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Article

Managing Health Facilities in Nigerian Tertiary Institutions: Challenges and Strategies for Sustainable Development

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Abstract: Health facilities constitute an important component of tertiary institutions because the health and wellbeing of students, academic staff, non-academic staff and other members of the university and college community have implications for institutional productivity and academic performance. Nigerian tertiary institutions host large and diverse populations who experience various health challenges, ranging from minor illnesses and communicable diseases to accidents, emergencies, mental-health concerns and other conditions requiring professional medical attention. Institutional health facilities are therefore established to provide preventive, promotive, curative and emergency healthcare services to members of the tertiary-institution community. However, many institutional health facilities face persistent challenges, including inadequate funding, shortage of qualified health personnel, insufficient medical equipment, irregular supply of drugs and consumables, poor health-information management, inadequate utilities, weak emergency referral systems and limited health-insurance coverage. These challenges constrain the ability of institutional health facilities to provide accessible, affordable, timely and quality healthcare. This paper examines the major problems confronting health facilities in Nigerian tertiary institutions and proposes strategies for sustainable health-facility development. The paper concludes that sustainable institutional healthcare requires adequate and predictable funding, effective human-resource management, modern infrastructure and equipment, digital health systems, reliable utilities, efficient referral mechanisms and stronger institutional health-insurance arrangements. It recommends a comprehensive health-facility development framework that integrates financing, infrastructure, human resources, technology, preventive healthcare and continuous monitoring and evaluation.

Keywords: Tertiary Institutions, Health Facilities, Healthcare Management, Students, Health Services

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1. Introduction

Tertiary institutions are important components of the Nigerian education system. Tertiary education refers to education provided after post-basic education and includes universities, inter-university centres, polytechnics, monotechnics, colleges of education and innovation enterprise institutions [1]. From a legal perspective, tertiary institutions encompass institutions established to provide education at the tertiary level, including universities, polytechnics, colleges of technology, colleges of education and other approved professional and specialised institutions [2]. The sector contributes to skills development, human-capital formation and economic development [3]. Its primary responsibilities include teaching, learning, research, innovation, human-capital

development and community service. However, the achievement of these responsibilities depends not only on academic infrastructure but also on the physical, psychological and social wellbeing of the people who constitute the institutional community.

Nigerian tertiary institutions host large populations comprising students, academic staff, non-academic staff, researchers, administrative personnel, visitors and other members of the institutional community. Students, in particular, spend substantial periods within institutional environments, including lecture halls, laboratories, hostels, libraries and sports facilities. Consequently, they may experience different health conditions during their period of study, including malaria, respiratory infections, gastrointestinal illnesses, injuries, reproductive and sexual-health problems, communicable diseases, mental-health challenges and other acute or chronic conditions.

The health needs of these populations make the provision of institutional healthcare services particularly important. Tertiary institutions establish medical centres, clinics, sick bays, pharmacies, laboratories and, in some cases, hospitals to provide preventive, promotive, curative and emergency services. Health services in tertiary institutions encompass healthcare, health education, counselling and other services designed to promote students' health and wellbeing, which emphasises the broader welfare role of institutional health facilities rather than limiting them to the treatment of illnesses [4]. A cross-sectional study of students at a Nigerian university showed that students' perceptions and utilisation of healthcare services are influenced by the quality, accessibility and organisation of the services provided by university health facilities [5]. A review of campus healthcare delivery further emphasised that students' health conditions influence their academic participation, wellbeing and overall university experience, and identified personnel, healthcare resources, referral arrangements and availability of services as key factors in effective campus healthcare [6]. Internationally, the concept of health-promoting universities calls on higher-education institutions to embed health into all aspects of campus culture, administration and academic mandates [7].

Based on these perspectives, health facilities in tertiary institutions can be defined as formally established medical and healthcare units within or controlled by tertiary institutions for providing preventive, promotive, diagnostic, curative, counselling, emergency and referral services to students, academic staff, non-academic staff and other authorised members of the institutional community. These facilities may include:

1. University or institutional medical centres.
2. Campus clinics and sick bays.
3. Pharmacies.
4. Medical laboratories.
5. Counselling and mental-health units.
6. Dental clinics.
7. Emergency and first-aid units.
8. Health-insurance and medical-record units.
9. Referral and ambulance services.
10. Teaching hospitals where such facilities are owned or operated by the institution.

