

An Assessment of the Management Practices in Nigerian Federal Teaching Hospitals and Their Impact on Health Care Service Delivery

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Abstract. This article aims to assess the impact of the Management of Federal Teaching Hospitals in Nigeria on healthcare service delivery, using the University of Nigeria Teaching Hospital (UNTH) as a case study. Two Hypotheses guided the work. The first is that the heavy reliance on the Paper Record Keeping System in Nigeria's Federal Teaching Hospitals affects patient treatment. The second is that the quality of leadership in the Federal Teaching hospitals affects the ability to provide consistent and effective radiography and laboratory services. Deming's Total Quality Theory was adopted to guide the study. Data for the study were collected from primary sources through semi-structured interviews. The data was analysed qualitatively, using logical deductions, simple frequency tables, and a Pie Chart. The Ex-post Facto Research Design was also adopted. The study's findings revealed that the heavy reliance on the paper-based record-keeping system had a significant impact on patient treatment, particularly in terms of missing laboratory test results, incomplete file documents, and delayed treatment, among other issues, during the period under review. Similarly, findings also showed that the nature of leadership in the hospital affected their inability to provide constant and effective radiography services to patients, especially concerning exerting adequate pressure on the government to provide funding, making judicious use of the funds available, having a good maintenance culture, and being responsive to the complaints of the units under study. Arising from the findings, it was recommended, among other things, that the Electronic Record System be adopted as a backup to the Paper Record System. It was also recommended that those in leadership positions in hospitals should be required to undergo periodic leadership training to enhance their leadership skills.

Keywords: Management; Health Service; Hospital; Patients; Quality Leadership; Treatment.

INTRODUCTION

In line with the federal structure of Nigeria, the Healthcare System is organised into three levels:

federal, State, and Local Government levels. The local government oversees the operations of Primary Health care facilities within their territories; State Governments oversee the operations

of secondary Health facilities (General Hospitals); while the Federal Government is responsible for providing guidance policies, planning and technical assistance, coordinating state-level implementation of the National Health policy, as well as the establishment of Health Management Information Systems. The Federal Government is also responsible for overseeing the operations of Tertiary Health Facilities, including Federal Teaching Hospitals. The Ministry of Health is responsible for coordinating and overseeing the operations and activities of all health facilities. The structure of the Nigerian Healthcare System was configured in this way to provide easy access to healthcare for individuals at all levels of government and society. Primary health facilities are intended to be the first point of contact for patients. Here, after a thorough diagnosis by a general practitioner, a person can be referred to higher-level facilities if necessary or treated accordingly. Federal Hospitals were supposed to handle only severe cases, requiring specialist attention/investigation, based on referrals from primary or secondary healthcare facilities. Sadly, the Nigerian Health System has failed to function as it was designed to due to various reasons, including inadequate facilities, poor infrastructure, inadequate funding, the non-availability of some basic health service delivery resources, and poor quality of health workers. All these factors have contributed to eroding citizens' confidence in the primary and secondary level health service delivery facilities. Consequently, patients flood Federal Teaching Hospitals with all manner of cases, some of which could be handled at the lower levels. Federal Teaching Hospitals in Nigeria also face challenges such as funding, staffing shortages, resource scarcity, and inadequate remuneration. These facilities have failed in their responsibility to provide quality healthcare, adequate training, and conduct research. A Hospital Management Board oversees federal hospitals in Nigeria.

Several challenges confront the Nigerian Health Care System. These challenges have contributed to the system's inability to address the health needs of Nigerians. Like we noted earlier, a lot of patients die not from disease, but due to systemic inadequacies/shortcomings. Health Record Management is an essential part of delivering quality healthcare services. The purpose of health record management is to ensure quality, accuracy, accessibility, authenticity and security of information in both paper and electronic sys-

