Chapter

10 Health system coverage and system outcomes

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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

AFRO ..... Regional Office for Africa
ANC ..... antenatal care
GHS ..... global health security
HRH ..... human resources for health
IHR ..... International Health Regulations
MICS ..... multiple indicator cluster survey
OOP ..... out-of-pocket
RI ..... routine immunization
UHC ..... universal health coverage
WHO ..... World Health Organization

Chapter 10 key messages

- Poor performance in essential service coverage in Nigeria is largely due to poor service capacity and access, particularly poor infrastructure and inadequate human resource capacity. This leads to gaps in the availability of essential health services.
- Nigeria's Universal Health Coverage Social Coverage Index score, which measures universal health coverage, is low (38.4%), primarily due to poor health infrastructure and inadequate human resource capacity.
- Nigeria lags far behind its regional and global peers in terms of health insurance coverage, and the most vulnerable populations lack access to financial risk protection. Out-of-pocket payments as a proportion of total health expenditure are extremely high (75%), and 15.8% of multigenerational households experience catastrophic health expenditure over the 10% threshold, significantly higher than the World Health Organization African Region average (9.4%).
- Preparedness for public health emergencies is poor, as indicated by the low Global Health Security Index score of 38.0 in 2021 and the downwards trend in the country's International Health Regulations core capacity score since 2022. Critical capacities to monitor and detect zoonotic diseases and dispense medical countermeasures for national use during public health emergencies need to be expanded and sustained.
- No nationally representative data are available on user satisfaction with essential health services, and a national survey is needed to inform future service provision.

Introduction

Building on the World Health Organization (WHO) Regional Office for Africa Framework of Actions described in the preface to Part B of this country profile, this chapter focuses on the outcomes of the health systems along five dimensions: availability, coverage, financial risk protection, service satisfaction and health security. Health targets that are not included in Sustainable Development Goal 3 are not covered. This chapter aims to synthesize some of the lessons learned described in previous chapters alongside information relating to the Universal Health Coverage (UHC) Service Coverage Index and other indicators under the WHO Regional Office for Africa framework. See the preface to Part B for further details of the composite indices used.

10.1 Availability of essential services

This section defines and identifies critical services and gaps in the coverage of health services. The critical services for each life cohort (pregnancy and newborn, childhood, adolescence, adulthood and elderly services) are set out in Table 10.1.1.

Pregnancy and newborn health services

Four life cohort indicators are used for maternal and newborn health services: antenatal care (ANC), skilled birth attendance, comprehensive emergency obstetric care and early breastfeeding initiation.

On average, 79.9% of public health facilities in the country offer ANC services. Primary health facilities provide 79.4% of ANC services, while secondary health facilities provide 86.2%. The south-south zone has the highest mean percentage provision, at 88.9%, while the lowest provision was in the north-west, at 67.9% (FMOH, 2024). Overall, 50.7% of deliveries were assisted by skilled birth attendants according to Nigeria's 2021 multiple indicator cluster survey (MICS) (NBS and UNICEF, 2022).

Poor availability and uptake of services is most likely driven by a range of factors (see Chapter 7, Section 7.1.2). The 20.1% of facilities not offering ANC services could be facilities that are not equipped or required to provide ANC services or facilities that do not have an adequate health workforce. Cultural

norms could deter women from opting for facility-based delivery or delivery assisted by a skilled birth attendant at home; inaccessibility of facilities and delays in seeking health services could also be factors. These factors contribute to high maternal mortality in Nigeria (NPC and ICF Macro, 2019).

According to the 2021 MICS, 23.1% of neonates were breastfed within 24 hours of birth, which is nearly 50% lower than the figure from Nigeria's 2018 demographic and health survey (NPC and ICF Macro, 2019), and significantly lower than the WHO African Region average of 53% (UNICEF, 2021). This contributes to a high infant mortality of 67 deaths per 1000 live births.

