Chapter

9 Performance of the health system – outputs

By **Enyi Etiaba**, **Adanma Ekenna** and **Ugenyi Iloabachie**

from

Nigeria: Country Health Systems & Services Profile, 2025

ISBN: 9789290314332

Suggested citation: Etiaba, E., Ekenna, A. and Iloabachie, U. (2025). Chapter 9: Performance of the health system – outputs. In: Onwujekwe, O., Etiaba, E., Ezenduka, C., Uguru, N., Okeke, C., Okechukwu, E., Uzochukwu, B., Mbachu, C., Batialack, S. and Kreling, B. *Nigeria: Country Health Systems & Services Profile*. World Health Organization, Brazzaville, Congo (pp. 261–277).

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

AFRO	Regional Office for Africa
BHCPF	Basic Health Care Provision Fund
IHR	International Health Regulations
MSP	minimum service package
NEMA	National Emergency Management Agency
NHSRIP	National Health Sector Renewal and Investment Programme
NSHDP II	National Strategic Health Development Plan II (2018–2022)
OOP	out-of-pocket
SARA	service availability and readiness assessment
SEMA	State Emergency Management Agency
UHC	universal health coverage
WHO	World Health Organization

Chapter 9 key messages

- Nigeria's health system still faces challenges in delivering optimal outputs and attaining universal health coverage.
- Performance in the dimensions of access, quality and demand for health services is still suboptimal, at 41%, 40% and 42%, respectively. Moreover, Nigeria's health system performance overall, at 45%, is below the World Health Organization African Region average of 52.9%.
- Performance in terms of sociocultural access has improved, with more women in education and employment than before, which could in turn improve access to health services if financial risk protection and functional health facilities are put in place.
- The quality of services is suboptimal, resulting in low demand for services, especially in the public sector.
- For health system resilience, Nigeria scores 56%, higher than the regional average of 51.9%. Two recent external shocks have tested Nigeria's health system – the Ebola epidemic in 2014 and the COVID-19 pandemic in 2020 – and it scores well for detection (58%). However, performance in other aspects of health system resilience, including preparedness and response, remains suboptimal and needs to be strengthened.
- Both allocative and technical efficiencies are poor due to suboptimal budgetary allocations and use. Identified drivers of technical inefficiency, such as weak governance and leadership, weak public finance management, corruption and poor accountability, need to be addressed urgently.

Introduction

The prefaces to Parts A and B of this profile set out details of its two-part structure, with Part A (Chapters 1-8) describing the context and individual health system building blocks and Part B (Chapters 9 and 10) focusing on the analytical aspects of outputs and outcomes.

This chapter reports on the performance and outputs of the health system building blocks that are described individually in Chapters 1–8. The health system outputs are analysed based on the dimensions of access, quality, demand and resilience (Fig. 9.1.a). The dimensions of equity and effectiveness, which are equally important in assessing performance, are discussed in Sections 9.4 and 9.5.

Figure 9.1.a Dimensions of health systems performance

Source: WHO African Region, 2017b

The World Health Organization (WHO) Regional Office for Africa operationalizes the functionality of a health system by measuring performance in the dimensions of access, demand, quality and resilience; the average of these, that is, overall functionality, gives an indication of overall health system performance. Performance is measured by triangulating international data, national/domestic data and scientific literature that satisfy some or all established criteria. Data sets are drawn from global and WHO African Region-wide data but also include national-level and internationally standardized data sets, such as demographic and health surveys and service availability and

readiness assessment (SARA) surveys. Reported limitations of this methodology include using old data sets where current data are unavailable and the poor capacity of health management information systems across several countries. Composite figures reported are based on consolidated data from various data sets (WHO African Region, 2022b).

Based on this approach, Nigeria's overall health system performance was recently assessed to be 45% of what it feasibly could achieve, and the average performance of the WHO African Region was assessed to be 52.9% (WHO African Region, 2022a).

9.1 Access to essential services

Access to health services in Nigeria is assessed as being at 41% of what is feasible (WHO African Region, 2022a), based on consolidated data from across three dimensions or vital signs of access: physical, financial and sociocultural access to essential health services. Table 9.1.1 summarizes the available data. Poor performance on indicators of physical and financial access suggests that these two dimensions or vital signs are driving the low score reported for access overall (see Chapter 3, Sections 3.1, 3.4 and 3.6, and Chapter 4, Section 4.3).

Physical access

The availability of human resources (see Fig. 9.1.1) and health infrastructure, despite improving over the years, remains limited and inequitable (FMOH, 2018b). Disaggregated reports from surveys show persistent north–south and urban–rural divides and socioeconomic disparities (Alliance for HPSR, 2016). Poor access to health care services is most common in the northern zones of the country, in rural areas, among people of lower educational status and among the lowest wealth quintiles (NPC and ICF Macro, 2014, 2019; FMOH, 2018b).