tems [15]. Sadly, Federal Hospitals in Nigeria rely heavily on a paper record-keeping system. They have been unable to adapt to the changes introduced by developments in Information and Communication Technology (ICT). The University of Nigeria Teaching Hospital (UNTH) is not an exception. According to [4], Electronic Health Records (EHRs) are a growing phenomenon considered the cornerstone of modern healthcare systems in the current information age. The failure to adopt them may contribute to a deviation from the standard of care. Authors [1] noted that Electronic Health Records have high potential benefit and high likelihood of improving individual patients and population outcomes, such as clinical outcomes, reductions in medical errors, improved quality of care, organisational outcomes, with regards to improved ability to conduct research, improved population health, and reduced cost of operations [17] in [1]. Interestingly, cases of misdiagnosis, incorrect treatments, and loss of patient files are prevalent in Nigerian federal hospitals. However, little research has been conducted to establish the causes of such incidents. Research on the relationship between record-keeping and the diagnosis/ treatment of patients is limited. Considering that EHRs have not been fully adopted by most hospitals in Nigeria, available research emphasises their successes and failures in areas where they have been adopted, without linking them to service delivery to patients. For instance, [17] evaluated the role of the Digital Record Management System in enhancing health service delivery in Minna metropolis. They found that about 20% of hospitals in Minna Metropolis were dissatisfied with the system and wished to abandon it. They argued that the potential risks associated with EHR received less attention due to over-excitement about the new system. Similarly, Okafor-Dike in [1] carried out a study that revealed, on average, patient records contain pieces of information that the Doctor could not find in the paper file [1]. It was also noted that physicians and their office staff often report spending more time searching for patient information than the time allocated for the patient. Other scholars highlighted the challenges posed by other factors to Health Records Keeping. For instance, [8] noted that incomplete or illegible handwriting, use of confusing abbreviations and inappropriate requests could limit the value of medical records.

Additionally, the facilities in Nigeria's federal hospitals have been inadequate for addressing

the challenges and demands of the thousands of patients who visit the Teaching Hospitals for treatment. Specifically, facilities in the radiography and laboratory testing units are in a pathetic state. The machines frequently break down or are unavailable. Similarly, results of tests conducted in Federal Hospital Laboratories are usually considered unreliable, even by Doctors and other health providers within the hospitals. This is typically due to the use of substandard or expired reagents, faulty equipment, or other factors. Consequently, patients are referred to other private agencies where better facilities for radiography and laboratory testing are available. Unfortunately, this comes at exorbitant costs to the patients. Studies on why these challenges persist are limited. Emphasis is laid on the general challenges of healthcare delivery, without narrowing it down to specific services. Similarly, the existing literature has adequately addressed issues related to inter-professional conflicts in the healthcare sector and their impact on hospital service delivery. For instance, leadership tussles between Doctors and other professionals constitute a major source of conflict in Nigeria's Health Sector. In a report by [10], she noted that the Lagos Chapter of the Association of Radiographers in Nigeria expressed displeasure over what it described as "quack radiography practice" in General Hospitals within Lagos. There were allegations of attempts by the State Ministry of Health to commercialise radiography practice in the State. They also noted that many persons who practice radiography in hospitals are unqualified to do so. Incessant industrial action by the Joint Health Sector Union (JOHESU), which comprises other health practitioners, besides Medical Doctors, has continued to affect Laboratory and Radiography Services in Federal Hospitals. The challenges experienced by the various Federal Hospitals in Nigeria are similar.

The review of the literature reveals that research on the causes of incorrect patient diagnosis and treatment, especially in relation to the heavy reliance on paper record systems, is limited. Again, little research has been conducted to determine why laboratory and radiography services in Nigeria's Federal Hospitals are subpar. It is against this background that this study sets out to ascertain how the heavy reliance on the paper record-keeping system affects the treatment of patients in Nigeria's Federal Teaching Hospitals and how the quality of leadership in the Federal Teaching Hospitals within Nigeria affects the ability to

provide constant and effective radiography and laboratory services to patients.

Literature review

The review of available literature revealed that existing research has primarily focused on issues such as patient health-keeping behaviour and its impact on the quality of patient treatment [14], as well as socio-economic differences and their impact on the quality of healthcare delivery [16]. Other areas of focus include the treatment of specific ailments, such as cancer, in Federal hospitals [6] and the challenges of record-keeping in Nigerian hospitals about the preservation of records [3]. The foregoing does not adequately explain the impacts of paper record-keeping on patient diagnosis and treatment in Nigeria.

Similarly, it was found that extant research has largely emphasised issues associated with the quality of infrastructure in Nigeria's hospitals [12]; ethical and other professional standards in the medical laboratory and radiography professions, with specific reference to the level of adherence to these standards [9]. Other areas that have received adequate research attention include: issues associated with adherence to hygiene standards in clinical laboratories of Tertiary Health Facilities [11], training of radiography or laboratory students [2], compliance with radiography practice standards [5], and response of some patients to specific radiography services like mammography [13], amongst others. The foregoing reviewed literature does not adequately explain why certain radiography or laboratory services are not always available in Nigeria's Federal Hospitals and why, even when they are available, they might not always be effective. Arising from the above-identified gaps, this study aims to investigate the impact of paper-based recording systems in federal hospitals on patient care and the reasons for inadequate radiography and laboratory services in these hospitals, using the University of Nigeria Teaching Hospital, Ituku Ozalla, as a case study.

