Chapter

1

# Context

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**Country Health Systems & Services Profiles** are comprehensive reviews of African countries' health systems and services. Each profile provides an in-depth examination of the organization, financing and delivery of a country's health services. It also looks at health care reforms, assesses health system performance and highlights the challenges that face a health system in Africa. Using the latest data from national, regional and international sources, as well as existing reports and literature, the profiles support policy-makers and analysts working on the development of health systems.

**The African Health Observatory Platform on Health Systems and Policies (AHOP)** is a regional partnership that promotes evidence-informed policy-making. AHOP is hosted by the World Health Organization Regional Office for Africa (WHO AFRO) through the integrated African Health Observatory (iAHO) and is a network of centres of excellence from across the region, leveraging existing national and regional collaborations.

## Abbreviations

DALY ..... disability-adjusted life year
FCT ..... Federal Capital Territory
GDP ..... gross domestic product
ICT ..... information and communications technology
NCD ..... noncommunicable disease
NEWMAP ..... Nigeria Erosion and Watershed Management Project
TFR ..... total fertility rate

## Chapter 1 key messages

- Nigeria is Africa's most populous country, with over 216 million people. The population is growing rapidly, at 2.5% per year, driven by a high fertility rate. Moreover, Nigeria has the largest youth population in the world, with 70% of Nigerians being under 30.
- Nigeria's economy is the largest in Africa, with a gross domestic product (GDP) of US$ 441 billion in 2022. Over 15% of its GDP is generated by the information and communications technology (ICT) sector, creating opportunities for ICT-enabled health services. However, the country struggles with low growth and high inflation rates, as well as unemployment and underemployment, with consequences for health.
- Almost 63% of Nigerians are multidimensionally poor, lacking income, education and access to basic infrastructure, including sanitation and health care. The adult literacy rate is below the regional average.
- Health governance is devolved, in line with Nigeria's existing federal governance structure, into the federal, state and local government levels, with 36 states and the Federal Capital Territory at state level and 774 local government areas. Weak core governance indicators, including control of corruption, freedom of expression and the rule of law, remain causes for concern, with knock-on effects on health system governance.
- Population growth has led to high burdens of both communicable diseases and NCDs and increased pressures on the health system. Enteric infections, respiratory infections and tuberculosis, and maternal and neonatal complications are the primary causes of mortality.
- Nigeria's health outcomes remain poor compared with countries with equivalent or lower health expenditure. Further investment in health system strengthening and addressing socioeconomic challenges is needed to improve health outcomes.

## 1.1 Socio-demographic context

**Figure 1.1.1** Map of Nigeria showing the 36 states and the Federal Capital Territory


Map No. 4228 Rev. 1 UNITED NATIONS
August 2014

Department of Field Support
Cartographic Section

**Source:** UN, 2014

Nigeria, located in West Africa, comprises 36 states and the Federal Capital Territory (FCT), and occupies an area of 923 768 km$^2$ (910 768 km$^2$ of land and 13 000 km$^2$ of water) (CIA, 2022). As shown in Fig. 1.1.1, it is bordered to the north by Niger, to the west by Benin, to the east by Cameroon and Chad, and to the south by the Gulf of Guinea (Udo, 2021; CIA, 2022). It shares maritime borders with Equatorial Guinea, Ghana, and Sao Tome and Principe.

Nigeria is the most populous country in Africa, with an estimated population of 216 million in 2022 and projected to hit 233 million by 2025 at a growth rate of 2.5% per annum (UN, 2022). Half of the world's population growth is expected to be concentrated in Nigeria and eight other countries by 2050 (Macrotrends, 2022b). Nigeria's rapid population growth (Table 1.1.1) is linked to its high total fertility rate (TFR) of 5.14%. Although in decline, its TFR is among the highest in the world (Macrotrends, 2022a).

Nigeria has the largest youth population globally (Worldometer, 2022), with 70% of its population being under 30 (Table 1.1.1 and also Figure 1.1.2), with a median age of 18.1 years; 49.3% of the population is female (World Bank, 2022e). The high proportion of young people in Nigeria presents potentially huge demographic dividends for the economy, but these are underexplored (Abubakar et al., 2022). It also presents significant challenges for the health system, however, including increased pressure on services and a dual burden of infectious and noncommunicable diseases (NCDs). Environmental deterioration and urbanization as a result of population growth have further knock-on effects on social inequities, sanitation and ultimately health outcomes (Adesola et al., 2024).