Child health services

Data presented in Table 10.1.1 show that coverage of routine immunization (RI) and second-dose vitamin A supplementation in Nigeria is relatively high. The national immunization programme leverages traditional community structures to deploy vaccines and increase demand for vaccination in communities (see Chapter 2, Section 2.3, and Chapter 7, Section 7.4). The National Primary Health Care Development Agency set out to address low immunization rates with the introduction of Optimized Integrated Routine Immunization Sessions in 2018 in 18 priority states with notably low immunization coverage. Before the intervention, about 29% of urban primary health centres in those states offered RI (WHO African Region, 2019). One year post intervention, 83% of urban primary health centres had started offering RI sessions. This then translated into increased RI coverage nationally, from 33% in 2016 to 54% in 2019 (WHO African Region, 2019). Fig. 10.1.1 shows that Nigeria's second-dose vitamin A supplementation coverage is higher than the WHO African Region average (WHO, 2022d). This could be attributed to the inclusion of vitamin A in the intensive campaigns that resulted in polio eradication. Kenya's significantly higher coverage has been attributed to community sensitization and house-to-house visits by community health workers/volunteers (Exemplars News, 2023).

Table 10.1.1 Tracer essential services for each life cohort

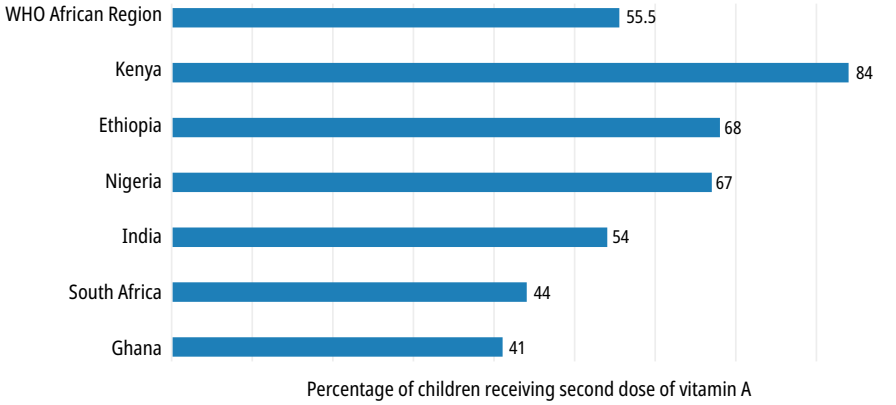
Dimensions (birth cohort)	Indicators	Latest available value % (year)	Source
Pregnancy and newborn	ANC1–ANC4 drop-out rate	62.2 (2023)	FMOH, 2024
ANC services	Percentage of facilities offering ANC services	79.7	FMOH, 2024
Perinatal care services	Skilled attendant personnel at births	59.4 (2023)	FMOH, 2024
Care for the newborn	Percentage of facilities offering basic emergency obstetric care	67.5 (2023)	FMOH, 2024
Postnatal care services	Breastfeeding early initiation	23.1 (2021)	UNICEF, 2021
Childhood			
Childhood immunization	Percentage of facilities offering routine immunization services	About 83% of the 18 priority states (2019)	WHO African Region, 2019
Child nutrition (under and over)	Percentage of children who received a second dose of vitamin A supplementation	82.0 (2023)	FMOH, 2024
Integrated childhood services	Percentage of facilities offering preventive and curative care for children under five	NA	NA
Primary school health services	NA	NA	NA
Promotion of childhood healthy lifestyles	Percentage of primary schools providing life skills-based HIV and sexuality education	NA	NA
Adolescence			
Adolescent sexual and reproductive health services	HIV testing among adolescents and young people aged 15–24	20.8 of young men 25.4 of young women	NBS and UNICEF, 2018
Adolescent/youth-friendly health services	Percentage of facilities offering adolescent health services	69.6 (2023)	FMOH, 2024
	Percentage of facilities with special location for providing adolescent health services	29.2 (2023)	FMOH, 2024