METHODOLOGY

Theoretical Framework. William Edward Deming propounded the Total Quality Management Theory. William Deming was a physicist, statistician, and psychologist. Throughout his career, he had the opportunity to serve as an adviser in various

governments. In 1950, Deming was invited by the Union of Japanese Scientists and Engineers (JUSE) to teach statistical methods for quality improvement. Over a period of four years, with Deming's guidance, Japan's products changed from being equated with low quality to becoming the world leader in manufacturing excellence. Despite the economic boom in the USA following World War II, production began to double after a few decades. Deming played a crucial role in shifting management perspectives by organising seminars and providing consultancy services. It is these teachings and methods taught by Deming that form what we now call the Total Quality Management Theory. The basic propositions of this theory are captured under his fourteen principles for quality management. As cited in [7], the principles are as follows:

1. Create constancy of purpose for the continual improvement of products and services: this means changing one's attitude towards how projects are approached. When working on a project, it is essential to always keep long-term plans in mind rather than reacting to short-term issues. Every project should be executed with the understanding that it must be done better than the previous one, and at a lower cost.
2. Adopt the new philosophy created in Japan, which involves the management and workforce adopting a philosophy that emphasises quality products and services.
3. Cease dependence on mass inspection: This is based on the argument that quality does not come from inspection; mass inspection is unreliable, costly and ineffective. Hence, Deming argued that quality embedded projects will lead to reduced monitoring. Hence, data collected from inspections should be utilised for better process control.
4. Build quality along with price: organisations should invest time in finding single suppliers of products who maintain the standards required. Relationships with such suppliers should be nurtured to establish mutual trust between the purchaser and seller. While outsourcing activities of the organisation, it should be kept in mind that price should not be the only consideration.
5. Improve constantly and continually, in every aspect of planning, production, and service. Here, Deming re-emphasised that planning starts with management. It is the responsibility of management to seek ways to improve quality continual-

ly. The management of any organisation must identify policies and practices that are dysfunctional and change them.

6. Institute leadership aimed at helping people to do a better job: Here, constant training of personnel to improve service delivery is emphasised. Deming distinguished between leadership and supervision. Managers and subordinates must realise that they have a common goal – to ensure the achievement of set goals, in record time and with minimal cost.
7. Institute Training: Once again, the danger of inadequate training is emphasised. Regular training for personnel on specific tasks should be conducted. When a new need is identified, personnel concerned should be retrained.
8. Drive out Fear: Deming believes that management by fear is counterproductive in the long term, because it prevents employees from acting in the best interest of an organisation. Free discussion of subjects should be allowed. Management should be attentive to the requests and opinions of personnel and be willing to provide assistance and support.
9. Break down Barriers between Departments: Departments should work as a team. Unnecessary competitions should not be allowed because they can lead to conflict. All departments should be made to understand that they all have a common goal.
10. Eliminate Exhortations and Numerical Targets for Workforce: Deming argues that this does not help anyone to do a good job. Instead of punishing personnel through penalties, replacement, rebuke, or any other related punitive actions, management should first examine the process, analyse it, attempt to understand its strengths and weaknesses, and consider possible resolutions before acting.
11. Remove barriers to pride in artistry, including annual appraisals and management by objectives. To Deming, production targets encourage the delivery of poor-quality goods. Quotas and targets only take account of numbers, not quality or methods. Hence, to hold down a job, people will meet a quota at all costs, including doing damage to the organisation. Barriers such as misguided supervisors, faulty equipment, and defective materials should be eliminated to foster improved job performance. Adequate training opportunities should also be provided.

12. Encourage Education and Self-Improvement for Everyone: Organisations should invest in the education of their workforce, encourage self-education, and make training programmes on professionalism and the acquisition of new knowledge available. This will, in the long run, guarantee sustained effectiveness and efficiency of the workforce.

13. Top Management's Permanent Commitment: Top management should lead the change initiative and remain committed to it. The management should also ensure that they carry along the subordinates and other persons concerned in the change mission.

