

Research Article,

Evaluating Clinical Medicine Training Outcomes In Western Kenya

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Received: 30 April | Accepted: 16 May 2020 | published: 18 May 2020

Abstract:

Objective: The purpose of the study was to evaluate the determinants of Clinical Medicine training outcomes in the Medical Training Institutions and the training health facilities across western Kenya.

Study Design: Quantitative and qualitative cross sectional study

Study Setting: The study was carried out in Kisumu county and the surrounding counties of Vihiga and Nandi.

Subjects/participants: Three MTIs which include Great Lakes University of Kisumu, Uzima University and Kisumu KMTC and also clinical placement sites in Mbale RHTC, Mosoriot RHTC, Chulaimbo RHTC.

Results: The study found out that all clinical placement sites had almost all cadres of health workers though they were few and created a shortage in staffing thereby affecting both health service delivery and clinical training.

Conclusion: There are determinants that influence Clinical Medicine training outcomes when students undergo training in both the MTIs and in clinical placement sites.

Introduction:

Performance Needs Assessment report by USAID/Kenya in 2011 discovered that there were gaps in the desired competencies by the health workers in different health facilities. The real cause of this is not known but could emanate from exposure to training in both Medical training institutions (MTIs) and clinical placement sites. There could have been more factors associated with clinical placements sites not performing to

professional expectations. These MTIs and clinical placement sites should follow the national standards guideline for institutional compliance to offer Clinical Medicine training in Kenya. They should also be certified by the different regulatory boards to offer the different subjects as per the curriculum (1). The quality of training of any professional is key to the provision of quality service to humanity. This is more so for Clinical

Officers who play an important role in the provision of health care in the country. They form the face of the hospitals being the first technical persons to come into face to face contact with patients and clients, as they listen to their complaints, needs and concerns in health matters and seek ways of addressing them. They serve with minimal supervision in all health facilities. So the quality of Clinical Medicine training cannot be overemphasized (2). Skilled training to students in clinical placement sites is of utmost importance in the development of a student's carrier as a clinician. As a matter of practice and as required by various regulatory bodies, students must undergo training in health facilities for exposure in their clinical rotations to include community health and development, health service management and research. This improves the relationship between health system building blocks and health outcomes (3). So, clinical placements of Clinical Medicine students aim at providing a conceptual blueprint with which to analyze clinical exposure, training and mentoring in clinical practice among students from Medical Training Institutions. Among the skills involved include preceptorship, clinical instructorship and mentorship of students posted for clinical placements to the training health facilities. Other areas of focus are staffing, professional guidance, institutional leadership and management, adequacy in spacing, patient visits, availability of diagnostic accessories, pharmaceuticals and related wares, infrastructure, linkages and networking.

Materials and Methods:

Study Design: This was a mixed cross sectional study design that aimed at collecting and comprehending qualitative and quantitative data to determine training outcomes for students of Clinical Medicine in the MTIs and in clinical placement sites in the Lake Basin Region of Kenya.

Study Setting: This study was carried out in Lake Basin Region of Kenya. This area includes Kisumu and its surrounding counties of Vihiga and Nandi.

Study Subjects/participants: One hundred and ninety seven Clinical Medicine students on clinical placements from six MTIs distributed in the three RHTCs for practical experiences at different times during the study period.

Inclusion Criteria:

Lecturers and administrators from Medical Training Institutions who consented to participate in the study and present at the time of the study.

Exclusion Criteria:

Health workers and students who were absent at the time of the study and were unwilling to participate in the study and/ or did not work in the targeted health facilities at the time of the study.

Sample Size Determination and Sampling Techniques:

In the two distant areas of this study all the information received from the three categories of the health facilities was converted into data. This shall include information from health care workers and students present in the clinical placement sites and lecturers from MTIs.

Data Collection:

Data collection methods were interviews and observation that were used in line with a qualitative research approach. The interviews in this research were used to validate the observations through constant comparative analyses during the process. Data was collected from 5 different types of subjects in three different phases.

Data Analysis:

Data collected were analyzed using constant comparative method of qualitative data analysis with constant chairperson of collected

information, confirming throughout the data analysis process. Data analysis process was compared with data from literature for comparative purposes.