Health facilities perform several important functions within tertiary institutions. They provide accessible healthcare to students and staff without requiring them to travel outside the institution for every medical need; provide preventive healthcare, including health education, immunisation, screening and disease prevention; enable early diagnosis and treatment, which can prevent minor illnesses from developing into more serious conditions; provide emergency and referral services for patients requiring specialised treatment; and contribute to student welfare and institutional productivity. Sustainable health-facility development should therefore extend beyond constructing medical centres

to include human-resource development, equipment provision, preventive maintenance, digital health-information systems, reliable utilities, drug availability, emergency response, health insurance and effective monitoring and evaluation.

Despite their importance, health facilities in Nigerian tertiary institutions are confronted with several challenges, and the available evidence is scattered across studies of individual campuses, the wider health system and media reports. The main aim of this paper is to assess the problems confronting health facilities in tertiary institutions in Nigeria and to propose appropriate strategies for sustainable health-facility development. Specifically, the paper seeks to: (i) examine the major challenges confronting health facilities in Nigerian tertiary institutions; and (ii) propose sustainable strategies for improving the management, accessibility, quality and effectiveness of these facilities.

2. Materials and Methods

The study adopted a qualitative narrative-review design. Evidence was drawn from three types of sources: (1) peer-reviewed empirical studies and reviews on healthcare delivery in Nigerian tertiary institutions and Nigerian health facilities; (2) official policy and legal documents on tertiary education and health financing in Nigeria, together with international guidance documents; and (3) reports in reputable national newspapers documenting the condition of campus health centres. Sources were identified through Google Scholar, PubMed and African Journals Online using combinations of the terms "health facilities", "health centre", "university", "tertiary institution", "students", "healthcare delivery", "health insurance" and "Nigeria", supplemented by reference tracking.

Sources were included if they addressed the provision, management, financing or utilisation of health services in Nigerian tertiary institutions, or the wider Nigerian health-system conditions under which institutional health facilities operate. The reported problems were extracted and coded thematically, and related codes were merged into broader challenge categories. Ten categories emerged and are presented in the Results. Strategies for sustainable development were then derived for each challenge and organised according to the building blocks of health systems—service delivery, health workforce, information, medical products and technologies, financing, and leadership and governance. As a narrative review, the study does not provide a quantitative synthesis, and the media evidence is used only to illustrate conditions documented in the academic literature.

3. Results and Discussion

The review identified ten interrelated challenges that constrain the management of health facilities in Nigerian tertiary institutions. Each is discussed below, and they are summarised together with the corresponding strategic responses in Table 1.

3.1. Inadequate Funding and Poor Maintenance

Inadequate funding is one of the major challenges affecting the effective management of health facilities in Nigerian tertiary institutions. Health centres require regular funding for drugs, medical consumables, diagnostic equipment, staff development, utilities, maintenance and emergency services. Where funding is inadequate or unpredictable, facility managers may be unable to maintain equipment or provide comprehensive services. A study of public healthcare facilities in Nigeria, which included tertiary facilities such as the University of Nigeria Teaching Hospital, found that government budgets, out-of-pocket payments and health-insurance funds constituted important sources of facility financing, and that the availability and predictability of funding influenced facilities' capacity to undertake capital projects and to provide a wider range of services [9]. Evidence from tertiary institutions supports this concern: Onumsinachi et al. identified poor funding and limited healthcare-delivery resources

among the factors affecting healthcare services to students in Nigerian universities. Nigerian media have also documented the problem; students in several universities and polytechnics attributed shortages of drugs and equipment in their health centres to underfunding [10]. Recent interventions illustrate the scale of the infrastructure and equipment gap. In January 2026, for instance, the University of Abuja was allocated ₦4 billion under the Special Intervention for Health Professions (SHIP) of the Federal Ministry of Education and TETFund to expand infrastructure and equipment in its health-related faculties [11].

3.2. Shortage of Qualified Health Personnel and Weak Human-Resource Management

The second major challenge is the shortage, inadequate deployment and poor retention of qualified healthcare personnel. Tertiary-institution health facilities require medical doctors, nurses, pharmacists, laboratory scientists, medical-records officers, health attendants and other professionals. When the number of personnel is inadequate in relation to the population served, existing workers face excessive workloads and patients experience long waiting times. In a study of healthcare delivery to undergraduates at Prince Abubakar Audu University, Anyigba, inadequate and non-available healthcare personnel were among the challenges affecting students' access to care, alongside inadequate service hours, long waiting times and non-availability of drugs [12]. Onumsinachi et al. similarly identified poorly trained and poorly motivated staff, delayed referrals and inadequate healthcare resources as barriers to effective healthcare delivery on Nigerian university campuses. The challenge is not limited to campus clinics: a study of tertiary health facilities in Calabar identified inadequate funding, insufficient work equipment, erratic electricity and inadequate management capacity among perceived management challenges, and emphasised the need for management capacity-building [13]. At the global level, the World Health Organization stresses that the availability, accessibility, acceptability and quality of the health workforce depend on sustained investment in its education, deployment and retention [14].