Application of the theory. Based on the assumptions of the Total Quality Management Theory, Deming posits that organisations that struggle with effectiveness and efficiency lack these principles. Like most Nigerian public institutions or organisations, Nigerian tertiary health institutions are not properly managed. Emphasis is being placed more on the cost of services than on quality. A paper-based recording system, for instance, has largely been maintained due to its cost-effectiveness in terms of both financial and convenience considerations. The management has been unable to initiate policies that require the use of ICT for record-keeping, even if only as a backup to the paper record system. As a result, records sometimes go missing or are destroyed due to poor preservation.

Again, some staff in charge of record-keeping lack the necessary ICT skills needed to manage Electronic Health Records (EHRs). Hence, they resist attempts to adopt ICT use in record keeping. It is the responsibility of hospital management to ensure that staff receive the necessary training to carry out their duties effectively. It is also their responsibility to ensure that they continuously improve the methods and processes used to deliver services in the federal hospitals. They have failed in this regard.

Again, the hospital management has failed to ensure that the various departments in the hospital work as a team. What you find in most federal hospitals is constant conflict amongst members of the various medical professions over superiority or differences in benefits. As a result, management is being accused of serving the interests of specific professions rather than the collective interest. Management does not adequately interact with various departments to properly ascertain their challenges. As a result, some depart-

ments or units suffer from neglect due to inadequate facilities or equipment. In this regard, the hospital management in Nigeria's teaching hospitals has failed to ensure the availability of quality radiography and laboratory services.

To address the challenges mentioned above, the management of federal teaching hospitals must emphasise quality service, not just on cost. They have to carry all units of the hospital along in all their decisions. Periodical supervisions should be organised not just to punish defaulting staff, but to ensure that the system and processes are functioning as they should. The management should ensure a continuous effort to improve workforce capability and infrastructure, and make necessary hospital equipment available, in line with technological and process advancements in the field, with a consistent purpose.

Method of Data Collection & Method of Data Analysis. Data for the study were collected from primary sources. The Survey Method of data collection, along with a purposive sampling method, was adopted for this study. Specifically, interviews were conducted. Key informant interviews were also utilised to gather informed responses from professionals within the field on some of the issues under study. The interview questions are semi-structured, requiring yes or no answers, but still allowing respondents to express other opinions.

To ascertain the impact of a paper records-keeping system on healthcare service delivery, a total of ten key informants were interviewed. These individuals include doctors, Nurses, Lab scientists, Radiologists, and Pharmacists. Additionally, thirty patients and their relatives were interviewed to gather information about their experiences with the paper record system. To ensure the sample size was representative, respondents were selected randomly from wards, outpatient clinics, laboratories, and emergency units. For the second research question, key informant interviews were conducted. Ten persons, drawn from among doctors, Nurses, and staff of the Radiography and Laboratory Units, were interviewed. Two of the informants are doctors, two are nurses, three are from the Radiography unit, and three are from the Laboratory unit.

The key informants consisted of individuals who had worked at UNTH for a period of 5 years or more, while the patients or their relatives interviewed were those who had visited the hospital

for at least 2 years. The interview questions were semi-structured, allowing respondents to provide specific yes-or-no answers to questions while still expressing their opinions on other topics.

The Data generated was analysed qualitatively, using deductive analysis, simple %age, tables and charts.

Empirical verification

Reliance on the Paper Record System and Treatment of Patients in Nigeria's Federal Teaching Hospitals. The number of key informants interviewed for this section is ten. The participants were drawn from among the medical staff of the University of Nigeria Teaching Hospital (UNTH) who had worked at the hospital during the period under review. They consist of Doctors, Nurses, Lab scientists, Radiologists, and Pharmacists. They were asked simple yes-or-no questions, with the option to provide additional comments or express other opinions regarding the questions asked. Below are the questions:

1. Do you think that the Paper Records System is effective for managing patient data?
2. Have you had any experience of, or witnessed a case of loss of a patient's file or documents within the file?
3. Have you had any experience of, or witnessed a case of wrong test results from the laboratory or radiography units due to missing, mixed-up, illegible or poorly preserved patient records?
4. Have you ever experienced a case of incorrect drug issuance by the pharmacy, due to mixed-up paper records or illegible writing?
5. Have you ever experienced a situation where a patient's treatment was delayed due to a missing file or documents, or a delay in locating the file?
6. Have you ever encountered a situation where a patient's condition was misdiagnosed due to an inability to retrieve previous documents from their file?
7. In cases of emergency, based on your experience, do you think that the paper records system allows for effective and prompt exchange of information between units in the hospital?
8. Do you think that over-reliance on the paper record system accounts for some cases of wrong

administration of drugs, due to factors like unclear handwriting?