**Table 1.1.1** Trends in population and demographic indicators (selected years)

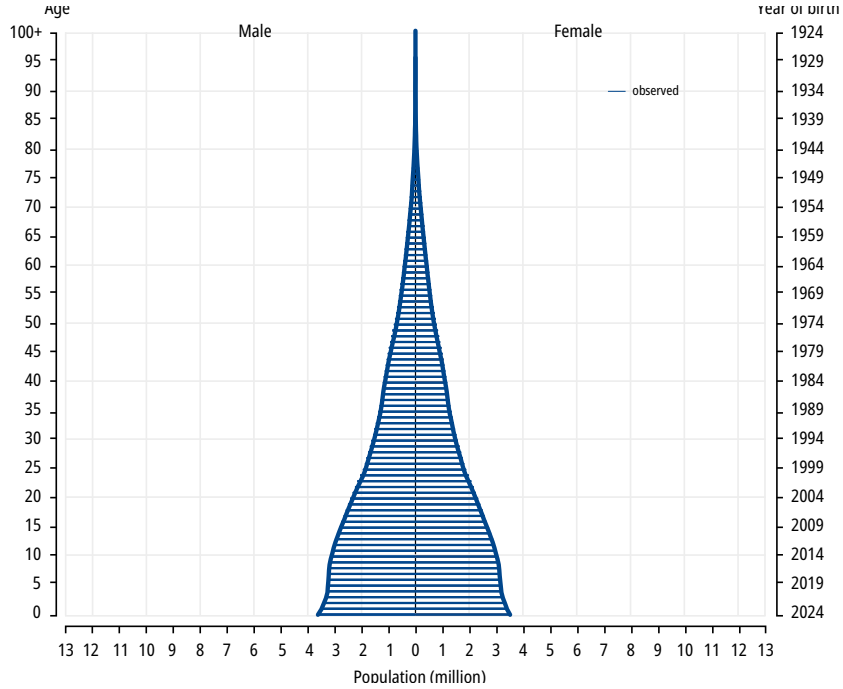
| | 2010 | 2015 | 2020 | Latest available year | African regional average (latest available year) |
|---|---|---|---|---|---|
| **Total population (thousands)** | 158 503 | 181 137 | 206 140 | 216 000 (2023) | 1 162 658 (2021) |
| **Population aged 0–14 (% of total)** | 44% | 44% | 43% | 40.7% (2023)[a] | 41.6 (2021) |
| **Population aged 15–24 (% of total)** | 19% | 19% | 19% | 19.6 (2021) | 19.5 (2021) |
| **Population aged 25–59 (% of total)** | 32% | 32% | 33% | 34.2 (2021) | 33.9 (2021) |
| **Population aged 60 and above (% of total)** | 5% | 4% | 5% | 3 (2021) | 5 (2021) |
| **Population density (people per km²)** | 174 | 198.8 | 226.3 | 234.3 (2021) | 49.3 (2021) |
| **Population growth (average annual growth rate)** | 2.65 | 2.67 | 2.59 | 2.53 (2023)[a] | 2.47 (2021) |
| **Fertility rate, total (births per woman)** | 5.91 | 5.74 | 5.42 | 4.57 (2023)[a] | 4.52 (2021) |
| **Distribution of population in thousands (rural/urban)** | 89 586/ 68 917 | 94 485/ 86 652 | 99 034/ 107 106 | 100 840.5/ 112 560.5 (2021) | 662 117/ 500 541 (2021) |

**Sources:** [a]CIA, 2023; all other data: World Development Indicators (World Bank Group, 2024)

There are multiple ethnic groups in Nigeria, the three most prominent being Hausa, Yoruba and Igbo (Table 1.1.2), dominant in the north-western, south-western and south-eastern regions, respectively. Although over 500 indigenous languages are spoken, English is the official national language (pidgin English is widely used all over the country). The dominant religions are Christianity and Islam. A small proportion of the population does not identify as either Christian or Muslim (CIA, 2022).

The adult literacy rate is 62% (Table 1.1.2), which is below the regional average of 67%. However, there has been a 10.9% increase in literacy since 2008 (World Bank, 2022d). There are also high rates of out-of-school children and illiteracy in many parts of Nigeria, with the highest rates in northern Nigeria (Agence France-Presse, 2022). The correlation between low education levels and poor health outcomes presents a significant challenge for the health system (Adesola et al., 2024).