Ethical Consideration:

Approval for the research was sought from the Jaramogi Oginga Odinga University of Science and Technology admission and ethical approval committee. Another approval was by the IRB of the Jaramogi Oginga Odinga University of Science and Technology. Information collected was treated with outmost confidentiality and the participants were informed that they were free to withdraw from the study without any repercussion prior to the start of the study.

Results:

The study found out that all clinical placement sites had almost all cadres of health workers though they were few and created a shortage in staffing thereby affecting both health service delivery and clinical training. The participants were selected randomly until a population equal to size sampling from each MTI was attained. Participants/students were distributed as follows:

1. 19 from GLUK
 2. 20 from Uzima University College
 3. 16 from Mt Kenya University
 4. 18 from St Mary's school of Clinical Medicine
 5. 15 from Siaya KMTC
 6. 12 from Kapkatet school of Clinical Medicine
- The health workers study participants were derived from across various cadres and numbers. The numbers depended on the willing participants and were distributed as follows:
7. 5 Consultants in different specialties, that is, Obs/Gynae, Surgery, Pediatrics, Medicine and Health Service Management/Community Health

8. 7 Medical Officers who were general practitioners
9. 12 Clinical Officers
10. 11 Nurses
11. 5 Laboratory Technologists
12. 5 Public Health Officers
13. 4 Lecturers from MTIs
14. 5 Health Records and Information Officers and
15. 8 Others who shall come from other cadres in health care service i.e. social workers, M&E officers, supply chain management, biomedical engineering and accountant.

A total of 100 Clinical Medicine students out of 197 in the clinical placement sites took part in the study, whereas a total of 59 health workers of different health professions working in JOOTRH and Kisumu county hospitals, as well as in the RHTCs were also involved in FGDs. The 8 HODs and 4 lecturers were identified for KIIs on the basis of their direct links with students and their leadership in the departments of Clinical Medicine.

Table 1: Respondents to FGDs in the County and Referral Hospital

Health workers	JOOTRH	KCH	Total
Consultants	2	3	5
Medical Officers	3	3	6
Clinical Officers	3	3	6
Nurses	2	2	4
MLTs	1	1	2
PHOs	1	1	2
HRIOs	1	1	2
Total	13	14	27

The respondents for the FGDs in the referral and teaching hospital (JOOTRH), and Kisumu county hospital were health workers drawn from different cadres as shown in table 4.1. There were a total of 27 respondents in the two major hospitals in the Lake Basin Region of Kenya that provide clinical placements to Clinical Medicine students. These hospitals were JOOTRH and Kisumu county

hospital. The representation of the respondents is further illustrated in the figure below.

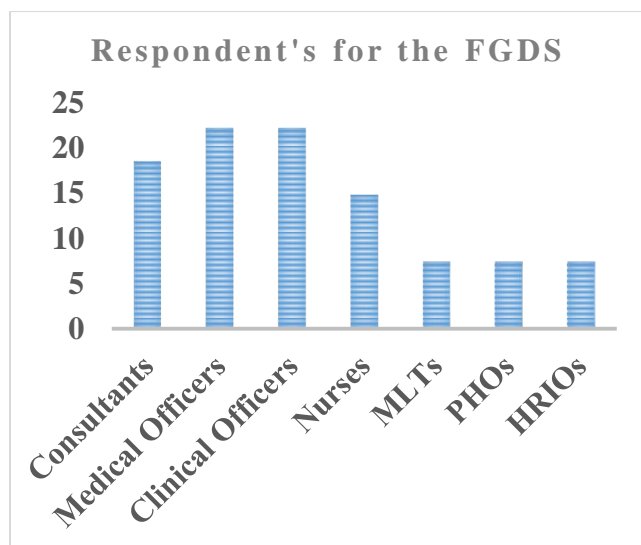


Figure 1: FGD Respondents

The respondents were derived from various cadres of health workers within the hospitals with Medical Officers and Clinical Officers who are both clinicians being on the lead and responding in equal numbers with a total response of 12 (44.4%). This was followed by a total of 5 consultants in various fields of specialty and then 4 nurses. The first four groups with a total of 21(77.8%) are usually the ones involved, in most cases, in the supervision and training of students in clinical areas.

