

Challenges and Reforms in Medical Laboratory Technology Education in Pakistan

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DOI: 10.65433/mjms.v3i2.92

Accurate laboratory testing is foundational to correct diagnosis, which in turn guides effective treatment. Such precision is achievable only when tests are performed by well-educated and skilled technologists. The role of medical laboratory technologists is now increasingly being recognized for its critical impact on patient care and public health. With the rising burden of communicable and non-communicable diseases and resultant increase mortality rates, the demand for competent technologists continues to grow.

A plethora of institutes are offering training in MLT both certification and degree programs but unfortunately, only a limited number of institutes in Pakistan currently meet acceptable educational standards and can produce quality graduates proficient in diagnostic procedures. Many of these operate in cramped facilities, often located above grocery stores, and lack essential infrastructure such as properly functioning diagnostic labs and qualified faculty. These institutions often enter into memorandum of understanding (MOUs) with universities/hospitals and continue to run multiple batches without proper oversight. Due to poor facilities and unethical practices such as leaking examination papers or bribing examiners, students are awarded passing grades without merit. As a result, many graduates are unable to perform even basic laboratory tests such as blood grouping upon entering the workforce. Improving the quality of education will directly translate into improved healthcare outcomes.¹

Medical laboratory technologists (MLTs) have diverse career opportunities.² They may work in hospital laboratories, quality assurance units, academia, or seek international careers by passing certification exams such as the American Society for

Clinical Pathology (ASCP), Saudi Licensing Exam, Australian Institute of Medical and Clinical Scientist (AIMS) or Dubai Health Authority (DHA).

The situation is further worsened by the over-reliance on multiple-choice questions (MCQs) as the sole assessment tool. Recent external examination experiences have revealed students' inability to answer even basic viva questions. Common complaints included lack of preparation, inadequate teaching, and poor communication regarding exam schedules.

There is also a lack of uniformity in the curriculum across institutions. The Higher Education Commission (HEC) has not prescribed a standard curriculum, leading each university or institute to develop its own.³ As a result, important subjects such as quality assurance, quality control, and innovation-related content are often neglected. In today's evolving scientific landscape, emerging topics such as artificial intelligence (AI), laboratory entrepreneurship, professionalism, and quality systems must be incorporated into the curriculum.⁴

Since its establishment almost three years ago, the Allied Health Professionals Council (AHPC) has taken concrete steps to regulate allied health education and offer professional registration. However, it still has to enforce power to hold low-quality institutions accountable, especially those operating without proper hospital or diagnostic laboratory affiliations. However, future looks promising as zero visits and inspections have been initiated by the AHPC.

In conclusion, while progress is being made, much remains to be done to strengthen MLT education in Pakistan. A systemic and pragmatic approach involving curriculum standardization, regulatory enforcement, faculty development, and professional recognition is required.⁵

It will be a long and challenging journey, but the outcomes, improved diagnostic accuracy, enhanced public trust, and better health outcomes, are well worth the effort.

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Cite this article as: Balqees A. Challenges and Reforms in Medical Laboratory Technology Education in Pakistan. *Mirpur J. Med. Sci.* 2025;3(2):69-70. <https://doi.org/10.65433/mjms.v3i2.92>.