Table 10.1.1 Continued

Dimensions (birth cohort)	Indicators	Latest available value % (year)	Source
Secondary school health services			
Harm-reduction services for the prevention of drug and alcohol use	Treatment coverage for alcohol and drug dependence	NA	NA
Promotion of adolescent healthy lifestyles	Percentage of secondary schools providing life skills-based HIV and comprehensive sexuality education	NA	NA
Adulthood			
Screening for common communicable conditions	Percentage of facilities offering HIV diagnostic capacity	NA	NA
Screening for common noncommunicable conditions and risk factors	Percentage of facilities offering diabetes diagnosis and management	13.9 (2023)	FMOH, 2024
Reproductive health services, including family planning	Percentage of facilities offering family planning services	NA	NA
Promotion of adulthood healthy lifestyles	Age-standardized prevalence of insufficiently physically active persons aged 18+ years	Male – 25 (2022) Female – 30 (2022)	WHO, 2022c
Adult nutrition services	NA	NA	NA
Clinical and rehabilitative health services	NA	NA	NA
Elderly			
Annual screening and medical exams	Percentage of facilities offering cardiovascular disease diagnosis and management	NA	NA
	Percentage of facilities offering hypertensive disease diagnosis and management	12.1 (2023)	FMOH, 2024
Older adult's social support services	NA	NA	NA
Clinical and rehabilitative services	Functional disability in the population aged 60 and older	32.8 (2018)	NPC and ICF Macro, 2019

Note: DHIS2 = District Health Information System 2; NA = data not available; NBS = National Bureau of Statistics; UNICEF = United Nations Children's Fund.

Figure 10.1.1 Vitamin A supplementation in Nigeria, selected countries and the WHO African Region average, 2022



Source: WHO, 2022d

Adolescent health services

One of the global targets of the Joint United Nations Programme on HIV/AIDS is that, by 2025, 95% of people living with HIV will know their status. This will be achieved only if people at risk get tested. Only 14.4% of HIV-positive young people, aged 15–24, in Nigeria reported knowing their status in the last Nigeria HIV/AIDS Indicator and Impact Survey (FMOH, 2019c). Self-reported HIV testing was 13% among young men and 21.4% among young women (FMOH, 2019c). These figures are consistent with figures from the 2016–2017 MICS survey of 20.8% of young men and 25.4% of young women (NBS and UNICEF, 2018). The national screening programme for HIV/AIDS has been reported as being inadequate (see Chapter 7, Section 7.2). Lack of adolescent-friendly services means that the country still has a long way to go in achieving the global target.

Adult health services

Table 10.1.1 shows that, as of 2016, 25% of men and 30% of women aged 18 and older attained less than 150 minutes of moderate-intensity physical activity per week, or less than 75 minutes of vigorous physical activity per week, or equivalent (WHO, 2022c). These rates are higher than the WHO African Region (WHO, 2022b). This high prevalence of physical inactivity is an indication of

increased risk for noncommunicable diseases, which places additional burdens on the health system.

Elderly health services

Data from the Nigeria Demographic and Health Survey 2018 show that 32.8% of the population aged 60 or older had some difficulty in at least one functional domain (seeing, hearing, communication, cognition, walking and self-care), while 9% had considerable difficulty in at least one domain or could not function at all, compared with 1% of people below the age of 40 (NPC and ICF Macro, 2019). These figures are comparable to those of countries in the WHO African Region, including Ethiopia, with 34.5%, and Ghana, with 35.8% (Agyekum et al., 2024; Takele et al., 2024). Functional disability in the older population is largely driven by multimorbidity and high levels of physical inactivity (Takele et al., 2024). Physical disability among the elderly places a huge burden on health care services and social services.

10.2 Coverage of essential interventions

This section describes the UHC Service Coverage Index, deriving critical conclusions from the data in Table 10.2.1. The UHC Service Coverage Index for essential services is based on four domains: reproductive, maternal, newborn and child health; infectious disease control; noncommunicable diseases; and service capacity and access (WHO, 2019). The index score is reported on a scale of 0–100, calculated as the average of 14 service coverage indicators (Boerma et al., 2014). Nigeria's scores, along with the WHO African Region average scores, for each of these four domains and 14 indicators are summarized in Table 10.2.1.