Table 2: Respondents to FGDs in the 3 RHTCs

Health workers	Mbale RHTC	Mosoriot RHTC	Chulaimbo RHTC	Total
Consultants	0	0	1	1
Medical Officers	1	2	2	5
Clinical Officers	1	3	2	6
Nurses	1	3	2	6
MLTs/lab tech	1	1	1	3
PHOs	1	1	1	3
HRIOs	1	1	1	3
All others	2	2	2	6
Total	7	10	10	27

FGDs were held in the three RHTCs with most of the health worker respondents representing their departments appearing for the discussions. The others who appeared for the FGDs were the Supply chain Management officers, M and E officers, Accountants, Biomedical Engineer and Social workers. The FGDs from RHTCs were drawn from various cadres of health workers as shown in table 2.

In these FGDs, there were 13 respondents in Mbale RHTC, 8 respondents in Mosoriot RHTC and 10 respondents in Chulaimbo RHTC totaling to 31 respondents in this study area. The majority of health workers who gave information in the RHTCs were Clinical Officers (7) and nurses (7) out of all respondents in attendance. There was one Medical Officer (Doctor) who was also a respondent making total number of respondent clinicians to be 8. Other responses of FGDs shall come from 8 other cadres of health workers. Of all the 3 HODs of Clinical Medicine in the selected MTIs who were all Clinical Officers 2 of them are graduates of BSc in Clinical Medicine. The study investigated areas of interactions among Clinical Medicine students, lecturers, infrastructure, classes, library, linkages and networking, and leadership and governance in the MTIs and in clinical placement sites since they relate to the Clinical Medicine training outcomes. In general responses came from the following groups of people:

- HODs of Department of Clinical Medicine in MTIs who responded to KIIs.
- Consultants, Medical Officers, and Clinical Officers from Kisumu county hospital and JOOTRH, and Lecturers and staff of MTIs who all responded to FGDs.
- The HODs of Clinical Medicine in the county hospital and JOOTRH clinical placement sites, and three heads of RHTCs clinical placement sites who are all Clinical Officers also responded to KIIs.

A total of 66 Clinical Medicine students were selected from among all students from different MTIs and on clinical placement sites at the time of the study. There were five males and 6 female students undertaking diploma in Clinical Medicine in Mbale RHTC, 8 males and 3 females also in Mbale RHTC but from Mt Kenya University were to be included in the study as respondents. In Mosoriot those selected were 22 Clinical Medicine students in total of which 9 were males and 13 were females. There were 11 students from Siaya KMTC and 11 from Kapkatet mission MTI who were selected for this study. These were all undertaking diploma in Clinical Medicine and Surgery training. The Clinical Medicine students in Chulaimbo RHTC selected for the interview were 11 from Uzima university college and undertaking a BSc degree in Clinical Medicine and Surgery of which 4 were females and 7 were males together with 11 Diploma in Clinical Medicine students who were from St Mary's school of Clinical Medicine of who 4 were females and 7 were males. These Clinical Medicine students form a core category of MTI trainees in this research had a prime function of integrating theory to practice (4). This makes a total of 36 (54.55%) male students in and 30 (45.45%) female students who gave their responses in the RHTCs clinical placement sites. The students interviewed were therefore those who were present at the time of this research study.

Class Attendance:

The researcher found that Majority 36(72%) of workers who were respondents in the RHTCs said that they were sure Clinical Medicine students attended to classes and clinical rotations by seeing them in their clinical placement sites. Only 6(12%) informed the researcher that some students did not appear in classes and in clinical rotations while 8(16%) could not explain.