3.3. Inadequate Infrastructure, Medical Equipment and Referral Systems

A third major challenge is inadequate infrastructure, obsolete or insufficient medical equipment and weak referral arrangements. Effective health-facility management requires functional laboratories, pharmacies, consultation rooms, emergency facilities, diagnostic equipment, ambulances, electricity, water supply and appropriate waste-management systems. A national assessment found substantial disparities in the distribution of health facilities in Nigeria and concluded that additional investment was required to improve access to care [15]. Although this evidence covers the wider health system, it is relevant because institutional health centres operate within the same infrastructure environment. Onumsinachi et al. identified limited healthcare-delivery resources and delayed referrals as challenges to healthcare delivery for students, while students interviewed by The Guardian described campus clinics as poorly maintained and lacking modern equipment. The Calabar study likewise identified erratic electricity supply and poor transportation as management challenges in tertiary health facilities.

3.4. Poor Availability of Drugs and Medical Consumables

Campus health centres require regular supplies of medicines, syringes, gloves, laboratory reagents, dressing materials and other consumables. When procurement is delayed or funding is inadequate, health facilities experience stock-outs. Non-availability of drugs was one of the challenges reported by students at Prince Abubakar Audu University, and media reports from other campuses describe students who were unable to obtain necessary drugs, as well as allegations of expired medicines being administered. Such failures erode students' trust in institutional health services and push them towards private pharmacies and out-of-pocket spending.

3.5. Poor Health Information and Records Management

Health facilities need accurate records on patients, diagnoses, treatments, drug consumption, referrals and disease patterns to support planning, budgeting, monitoring and evaluation. Many health facilities in Nigeria still depend heavily on manual record-keeping, which can result in missing files, duplicated records, difficulty retrieving patient information and delays in service delivery. Digital health-information systems can improve accessibility and accuracy, but their implementation requires reliable ICT infrastructure, electricity, internet connectivity and trained personnel. In sub-Saharan Africa, high costs, inadequate infrastructure, unreliable power supply and limited computer skills of health workers have been identified as the main barriers to the adoption of electronic health records [16]. For tertiary institutions, poor records management makes it difficult for administrators to determine the health needs of students and staff or to plan appropriate interventions.

3.6. Poor Waste Management and Infection-Control Practices

Health facilities generate infectious waste, sharps, pharmaceutical waste, contaminated materials and other hazardous substances, and improper disposal exposes students, staff, healthcare workers and surrounding communities to health risks. A study of medical waste management in Ibadan found significant weaknesses in waste segregation, transportation, treatment and disposal in Nigerian health institutions [17]. International guidance recommends segregation at source, safe storage and transport, appropriate treatment technologies and training of staff as the core elements of safe healthcare-waste management [18]. The problem is relevant to tertiary institutions because university health centres, laboratories and teaching hospitals generate different categories of healthcare waste, and poor handling increases the risk of infection, injuries and environmental contamination.

3.7. Weak Emergency Response and Referral Management

Health facilities in tertiary institutions should be capable of responding promptly to emergencies such as accidents, severe malaria, asthma attacks, injuries and acute infections. However, some institutional health centres lack adequate emergency equipment, ambulances, trained personnel and formal referral arrangements with specialist hospitals. Delayed referral was identified by Onumsinachi et al. as one of the factors affecting healthcare delivery to students, and limitations in campus diagnostic and treatment capacity make effective referral arrangements particularly important.

3.8. Inadequate Electricity, Water Supply and Other Utilities

Health facilities require continuous electricity for laboratory equipment, refrigerators for vaccines and medicines, diagnostic machines, computers, lighting and emergency services, while water is essential for sanitation, infection prevention, cleaning and patient care. A systematic review of health facilities in sub-Saharan Africa found that a substantial proportion had no electricity access and that, even where facilities were connected, the supply was frequently unreliable [19]. In tertiary institutions, unreliable power supply also increases operating costs because health centres have to depend on generators or other alternative sources of electricity.