The values reported for most of the indicators in the table are below the global average (less than 50). Nigeria's scores are broadly in line with the WHO African Region average across the four domains. However, Nigeria's overall UHC Service Coverage Indicator score is lower than the WHO African region average and those of most of the comparator countries, as shown in Fig. 10.2.1 (WHO and iAHO, 2021). The country's low performance in terms of essential services coverage is largely due to suboptimal service capacity and access to facilities, particularly in the area of infrastructure and human resource capacity amid the "brain drain" (Table 10.2.1). As described in Chapter 6, the poor state

of Nigeria's health infrastructure has been attributed to underfunding of the health system, weak management and accountability for available funds, and poor maintenance of physical structures, hospital amenities and equipment. The inadequate human resource capacity results from insufficient production of human resources for health (HRH), the geographical maldistribution of the available human resources and high level of brain drain (see Chapter 4).

The implementation of policies and interventions to address these HRH issues, including the National Health Act (2014), National Human Resources for Health Policy (2020), National Human Resources for Health Strategic Plan (2021), Task-shifting and Task-sharing Policy for Essential Heath Care Services in Nigeria (2020) and Nigeria Health Workforce Registry (2018), has been suboptimal, as discussed in Chapter 4, Section 4.1. Regarding infrastructure, although the Nigerian Sovereign Investment Authority (2016) and other reforms (see Section 6.5) have tried to address the challenge of health infrastructure, the absence of an overarching national policy on health infrastructure has constrained successful implementation of interventions.

Table 10.2.1 The UHC Service Coverage Index

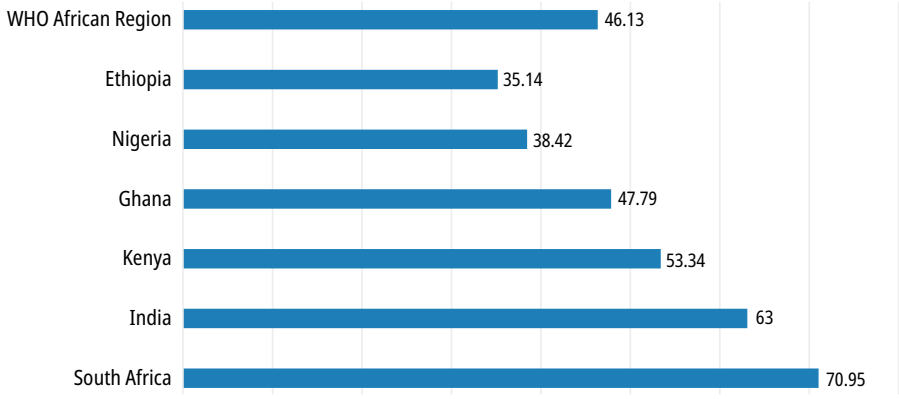
Dimension	Indicator	Value (latest available year)	Source	WHO African Region average
Reproductive, maternal, newborn and child health	Family planning	35.6 (2018)	WHO, 2024a	57.5 (2022)
	ANC 4+ visits	60.4 (2021)	WHO, 2024a	48.8 (2019)
	Child immunization	48.0 (2021)	WHO, 2024a	50 (2021)
	Care seeking (pneumonia)	40.1 (2018)	WHO, 2024a	46.1 (2014–2020)
	RMNCH score	**45.1 (2021)**	WHO and iAHO, 2021	**50.43 (2021)**
Infectious disease control	TB effective treatment	80.0 (2019)	WHO, 2024a	71 (2019)
	HIV treatment	86.0 (2020)	WHO, 2024a	82 (2022)
	Insecticide-treated nets (ITN)	51.01 (2021)	WHO, 2024a	56.7 (2021)
	Basic sanitation	79.6 (2022)	WHO, 2024a	36.4 (2022)
	Infectious score	**72.7 (2021)**	WHO and iAHO, 2021	**58.88 (2021)**