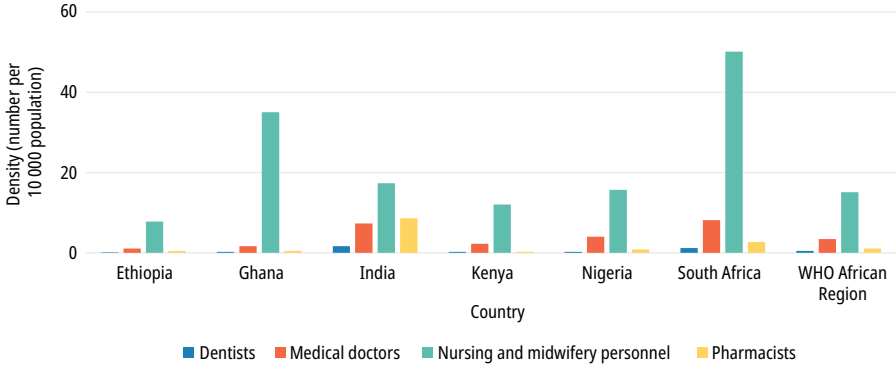
The unmet need for family planning decreased from 22% in 1990 to 16% in 2013, before rising again to 19% in 2018, with regional and urban–rural differences (NPC and ICF Macro, 2019). However, there is evidence of variation in unmet needs data across various surveys, and models suggest a flat trend and a uniformly low rate across states and regions in the country (Solanke et al., 2022). Fear of side effects is the most common reason for the low uptake of contraceptives (Uthman et al., 2022).

Table 9.1.1 Proxy indicators for each vital sign for access to essential services

Dimension	Indicator	Value	Latest available value (year)	Source
Physical access (accessibility)	Number of doctors per 10 000 population	2.3 (2022)	2.3 (2022)	Nigerian Health Workforce Profile, 2022
	Number of nurses and midwives per 10 000 population	7 (2022)	7 (2022)	Nigerian Health Workforce Profile, 2022
	Number of public health facilities per ward (10 000–30 000 population)	NA	NA	NA
	Hospital beds per 10 000 population	5 (2004)	< 10 (2004–2017)	WHO, 2021; WHO African Region, 2022a
	Domestic general government health expenditure as % of current total health expenditure	14.9 (2018)	14.97 (2020)	WHO, 2021
	Domestic general government health expenditure as % of government general expenditure	4.44 (2018)	4.22 (2020)	WHO, 2021
Financial access (affordability)	OOP expenditure as % of total current health expenditure	23.6 (2018)	74.68 (2020)	WHO, 2021
	OOP expenditure per capita (US$)	0.7 (2018)	52.1 (2020)	WHO, 2021
	Incidence of household expenditure (%) at 10% of total household income or expenditure	15.05 (2015)	15.8 (2018)	WHO, 2021
	Percentage of girls completing primary school	69 (2010)	77.1 (2020)	Statista, 2021
	Percentage of girls completing secondary school	42 (2018)	42 (2018)	Statista, 2021
Sociocultural access (social determinants of health)	Percentage of women participating in the labour force	49 (2019)	52.1 (2020)	World Bank Group, 2022
	Percentage of women and girls aged 15–49 years reporting intimate partner violence	13.2 (2018)	24 (2019)	World Bank Group, 2022

Note: NA = data not available; OOP = out-of-pocket.

Figure 9.1.1 Number of medical workers per 10 000 population, selected countries and WHO African Region average, 2020

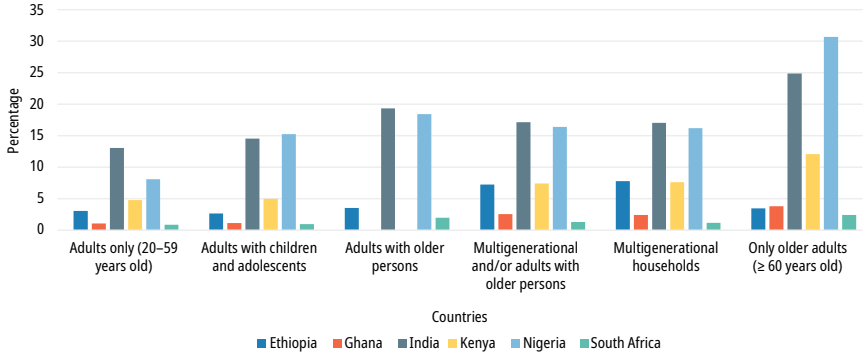


Source: WHO, 2021

Financial access

The persistently high out-of-pocket (OOP) expenditure on health by households and inadequate government expenditure on health have constrained efforts to achieve universal health coverage (UHC) (see Fig. 9.1.2). Current health financing reforms (see Chapter 3, Section 3.1), including the Basic Health Care Provision Fund and the National Health Insurance Authority Act (2004), which signs into law mandatary health insurance, must be optimally implemented to address these shortcomings.

Figure 9.1.2 Incidence of household expenditure (%) at 10% of total household income or expenditure, 1990–2018



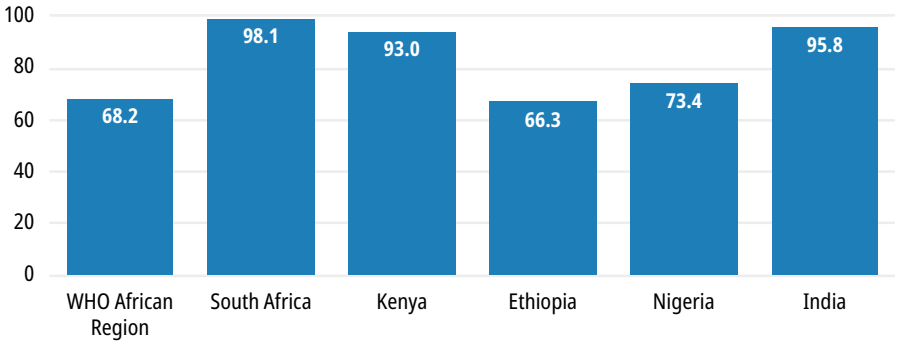
Source: WHO, 2021

Sociocultural access

Increasing women's access to education and rates of employment will have a positive impact on performance in the dimension of sociocultural access to health services (NPC and ICF Macro, 2019). However, performance in the sociocultural access dimension remains lower than desirable (see Fig. 9.1.3 and Table 9.1.1).