3.9. Poor Health-Insurance Coverage and Financial Barriers

Although the Tertiary Institutions Social Health Insurance Programme (TISHIP) was introduced to improve students' access to healthcare, implementation and coverage have not been uniform across tertiary institutions. A cross-sectional study of students at two tertiary institutions in Ibadan noted that, despite the programme's long existence, a significant number of eligible students remain uncovered, and examined students' knowledge of the scheme as a factor in its uptake [20]. The broader development of social health insurance in Nigeria has also been constrained by policy and institutional factors that limited the expansion of coverage beyond the formal sector [21]. These conditions can

make students rely on out-of-pocket payments when institutional health services cannot provide the required treatment, affecting their ability to pay for referrals, laboratory investigations, medicines and specialised care.

3.10. Poor Coordination between Institutional Health Centres and External Health Facilities

Institutional health centres cannot provide every level of medical or specialist care, so effective referral relationships with teaching hospitals, general hospitals, specialist hospitals and other providers are essential. When referral systems are poorly organised, students with serious conditions may experience delays in accessing specialist treatment. Poor coordination can also result in incomplete transfer of medical information, uncertainty about where patients should be referred and difficulties in following up patients after treatment. Effective referral management therefore requires formal partnerships, clear referral protocols, emergency communication channels and proper documentation.

Table 1. Challenges facing health facilities in Nigerian tertiary institutions and corresponding strategic responses

No.	Challenge	Main manifestations	Strategic response
1	Inadequate funding and poor maintenance	Budget shortfalls; unmaintained equipment; limited range of services	Adequate, predictable budget lines; planned preventive maintenance
2	Shortage of qualified health personnel	Excessive workload; long waiting times; limited service hours	Recruitment to population norms; incentives and retention; capacity-building
3	Inadequate infrastructure and medical equipment	Lack of functional laboratories, diagnostic and emergency equipment	Upgrading of health centres and diagnostic capacity
4	Poor availability of drugs and consumables	Stock-outs; reliance on private pharmacies	Efficient procurement and inventory-management systems
5	Poor health information and records management	Manual records; missing files; weak data for planning	Electronic medical records and health-information systems
6	Poor waste management and infection control	Unsafe segregation and disposal of hazardous waste	Segregation facilities, protective equipment, safe disposal
7	Weak emergency response and referral management	Lack of ambulances and emergency equipment; delayed referrals	Emergency units; formal referral protocols
8	Inadequate electricity, water and utilities	Power outages; generator dependence; poor sanitation	Reliable power (including solar), water and sanitation
9	Poor health-insurance coverage	Uncovered students; out-of-pocket payments	Full enrolment in TISHIP; awareness of benefits

10	Poor coordination with external facilities	Incomplete information transfer; weak follow-up	Partnership agreements with teaching and specialist hospitals

Source: compiled by the authors from the reviewed literature.

3.11. Discussion: Towards a Sustainable Health-Facility Development Framework

The findings show that the ten challenges are not isolated problems but mutually reinforcing weaknesses. Inadequate funding limits the recruitment of personnel, the procurement of drugs and the maintenance of equipment; unreliable electricity undermines laboratories, cold chains and digital records; and weak insurance coverage and referral arrangements transfer the cost of unmet needs to students. Mapped onto the health-system building blocks used in this review, the challenges fall mainly under financing (funding and insurance), health workforce (personnel), medical products and technologies (drugs, equipment, utilities), information (records) and service delivery (emergency, referral, waste management), with leadership and governance cutting across all of them.

Consequently, piecemeal interventions—such as constructing a new medical centre without staff, drugs or reliable power—are unlikely to produce lasting improvement. A sustainable approach requires the simultaneous strengthening of financing, human resources, infrastructure and utilities, supply chains, information systems and referral and insurance linkages, supported by preventive care and continuous monitoring and evaluation. These components are combined in the framework presented in Figure 1, which positions the sustainable development of health facilities as an integral component of tertiary-institution management rather than an isolated medical responsibility.