**Figure 1.1.2** Population by age and sex in Nigeria, latest available year (2024)




**Source:** UN, 2015b

**Table 1.1.2** Socio-demographic indicators (selected years)

| Indicator | Data | Source |
|---|---|---|
| Major ethnic groupings | Hausa, Yoruba and Igbo | CIA, 2022 |
| Official language spoken | English | CIA, 2022 |
| Other languages spoken | Hausa, Yoruba, Igbo and over 500 additional indigenous languages | CIA, 2022 |
| Main religious groups | Islam, Christianity and others | CIA, 2022 |
| Adult literacy rate (% of people aged 15 and above) | 62.02% | USAID, 2022a |
| Proportion of men completing education (national average) | National average: 62.99%<br>Primary education: 83.5%<br>Lower secondary education: 41.46%<br>Upper secondary education: 67%<br>Tertiary education: 60% | Universal Basic Education Commission, 2018; Dokua Sasu, 2021; National Center for Education Statistics, 2022 |
| Proportion of women completing education (national average) | National average: 63.46%<br>Primary education: 90.68%<br>Lower secondary education: 43.18%<br>Upper secondary education: 53%<br>Tertiary education: 67% | Universal Basic Education Commission, 2018; Dokua Sasu, 2021; National Center for Education Statistics, 2022 |
| Prevalence rates of harmful social practices | Female genital mutilation: 19.2%<br>Gender-based violence: 33%<br>Smoking: 3.70%<br>Use of unskilled birth attendants: 36.2% | NPC and ICF Macro, 2019; Macrotrends, 2022c; UNICEF Nigeria, 2022 |

## 1.2 Economic context

As of 2022, Nigeria's gross domestic product (GDP) was the highest in Africa, at US$ 441 billion, despite the country undergoing two recessions, in 2016 and 2020, caused by the global and national oil production/pricing crisis and the COVID-19 pandemic, respectively (Kolawole, 2022). However, GDP remains suboptimal against an estimated population of over 200 million, when compared with South Africa's GDP of about US$ 420 billion, with a population of 60 million people (Trading Economics, 2022). Nigeria's debt

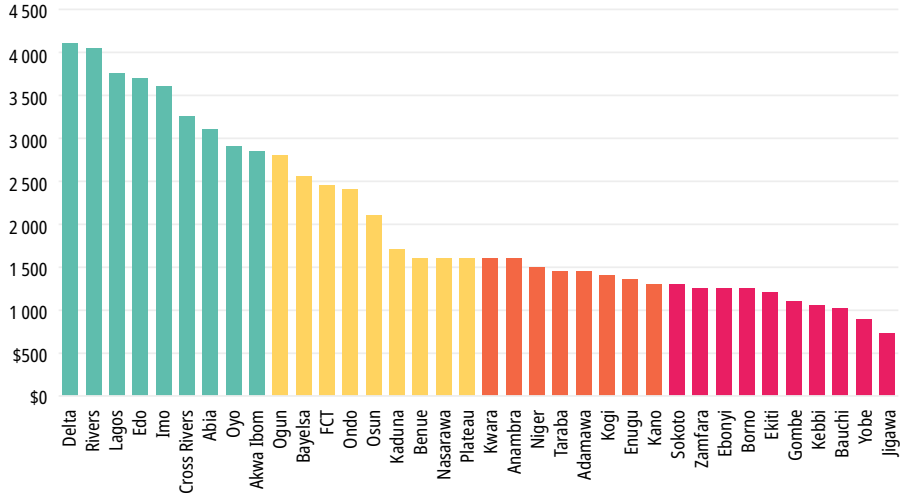
stock keeps rising and government borrowing was forecast to increase by US$ 8.81 billion between 2023 and 2024. Key macroeconomic indicators are set out in Table 1.2.1.

The economy faces challenges of unemployment, underemployment, high rates of food cost inflation and a declining currency value, which have knock-on effects on health (African Development Bank Group, 2022). Unemployment rose sharply between 2015 and 2020, peaking at 5.71% before recovering to 3.07% in 2023 (Table 1.2.1). Consequently, undernourishment and food insecurity

