonplace and countries are taking measures to protect girls – potential AIDS victims due to early marriages and dangerous traditional sexual practices.

► Tuberculosis: A Continuous Increase in the Number of Cases

Tuberculosis or TB is a chronic infectious disease caused by a mycobacterium, mainly *Mycobacterium tuberculosis* or Koch's bacillus (KB). The infection mainly affects the lungs but may also affect other organs.

A disease associated with poverty, partially controlled by vaccination, TB is re-emerging in Africa, particularly due to HIV infection and the consequent immunodeficiency. The number of TB cases has increased by 10% annually in Africa, and in 1999, two thirds of the 2 million new TB cases patients were also infected by HIV. Conversely, in Sub-Saharan Africa, almost 50% of people living with HIV develop TB. Moreover, HIV patients develop pharmacoresistant forms of TB more easily. On a global scale, AIDS is the only infectious disease that kills more adults than TB.



2.4 Emerging diseases

► Dengue

Dengue, an infectious viral disease transmitted by mosquitoes, is rife in the planet's tropical and sub-tropical regions, with a propensity for urban and peri-urban areas. Approximately 2.5 billion people, i.e. 2/5 of the world's population, are now at risk. According to the WHO's current estimates, there could be 50 million dengue cases in the world every year, with an approximately 5% lethality ratio. Dengue, which can take a haemorrhagic form, a potentially fatal complication, is active today in over 100 countries, including Burkina Faso, Côte d'Ivoire, Guinea, Nigeria and Senegal. However, so far dengue has not caused any major epidemics in Africa.

► Lassa fever

Lassa fever is an acute haemorrhagic fever that occurs in Western Africa. The disease was discovered in 1969 in Lassa, Nigeria. It is caused by a virus that is endemic in some West African regions (Guinea, Liberia, Sierra Leone and Nigeria), but it has the potential to spread to all of West Africa, wherever the rodent species that are its carriers are found. Most infections (approximately 80%) are asymptomatic. The number of Lassa virus infection cases in West Africa is estimated at over 300,000 per year, with about 5,000 deaths per year. In Sierra Leone and Liberia, over 10% of patients admitted to hospitals suffer from Lassa fever. It has about a 15% lethality rate among hospitalised patients. In fact, mortality rates are particularly high for pregnant women, particularly in the third trimester, as well as for their foetuses, 80% of which die *in utero* if infected.

► Avian flu

In 2006, Nigeria was the first African country to report H5N1 strain avian flu cases. The virus was isolated in several regions, including along the border with Niger, Cameroon and Benin. Niger and Cameroon soon followed, confirming the presence of the H5N1 strain in regions bordering Nigeria, then Burkina Faso and Côte d'Ivoire. In 2007, Ghana, Togo and Benin were added to the list of affected West African countries. While the virus was introduced through wild birds in Africa, it seems that its spread was caused by commercial activities. However, the infection seems limited to birds and the aggressive measures taken during each outbreak succeeded in limiting the epizooty's spread.

Living and housing conditions (close cohabitation with poultry) create a predisposition for H5N1 infections in humans, mainly women and children who are most often in direct contact with poultry, which makes



them more vulnerable. Even if the best health care conditions are provided, these infections have a very high lethality rate (over 50%).

► Buruli ulcer disease

Buruli ulcer disease is a subcutaneous tissue infection caused by the *Mycobacterium ulcerans*, which causes deep ulcerations and necroses. Buruli ulcer disease has an enormous socio-economic impact on affected populations and constitutes a serious public health problem in terms of morbidity, treatment and functional disabilities. Although spontaneous healing may take place, it occurs after months of progression and leaves affected patients with deep scarring, retractions and deformations.

Since 1980, the disease's detection rate has risen considerably. The disease often occurs in isolated areas and affects children in the 10-14 age group, in particular. Buruli ulcer disease has been reported in 30 tropical countries, including Australia, but West Africa remains the most affected region: 5,700 cases between 1989 and 2003 in Benin and 17,000 between 1978 and 2003 in Côte d'Ivoire, where prevalence reaches 16% in some villages. In Ghana, 5,600 cases were detected during a national survey in 1999.

III. Progress and hope

Measures such as increased epidemiological surveillance, improved access to health care and healthy living conditions, education for disease prevention with a special focus on women and girls, children's vaccination, priority to peri-natal and paediatric health services can help change Africa's image in the health sector. Among the many diseases that decimate Africa's population, many are becoming rarer or even being eradicated in several countries. Thus, the incidence of poliomyelitis is no longer significant, except in Nigeria. Yellow fever also seems well on the way to being wiped out and recently, most of the epidemics declared have been rare and not so widespread. Leprosy, a disease that had taken a terrible toll in Africa, has almost been completely eradicated (less than 1 case/100,000 inhabitants reported per country). Onchocerciasis is also under control. With regard to HIV/AIDS, decades of global prevention and mobilisation efforts have finally succeeded in slowing down the epidemic.

The progress made in combating transmissible diseases and in improving access to health services has resulted in the substantial reduction of infant mortality, which has decreased two-fold since the 1970s. Continued efforts by African countries and the international community are necessary to maintain and further these achievements, in order to enable Africans to have decent living conditions.



However, continued vigilance is needed as the fight against these major communicable diseases is far from over – the resurgence of some diseases, such as tuberculosis, proves as much. Interruptions in vaccination campaigns (poliomyelitis in Nigeria), the emergence of AIDS, and the discontinuation of vector control efforts (trypanosomiasis) are all destabilising factors that can erase the fragile victories of the past few decades.

