



## REMEDICATION OF HEALTH INFORMATION MANAGEMENT EDUCATION AND PRACTICES IN THE DIGITAL AGE

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### Abstract

**Purpose:** In the context of Nigeria's healthcare landscape, the management of health information has become increasingly vital as the industry transitions into the digital age. This paper explores the remediation of Health Information Management (HIM) education and practices, addressing the challenges posed by traditional methods and the necessity for digital transformation.

**Design/Method/Approach:** The exploratory approach was adopted by the study. The **exploratory literature review approach** is a research method that involves systematically reviewing existing literature to gain preliminary insights into an emerging or under-researched topic. It is commonly used to identify knowledge gaps, generate new research questions, and establish a foundation for further study. Key areas of focus include the adoption of Electronic Health Records (EHR), data interoperability, data quality management, and cybersecurity measures. **Findings:** The study emphasizes the importance of comprehensive policy development, capacity building, technological investment, and patient engagement in enhancing HIM practices.

**Implications:** By identifying the implications for policy and practice, this paper provides actionable recommendations aimed at improving healthcare delivery and patient outcomes in Nigeria.

**Originality/value:** Ultimately, the findings underscore the need for strategic initiatives that align HIM practices with contemporary digital demands.

**Keywords:** Health Information Management, Digital Transformation, Electronic Health Records, Data Interoperability, Cybersecurity, Nigeria.

### Introduction

In the rapidly evolving landscape of healthcare, the management of health information has emerged as a critical component in delivering quality patient care. In Nigeria, Health Information Management (HIM) practices are regulated by three key bodies: The Health Records Officers' Registration Board, the National Board for Technical Education, and the National Universities Commission. Traditionally,

HIM education has been grounded in in-person training, with a strong reliance on manual processes across various healthcare facilities at the primary, secondary, and tertiary levels (Unegbu & Babale, 2023). This conventional approach, while historically significant, poses several challenges in the digital age where efficiency, accuracy, and data security are paramount. The transition to a digital framework in health information

management is imperative for addressing the shortcomings of traditional practices (Opele et al., 2019).

The integration of technologies such as Electronic Health Records (EHR) is essential for enhancing data storage, retrieval, and analysis. However, the journey towards digitalization is fraught with obstacles, including high implementation costs, complexities in system integration, and concerns surrounding data privacy and security (Opele & Okunoye, 2019). Furthermore, disparities in digital literacy among healthcare professionals and patients exacerbate these challenges, highlighting the need for targeted training and education. This study explored the remediation of HIM education and practices in Nigeria within the context of the digital age. Specifically, it seeks to identify key aspects of remediation, including the adoption of EHR systems, data interoperability, data quality management, cybersecurity measures, patient portal development, and compliance with privacy regulations. The study aims to provide a comprehensive framework for transforming HIM practices to meet the demands of an increasingly digital healthcare landscape. Moreover, this research delved into the challenges associated with the transition to digital health information management, emphasizing the importance of strategic planning and investment in technology and training. Ultimately, the goal is to underscore the necessity of proactive measures that can enhance patient care, streamline administrative processes, and ensure the security and privacy of health information in Nigeria.

### **I. Aspect of Health Information Management requiring Remediation in the Digital Age**

Key areas where remediation would be most needed include but not limited to:

#### **Electronic Health Records (EHR)**

**Adoption:** The transition from paper-based medical records to Electronic Health Records (EHR) is pivotal in modern healthcare practices. EHR systems facilitate efficient data storage, retrieval, and analysis, allowing healthcare providers to access patient information promptly (Adepoju & Opele, 2021). In Nigeria, the adoption of EHR has been slow due to infrastructural challenges, high implementation costs, and resistance to change among healthcare professionals (Awogbami et al., 2020). However, successful implementation of EHR can significantly enhance patient care by improving data accuracy and reducing administrative burdens (Mazur et al., 2019); (Opele & Okunoye, 2019).