**Table 1.2.1** Macroeconomic indicators (selected years)

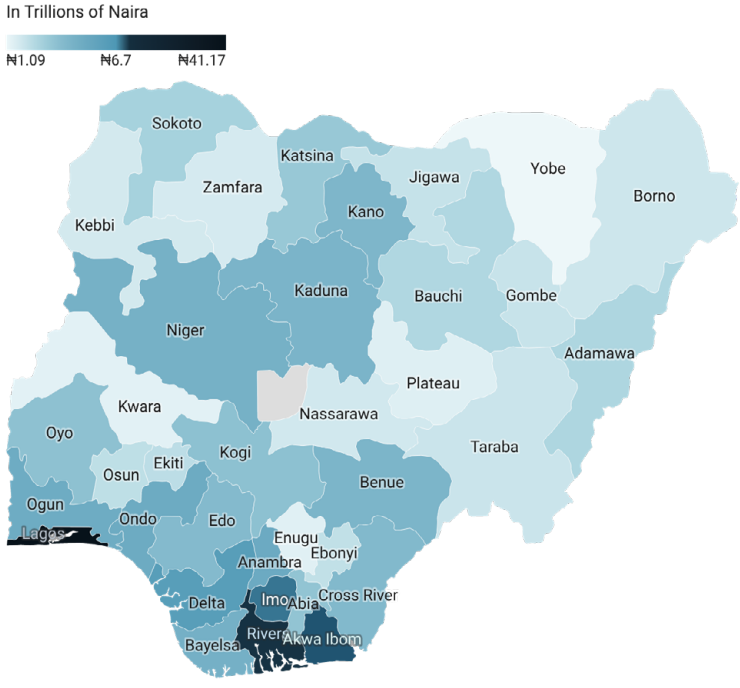
| Macroeconomic indicator | 2010 | 2015 | Latest available year | Source | African regional average |
|---|---|---|---|---|---|
| GDP per capita (current US$) | 2242.87 | 2687.48 | 2184.4 (2022) | IQAir, 2022 | 1690.4 (2022) |
| GDP per capita, purchasing power parity (current international US$) | 4703.2 | 5426.3 | 5860.3 (2022) | World Bank Group, 2024 | 4423.5 (2022) |
| GDP annual growth rate (current US $) | 8 | 2.65 | 0.8 (2022) | World Bank, 2022c | 1 (2022) |
| Public expenditure (government expenditure as % of GDP) | 8.8% | 5.9% | Not available | World Bank Group, 2024 | 1690.4 (2022) |
| Government deficit/ surplus (% of GDP) | –4.17% | –3.80% | –6.44% (2022) | OECD, 2022 | Not available |
| General government gross debt (% of GDP) | 9.6% | 20.3% | Not available | OECD, 2022 | Not available |
| Unemployment, total (% of labour force) | 3.77 | 4.14 | 3.07 (2023) | ILO, 2024 | 6.63 (2020) |
| Poverty rate (people at risk of poverty or social exclusion by age and sex as % of the total population) | Not Available | Not available | 63% (2022) | FGN, 2022d | Not available |
| Income inequality (Gini coefficient of disposable income) | 43 | 37.5 | 35.1% (2019) | NBS, 2022c | Not available |

**Figure 1.2.a** Nigerian states' GDP per capita, 2016 (US$)




**Source:** Presidential Health Sector Reform Committee, 2023

**Figure 1.2.b** Nigerian states by estimated GDP, 2021




**Source:** Data obtained from BudgIT (2022) and created with Datawrapper

have risen, with improvements in malnutrition measures, such as stunting, stagnating (UNODC, 2022). Subnational analyses demonstrate the significant spatial variation in poverty and income inequality levels, which is mirrored by the uneven spread of health provision and outcomes (UNODC, 2022).

Nevertheless, the growth in information and communications technology (ICT) has significantly contributed to the country's economic expansion. The ICT sector accounts for 15–20% of Nigeria's GDP, with predictions of further growth in the coming years (Akintaro, 2022). Access to and usage of internet and mobile technologies has improved substantially, creating opportunities for telehealth, among other ICT-enabled health services (Olayiwola et al., 2020). During the first month of the COVID-19 pandemic and attendant movement restrictions, digital platforms promoting access to high-quality health services recorded a 400% increase in downloads, but scaling up ICT-enabled health services remains challenging (Babatunde et al., 2021).

Fig. 1.2.a shows GDP by Nigerian state in 2016. Estimated GDP by state in 2021 is depicted in Fig. 1.2.b, which also shows the geographical spread of GDP.

## 1.3 Environmental context

Nigeria spans three distinct climatic regions, having a tropical monsoon climate in the south, where cocoa, rubber and palm oil are produced; a tropical savannah climate in the central regions; and the Sahelian hot and semi-arid climate in the north, which produces field crops including millet, maize, sorghum and cotton (World Bank, 2022). Given this geographical variation in climate, Nigeria faces wide-ranging environmental challenges and is ranked among the top 10 most vulnerable nations in the world by the Climate Change Vulnerability Index (FMoE, 2022).