9. Based on your experience, do you think that the slow exchange of information between units within the hospital and the delayed treatment account for some cases of fatalities or deaths?

10. Do you think that patient data will be better managed, with a positive impact on patient care, if the Electronic Record System is adopted?

11. What do you think are the major impediments to the adoption of Electronic Health Record System (EHR) in Nigeria's Federal Teaching Hospitals?

A) Leadership deficiencies or inadequacies on the part of the hospital management; B) Poor knowledge of ICT on the part of records staff; C) Lack of funding; D) Lack of a constant Power supply; E) Resistance from health records staff

Below is a summary of their responses:

Table 1 – Response of Key Informants on the First Research Question

Question No	No of Respondents	Yes	No			
Question 1	10	5	5			
Question 2	10	7	3			
Question 3	10	8	2			
Question 4	10	6	4			
Question 5	10	8	2			
Question 6	10	6	4			
Question 7	10	2	8			
Question 8	10	8	2			
Question 9	10	6	4			
Question 10	10	0	10			
	No of Respondents	A	B	C	D	E
Question 11	10	2	0	5	3	0

As shown in the table above, regarding the effectiveness of the paper record system in managing patient data, the number of participants who responded 'Yes' was equal to the number who responded 'No' (five persons for each), which is quite interesting. Those who support the paper record system argue that, considering the level of ICT knowledge in Nigeria, especially among health record staff, the inconsistent power supply and poor maintenance culture in public organisations, adopting an electronic record sys-

tem in hospitals could lead to the easy loss of patient data.

Regarding the second research question, whether respondents have experienced situations where a patient's file or documents within the file were lost, 7 of them answered yes, while three answered no. In the words of one of the respondents, he stated that:

Sometimes, nurses or staff in the record-keeping unit can mishandle the files. Sometimes, documents fall out because they are not properly fastened to the other documents within the file, or the file itself (Fieldwork, 2023-2024).

For the third research question, regarding whether respondents have experienced a case of a wrong laboratory test result due to illegible handwriting or mixed-up papers, eight respondents said yes, while two said no. None of them could vividly remember any particular experience specifically related to the question; however, one of the Doctors recounted an experience he had with a patient. According to him:

There was a female patient I treated once. I sent her to the lab for a test. For days, she couldn't get the test results. Whenever she went to the lab, they kept saying they couldn't find the test paper. Eventually, I had to write out the test again, for her to take back to the lab (Field Work, 2023-2024).

Similarly, regarding whether they have experienced cases where the pharmacy issued the wrong drug due to illegible writing or mixed up papers (question 4), six respondents reported having done so. In comparison, four respondents reported that they had not. In response to the question five on whether or not they have experienced cases where a patient's treatment got delayed due to missing file or file document, or delay in finding file, (question 5), 8 of the respondents said Yes, while two said No.

In response to question 6, whether the respondents have experienced a situation where a patient's current health condition was misdiagnosed due to the inability to retrieve previous information from their file, six of the respondents said 'Yes', while four said 'No'. Regarding whether the heavy reliance on the paper record system allows for prompt and effective communication between units, especially in emergency cases (question 7), eight respondents answered 'no'. In comparison, two respondents answered 'yes'. Regarding whether the over-reliance on the paper record system contributes to some cases of

wrong drug administration due to factors such as illegible writing (question 8), eight respondents answered yes, while two respondents answered no. On whether the slow exchange of information within the units accounts for some cases of fatalities or death (question 9), 6 of the respondents said Yes, while four said No. Regarding whether they believe patient data will be better managed and have a positive impact on patient care if the Electronic Health Records System is adopted (question 10), 10 respondents answered 'yes', while none answered 'no'. However, according to one of the respondents:

The Electronic Health Records System can only be effective in Nigerian hospitals if the government addresses the issue of power interruptions or finds alternative ways to address the constant power failure issues. Again, the health record staff, as well as other staff who handle patient records, must be constantly trained and retrained on ICT issues. Without these, adopting the EHR system in Nigerian federal hospitals will be a failure. Lastly, the government must be persuaded to provide funds for the procurement of necessary ICT facilities (Field Work, 2023-2024).

Finally, when asked to state their opinions on the major impediments to the adoption of the Electronic Health Records System in Nigeria's Federal Teaching Hospitals (question 11), 2 of the respondents picked the option A; leadership deficiencies or inadequacies on the part of the hospital management. 5 picked option C; lack funding, 3 picked the option D; lack of constant power supply. 0 picked option B and E; poor knowledge of ICT on the part of records staff, and resistance from health records staff, respectively.