Table 10.2.1 Continued

Dimension	Indicator	Value (latest available year)	Source	WHO African Region average
Noncommunicable diseases	Normal blood pressure	76.1 (2015)	WHO, 2024a	72.6 (2015)
	Mean fasting plasma glucose	5.3 (2014)	WHO, 2024a	5.23 (2014)
	Tobacco nonsmoking	95.2 (2018)	WHO, 2024a	87.6 (2018)
	NCD score	**33.8 (2021)**	WHO and iAHO, 2021	**32.16 (2021)**
Service capacity and access	Hospital bed density (per 100 000 population)	5.0 (2004)	WHO, 2024a	12.1 (2016)
	Health worker density (per 100 000 population)	20.6 (2020)	WHO, 2024a	5.09 (2019)
	IHR core capacity index	56.0 (2022)	WHO, 2024a	52 (2022)
	Capacity score	**17.9 (2021)**	WHO and iAHO, 2021	**14.74 (2021)**
UHC Service Coverage Index		38.4 (2021)	WHO and iAHO, 2021	46.1 (2021)

Note: IHR = International Health Regulations; NCD = noncommunicable disease; RMNCH = reproductive, maternal, newborn and child health; TB = tuberculosis.

Figure 10.2.1 UHC Service Coverage Index for Nigeria, selected countries and WHO African Region average, 2021



Source: WHO and iAHO, 2021

10.3 Financial risk protection

Financial risk protection is a core component of UHC that seeks to improve access to essential health services by reducing the financial burden of health care expenditure on households and individuals. As of 2018, only 3% of people aged 15-49 in Nigeria had any form of health insurance coverage which was far below the recommended target of 90% (FMOH, 2017c). By 2022, about 5% of the population had health insurance coverage (Ezenduka et al., 2022; FGN, 2022c).

The WHO African Region indicator for monitoring financial risk protection is catastrophic health expenditure. This is defined as the proportion of the population with high household expenditure on health as a share of total household expenditure, based on the specified thresholds of 10% and 25%. This section describes and analyses the trends, drivers and coping mechanisms for catastrophic health expenditure.

Table 10.3.1 Incidence of catastrophic health expenditure

Threshold	2010	2015	2022	WHO African Region average (2015)	WHO African Region average (2019)
10%	14.51%	15.05%	15.80%	7.30%	8.60%
25%	3.98%	4.06%	4.10%	1.81%	2.60%

Source: WHO African Region, 2022a

Between 2010 and 2022, the incidence of catastrophic health expenditure increased by 1.29 percentage points for the 10% threshold and 0.12 percentage points for the 25% threshold (Table 10.3.1). Compared with the WHO African Region average, Nigeria had two to three times the incidence of catastrophic health expenditure for both thresholds in both 2010 and 2022. Moreover, a higher proportion of Nigeria's population spends more than 10% of the total household budget on health than Ethiopia, Ghana, Kenya or South Africa (Chapter 3, Table 3.2.1).

As shown in Chapter 3, Section 3.5, out-of-pocket (OOP) expenditure as a proportion of total health expenditure is extremely high in Nigeria (75%) compared with Ghana (30.8%) and South Africa (5.4%), in the WHO African Region, and India (50.6%).

Economic status and geopolitical location affect catastrophic health expenditure in Nigeria (Okedo-Alex et al., 2019; Edeh, 2022). Catastrophic

health expenditure is less common in households in the higher economic quintile than in those in the lower quintile, and households in the southern geopolitical zone are more likely to incur catastrophic health expenditure than those in the northern zone (Edeh, 2022).

10.4 Health security

Health security encompasses the "activities required to minimize the danger and impact of acute public health events that endanger the collective health of populations living across geographical regions and international boundaries" (GPMB, 2019). It is the responsibility of governments globally to protect the health of their populations, and the Nigeria Centre for Disease Control and Prevention and tripartite sectors are taking concrete steps towards implementing the One Health Strategic Plan for health security (see Chapter 7, Section 7.2).