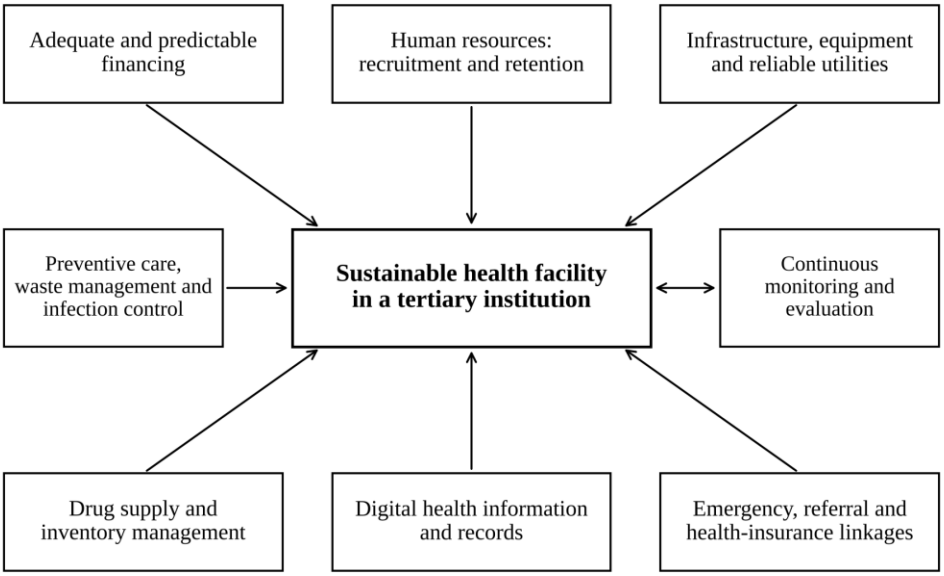


Figure 1. Framework for sustainable health-facility development in Nigerian tertiary institutions

Source: developed by the authors.

4. Conclusion

Health facilities are indispensable to the effective functioning of Nigerian tertiary institutions because they protect and promote the health and wellbeing of students, academic staff, non-academic staff and other members of the institutional community.

However, their effectiveness is constrained by inadequate funding, shortage of qualified health personnel, insufficient infrastructure and medical equipment, irregular availability of drugs, poor health-information management, poor waste management, inadequate utilities, weak emergency and referral systems, limited insurance coverage and poor coordination with external healthcare providers. These challenges can undermine students' welfare, staff productivity, academic participation and institutional performance. Tertiary institutions must therefore move from a reactive approach to healthcare towards a preventive, technology-enabled, adequately financed and quality-oriented health-facility management system. Based on the findings, the study recommends the following: **Increase and stabilise funding:** Governing councils and management of tertiary institutions should provide adequate and predictable funding for health facilities, covering personnel, drugs, equipment, maintenance, utilities and emergency services. **Recruit and retain qualified health personnel:** Institutions should employ adequate numbers of doctors, nurses, pharmacists, laboratory scientists, medical-records officers, counsellors and other professionals, and introduce appropriate incentives to retain competent healthcare workers. **Modernise infrastructure and medical equipment:** Institutional health centres should be upgraded with functional laboratories, pharmacies, emergency units, diagnostic equipment, consultation rooms and other essential facilities. **Ensure regular availability of drugs:** Effective procurement and inventory-management systems should be established to prevent shortages of essential medicines and medical consumables. **Develop digital health-information systems:** Tertiary institutions should adopt electronic medical records and other appropriate digital health technologies to improve record management, data availability, monitoring and decision-making. **Strengthen emergency and referral systems:** Institutions should establish formal referral agreements with nearby teaching hospitals, specialist hospitals and other providers, and strengthen emergency transportation and communication systems. **Improve electricity, water and sanitation:** Health facilities should have reliable electricity and water supplies; solar energy and other sustainable alternatives should be explored to reduce dependence on unstable public electricity. **Strengthen health-insurance coverage:** Institutions should ensure that eligible students and staff are properly enrolled in relevant health-insurance schemes and that beneficiaries understand the services covered. **Promote preventive healthcare:** Health centres should place greater emphasis on health education, immunisation, screening, mental-health support, sexual and reproductive-health education, sanitation and disease-prevention programmes. **Strengthen healthcare-waste management:** Institutions should provide appropriate waste-segregation facilities, protective equipment and safe disposal systems to minimise infection and environmental risks. **Establish continuous monitoring and evaluation:** Health facilities should develop measurable performance indicators covering waiting time, drug availability, staffing, patient satisfaction, equipment functionality, referrals and health outcomes, and use regular evaluation to guide management decisions and resource allocation.Future empirical studies could test the proposed framework through multi-campus surveys of students, staff and health-facility managers, and could quantify the effect of funding, staffing and insurance coverage on service utilisation and health outcomes.

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