Reasons for significant differences in access include both supply-side factors (related to accessibility, availability, quality and comprehensiveness of health services) and demand-side factors (related to health care costs, transport and the perceived quality of services) (Okoli et al., 2020). Limited coverage of prepayment mechanisms (NPHCDA et al., 2020), nomadic lifestyles and poor enrolment of women in education due to sociocultural factors, including early marriage (NPC and ICF Macro, 2019), contribute to poor access to services and poor health-seeking behaviour.

Figure 9.1.3 Percentage of girls completing primary school in selected countries and the African Region, latest available year



Source: UNSTATS, 2021
Note: Latest available year = 2021, with the exception of Kenya where latest available year = 2022

9.2 Quality of care in the provision of essential services

Quality of services is estimated to be 40%, compared with the WHO African Region average of 62.3%, of what is feasible (WHO African Region, 2022a). Although there are structures for regulating quality of services in Nigeria,

performance evaluation gaps exist (see Chapter 6, Section 6.4) and accountability mechanisms are weak and poorly implemented (see Chapter 4, Section 2.4).

Table 9.2.1 describes the proxy indicators used to assess the quality of care. These are user experiences, patient safety and the effectiveness of care.

Table 9.2.1 Proxy indicators for each vital sign for quality of care

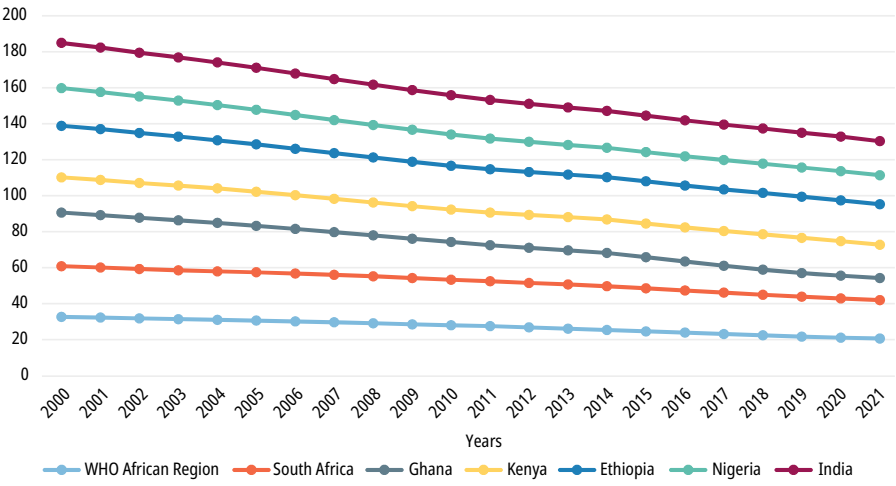
Dimension	Indicator	Latest available value (year)	Source
User experiences	Percentage of clinical conditions diagnosed accurately	43.1 (2017)	FMOH, 2017b
	Percentage of users adhering to clinical protocols	38.6 (2017)	FMOH, 2017b
	Health worker's knowledge of key integrated management of childhood illnesses danger signs(Percentage)	45.9 (2017)	FMOH, 2017b
	Health workers' knowledge of assessment and treatment of malaria (Percentage)	71.8 (2017)	FMOH, 2017b
	Percentage of the general services readiness score (SARA score)	NA	WHO, 2017
	Percentage of users reporting satisfaction with essential health services provision	0.94 (2020)	Akinyinka et al., 2020
Patient safety	Percentage of standard precautions for infection prevention and control (SARA score)	NA	WHO, 2017
	Percentage of facilities with hand washing capacity	78.8 (2017)	FMOH, 2017b
	Percentage of facilities that practised safe disposal of sharps waste	32.4 (2017)	FMOH, 2017b
	Stillbirths per 1000 population	22.25 (2019)	UNICEF and NBS, 2022
Effectiveness of care	Tuberculosis treatment success rate (percentage of new cases)	88 (2019)	FMOH, 2021g
	Mortality rates from cardiovascular disease, cancers, diabetes, mellitus, or chronic respiratory diseases for 30–70-year-olds	16.9 (2019)	FMOH, 2013a
	Age-standardized suicide rates per 100 000 population	6.9 (2017)	FMOH, 2017b

Note: NA = data not available.

A health facility readiness assessment was conducted in 2016 before implementing the Saving One Million Lives Programme, using multiple indicators, some of which are outlined in Table 9.2.1. The assessment was based on the SARA methodology promoted by WHO, now called the harmonized health facility assessment.