Presentation and Analysis of Responses from Patients and Patient Relatives. For this section, thirty patients and patient relatives were interviewed to get information about their experiences with the paper record system. To ensure the sample size was representative, respondents were selected randomly from wards, outpatient clinics, laboratories, and emergency units. The respondents were drawn from persons who have received treatment or visited the hospital with a patient who had received treatment from the hospital within the period under review. They were asked simple yes-or-no questions, with the option to provide additional comments or express other opinions regarding the questions asked. Below are the questions asked:

1. Has the file or file document of yours or that of your relative ever been missing?
2. Have you, a relative or anyone you know who receives treatment at UNTH ever had a case of a missing laboratory or radiography test result?
3. Have you or your relative or anyone you know, who receives treatment in UNTH, ever been administered the wrong drug or medication due to illegible writing on the prescription paper?
4. Has your treatment or that of a relative or someone you know been delayed due to long walks to different units to pick up information, test results, or other necessary items?
5. Do you know anyone who has experienced delays in the release of radiography or laboratory test results, or the collection of files, due to the lengthy bureaucratic processes associated with paper record release?
6. Have you experienced or witnessed deaths or fatalities that occurred due to the administration of wrong drugs, arising from misinterpretation of what is written on a paper, or mixed-up paper documents?

36.7 % of the respondents said Yes, while 63.3 % said No.

Regarding whether their treatment, that of a relative or someone they know who receives treatment from UNTH, has been delayed due to long walks to various units to pick up files, information, or test results (question 4), 33.3% of the respondents said yes, while 66.7% said no. Regarding whether they, their relative, or anyone they know has experienced a delay in the release of their radiography or laboratory test results due to the lengthy bureaucratic processes involved in releasing paper records (question 5), 60% of the respondents said yes, while 40% said no. Finally, on whether them, their relatives or anyone they know who receives treatment in UNTH has experienced fatalities or deaths due to wrong administration of drugs, arising from misinterpretation of what is written on prescription papers or mixed-up paper documents (question 6), 43.3 % of the respondents said Yes, while 46.7 % said No.

Below are some experiences shared by respondents. One of the respondents interviewed said:

There is this person I met when I used to bring my mum to the hospital for her diabetes treatment. He lost his younger sister due to the administration of a fatal injection. The nurses were blamed, but it was difficult to find out exactly who administered the injection. There were speculations as to whether or not the person who administered the drug could clearly see what the Doctors wrote on the paper. They never received an explanation for what happened (Field Work, 2023-2024).

Table 2 – Responses of Patients and Patient Relatives on the First Research Question

Question No.	No. of Respondents	Yes	No	%Yes	% No
Question 1	30	8	22	26.7	73.3
Question 2	30	9	21	30	70
Question 3	30	11	19	36.7	63.3
Question 4	30	10	20	33.3	66.7
Question 5	30	18	12	60	40
Question 6	30	13	14	43.3	46.7

As shown in the table above, regarding the first question of whether a patient's file or that of their relatives has ever been missing, 26.7% of the respondents answered 'Yes', while 73% answered 'No'. Note, however, that 26.7 % is quite significant, considering the importance of the issue under study. For the second question, regarding whether the respondent, their relative, or anyone they know has ever had a case of a missing laboratory or radiology test result, 30% said 'Yes'. In comparison, 73% said 'No'. On whether or not the respondent, their relative or anyone they know has ever been administered wrong drugs due to illegible writing (question 3),

Stories like that shared above can easily be averted or properly investigated if there were a backup Electronic file, clearly showing the drug or injection prescriptions. Another respondent said:

I have seen numerous instances where a patient's file could not be found or was delayed. I have also seen cases where some doctors complained of missing documents in a patient's file. There was also one occasion when I had to keep walking back and forth to the lab to obtain a lab result for my sister's treatment. Coming to this hospital is always very stressful (Field Work, 2023-2024).

Based on the results of the interviews with patients and their relatives, it can be assumed that the extent of the problem associated with paper

records is negligible. However, considering that the issue under study concerns human health and life, we cannot ignore the results above, as some of the figures are quite significant. Examples include responses to issues such as delays in patients' laboratory test results and delays in patient treatments, etc.

Judging from the above results, we can state categorically that the paper recording system has significantly affected the treatment of patients in UNTH, and by extension, other Federal Teaching Hospitals in Nigeria.

