



## Research article

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# Effectiveness of medical records system at Federal Medical Centre, Bida, Nigeria

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## ABSTRACT

**Background/Objectives:** Medical records systems are central to healthcare delivery, providing essential documentation for diagnosis, treatment, follow-up, research and legal purposes. In Nigeria, many hospitals operate with traditional paper-based systems, with challenges of inefficiency, inadequate staffing and weak infrastructure, often compromising patient care. This study assessed the effectiveness of the medical records system in Federal Medical Centre (FMC) Bida in Niger State, Nigeria, to determine strengths, limitations and opportunities for improvement. **Design/Methods:** the study adopted a descriptive cross-sectional study. **Setting:** The setting for this study was Federal Medical Centre Bida, a tertiary referral hospital in Niger State, Nigeria. Data were collected using structured questionnaires administered to Health Information Management (HIM) professionals, clinicians and patients. Variables assessed included accessibility of records, confidentiality, infrastructure, staff adequacy and waiting times. Data were analyzed using descriptive statistics and presented in tables and charts. **Results** The study found that medical records system the FMC Bida was partially effective. Strengths included good compliance with confidentiality and systematic arrangement of records. Challenges included shortage of trained staff, inadequate infrastructure, poor storage facilities, delays in retrieval and inadequate coverage of electronic medical records (EMR). Long waiting times for patients were frequently reported, undermining service efficiency. **Conclusion:** Medical records system at FMC Bida is functional, but only partially effective. Improvements in staffing, infrastructure and full migration to EMR are required to enhance service delivery and patient satisfaction. Investment in digitization and continuous staff training is strongly recommended.

**Keywords:** Health information management; Electronic medical records, Medical records system; Service effectiveness; Nigeria

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## INTRODUCTION

Medical records serve as the foundation of healthcare delivery by documenting patient history, diagnosis, treatment and follow-up care. They are critical for clinical decision-making, research, legal evidence and evaluation of service quality<sup>1</sup>. The effectiveness of a medical records system depends on timely accessibility, accuracy, security and confidentiality of patients' health information<sup>2</sup>. In developed countries, the adoption of electronic medical records (EMR) has

significantly improved record retrieval, reduced waiting times and enhanced continuity of care<sup>3</sup>.

In many low- and middle-income countries, including Nigeria, hospitals largely depend on manual, paper-based systems, which are prone to inefficiencies, misfiling and delays<sup>4,5</sup>. These shortcomings often result in long patient waiting times, loss of records and clinician dissatisfaction. Studies have highlighted common challenges such as inadequate storage facilities, insufficient staffing and lack of digitization<sup>6,7</sup>. These systemic barriers hinder the efficiency of

healthcare delivery and negatively affect patient satisfaction.

Federal Medical Centre (FMC) Bida is a tertiary health institution in Niger State, Nigeria. Like many tertiary hospitals in the country, its medical records system is largely paper-based, with limited electronic components. Evaluating its effectiveness is essential to identify gaps and propose interventions that align with modern best practices. This study therefore investigates the effectiveness of the medical records system at FMC Bida, assessing its strengths and weaknesses, and recommending strategies to improve its efficiency and contribution to patient care.

## METHODS

### Study Area

The research was conducted at FMC Bida, a federal tertiary healthcare institution in Niger State, Nigeria, which provides specialist care and referral services.

### Study Design

The study employed a descriptive cross-sectional design. This is appropriate because it enables the systematic scrutiny of the current state of the medical records system at the Federal Medical Centre (FMC), Bida, without influencing variables.

### Study population

The study population included:

- HIM professionals; involved in records creation, maintenance and retrieval.
- Other clinicians (doctors and nurses); who rely on medical records for patient management.
- Patients; who experience the effects of medical records management in terms of waiting time and confidentiality.

### Data collection tools

Structured questionnaires were distributed to a purposive sample of HIM professionals, nurses, physicians and patients. The questionnaire covered five major dimensions which include: accessibility and retrieval of records, confidentiality and data security, infrastructure and storage adequacy, staffing levels and training,

and patient waiting times and satisfaction respectively.

### Data analysis and management

Data were analyzed using descriptive statistics, with results presented in frequencies and percentages.

### Ethical consideration

Informed consent was obtained from participants. Confidentiality of responses was assured and approval was sought from the hospital management before the study.

## RESULTS

The findings indicated that the FMC Bida medical records system is functional, but only partially effective.

### Strengths:

- **Confidentiality:** High compliance with patient confidentiality requirements was reported. Most staff understood and adhered to data protection protocols<sup>8</sup>.
- **Organization:** Records were systematically arranged, enabling structured filing and easier access.
- **Staff Knowledge:** HIM professionals demonstrated adequate knowledge of filing procedures and patient confidentiality.

### Weaknesses:

- **Staff Shortage:** Participants highlighted a shortage of trained HIM professionals, leading to overwork and reduced efficiency.
- **Infrastructure deficits:** Storage facilities were overcrowded and inadequate, contributing to delays and occasional misplacement of records.
- **Waiting times:** Patients frequently reported long waiting times due to delays in retrieving records, which negatively impacted satisfaction and clinical efficiency.
- **Digitization gap:** The absence of a fully integrated EMR system was a major limitation. Paper-based reliance made the

system vulnerable to loss, duplication and inefficiencies.

Overall, while the system maintained basic functions, inefficiencies undermined its ability to fully support high-quality healthcare delivery.

## DISCUSSION

The results of this study confirm that the medical records system at FMC Bida is partially effective. The major challenges, staff shortages, inadequate infrastructure and reliance on manual systems mirror findings in other Nigerian and African hospitals<sup>6,10</sup>.

Similar studies in Lagos and Ibadan reported inefficiencies in records retrieval, staff shortages and lack of storage space<sup>7,10</sup>. Adebisi et al. found that prolonged waiting times due to inefficient records systems directly affect patient satisfaction and clinical outcomes<sup>11</sup>. These findings align with the present study, which shows that retrieval delays at FMC Bida contribute to long queues and disruptions in outpatient services. **Strengths of FMC Bida System:** Confidentiality compliance was a notable strength. This reflects increasing awareness among staff about the importance of safeguarding patient information, consistent with WHO recommendations on data privacy<sup>3</sup>.

**Areas for Improvement:** Transitioning from paper-based to electronic systems is critical. Studies have shown that EMR adoption improves accuracy, retrieval speed and continuity of care<sup>12,13</sup>. Furthermore, recruitment of additional trained HIM professionals and continuous capacity building would reduce workload and enhance efficiency<sup>14</sup>.

**Implications for Policy:** Strengthening medical records systems in Nigerian hospitals requires national-level support. Investments in health information technology, infrastructure and workforce capacity are essential to meet global standards and improve patient outcomes.

## CONCLUSION

The medical records system at FMC Bida is functional, but partially effective. Its strengths in confidentiality and organization are overshadowed by inefficiencies caused by staff shortages, poor infrastructure, and lack of digitization.

## Recommendations

To improve effectiveness, the hospital should:

1. Recruit additional trained HIM professionals.
2. Expand infrastructure and modern storage facilities.
3. Expand EMR to inpatient areas.
4. Provide continuous professional training for staff.

These measures will reduce waiting times, improve service delivery and enhance overall patient satisfaction.

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