The quality of care differs between regions, between urban and rural areas, and between private and public health facilities. Almost all indicators varied widely across states and regions, with some being lower and others being higher than the national average. The northern regions predominantly recorded lower scores than other regions for various indicators (FMOH, 2017b). Variations align with socioeconomic and health system contexts, with less favourable outcomes and lower overall national averages being found in more deprived areas with poor access to health services. Perceptions of poor service quality and patient safety contribute significantly to Nigeria's low overall quality of services observed (Ephraim-Emmanuel et al., 2018).

Figure 9.2.1 Stillbirths per 1000 population in Nigeria, comparator countries and the WHO African Region average, 2000–2021



Source: WHO, 2021

Stillbirth rates as a proxy indicator for service quality are shown in Fig. 9.2.1 for Nigeria, the WHO African Region and other comparator countries. Although there has been a consistent decline in stillbirth rates in the last two decades, Nigeria still has the highest stillbirth rate across the comparator countries selected.

9.3 Demand for essential services

Demand for essential services is currently assessed as being 42%, compared with a regional average of 52.8%, of what is feasible (WHO African Region, 2022a). Table 9.3.1 outlines two key dimensions (health-seeking behaviours and individual health actions) and proxy indicators used to assess demand.

Table 9.3.1 Proxy indicators for each vital sign for demand of essential services

Dimension	Indicator (percentage)	Latest available value (year)	Source
Health-seeking behaviours	ANC1–ANC4 drop-out rate	10 (2018)	UNICEF and NBS, 2022
	ANC – at least one visit (skilled provider)	69.6 (2021)	UNICEF and NBS, 2022
	ANC – at least four visits (any provider)	60.4 (2021)	
	Skilled attendance at birth	50.7 (2021)	
	Institutional delivery	49.0 (2021)	
	Postnatal care for mother < 2 days	61.4 (2021)	
	Postnatal care for newborn < 2 days	62.4 (2021)	
	DTP1–DTP3 drop-out	8 (2020)	UNICEF and NBS, 2022
	DTP3–MCV drop-out	3 (2020)	UNICEF and NBS, 2022
	Drop-out between Penta 1 and Penta 3	21 (2021)	UNICEF and NBS, 2022
	Percentage demand for modern contraceptives satisfied	36 (2018)	UNICEF and NBS, 2022
	Percentage demand for modern contraceptives satisfied	39.9 (2021)	UNICEF and NBS, 2022
	Percentage use of modern methods of contraception among married/in-union women	18.2 (2021)	UNICEF and NBS, 2022
	Percentage use of any method of contraception among married/ in-union women	21.7 (2021)	UNICEF and NBS, 2022
	Percentage of infants with pneumonia seeking care	40 (2018)	UNICEF and NBS, 2022

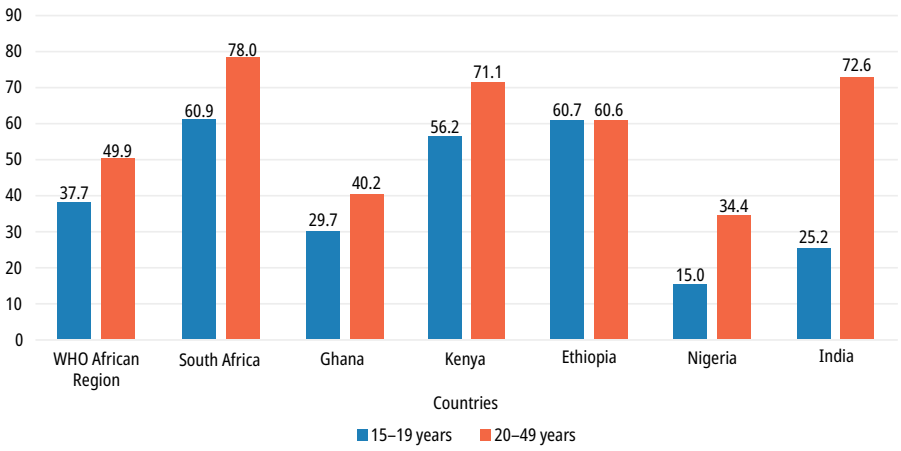
Table 9.3.1 Continued

Dimension	Indicator (percentage)	Latest available value (year)	Source
Individual health actions	ANC coverage (percentage receiving for or more visits)	60.4 (2021)	UNICEF and NBS, 2022
	CHWs per 1000 population	0.58 (2019)	WHO, 2021
	Total alcohol consumption per capita among persons aged 15+ years (SDG 3.5.2)	6.19 (2019)	UNSTATS
	Smoking prevalence among persons aged 15+ years (SDG 3.A.1)	4.8 (2018)	UNSTATS

Notes: ANC = antenatal care; CHW = community health worker; DTP = diphtheria, tetanus and pertussis; MCV = meningococcal conjugate vaccine; SDG, Sustainable Development Goal.