**Data Interoperability:** Data interoperability is crucial for seamless communication between different healthcare providers and systems (Babagana et al., 2024). In a fragmented healthcare system like Nigeria's, where multiple entities often maintain separate records, achieving interoperability can prevent data silos and improve care coordination (Nadella et al., 2023). Developing standards and protocols for data exchange is essential. Initiatives like the Nigerian Health Information System (NHIS) aim to improve interoperability by promoting standardized data formats (Adedeji, 2021). However, challenges such as varying levels of technological adoption across facilities hinder progress (Babale & Unegbu, 2023).

**Data Quality Management:** Ensuring the quality of health data is vital for effective decision-making and patient safety. Implementing robust data quality checks and validation processes can help maintain the accuracy, completeness, and consistency of patient information (Tayefi et al., 2021). In Nigeria, there is a pressing need to develop training programs focused on data quality

management for healthcare professionals(Opele et al., 2022). This training should emphasize the importance of accurate data entry and regular audits to identify and rectify discrepancies (Opele, & Adepoju, 2024).

**Cybersecurity Measures:** As healthcare systems become increasingly digital, the protection of patient data from unauthorized access and cyber threats becomes paramount. Establishing strong cybersecurity protocols is essential to safeguard sensitive health information(Homburger, 2019). This includes implementing encryption, firewalls, and regular security assessments. Furthermore, healthcare facilities must foster a culture of cybersecurity awareness among staff through ongoing training and simulated phishing exercises(Sarker, 2021).

**Patient Portal Development:** The development of secure patient portals allows individuals to access their medical records online, view test results, schedule appointments, and communicate with healthcare providers. This not only empowers patients but also enhances their engagement in their healthcare journey(Zanaboni et al., 2020). In Nigeria, the implementation of patient portals faces challenges such as internet access disparities and low digital literacy among certain populations. Addressing these issues is critical for the successful rollout of patient portals

**Data Analytics and Reporting:** Utilizing advanced data analytics tools can provide valuable insights into patient care trends, treatment outcomes, and operational efficiencies(Youssef, 2014). In Nigeria, there is a growing interest in leveraging data analytics to inform clinical decision-making and optimize healthcare delivery. However, the lack of trained personnel in data analytics poses a significant barrier.

Investing in training programs for healthcare professionals in data analytics is essential to harness the potential of these tools(Lynch et al., 2020)

**Privacy and Compliance:** Adhering to privacy regulations, such as the National Health Insurance Authority Act (NHIA), is critical for protecting patient confidentiality. With the increasing digitization of health information, ensuring compliance with these regulations becomes more complex. Healthcare institutions must develop clear policies and training programs that emphasize the importance of data privacy and the legal implications of breaches. Strengthening compliance measures will not only protect patients but also build trust in digital health systems (Patil & Shankar, 2023).

**Staff Training and Education:** Equipping healthcare professionals with the necessary skills to effectively utilize digital health technologies is vital for successful implementation(Peterson, 2017). Training programs should focus on the use of EHR systems, data management practices, cybersecurity awareness, and patient engagement strategies. By fostering a culture of continuous learning, healthcare organizations can ensure that staff are prepared to navigate the complexities of electronic health records and digital health technologies (Rajaram et al., 2020).

## II. Implications for Policy and Practice of Health Information Management in Nigeria

The transition to a digital framework in Health Information Management (HIM) in Nigeria carries significant implications for policy and practice. As the healthcare landscape evolves, stakeholders must adapt to ensure effective implementation and sustainability of digital health initiatives. Here are the key implications for policy and practice:

## 1. Policy Development and Frameworks

### **Comprehensive Digital Health Policies:**

The Nigerian government should develop comprehensive policies that outline the vision, goals, and strategies for digital health transformation. These policies must address the integration of Electronic Health Records (EHR), data interoperability, and cybersecurity measures.

**Regulatory Standards:** Establishing clear regulatory standards for HIM practices is essential. This includes creating guidelines for data privacy, security protocols, and compliance with national and international regulations, such as the National Health Insurance Authority Act (NHIA).

## 2. Capacity Building and Training

### **Continuous Professional Development:**

Government policies should promote continuous education and training programs for healthcare professionals to enhance their digital literacy. This includes understanding EHR systems, data analytics, and cybersecurity practices.

