

Expert Opinion

The Laboratory is the New Ward: House Officers' Role in Nigeria's Diagnostic Future

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Abstract

In many Nigerian hospitals, simple lapses in laboratory request forms, such as omitting demographic data, test types, or clinical details, cause delays and misinterpretations, thereby compromising care. These errors are most often made by newly qualified doctors during housemanship, a critical stage in medical training. While house officers rotate through multiple specialties, little emphasis is placed on laboratory medicine despite its central role in diagnosis and patient management. We argue that strengthening their training in pre-analytical requirements is essential. Doing so will improve turnaround times and foster better collaboration with laboratory medicine specialists, ultimately enhancing patient outcomes.

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To the Editor of the Nigerian Medical Journal

Laboratory medicine is a cornerstone of modern healthcare, providing up to 70% of objective data for clinical decision-making [1]. However, in many Nigerian hospitals, errors in the pre-analytical phase (from test request to sample collection and transportation) remain a significant challenge. Recent studies suggest that up to 60 – 70% of total laboratory errors occur at this stage, often leading to delay in diagnosis, repeated testing, or offering inappropriate treatment [2, 3].

Common mistakes observed in Nigerian teaching hospitals include omission of critical demographic data (such as patient age, sex, or hospital number), illegible handwriting, unclear test requests, wrong sample tubes, and failure to indicate urgency [4]. These lapses have been associated with avoidable healthcare costs and increased clinician-laboratory conflicts [4, 5]. Globally, studies demonstrate that even minor omissions can have serious downstream consequences. For instance, incorrect patient identification and missing clinical information increase the risk of misinterpretation and inappropriate therapy [6]. In resource-constrained settings, where advanced laboratory automation and electronic order entry systems are often unavailable, these errors carry disproportionate weight.

One often overlooked source of these errors is the house officer (the most junior doctor). In Nigeria, house officers are often responsible for filling out laboratory request forms, collecting samples, and liaising with laboratory staff during their compulsory rotations, and represent a unique leverage in the system. Common investigations frequently initiated by house officers include basic haematological, biochemical, and microbiological tests such as full blood count, urinalysis, blood glucose, serum electrolytes, urea and creatinine, and malaria parasite tests. Ensuring proper indication, good sample handling, and filling laboratory forms accurately for these routine tests are critical to diagnostic stewardship. Unfortunately, many house officers perform these responsibilities with a limited understanding of laboratory processes, as undergraduate curricula and housemanship orientation programs place minimal emphasis on laboratory medicine [7]. Unlike residents and consultants, whose mistakes may be fewer and better managed, house officers' errors are frequent and can overwhelm laboratory workflows. As the cornerstone of laboratory practice, understanding basic analytical processes such as centrifugation, avoiding haemolysis during blood collection, proper labelling sample container, and timely delivery of the collected sample should be emphasized during housemanship. Their role in ensuring accuracy also extends to patient preparation for specific tests. For example, instructing patients to fast before lipid profile estimation and ensuring proper timing for cortisol sampling can significantly enhance the precision and interpretability of laboratory results. By targeting house officers with structured training, health systems can reduce pre-analytical errors and improve turnaround times; promote intraprofessional collaboration between clinicians and laboratory medicine specialists; and instil lifelong habits of proper laboratory utilization early in doctors' careers.

We argue that improving laboratory medicine training for house officers is an urgent necessity for Nigerian hospitals. Practical strategies may include a mandatory laboratory orientation module at the start of housemanship, delivered by laboratory medicine specialists; simulation-based training on proper completion of laboratory forms; regular feedback loops between laboratories and clinical teams; and progressive integration of electronic request systems, where feasible, to reduce handwriting-related and data-entry errors. These interventions are aligned with the World Health Organization's call for strengthening laboratory systems as part of Universal Health Coverage [8]. They also resonate with the 'One Health' approach, recognizing that laboratory efficiency impacts not only patient care but also surveillance of infectious diseases and antimicrobial resistance in the wider community [9].

Conclusion

Pre-analytical errors remain an unappreciated but highly preventable cause of poor laboratory performance. By focusing on house officers, we have a powerful opportunity to enhance diagnostic accuracy and improve patient outcomes. Medical schools should expand their curricula to include

laboratory quality management systems, ensuring the future doctors understand quality control, standard operating procedures, and error reduction mechanisms from the foundation of their training. Strengthening laboratory medicine training at this foundational level should no longer be optional; it must become an integral component of medical education and postgraduate clinical training.

Competing interests

The authors declare no competing interests.

Authors' contributions

CGO conceived the idea for the letter, coordinated inputs from the Medical and Dental Consultants Association of Nigeria, Federal Medical Centre Umuahia Chapter, laid down the framework of the letter, and critically revised the letter for intellectual content.

ISC drafted the initial letter, contributed to the intellectual framing of the argument, and reviewed the literature.

SUO provided additional context on laboratory medicine practice, refined the structure of the letter, and ensured accuracy and clarity of the submission.

All authors read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

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