### Environmental challenges

Environmental challenges include desertification (primarily in the north), deforestation, oil spillage, soil erosion (predominantly in the south-east), biodiversity loss and air pollution (Golub, 2018; World Bank, 2021b). In line with global trends, rates of death and displacement due to natural disasters have increased, with epidemics and flooding posing the most significant threats (World Bank, 2021b). In the Niger Delta, gas flaring and degradation of the

environment by oil activities are a major concern. The country ranks among the top 10 countries in the world in terms of gas-flaring prevalence, with knock-on consequences for population health (PWC, 2019).

**Box 1.3.1** Policy responses

In 2018, Nigeria recorded a dangerously high fine particulate matter (PM2.5) reading of 44.84 µg/m$^3$, placing Nigeria in the top 10 most polluted countries in the world. This has since shown a massive reduction, with a reading of 21.40 µg/m$^3$ recorded in 2019 (IQAir, 2022). This positive change can be attributed to several initiatives undertaken by the Nigerian Government. The Federal Ministry of Environment has identified priority areas that have implications for health improvements, including cleaning oil-affected regions, implementing erosion and flood control, implementing waste management and pollution control, and promoting green habitats and wildlife conservation. The ministry signed the Climate Change Bill into law in 2021 (Ladan, 2022) and implemented the Nigeria Erosion and Watershed Management Project (NEWMAP) in over 20 states (FMoE, 2022). NEWMAP is implemented in partnership with the World Bank and has been reported to have had positive outcomes (Usigbe, 2023), which may have contributed to the recent improvement in reported environmental indices. Table 1.3.1 presents trends in key environmental indicators.

**Table 1.3.1** Trends in key environmental indicators (selected years)

| Environmental indicator | 2000 | 2005 | 2010 | 2015 | Latest available year | Source | African regional average |
|---|---|---|---|---|---|---|---|
| Air pollution level ($PM_{2.5}$ air pollution in µg/m$^3$) | 67.5 | 59.6 | 52.6 | 75.4 | 21.40 (2019) | IQAir, 2022 | 44.61 (2019) |
| Use of different fuels: fossil fuel energy consumption (% of total) | 18.4 | 21.6 | 18.1 | 18.8 | 22.2 (2018) | International Energy Agency, 2020; World Bank, 2021b | 39.8 (2015) |
| Combustible renewables and waste (% of total energy) | 77.9 | 73.2 | 75.9 | 74.3 | 74.3 (2015) | IEA, 2020 | 70.57 (2020) |
| Energy use (kg of oil equivalent per capita) | 703.6 | 758.4 | 756.3 | 763.6 | 763.6 (2015) | IEA, 2020 | 687.2 (2015) |

## 1.4 Political context

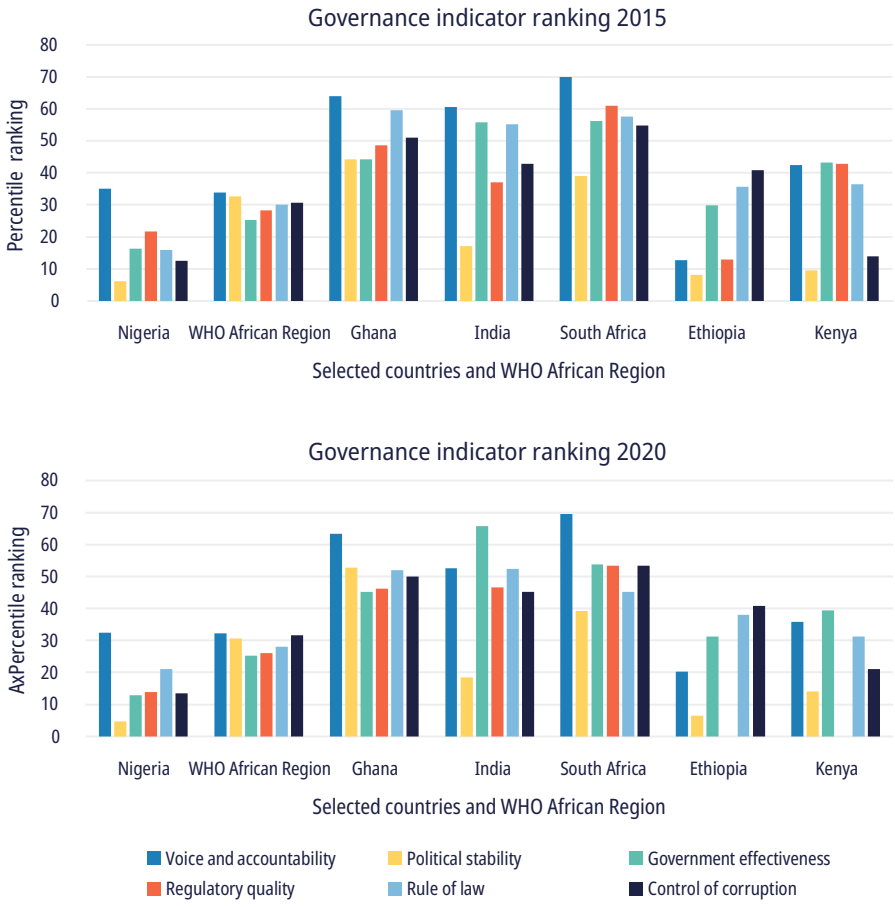
Nigeria is a federal republic with a presidential system of government in three tiers. Power is shared between the federal government at the centre, 36 state governments and the FCT administration, and 774 local government areas, headed by a president, governors and local government chairpersons, respectively (World Bank, 2021c). Each level of government has executive and legislative arms, with the federal and state levels also having a judiciary arm of government. General elections are held every four years.