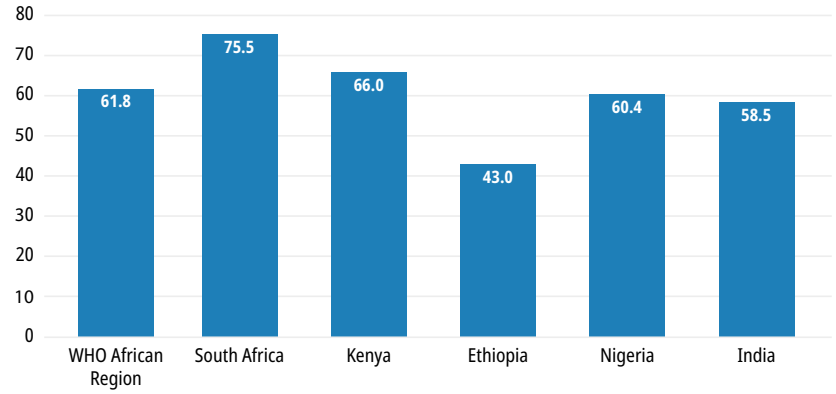
In addition to factors related to human resources, supply-side factors, including infrastructure, equipment and health facility security, commonly influence health care demand (Okoli et al., 2016; Osakede, 2019; Etiaba et al., 2020). Demand-side factors are predominantly determined by level of access (physical and financial), perception of quality and trust in the health system (Ezumah et al., 2022). These factors affect health-seeking behaviours and therefore the demand for services (see Fig.9.3.1 and Fig. 9.3.2).

Figure 9.3.1 Percentage demand met for modern contraceptives, selected countries and WHO African Region, 1993–2019



Source: WHO, 2021

Figure 9.3.2 Antenatal coverage (% of pregnant women receiving four or more antenatal visits) in selected countries and WHO African Region average, 2022



Source: WHO, 2021

There are also north–south and urban–rural disparities, with a positive skew of demand for and utilization of public health sector services in both the south and urban areas (see Chapters 3 and 10) (Alliance for HPSR, 2016; Atobatele et al., 2022; UNICEF and NBS, 2022). Nigeria's 2018 national demographic and health survey also revealed that risky behaviour patterns vary across regions, occurring more in the south than in the north (NPC and ICF Macro, 2018).

9.4 Resilience of the health system to sustain the provision of essential services

Health system resilience was recently estimated at 56% of what is feasible, higher than the regional average of 51.9% (WHO African Region, 2022a). This section uses International Health Regulations (IHR) core capacity and inherent health system resilience data to assess health system resilience (WHO and PAHO, 2005).

Nigeria has suffered two external shocks in the last decade that tested its health system: the Ebola epidemic in 2014 and the COVID-19 pandemic in 2020. Table 9.4.1 shows that Nigeria excels in IHR core capacity indices for detection but fails in preparedness and response indices. Learning from past pandemics has both exposed gaps and fostered innovation. The COVID-19 pandemic revealed weaknesses in the 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 presidency and the value of coordinated multisectoral action. But the failure to institutionalize this innovation and the need to embed subnational-level engagement into decision-making processes have limited longer-term system strengthening (Okeke et al., 2022).

Table 9.4.1 Proxy indicators for each vital sign related to the resilience of the health system

Dimension	Indicator	Latest available value (year)	Source
IHR core capacity	IHR core capacity indices for preparedness	50% (2022)	WHO African Region, 2022a
	IHR core capacity indices for detection	58% (2022)	WHO African Region, 2022a
	IHR core capacity indices for response	51% (2023)	WHO African Region, 2022a
Inherent system resilience	Inherent system resilience	62.1% (2020)	WHO African Region, 2022a

International Health Regulations core capacity indices

The International Health Regulations State Party Self-Assessment Annual Report scores are obtained from annual country self-reporting on the ability of attributes created from 13 components of the IHR Monitoring and Evaluation Framework. Nigeria scored an average of 63 across the 13 IHR core capacity indices in the WHO African Region, while the highest score was 77 for Algeria and the regional average score was 47.6 (WHO African Region, 2022b). These recent scores show an improvement, although overall resilience is still not optimal.

Inherent system resilience

Existing weaknesses in the health system which impact inherent resilience include:

- delays in IHR compliance;
- weak surveillance system/early warning signs;

- poor subnational capacity for preparedness and response planning and implementation;
- poorly developed surge capacity of health facilities to respond to public health emergencies;
- weak network and capacity of public health laboratories (FMOH, 2018b).

Most of these weaknesses strained the health system during the peak of the COVID-19 pandemic, resulting in the significant crowding out of essential health services (Okeke et al., 2022).
In this context, the National Health Policy proposed reducing the burden on public health emergencies through:

- developing and implementing health emergency and disaster preparedness plans and risk-specific contingency plans, including pre-positioned emergency medical stocks and supplies;
- strengthening the capacity of surveillance and response systems in line with the IHR.

To achieve these policy goals, the National Strategic Health Development Plan II (2018–2022) (NSHDP II) included proposals for some of the following strategies, which have now been implemented:

- establishing relevant and functional institutions such as the Nigeria Centre for Disease Control and Emergency Operations Centres, the National Emergency Management Agency of Nigeria (NEMA) and the State Emergency Management Agency (SEMA) (Oyebanji et al., 2021);
- increasing the pool of trained field epidemiologists (NCDC, 2021);
- increasing the availability of policies, strategic plans, guidelines and tools for integrated disease surveillance and response (Adesanya, 2020).

Post COVID-19 pandemic, NEMA and SEMA in affected states are actively using the agency platforms to address internally displaced persons and other emergencies.