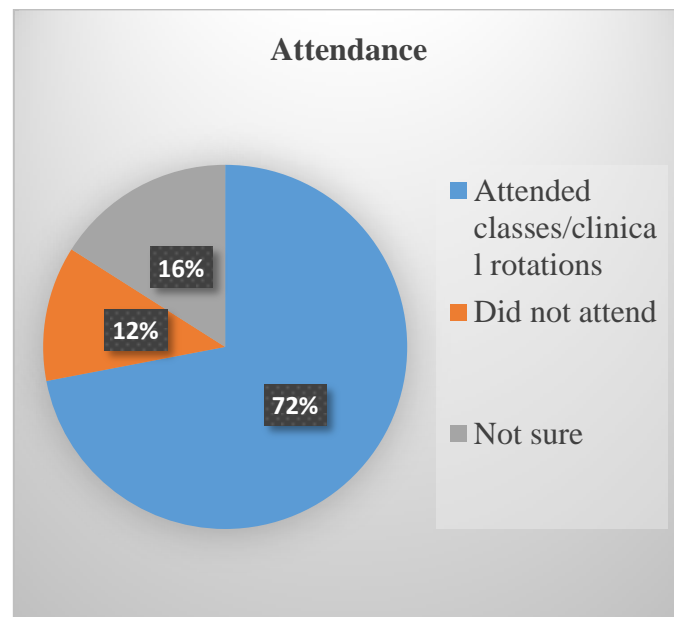


Figure 2: Class and Clinical Rotations Attendance:

These students were said to disappear from their clinical rotation areas especially when they reported immediately or soon after the ward rounds. Almost all respondents in the three RHTC clinical placement sites cited insufficient monitoring of students, laxity by MTIs in following up of the students, family and social problems, absence of lecturers, lack of guidance, negligence with lack of cooperation by students, and bad attitude of students on clinical instructors as areas that make a clinical medicine student not to attend class or not appear for their clinical rotations. There were no class attendance registers in all clinical placement sites.

Relationship between Health Providers and Students:

The relationship between the different cadres of health providers and clinical medicine students was said to be very good 5%, good in 79%, fair 14% and poor 2% of the responses.

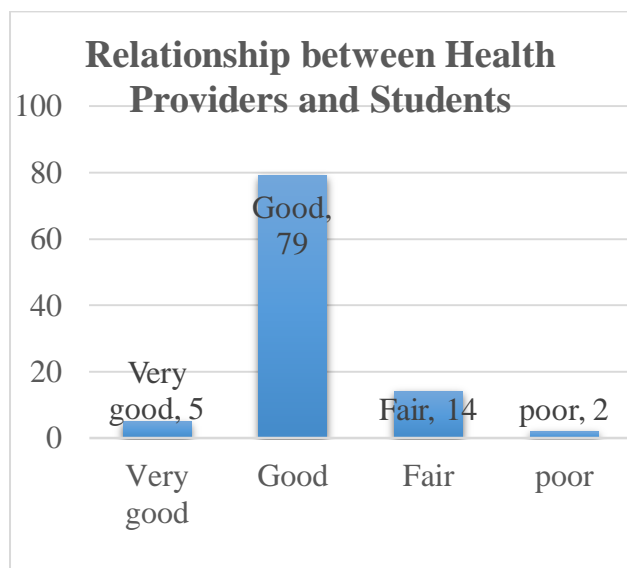


Figure 3: Relationship between health providers and clinical medicine students:

Knowledge imparted to the students of Clinical Medicine by the trained health workers ranged from classroom lectures, learning about management of health facilities in its triad, time management, procurement and supplies; diagnosing various medical and surgical diseases and conditions; and treatment of patients, referrals, community diagnosis, assisting the communities and research. All these are usually included in both theory and hands-on practice. The experience also included health records management in record keeping, retrieving and use; health systems management; M&E; management of Antenatal, intra-partum and postnatal care services; family planning; immunizations; community diagnosis in the field; transparency and accountability of funds; proper use of medical equipment; counselling and communication skills; laboratory diagnosis and investigations; clinical diagnosis, management of diseases; entrepreneurship; mentorship and clinical instructorship.

Human Resource Capacity in the Medical Training Institutions and Clinical Placement Sites:

Information by responses touched on health professionals whose work relate with Clinical

Medicine students, the knowledge they impact in the Clinical Medicine students, their part in ensuring the students attend to classes and clinical rotation and factors that are a hindrance to the students in general. Different responses were captured in the KIIs question guide. Respondents in the three Rural Health Training Centers (RHTCs) which are used for clinical placements of Clinical Medicine students as training health facilities, preferred introduction of class attendance registers in clinical placement sites both in class and in practical areas for all students and supervisors to sign on daily basis daily to ensure presence of students is routinely monitored by supervisors, preceptors and instructors. These officers are also involved in the training of Clinical Medicine students while in their clinical placement sites. It was also revealed that the preceptors, mentors and clinical instructors are not paid or compensated for the extra workload in teaching the Clinical Medicine students.