Quality of Leadership and Provision of Constant/Effective Radiography and Laboratory Services to Patients. Ten (10) persons drawn from amongst Doctors, Nurses and staff of the Radiography and Laboratory Units were interviewed. Two of the informants are doctors, two are nurses, three are from the Radiography unit, and three are from the Laboratory unit. The respondents were asked simple yes-or-no questions, with the option to provide additional comments or statements related to the questions. Below are the questions:

1. Do you think hospital management has been proactive over the years in addressing the challenges faced by the various units within the hospital?

2. Do you think that the Hospital Management's leadership style over the years has been inclusive enough to consider the challenges faced by the Radiography and Laboratory Units?

3. Do you agree that the Radiography and Laboratory Units are providing all the necessary services they should, to patients, at all times necessary, and with accurate results?

4. Do you think that all the necessary facilities needed for effective service delivery are available in the Radiography and Laboratory Units?

5. Do you think that over the years, hospital management has invested enough in the Radiography and Laboratory Units for the procurement of modern and up-to-date facilities?

6. Do you think the hospital management responds quickly enough to cases of damaged or faulty equipment in the Radiography and Laboratory Units?

7. Do you agree that faulty or damaged equipment and sub-standard chemicals account for some cases of inaccurate Radiography or laboratory test results?

8. Do you think the Hospital Management over the years has exerted enough pressure on the government to provide adequate funding for the purchase of Radiography and Laboratory facilities?

9. Do you think that over the years, the Hospital Management invested enough funds in the procurement of quality facilities for the Radiography and Laboratory Units?

10. Do you agree that over the years, the hospital management made judicious use of the funds available to it to address the challenges of various units within the hospital?

11. Do you think that those who constitute the Management Board have, over the years, represented the interests of a few medical professions within the hospital, at the expense of others?

12. What do you think is the major impediment to the delivery of constant/effective Radiography and Laboratory services?

Funding; Poor maintenance culture; Leadership inadequacies; Poor Technical Know-how on the part of Radiographers or Laboratory Technicians

Table 3 – Response of Key Informants on the Second Research Question

Question No.	No of Respondents	Yes	No
Question 1	10	0	10
Question 2	10	5	5
Question 3	10	2	8
Question 4	10	2	8
Question 5	10	2	8
Question 6	10	1	9
Question 7	10	9	1
Question 8	10	2	8
Question 9	10	5	5
Question10	10	2	8
Question11	10	5	5

As shown in the table above, when asked about their opinions on whether the hospital management has been proactive in addressing the challenges of the various hospital units (Question 1), ten informants responded with a 'No'. Regarding whether the hospital management's leadership style, over the years, has been inclusive enough to consider the challenges faced by the Radiography and Laboratory Units (question 2), five respondents said yes, while five said no. Regarding whether they agree that the Radiography and Laboratory Units provide all necessary services to patients at all times with accurate results (question 3), two respondents answered 'yes'. In

comparison, eight respondents answered 'no'. Regarding whether they believe all the necessary facilities for effective service delivery are available at the Radiography and Laboratory Units (question 4), two respondents answered yes, while eight answered no.

Regarding whether they believe that over the years, the hospital management has invested sufficiently in the procurement of modern and up-to-date radiography and laboratory services (question 5), two respondents answered 'yes', while eight respondents answered 'no'. Regarding whether they think the hospital management responds quickly enough to cases of faulty or damaged equipment in the Radiography and Laboratory Units (question 6), one respondent answered 'yes.' In contrast, nine respondents answered 'no.' On whether they agree that faulty or substandard chemicals or materials account for the cases of inaccurate Radiography or Laboratory test results (question 7), nine of the respondents said yes. In contrast, one said no. Regarding whether they believe the hospital management has exerted sufficient pressure on the government to secure funds for the procurement of Radiography and Laboratory facilities (question 8), two respondents answered yes, while eight answered no.

Regarding whether they believe that over the years, the Hospital management has invested enough money in procuring quality radiography and laboratory facilities (question 9), five respondents said yes, while five said no. Regarding whether they believe that over the years, the hospital management has made judicious use of the funds at its disposal to address the challenges faced by the various units within the hospital (question 10), two respondents said yes, while eight said no. On whether they think that those who constitute the medical board have, over the years, represented the interests of a few professions within the hospital at the expense of others (question 11), two of the respondents said Yes, while eight said No.

Based on the evidence above, we can infer that the quality of leadership has, over time, influenced the hospital's functioning. Judging from the fact that majority of the key informants did agree that the hospital management has not been effective in dealing with issues of maintenance of radiography and laboratory facilities, and has not made judicious use of available resources to address the challenges of these units, we can con-

clude that the quality of leadership is part of the reasons why the radiography and laboratory units have not been functioning at maximal capacity.