9.5 Health system efficiency

Allocative efficiency

Allocative efficiency indicates the extent to which limited funds are directed towards purchasing an appropriate mix of health services or interventions that maximize health improvements. Nigeria is a signatory to the Abuja Declaration, which commits the country to allocating 15% of its annual budget to health. In addition, the Basic Health Care Provision Fund (BHCPF) is funded by at least 1% of the consolidated revenue, and contributions from other sources. Despite these initiatives, Nigeria's health budget falls below expectations. With an average annual health budget of 4.6% of the total budget, Nigeria struggles to attain the required mix of health services and interventions necessary to achieve UHC (see Chapter 3).

Poor utilization of allocated funds and poor budgeting result in the return of funds to the treasury accounts at the end of the fiscal year (Devex Partnerships, 2021). The government spends heavily on human resources and overhead costs, hence recurrent expenditure increased by a staggering 2822% from 2001 to 2021, while capital expenditure increased by only 400% (Devex Partnerships, 2021). With poor accountability mechanisms and hidden administrative costs, health system wastage and inefficiencies persist. Sources of inefficiencies in releasing funds could include ineffective bidding, internal disputes between stakeholders and conflicts of interest.

Efficiency of service provision

The health system has a wide range of health services in the minimum service package (MSP), with increasing but slow inclusion of noncommunicable diseases (see Chapter 7). A good example of how the scope of services can be widened is the Maternal and Child Health Programme 2007, which was broadened to cover the reproductive, maternal, newborn, child, adolescent and elderly health plus nutrition spectrum in 2020 (Ehanire, 2020).

By addressing the sustainability of the health system, the nation sets its health priorities in NSHDP II in line with a situation analysis of the health system. However, there is limited evidence of effectiveness and cost-effectiveness in setting priorities in NSHDP II (WHO, 2010a).

Technical efficiency

Technical efficiency refers to using minimum inputs to produce maximum outputs. Gross inefficiencies exist across sub-Saharan Africa (Babalola and Moodley, 2020). Nigeria's efficiency score of 77% was below the WHO African Region average of 79.3%, and by 2015 it was in the bottom 10% of African countries based on technical efficiency scores (Asbu et al., 2022). Within-country analyses over time report a wide variation in efficiency in Nigerian hospitals and that most hospitals are not operating efficiently (Ichoku et al., 2011; Sede and Ohemeng, 2012; Adejoh and Ismail, 2022). Sources of inefficiencies are predominantly human resources and the insufficient use of technology to optimize services (Sede and Ohemeng, 2012). Other sources are outlined in Table 9.5.1. Key drivers of these inefficiencies are weak leadership and management, leakage and corruption, weaknesses in the health system, suboptimal utilization of health services, health facility factors, socioeconomic development and macroeconomic characteristics (WHO African Region, 2023).

Health sector corruption, which commonly manifests as absenteeism, diversion of patients from the public to the private sector, inappropriate prescribing, informal payments and bribery, and the theft of drugs and supplies, is sustained by weak or absent accountability mechanisms (Onwujekwe et al., 2018, 2019a).

Table 9.5.1 Sources of technical inefficiency

Source of inefficiency	Possible reasons for inefficiency
Medicines: underuse of generic medicines and overpricing of medicines	Inadequate cost controls on prescribers; lower perceived efficacy/safety of generic drugs; historical prescribing patterns
Medicines: use of substandard or counterfeit medicines	Weak drug regulatory structures; weak procurement mechanisms
Medicines: inappropriate and ineffective use	Factors related to consumer demand/ expectations; limited knowledge about lack of therapeutic effect; inadequate regulatory frameworks
Health care products and services: overuse or supply of equipment, investigations and procedures	Supplier-induced demand; fee for service; fear of litigation (defensive medicine); inadequate guidelines/review

Table 9.5.1 Continued

Source of inefficiency	Possible reasons for inefficiency
Health care workers: inappropriate or costly staff mix, unmotivated workers	Conformity with predetermined human resources policies and procedures; resistance by the medical profession; fixed/inflexible contracts
Health care services: inappropriate hospital admissions or lengths of stay	Lack of alternative care arrangements; insufficient incentives to discharge patients; limited knowledge of best practice
Health care services: inappropriate hospital size (low level of infrastructure use)	Uneven historical development of hospitals; inadequate planning, coordination and control
Health care services: medical errors and suboptimal quality of care	Insufficient/outdated guidelines, standards or protocols; poor coordination; inadequate supervision
Health system leakages: corruption and fraud	Corruption; unclear resource allocation guidance; poor accountability mechanisms
Administrative complexity: inefficient or misguided rules	Lack of standardized forms; hidden administrative costs
Health interventions: inefficient mix/ inappropriate level of strategies	Funding high-cost, low-effect interventions when low-cost, high-impact options are unfunded; inappropriate balance between levels of care and/or between prevention, promotion and treatment

Source: Adapted from Chisholm and Evans 2010; Berwick and Hackbarth, 2012

The weaknesses in the performance of the Nigerian health system outlined above are currently being addressed through the sector-wide approach of the National Health Sector Renewal and Investment Programme (NHSRIP) (see Chapter 2, Section 2.5). In addition, some recommendations by the *Lancet* Nigeria Commission, addressing various health system building blocks, if implemented, will enhance health system performance. Key recommendations include (i) implementing a Health-in-All-Policies approach, to be achieved through a whole-of-society approach, prioritizing health investments to address social determinants of health; (ii) addressing population growth through improving access to modern contraceptives at all health care levels; and (iii) prioritizing education for women and girls (Abubakar et al., 2022). These recommendations are captured in the NHSRIP and are currently being implemented but the impact of this implementation has yet to be evaluated.