In line with the separation of powers, different arms of government make (legislature), interpret (judiciary) and implement (executive) laws (Ozekhome, 2021). The legislative arm also spells out the responsibility of each tier of government. The exclusive legislative list contains items whose presiding jurisdiction resides with only the federal government (e.g. defence). In contrast, the concurrent legislative list contains items whose responsibilities are shared across the three tiers (e.g. health). As a result, federal health policies and programmes may not be adopted and implemented at subnational levels, often for reasons related to priorities and resources. Evidence suggests that the current quasi-federal structure needs to be reviewed if health policies and strategies are to be more effectively implemented (Abubakar et al., 2022).

Civil society engagement is active across multiple sectors, with positive engagement in election monitoring processes and sectors, including health, education and psychosocial protection and promotion.

Security across all regions has been unstable for over a decade, compounded by weak systems and the weak application of the rule of law (Ifediora, 2022), as evidenced by low governance indicator scores (see Fig. 1.4.1). These issues contribute to Nigeria's high mortality rates.

**Figure 1.4.1** Trends in governance indicators (selected years)




**Source:** World Bank, 2024

**Note:** In the bottom panel, regulatory quality percentile figures for Kenya and Ethiopia are from 2019 due to data unavailability for 2020.

## 1.5 Overview of health status

Despite having the highest GDP in Africa in 2022, health outcomes remain suboptimal in Nigeria (Angell et al., 2022). In addition to the data presented in Table 1.5.1, the incidence of malaria in Nigeria is at 313.76 per 1000 population at risk, making it the 11th most malaria-endemic country in the world (IndexMundi, 2021); NCDs account for 29% of all deaths, with projections for increases in the coming years (WHO, 2018). The impact of the 2020 COVID-19 pandemic on the health system is set out in Box 1.5.1.

**Table 1.5.1** Health indicators (selected years)

| Indicator | 2010 | 2015 | Latest available year | African regional average |
|---|---|---|---|---|
| Healthy life expectancy, total (years) | 51.5 | 53.13 | 54.39 (2019) | 56 (2019) |
| Healthy life expectancy, male (years) | 50.95 | 52.49 | 56.6 (2022)[a] | 55 (2019) |
| Healthy life expectancy, female (years) | 52.09 | 53.79 | 56.6 (2022)[a] | 57.1 (2019) |
| Life expectancy at birth, total (years) | 59.24 | 61.16 | 62.62 (2019) | 64.49 (2019) |
| Life expectancy at birth, male (years) | 57.75 | 59.59 | 64.1 (2022)[a] | 62.37 (2019) |
| Life expectancy at birth, female (years) | 60.79 | 62.8 | 66.9 (2022)[a] | 66.65 (2019) |
| Life expectancy at 60 years, male (years) | 76.51 | 17.09 | 17.59 (2019) | 16.71 (2019) |
| Life expectancy at 60 years, female (years) | 78.03 | 18.5 | 18.86 (2019) | 18.95 (2019) |
| Maternal mortality ratio (per 100 000 live births) | 978 | 931 | 1047 (2020); 512 (2018)[b] | 530 (2020) |
| Neonatal mortality rate (per 1000 live births) | 37.3 | 37.1 | 34 (2021) | 26 (2021) |
| Infant mortality rate (per 1000 live births) | 80.4 | 79.5 | 70.6 (2021) | 49.22 (2021) |
| Under-5 mortality rate (per 1000 live births) | 128.5 | 126.8 | 110 (2021) | 71 (2021) |
| Adolescent mortality rate (probability of dying between 10 and 14 years of age per 1000 population)' | Not available | 340.2 | 6.8 (2021) | 6.1 (2021) |
| Adolescent mortality rate (probability of dying between 15 and 19 years of age per 1000 population) | Not available | 340.2 | 7 (2021) | 9.6 (2021) |
| Adult mortality rate (probability of dying between 15 and 60 years of age per 1000 population), female | 378 | 355 | 366 (2021) | 264 (2021) |
| Adult mortality rate (probability of dying between 15 and 60 years old per 1000 population), male | 378 | 355 | 386 (2021) | 338 (2021) |

