

Chapter 37

Accreditation of Medical Laboratories: Challenges and Opportunities

Donovan McGrowder

Department of Pathology, Faculty of Medical Sciences, The University of the West Indies, Kingston, Jamaica

Dwayne Tucker

 <https://orcid.org/0000-0002-5241-6441>

Department of Pathology, Faculty of Medical Sciences, The University of the West Indies, Kingston, Jamaica

Fabian G. Miller

 <https://orcid.org/0000-0002-5821-1711>

Faculty of Education, The Mico University College, Kingston, Jamaica

Melisa Anderson

College of Health Sciences, University of Technology, Jamaica

Kurt Antonio Vaz

 <https://orcid.org/0000-0002-4769-966X>

Department of Pathology, Faculty of Medical Sciences, The University of the West Indies, Kingston, Jamaica

Lennox Anderson-Jackson

Department of Pathology, Faculty of Medical Sciences, The University of the West Indies, Kingston, Jamaica

ABSTRACT

Quality test results generated by medical laboratories across the globe are critical for patient diagnosis and treatment. In addition, this is an area of healthcare that requires standardization. Accreditation is the formal recognition by an authoritative body noting that the clinical laboratory has an established quality

DOI: 10.4018/978-1-7998-3476-2.ch037

management system and is competent to carry out specific tasks related to testing. The Strengthening Laboratory Management Toward Accreditation (SLMTA) program was established to strengthen national laboratory systems and to drive improvements that are immediate and measurable in developing countries, particularly those in Sub-Saharan Africa. This review seeks to look at opportunities that can be garnered by accredited medical laboratories and challenges in seeking accreditation during the implementation and operational states of the criteria of ISO 15189:2012. It also examines the progress toward clinical laboratories becoming accredited due to the enactment of the SLMTA in resource-limited settings.

INTRODUCTION

Services offered by clinical laboratories are critical to patient care in the healthcare sector. Therefore, they should satisfy the needs of patients and all stakeholders, including physicians. These services are a fundamental part of clinical decision making; laboratory results are the keystone for diagnosis, monitoring, and treatment of diseases. It is reported that approximately 60% to 80% of clinical decisions regarding patient management involve the use of laboratory data (Forsman, 1996). Such investigations are frequently more specific and sensitive than those limited to criteria related to clinical decisions (Mee, Fielding, Charalambous, Churchyard, & Grant, 2008).

Accreditation, as a valued tool for medical laboratories, is recognized worldwide as an effective means of validating the competence of the laboratory. This offers the highest standard of test results and services to clients, including patients and healthcare providers (Kawai, 2010). While accreditation of medical laboratories is mandatory in most countries, it remains voluntary in other countries (Handoo & Sood, 2012). Accreditation involves an independent or authoritative body that certifies that the applicant laboratory meets management and technical requirements and demonstrates competence to successfully complete specific tasks (Kawai, 2010).

International Organization for Standardization (ISO) 15189, based upon ISO 9001 and ISO 17025 standards, affords requirements for quality and competence of medical laboratories (Guzel & Guner, 2009). Many countries have adopted ISO 15189 for their accreditation of medical laboratories, particularly for improving the quality management system, technical competence of staff, and patient safety (Akyar, 2009). There is widespread use of the standard among medical laboratories as a self-assessment tool and by accreditation bodies for both certification and regulation (Handoo & Sood, 2012).

Medical laboratories seeking accreditation using ISO 15189 are faced with many challenges, including insufficient infrastructure, low management support, and increased documentation. Accredited medical laboratories enhance the credibility and competency of their testing services (Peter et al., 2010). On the other hand, medical laboratories that are accredited are known to improve the accuracy of their test results, facilitate rapid diagnostics, and decrease errors at the preanalytical, analytical, and postanalytical stages thus improving quality and safety of patients (Gough & Reynolds, 2000).

This article seeks to examine opportunities that can be garnered by accredited medical laboratories and challenges in seeking accreditation during the implementation and operational states of the ISO

15 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/accreditation-of-medical-laboratories/258798

Related Content

Investigating the Experiences of Mathematics Teacher Technology Integration in the Selected Rural Primary Schools in Namibia

Clement Simujaand Hilya Shikesho (2024). *International Journal of Technology-Enhanced Education* (pp. 1-15).

www.irma-international.org/article/investigating-the-experiences-of-mathematics-teacher-technology-integration-in-the-selected-rural-primary-schools-in-namibia/340028

STEM Becomes STEAM: Educational Innovation in the 21st Century

Dana L. Smerda-Mason (2021). *Emerging Realities and the Future of Technology in the Classroom* (pp. 54-70).

www.irma-international.org/chapter/stem-becomes-steam/275647

A Systematic Review of the Potential Influencing Factors for ChatGPT-Assisted Education

Chuhan Xu (2024). *International Journal of Technology-Enhanced Education* (pp. 1-19).

www.irma-international.org/article/a-systematic-review-of-the-potential-influencing-factors-for-chatgpt-assisted-education/339189

The Pedagogical and Technological Experiences of Science Teachers in Using the Virtual Lab to Teach Science in Rural Secondary Schools in South Africa

Brian Shambare, Clement Simujaand Theodorio Adedayo Olayinka (2022). *International Journal of Technology-Enhanced Education* (pp. 1-15).

www.irma-international.org/article/the-pedagogical-and-technological-experiences-of-science-teachers-in-using-the-virtual-lab-to-teach-science-in-rural-secondary-schools-in-south-africa/302641

Analyzing Current Visual Tools and Methodologies of Computer Programming Teaching in Primary Education

Serhat Altıokand Erman Yükseltürk (2022). *Research Anthology on Computational Thinking, Programming, and Robotics in the Classroom* (pp. 648-676).

www.irma-international.org/chapter/analyzing-current-visual-tools-and-methodologies-of-computer-programming-teaching-in-primary-education/287360