Chapter summary

Chapter 9 brings together the descriptive analysis of Nigeria's health system provided in Chapters 1–8 under a performance framework devised by WHO Regional Office for Africa. Nigeria's performance outputs have improved in the last decade but remain inadequate, thus preventing the country from attaining UHC. While performance in the dimension or vital sign of sociocultural access has improved, because more women than before have received an education and are in employment, this is almost cancelled out by persistently poor performance in the dimension of financial access, due to high OOP expenditure, and an inadequate health workforce.

The quality of services remains suboptimal, resulting in low demand for services, especially in the public sector. Access to, the quality of and demand for health services vary significantly across regions, states, urban–rural areas and socioeconomic statuses, in both the public and private health sectors. Disaggregated data are needed to address these discrepancies and facilitate effective UHC planning. Effective implementation of the BHCPF and the National Health Insurance Authority is expected to help narrow the wide gaps in performance in these dimensions.

Both allocative and technical efficiencies are poor, due to suboptimal budgetary allocations and use. Identified drivers of technical inefficiencies, such as weak governance and leadership, weak public finance management, corruption and poor accountability, need to be addressed. Suboptimal health budgets and poor utilization of allocated funds diminish allocative efficiency, while corruption plagues technical efficiency.

Nigeria has improved its scores in relation to detecting external shocks, especially communicable disease outbreaks. However, scores for inherent health system resilience, including preparedness and response, remain poor, and resilience needs to be strengthened.

References

Abubakar, I., et al. (2022). The *Lancet* Nigeria Commission: investing in health and the future of the nation. *The Lancet*, 399, 1155–1200.

Adejoh, F. O. & Ismail, M. T. (2022). Data envelopment analysis cross-efficiency of primary health care in Lagos metropolis, Nigeria. *Scientific African*, 17, e01336.

Adesanya, O. A. (2020). Government preparedness and response towards COVID-19 outbreak in Nigeria: a retrospective analysis of the last 6 months. *Journal of Global Health*, 10, https://doi.org/10.7189/jogh.10.020382.

Akinyinka, M. R., Oluwole, E. O. & Odusanya, O. O. (2020). Predictors of client satisfaction among recent users of health services in Lagos, Nigeria. *Health Services Insights*, 13, https://doi.org/10.1177/1178632920934499.

Alliance for HPSR (2016). *Primary care systems profile and performance (PRIMASYS): Nigeria case study*. Alliance for Health Policy and Systems Research, Geneva, Switzerland.

Asbu, E. Z., et al. (2022). Technical efficiency of health production in Africa: a stochastic frontier analysis. *International Journal of Healthcare*, 8, https://doi.org/10.5430/ijh.v8n2p1.

Atobatele, S., et al. (2022). Situational analysis of access to essential healthcare services in Nigeria: implication for trans-sectorial policy considerations in addressing health inequities. *Health*, 14, 553–575.

Babalola,T. K & Moodley, I. (2020). Assessing the efficiency of health-care facilities in Sub-Saharan Africa: a systematic review. *Health Services Research and Managerial Epidemiology*, 7, 1–12, *https://doi.org/10.1177/2333392820919604*.

Berwick, D. M. & Hackbarth, A. D. (2012). Eliminating waste in US health care. *JAMA*, 307, 1513–1516, https://doi.org/10.1001/jama.2012.362.

Chisholm, D & Evans, D. B. (2010). Improving health system efficiency as a means of moving towards universal coverage, *World Health Report,* 2010, *Background paper* 28.

Devex Partnerships (2021). 2 decades on, Nigeria falls short of landmark health pledge. Devex Partnerships. Available online: https://www.devex.com/news/sponsored/2-decades-on-nigeria-falls-short-of-landmark-health-pledge-99555 (accessed 7 September 2022).

Ehanire, O. (2020). *Launching Nigeria reproductive, maternal, newborn, child, adolescent and elderly health plus nutrition (RMNCAEH+N) multi-stakeholder partnership coordination platform*. Federal Ministry of Health, Abuja, Nigeria.

Ephraim-Emmanuel, B. C., et al. (2018). Quality of health care in Nigeria: a myth or a reality. *International Journal of Research in Medical Sciences*, 6, 2875–2881.

Etiaba, E., et al. (2020). "If you are on duty, you may be afraid to come out to attend to a person": fear of crime and security challenges in maternal acute care in Nigeria from a realist perspective. *BMC Health Services Research*, 20, 1–10.

Ezumah, N., et al. (2022). Role of trust in sustaining provision and uptake of maternal and child healthcare: evidence from a national programme in Nigeria. *Social Science & Medicine*, 293, e114644.

FMOH (2013). *National Policy and Strategic Plan of Action on Prevention and Control of Noncommunicable diseases (NCDs)*. Federal Ministry of Health, Abuja, Nigeria.

FMOH (2017). *National Health Facility Survey 2016 final report*. Federal Ministry of Health, Abuja, Nigeria.

FMOH (2018). *Second National Strategic Health Development Plan 2018–2022*. Federal Ministry of Health, Abuja, Nigeria.

FMOH (2021). *National Strategic Plan for Tuberculosis Control 2021–2025*. Federal Ministry of Health, Abuja, Nigeria.