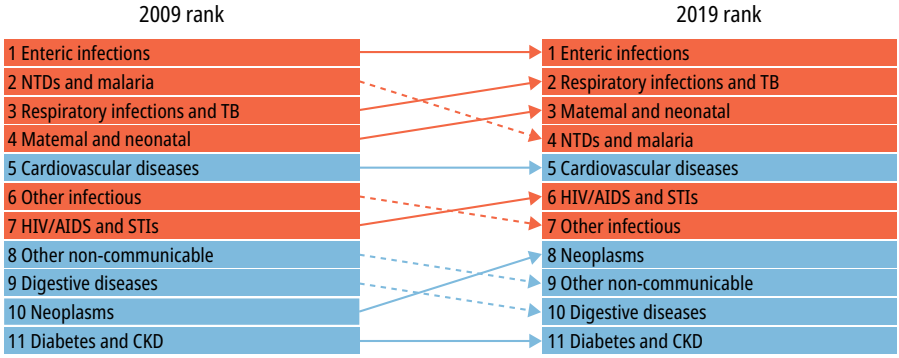
**Sources:** [a]IHME (2024), [b]NDHS (2018); all other data: WHO (2021) and World Bank Group (2024)

Evidence suggests that scaling up health systems is needed to accelerate progress across health outcomes. Areas identified include further investment across all levels of health care, especially primary health care and urban health; optimization of the health workforce; strengthening psychosocial components of health; and reinforcing accountability and anticorruption (Onwujekwe et al.,

2020b; Agwu et al., 2023). Health system investments are discussed in more detail in Chapter 3.

Life expectancy in Nigeria is increasing but remains below the regional average. Fig. 1.5.1 sets out the top causes of mortality across all ages. In 2019, enteric and respiratory infections were the most significant contributors to deaths in Nigeria (IHME, 2024)

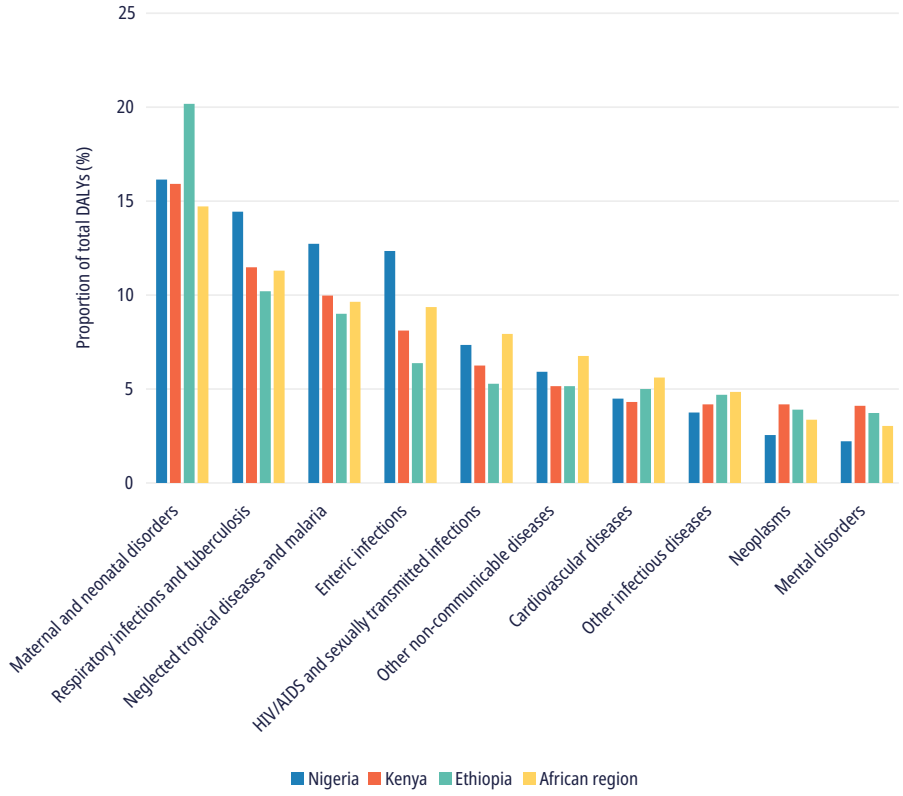
**Figure 1.5.1** Top 10 causes of total number of deaths in Nigeria in 2009 and 2019, all ages combined




**Source:** IHME, 2024
**Notes:** CKD = chronic kidney disease; NTD = neglected tropical disease; STI = sexually transmitted infection.