**Curriculum Enhancement:** Educational institutions should revise the curricula to incorporate digital health competencies. This will prepare future HIM professionals to navigate the complexities of digital health technologies effectively.

## 3. Investment in Technology and Infrastructure

**Funding and Resources:** Government and private sector investment in healthcare technology is crucial. This includes funding for EHR systems, data analytics tools, and cybersecurity infrastructure to ensure robust HIM practices.

**Public-Private Partnerships:** Encouraging collaboration between public and private sectors can facilitate the development of

innovative solutions and technologies, ensuring that healthcare facilities are equipped with necessary digital tools.

## 4. Data Interoperability and Integration

### **Unified Health Information Systems:**

Policies should promote the development of unified health information systems that allow seamless data sharing among healthcare providers. This will enhance patient care coordination and reduce data silos.

### **Standards for Data Exchange:**

Establishing standardized protocols for data exchange will facilitate interoperability and improve the overall quality of health information management.

## 5. Patient Engagement and Empowerment

### **Patient Portals and Access to Information:**

Policies should advocate for the development of patient portals that allow individuals to access their health records securely. Empowering patients with access to their information encourages active participation in their healthcare.

**Health Literacy Programs:** Implementing health literacy initiatives will help patients understand their rights regarding data privacy and access, thus fostering trust in digital health systems.

## 6. Monitoring and Evaluation

**Performance Metrics:** Developing metrics to evaluate the effectiveness of HIM practices is essential. This includes assessing the impact of digital health initiatives on patient outcomes, data quality, and operational efficiency.

**Feedback Mechanisms:** Establishing mechanisms for stakeholders to provide feedback on digital health initiatives will ensure continuous improvement and adaptation to emerging challenges.

### III. Conclusion

This paper has contended that the implications of remediation of health information management education and practices in the digital age in Nigeria are multifaceted and require a coordinated approach among various stakeholders, including government agencies, healthcare providers, educational institutions, and patients. By addressing these implications, Nigeria can transform its health information management landscape, improving healthcare delivery and patient outcomes in the digital age. Emphasizing strategic planning, investment in technology, and continuous education will be crucial for navigating the complexities of this transition.

### IV. Recommendations for Enhancing Health Information Management in Nigeria

To effectively remediate Health Information Management (HIM) education and practices in Nigeria in the digital age, the following recommendations are proposed:

**Strengthening Policy Frameworks:** The government should formulate a national digital health strategy that outlines specific goals, timelines, and responsibilities for stakeholders involved in HIM. Government should create an independent regulatory body to oversee the implementation of digital health policies, ensuring compliance and addressing grievances.

**Enhancing Education and Training:** Academic institutions should integrate digital health competencies into their HIM programs, focusing on EHR systems, data analytics, and cybersecurity. They should

implement mandatory continuing professional development programs for healthcare workers to keep them updated on evolving digital health technologies and practices.

**Investing in Technology and Infrastructure:** The government and private sector should commit financial resources to upgrade healthcare infrastructure, including the procurement of EHR systems and data management tools. They should encourage collaborations between government entities and private technology firms to innovate and deploy effective digital health solutions.

**Facilitating Data Interoperability:** Government and the hospital management should develop and enforce standardized protocols for data exchange to enhance interoperability between different healthcare systems and providers. Establishing a national health information exchange platform that allows for seamless sharing of patient information across various healthcare settings.

**Empowering Patients:** The hospital management should invest in the creation of user-friendly patient portals that provide secure access to medical records, appointment scheduling, and direct communication with healthcare providers. They should launch community programs to educate patients about their rights and the importance of data privacy, fostering trust in digital health systems.

**Establishing Monitoring and Evaluation Mechanisms:** Government should develop specific metrics to assess the effectiveness and quality of HIM practices, focusing on patient outcomes, data accuracy, and operational efficiency. They should implement regular audits of digital health systems to ensure compliance with

established standards and identify areas for improvement.

### Promoting Cybersecurity Measures:

Hospital management should establish strong cybersecurity measures to protect patient data from breaches and unauthorized access, including regular risk assessments and staff training on data protection. They should develop a comprehensive cybersecurity framework specifically for the health sector, outlining best practices for data protection and incident response.

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