The Global Health Security (GHS) Index assesses countries' capabilities to prevent, detect and respond to biological threats and public health emergencies. The GHS Index is organized into six categories or pillars: health security prevention, detection and reporting, response, health system, commitment to financing and global norms, and risk environment. Nigeria's overall GHS Index score in 2021 was 38.0, ranking it 86th out of 195 countries (Bell and Nuzzo, 2021).

Nigeria conducted a midterm joint external evaluation in 2019 to assess the country's compliance with the core capacities of the International Health Regulations (IHR), namely to prevent, detect and respond to public health emergencies. The results showed an increase in the IHR core capacity score from 39% in 2017 to 46% in 2019 (NCDC, 2020). Since then, Nigeria's IHR core capacity score has increased further, reaching 63% in 2022, before decreasing again to 56% in 2023 (WHO, 2023a).

Nigeria scored zero for some of the eight GHS Index indicators across four of the six pillars of health security: prevention (biosafety, dual use of research and zoonotic diseases), detection and reporting (case-based investigation and laboratory supply chain), rapid response (linking public health and security) and health system (medical countermeasures and personnel deployment, infection control practices and communication with health workers during emergency). This was due to the lack of evidence of continued capabilities in the areas covered by these pillars/indicators beyond addressing needs specific to the COVID-19 response (Bell and Nuzzo, 2021).

10.5 User satisfaction

This section assesses how satisfied patients, termed "clients", are with the health services provided. A vital measure of the quality of health care provided is client satisfaction. It gives an insight into the provider's success in meeting the client's needs (Xesfingi and Vozikis, 2016). There are different measures of satisfaction based on the services provided. In this context, satisfaction refers to overall satisfaction and is discussed based on the essential services provided. Nigeria does not regularly collect information on user satisfaction. Still, information from state-level research on satisfaction with essential services provides some insights.

Levels of satisfaction with the ANC service provision are high in all regions, particularly the south-east, where satisfaction rates are above 95% (Ezeoke et al., 2021; Sufiyan et al., 2021). Similarly, data on family planning services, diabetes treatment and HIV services show high satisfaction rates (Akinola, 2019; Anosike et al., 2019; Oranu and Oppah, 2020). Data on satisfaction levels for immunization services are more mixed, with satisfaction rates ranging from 19% in the south to 99% in the north (Uwaibi and Omozuwa, 2021).

The studies show that more than half of the clients accessing services are satisfied with the services provided. Given their limited reach, these studies may not represent true levels of client satisfaction. Alternatively, the health reforms described in Chapter 7, Section 7.11, may have had a positive impact service delivery and led to marked improvements in client satisfaction. Regardless, a more comprehensive and nationally representative user satisfaction survey is needed.

Chapter summary

Chapter 10 draws on the WHO Regional Office for Africa's Framework of Actions to assess health system outcomes in Nigeria across five dimensions: availability, coverage, financial risk protection, service satisfaction and health security. Despite progress for a subset of indicators, Nigeria's absolute level of coverage of essential services is relatively low at 38.4% and below the WHO African Region average. The National Health Act sets out policies and plans to strengthen health service delivery and various essential services. However, there is a need for regular subnational benchmarking and continuous monitoring to track

success and health system performance and promptly address challenges as they arise.

Nigeria lags behind its global peers in terms of health insurance coverage, and the most vulnerable populations lack access to financial risk protection. OOP payments as a proportion of total health expenditure are extremely high at 75%, exposing the predominantly poor population to catastrophic health expenditure: 15.8% of multigenerational households experience catastrophic health expenditure over the 10% threshold, almost twice the WHO African Region average of 8.6%.

Preparedness for public health emergencies is poor, as indicated by the low GHS Index score of 38.0 in 2021 and a downwards trend in the country's IHR core capacity score since 2022. Greater focus is needed on effective government collaboration and commitment to reignite, expand and sustain the capacities developed during the COVID-19 pandemic.

No nationally representative data are available on user satisfaction with essential health services. Available data suggest variations in client satisfaction by type of health service and by region. Further data collection is needed to inform future service provision.

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