The burdens of both communicable diseases and NCDs in Nigeria are very high, as evidenced by the sizeable disability-adjusted life years (DALYs) lost due to different health conditions. Global Health Metrics data reveal that communicable, nutrition-related diseases and maternal and neonatal morbidities/mortalities are Nigeria's most significant contributors to DALYs (Vos et al., 2020). Some progress has been made in reducing maternal, under-5 and infant mortality rates, although neonatal mortality has shown no noticeable change (NPC and ICF Macro, 2019). Infectious diseases require further investment (Oyejobi et al., 2022), but disease-specific policies and programmes exist for malaria, HIV/AIDS, tuberculosis (TB), stroke and meningitis (see Chapter 2). Fig. 1.5.2 presents the top 10 conditions that contribute to Nigeria's DALYs.

**Figure 1.5.2** Relative share of categories of diseases for DALYs in Nigeria, selected countries and the African region, all ages combined




**Source:** IHME, 2024

Nigeria's health outcomes remain poor compared with countries with equivalent or lower health expenditure. This suggests that health system strengthening and targeted interventions to address challenges arising from contextual economic, environmental and socio-demographic factors – such as underinvestment in health, accountability and corruption, poor sanitation and water sources, malnutrition and exposure to air pollution – could significantly improve population health (Onwujekwe et al., 2020b; Angell et al., 2022; Agwu et al., 2023).

**Box 1.5.1** Overview of the impact of COVID-19

The COVID-19 pandemic imposed multiple shocks on Nigeria's national health infrastructure, with Nigeria being ranked as the country most affected by COVID-19 in West Africa (NCDC, 2022c). As of March 2023, when centralized data collection ceased, Nigeria had recorded 266 958 cases of and 3155 deaths due to COVID-19.

**Demographic impact.** Data show that more men have died from COVID-19 than women (about 60% versus 40% of all deaths caused by COVID-19), and the majority of deaths were among those aged 45 years and above (Tan et al., 2021). Other demographic implications include an increase in the domestic abuse of women and a spike in suicide attempts among young people, as well as negative impacts on the informal workforce, who were profoundly affected by lockdowns (JHU, 2023).

**Socioeconomic implications.** Consequences of the pandemic derived from a fall in global oil prices, policy interventions by the government such as bans on certain types of activities, closure of borders, state lockdowns, school closures and social distancing policies resulted in disruptions that were felt in all sectors of the economy and society (Joab-Peterside, 2021). A quarter of all jobs were lost during the pandemic, with millions of Nigerians dropping out of the labour force completely (United Nations Nigeria, 2022).

**Health system impact.** The COVID-19 pandemic revealed weaknesses in the health system in terms of capacity to maintain access to essential services. It also demonstrated the benefits of a prompt first response centrally led by the president's office and the value of coordinated multisectoral action. But the failure to institutionalise these innovations and the need to embed subnational-level engagement into decision-making processes have limited longer-term system strengthening (Okeke et al., 2022).

## Chapter summary

This chapter describes the varied dimensions of the Nigerian context and their relevance to the country's health system. Nigeria has the largest population in Africa, a high fertility rate, a high maternal mortality ratio and high under-5 mortality, and projections suggest that the population will expand substantially in the years to come. The country is battling low economic growth and high inflation rates and has yet to reap the demographic dividends of its large, youthful population. High levels of poverty and unemployment, weak governance and accountability, and limited health system resilience affect health care provision and outcomes. Rapid growth in the ICT sector is boosting the economy and

opening doors to ICT-enabled health services, but further scaling up is needed to build on existing digital health innovations. Population growth has led to high burdens of both communicable diseases and NCDs and increased pressures on the health system. Although life expectancy is rising, it remains below the regional average. Health outcomes remain poor compared with countries with equivalent or lower health expenditure, and further investment in health system strengthening and addressing socioeconomic challenges is needed to improve health outcomes.

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