Increasing the number of health workers and strengthening their capacities are essential factors in controlling disease: according to estimates, West Africa has **0.12 doctors per 1,000 inhabitants** on average, as compared to 2.3 in the United Kingdom, for example, or 5.9 in Cuba (a world record). In other words, on average, **1 doctor is available for 8,300 inhabitants in West Africa**, as compared to 1 for 435 in the United Kingdom.

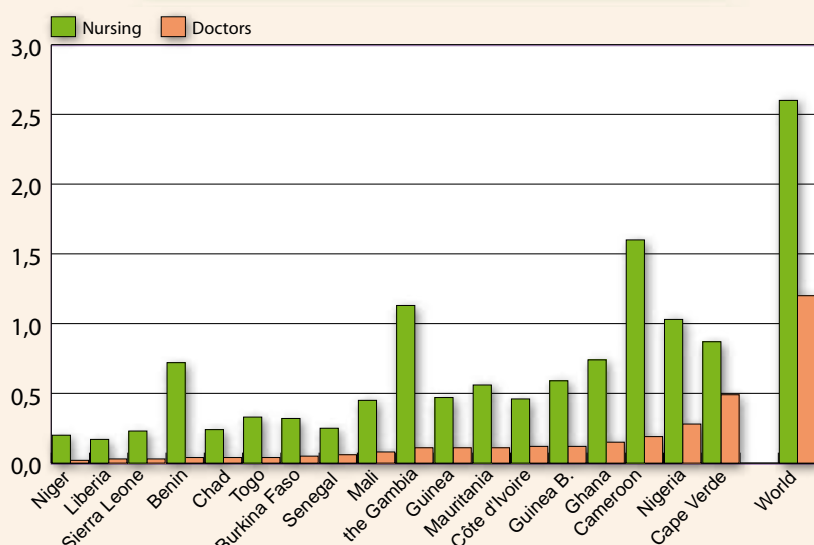
In addition, there are wide regional disparities. 70% of West Africa's doctors are found in Nigeria alone, which houses 45% of the region's population. Cape Verde enjoys by far the best position (1 doctor per 2,000 persons), whereas the situation in countries such as Niger, Liberia and Sierra Leone is critical (less than 1 doctor per 33,300 inhabitants). Some progress has been made in Cameroon and Senegal, but the situation needs to be improved further.

Access to sanitation and drinking water are also essential factors. In Africa, only 60% of the total population has access to drinking water (85% of the urban population and 45% of the rural population),

Box 3. Tradipractitioners

Tradipractitioners (traditional healers) are still on services. In Ghana, for instance, there is one tradipractitioner per 10,000 inhabitants, whereas there is just 1 doctor per 20,000 inhabitants. Tradipractitioners are cheaper and culturally closer to the population than modern health care, but the quality health care has led to the marginalisation of traditional healers, making them illegal. New movements have developed a trend by promoting scientific research in traditional medicine. By using various natural resources, such as medicinal plants, and providing support and training, traditional healers could be integrated into the health system. They could also contribute to information, education and the use of medicinal plants and other natural resources. This could have a positive impact on the population, not only in terms of accessibility, but also in terms of community development and traditional knowledge.

Figure 6. Country-wise Distribution of Doctors and Nursing Personnel per 1,000 Inhabitants

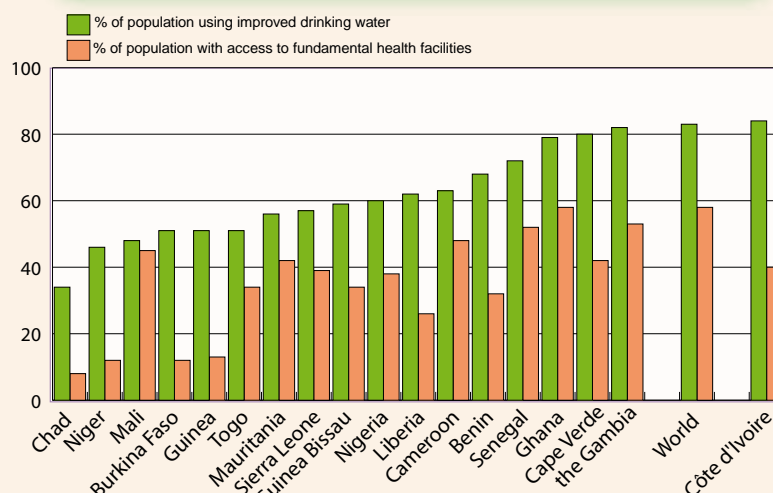


Source: WHO, World Health Statistics 2007 Highlights and Tables



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Figure 7. Access to Safe Drinking Water and Sanitation



Source: WHO, World Health Statistics 2007, Highlights and Tables

though a slight improvement has been recorded as compared to 1990, particularly in West Africa.

Diarrhoeic diseases, including cholera, cause almost 800,000 deaths in Africa every year, of which 90% are children under the age of five. 88% of these diseases are caused by mismanaged water quality, inadequate sanitation and deficient hygiene. According to estimates, access to good quality water could lead to a 30% fall in Africa's morbidity rates.

► Health: A regional and global concern

Every country is responsible for providing minimum conditions for its people to develop and for creating an environment conducive to better health: infrastructure investments and good quality health staff in adequate numbers, drinking water and sanitation, a good educational system and good governance. However, some activities need to be coordinated at the regional level, such as the eradication of diseases that can be prevented through vaccination (e.g. poliomyelitis, measles and yellow fever) or endemic disease control (onchocerciasis, trypanosomiasis) in order to ensure that the efforts deployed by one country are not cancelled out by its neighbouring country's negligence. The production of generic drugs or other medical products also needs to be coordinated at the regional level. Finally, the fight against global pandemics such as HIV/AIDS, TB and malaria calls for international programmes, particularly for the establishment of trade agreements assuring access to reasonably priced medicines. Hence, health is both a regional and global concern.





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