Additionally, the respondents were asked to share their opinions on what they believe to be the major impediment to the constant and effective delivery of radiography and laboratory services. Below is a summary of their responses

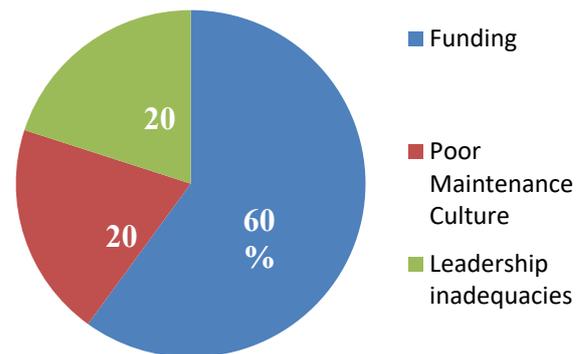


Figure 1 – Summary of Responses on the Major Impediment to Constant and Effective Radiography and Laboratory Services

From the chart above, it is evident that most key informants believe funding is the major challenge confronting the delivery of quality radiography and laboratory services at UNTH. Out of the ten key informants interviewed, six share this opinion. After funding, respondents identified poor maintenance culture and leadership inadequacies as other impediments. Two of the respondents felt a poor maintenance culture is the major impediment, while two think leadership inadequacies are to blame. None of the respondents believed that a lack of technical know-how was to blame for the problems faced by the units under study.

It is interesting that the three main impediments chosen by the respondents, in one way or another, are somehow related to leadership. For instance, when asked if they think the hospital management has exerted enough pressure on the government over the years to provide adequate funds for the procurement of laboratory and radiography facilities (question 8), two respondents said yes, while eight said no. Again, when they were asked whether they thought the hospital management responds quickly enough to cas-

es of damaged or faulty equipment in the Radiography and Laboratory Units (question 6), only one respondent said yes. In contrast, nine said no. This highlights the poor maintenance culture, which has existed over the years.

Regarding leadership inadequacies, when asked if faulty or damaged equipment and substandard chemicals contribute to some cases of inaccurate radiography or laboratory test results, nine of the informants replied yes. In contrast, one said no. The existence of this kind of situation is clear evidence of poor management.

CONCLUSIONS

From the chart above, it is evident that most key informants believe funding is the major challenge confronting the delivery of quality radiography and laboratory services at UNTH. Out of the ten key informants interviewed, six share this opinion. After funding, respondents identified poor maintenance culture and leadership inadequacies as other impediments. Two of the respondents felt a poor maintenance culture is the major impediment, while two think leadership inadequacies are to blame. None of the respondents believed that a lack of technical know-how was to blame for the problems faced by the units under study.

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The findings of this study revealed that the heavy reliance on the paper record-keeping system had a significant impact on patient treatment, particularly in terms of missing laboratory test results, incomplete file documents, and incorrect drug administration, among other issues, during the period under review. The findings also showed that the nature of leadership in the hospital is complicit in the inability to provide constant and effective radiography services to patients. This is true about exerting adequate pressure on the government to provide funding, making judicious use of the available funds, maintaining a good culture, and being responsive to the complaints of the units under study. Hence, this study concludes that the heavy reliance on paper record-keeping affects the treatment of patients in Nigeria's Federal Teaching Hospitals, and the quality of leadership in these hospitals impacts the ability to provide consistent and effective radiography and laboratory services to patients. In line with the findings, this study makes the following recommendations:

The Electronic Record Keeping System should be adopted in Nigeria's federal teaching hospitals as a backup to the Paper Record-Keeping System. To make this possible, the Hospital Management Boards should exert pressure on the government to provide funding for the procurement of the necessary ICT facilities. Additionally, to ensure the system functions effectively, regular staff training should be implemented to equip personnel managing this system with the necessary skills to perform their duties efficiently.

2. The hospital management should place more emphasis on the provision of quality services. Emphasis should be placed on maintaining available facilities to ensure they continue to function at optimal capacity.

3. Considering that funding is one of the greatest challenges confronting the Nigerian Health System, the Hospital boards have to rise to their responsibilities by exerting pressure on the relevant authorities to provide the necessary resources needed. To enhance the leadership capabilities of those at the helm of affairs in hospitals, leaders should undergo periodic management and leadership training. That would help to enhance their leadership skills.

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