



Undergraduate Medical Laboratory Training in Kenya: A Personal View

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ABSTRACT

This article reviews about the medical laboratory training in Kenya.

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1.0 Historical Back Ground

The history of medical laboratory training in Kenya dates back to 1945 at Kenya Medical Training College (KMTTC). The first training was for certificate cadres (medical laboratory technicians; 2-year course) followed by diploma training in 1965; 3-year course) and higher diploma in 1971; 1 year course post basic). All medical laboratory trainings are accredited by Kenya Medical Laboratory Technicians and Technologists Board (KMLTTB); a professional regulatory body.

Medical laboratory training for degree level in Kenya was started in the year 2000 at Jomo Kenyatta University of Agriculture and Technology; 4-year course. The first graduates were released into the profession/job market in 2004. Since then the university has trained hundreds of medical laboratory officers/scientists who have been absorbed in both Government and Private institutions. Most universities followed suit in the training of medical laboratory science degrees and currently we have 13 universities among which 10 are government institutions, the University of Nairobi being one of them.

Medical laboratory medicine is an important discipline in patient management and care. The trainings are geared towards producing professionals with the competencies for diagnosis of disease. In this era of emerging noninfectious (non-communicable diseases) and infectious diseases, trainers of these professionals have focused at imparting relevant skills to the students in an effort to provide accurate diagnosis of diseases thereby improving the health of our population/nation. It is presumed that a healthy nation is a rich nation. Since Universal Health Care (UHC) is one of the Kenya Government's prioritized "BIG FOUR" agenda aiming at ensuring healthy lives and promoting well-being for all at all ages, laboratory medicine should be professionally sound, articulate or well-grounded to aid in achieving the agenda. The trainings should also focus on current and emerging roles such as program related work, management, capacity building of other health professionals especially in this era of task shifting, as trainers /lecturers in institutions.

Though most training institutions are doing their best in producing competent graduates, there are important gaps on

capacity that require to be addressed. Practical exposure to undergraduate students is not sufficient for desired professional competencies during students' training. Unlike tertiary training institutions where students have more hours spent in clinical laboratories, bachelor's degree training is given minimal hours. This is a critical gap in training for undergraduates as much more is required of them after graduating. To seal this gap, internship program is necessary for the freshly qualified undergraduates. This process will enable the graduates to polish their skills in medical laboratory practice. Other health care cadres such as nursing and clinical medicine do undergo internships after their university training and this makes them confident when they are handling patients after the completion of their course.

2.0 Personal Views

2.1 Competencies required in Laboratory Medicine

According to Anacleto 2010, p 20, competency is "the ability to perform assigned tasks as per the standard expected in employment" [1]. It constitutes aspects such as "knowledge, skills, abilities and attitudes required" [1,2] in a specific profession/field.

2.1.1 Practical exposure

Laboratory science is a technical course and should be treated as such. Practical exposure is very crucial in the training process of this course.

2.1.2 Internship program

Internship programs should be available for undergraduates for mastering of skills before they start practicing as laboratory officers since not much practical exposure is achieved during the training process.

2.1.2.1 Proposed outlook of the internship program

Internship should encompass 4 key areas

1. Emphasis on technical skills where the graduates are expected to perform all laboratory tests both simple and complex for a period of 7 months under supervision of qualified medical laboratory officers/Technologists. Under this scope the following competencies are desirable: laboratory biosafety and biosecurity, specimen collection and accession, specimen analysis and verification, interpretation, reporting and dispatch of results.

2. Sensitization of Quality management systems (QMS) in the

laboratory, preparation of quality documents and implementation of QMS (3 months).

3. Program related work, management, capacity building of other health professionals (1 month).

4. How to manage problems that arise in the medical laboratory (1 month).

The following matrix can be used to determine if the students have acquired desired competencies upon completion of the internship program.

Table 1. Evaluation matrix.

	Competency required [2]	Evidence [1]
1.	Task skills	Candidates ability to perform tasks according to expected standards
2.	Task management skills	Show that they can meet deadlines for assigned tasks, and be able to perform interrelated activities smoothly [1]
3.	Management of unexpected incidents/unforeseen events	show ability to deal with incidents/eventualities such as breakdowns and any irregularities by trouble shooting as required.
4.	Team work and resilience	Capability to work with others and adapt to varying situations [1]

2.2 Effective attitudes towards the training

Positive attitude is important as this will enable the learner and the trainer to achieve the objectives of the course. Effective attitude from the lecturer/instructor is very crucial in the course of study. Effective approaches include: being kind and supportive to the student, being able to understand and appreciate that every student has different capabilities, being able to motivate all students, and being enthusiastic to stimulate the students' creativity [3,4,5,6,7,8,9,10]. These attributes should be taught to aspiring lecturers/instructors during the course of their study or in on job trainings.

2.3 Mentorship programs

Mentorship during the training should be embraced as this will help students understand their role after completion of the training and as well understand the role of other cadres in both the laboratory and in the hospital. It is through mentorship that they will realize their future career paths.

3. Training at the University of Nairobi

At the University of Nairobi, the school is committed to produce graduates who are highly competitive in the market. True to its Mission and Vision, the University through the department of Human Pathology has come up with strategies to bring excellence in the medical laboratory training. It has organized the training program in such a way that will be possible to impart students with the much needed skills before they graduate. The department has planned to have students trained on safe phlebotomy as a short course in addition to core trainings by well versed consultants before they exit as graduates. The students are introduced to research and do participate in the same in laboratory related disciplines. They are trained on how to write proposals that pass through ethical review committees and therefore preparing them into the world of research.

A very important thing to also note is that students are introduced to the basics in the quality management systems (QMS). Most laboratories in Kenya have embraced quality health services and therefore are implementing the QMS in their institutions. University of Nairobi graduates are advantaged to have gained insights on what QMS is and therefore we are glad that they are capable to implement QMS whichever institutions they will be employed.

When it comes to Mortuary Science and Museum techniques, there are members of faculty who are mentoring

the students. This is a gray area for medical laboratory science graduates as they can get jobs in funeral homes and participate in research in Forensic Pathology. Here, students are taught how to procure autopsy material, how to preserve and process for microscopy and how to preserve them in the museums.

During the course of study, most medical laboratory students have always raised concerns about career prospects after training. Most of them feel that the course they are pursuing maybe undervalued in healthcare. To help students out, the department of Human pathology, has attempted to address their concerns in various ways; one way is by one on one discussions. The department has since planned to have mentorship programs as well, for them as they pursue their studies.

4. Conclusion

In my own understanding, the issue of internship for medical laboratory graduates should be addressed with a lot of urgency. There are no well understood guidelines concerning internship programs for medical laboratory officers. The Government of Kenya through the ministry of Health should give guidelines on this very important aspect in medical laboratory profession.

On issues of mentorship, each training institution should take its part and ensure that the students are aware of who they will be after completion of their studies. Good professionalism and team work should be encompassed in the mentorship programs so that the graduates will blend well with other healthcare workers in the field.

For creativity and other hidden talents in medical laboratory students to be unearthed, effective attitudes should be enforced.

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