Ichoku, H. E., et al. (2011). Evaluating the technical efficiency of hospitals in southeastern Nigeria. *European Journal of Business Management*, 3, 24–37.

NCDC (2021). Strengthening public health workforce in Nigeria: NCDC roll-out first I-FETP. *Weekly Epidemiological Report.* Nigeria Centre for Disease Control.

NPC & ICF Macro (2014). *Nigeria Demographic and Health Survey 2013*. National Population Commission and ICF Macro International.

NPC & ICF Macro (2019). *Nigeria Demographic and Health Survey 2018*. National Population Commission and ICF Macro International.

NPHCDA, NHIS & NEMTC (2020). *Guideline for the Administration, Disbursement and Monitoring of the Basic Health Care Provision Fund (BHCPF)*. Federal Ministry of Health, Abuja, Nigeria

Okeke, C., et al. (2022). *Essential health care service disruption due to COVID-19: lessons for sustainability in Nigeria*. WHO Regional Office for Africa, Brazzaville, Congo.

Okoli, C., et al. (2020). Geographical and socioeconomic inequalities in the utilization of maternal healthcare services in Nigeria: 2003–2017. *BMC Health Services Research*, 20, 1–14.

Okoli, U., Mohammed, S. A. & Ejeckam, C. (2016). Strengthening primary health care services in rural Nigeria: the potential of using midwives as skilled birth attendants. *Health Systems and Policy Research*, 3.

Onwujekwe, O., et al. (2018). *Corruption in the health sector in Anglophone West Africa: common forms of corruption and mitigation strategies*. SOAS Anti-Corruption Evidence. Available online: https://ace.soas.ac.uk/wp-content/uploads/2018/09/Corruption-in-the-health-sector-in-Anglophone-W-Africa_ACE-Working-Paper-005.pdf (accessed 2 December 2024).

Onwujekwe, O., et al. (2019). Corruption in Anglophone West Africa health systems: a systematic review of its different variants and the factors that sustain them. *Health Policy and Planning*, 34, 529–543.

Osakede, U. A. (2019). The demand for primary health care service in Nigeria: new evidence from facility determinants. *Asian Journal of Humanities and Social Studies*, 7, https://doi.org/10.24203/AJHSS.V7I1.5663.

Oyebanji, O., et al. (2021). Building local capacity for emergency coordination: establishment of subnational public health emergency operations centres in Nigeria. *BMJ Global Health*, 6, e007203.

Sede, P. I. & Ohemeng, W. (2012). An empirical assessment of the technical efficiency in some selected hospitals in Nigeria. *Journal of Business Research*, 6, 14–43.

Solanke, B. L., et al. (2022). Prevalence and determinants of unmet need for contraception among women in low and high-priority segments for family planning demand generation in Nigeria. *Archives of Public Health*, 80, https://doi.org/10.1186/s13690-022-00997-x.

Statista (2021). Education & Science Statistics Available online: https://www.statista.com/markets/411/topic/962/education-science/#overview (accessed 2 December 2024).

UNICEF & NBS (2022). *Multiple Indicator Cluster Survey 2021 – statistical snapshot report*. United Nations Children's Fund and National Bureau of Statistics, Abuja, Nigeria.

UNSTATS (2021). SDG Indicators Database. Department of Economic and Social Affairs, United Nations Statistics. Available online: https://unstats.un.org/sdgs/dataportal/database (accessed 5 December 2024).

Uthman, M. K., et al. (2022). Unmet needs for family planning and its determinants among women of reproductive age in Ilesha Southwest Nigeria: a cross-sectional study. *Journal of Medicine Access*, 6, https://doi.org/10.1177/27550834221115979.

WHO (2010). *Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies*. World Health Organization, Geneva, Switzerland.

WHO (2017). Service availability and readiness assessment (SARA) surveys, 2013–2017. World Health Organization. Available online: https://www.who.int/data/data-collection-tools/service-availability-and-readiness-assessment-(sara) (accessed 30 November 2024).

WHO (2021). Global Health Estimates 2000-2021. World Health Organization. Available online: https://www.who.int/data/gho (accessed 9 November 2022)

WHO AFRO (2017). *Leave no one behind: strengthening health systems for UHC and the SDGs in Africa*. WHO Regional Office for Africa, Brazzaville, Congo. Available online: https://www.afro.who.int/sites/default/files/2017-12/UHC%20framework_eng_2017-11-27_small.pdf (accessed 30 November 2024).

WHO AFRO (2022a). *Atlas of African Health Statistics 2022: health situation analysis of the WHO African Region — country profiles*. World Health Organization Regional Office for Africa, Brazzaville, Congo.

WHO AFRO (2022b). *Atlas of African Health Statistics 2022: health situation analysis of the WHO African Region — summary report*. World Health Organization Regional Office for Africa, Brazzaville, Congo.

WHO AFRO (2023). *Technical efficiency of health systems in the WHO African Region*. World Health Organization Regional Office for Africa, Brazzaville, Congo.

WHO & PAHO (2005). International Health Regulations. World Health Organization and Pan American Health Organization. Available online: https://www.paho.org/en/topics/international-health-regulations (accessed 6 December 2023).

World Bank Group (2022). Gender Data Portal. World Bank Group. Available online: https://genderdata.worldbank.org/en/home (accessed 5 December 2024).