Clinical examination rooms in all the OPDs of the health facilities visited ranged from three to six and were reported to be ideal with enough chairs and forms and a waiting bay. All OPD departments have injection rooms with nursing staff present. There are a few stretchers available for ambulation of immobile patients and are not sufficient. Major operating theatres were only found in the Kisumu county hospital and JOOTRH, but the RHTCs only have minor theatres. The presence of the type of theatres signifies the related type of operations that take place in a health facility whether major or minor. On average major theatres operated 20 different types of surgeries and 50 minor surgeries in a month while minor theatres operate between 30 and 40 minor surgeries per month. All students reported of being involved in minor surgical operations and only a few are involved in major surgeries. All the clinical placement sites have a functional source of piped water and a well. They all have incinerators for putrissible wastes,

dumping sites for garbage disposal and a placenta disposal pit. There were VIP toilets in all health facilities that were visited. Many students struggle to pay the clinical placement fees to include meals and avoid being sent away due to non-payment. All students loved being in the clinical placement sites and said it was very educative such that they would recommend it to any other student who is willing. Usually it is the MTIs who determine where a student goes for the placement. Students said they were treated very well by the staff and colleagues in all the health facilities. Clinical placement fees are paid in cash to the clinical placement sites by parents or guardians, or paid directly by the MTIs in cheques covering many students. The amount paid per month in RHTCs for accommodation and meals was said to be an average of Ksh 20, 000/= for 8 weeks, while in the Kisumu county hospital and JOOTRH was said to be Ksh 3000/= per month. This amount of pay is charged to take care of breakables with replacements. The only extra curricula activity available in all the rural health training facilities is volleyball with the presence of a volleyball pitch in each RHTC. The two major hospitals do not have facilities for physical activities for trainees.

All the learners felt happy about their clinical attachments. Clinical Medicine students said they are taught by all skilled health professionals who are also preceptors in all departments at the time of clinical rotations in those departments for their exposures, although they are specifically mentored by Doctors/Medical Officers or Clinical Officers. Most of the Clinical Medicine students spend 2 to 3 hours with their mentors daily while in their clinical rotations. On recording of a Likert scale measuring up to 5, the majority 42 (64%) of students marked their mentorship at 5 while the rest shared the remaining 36%. The best knowledge to Clinical Medicine students was by provided by Clinical Officers. There were many linkages and networking among the students most

of which were from different MTIs and others from universities and colleges within or in abroad. Means of communication to be included internet, telephoning and emails, newspapers, and journals. Other linkages were through training of various students from willing MTIs both nationally and internationally. The researcher found out that there are no joint activities that exist between MTIs and other related training institutions other than the clinical placements. At the end of clinical placements, the Kisumu county hospital and JOOTRH sometimes evaluate Clinical Medicine students practically at the end of clinical rotations when the MTIs lecturers make arrangements with the clinical instructors in the hospitals. In the RHTCs not all provide assessments to the students at the end of their clinical preceptorship. The only assessment done is through clinical practice and signing of the logbooks at the end of every procedure for all students. Evaluation is usually done by the facility in-charges, supervisors and clinical instructors. The researcher gathered that the students do not formally evaluate the preceptors, mentors and clinical instructors. Of all students, 41 (62%) gave an overall assessment of the clinical placement sites as good in a Likert scale of 5, 16 (24%) as very good, 5 (8%) as fair, 4 (6%) as poor and non for very poor; where 1=Very poor, 2= Poor, 3= Fair, 4=Good and 5=Very good. The other stakeholders who play a role in clinical placements apart from MTIs are the Government through funding and ultimate support and the communities around who are the beneficiaries. In all students 53 (80%) noted that what motivated them to pursue Clinical Medicine course was to save lives. Others (14%) noted to give service to the needy and the rest (6%) noted to be proud as clinicians.

All the HODs in the clinical placement sites said there were existing policy guidelines in place that regulated Clinical Medicine training in the health facilities. The policy document in place was set by the Government through the Ministry of Health.

One HOD gave names of donors who finance the students in their clinical placement sites as JPiego, JICA and CIDA. The heads are also involved in the classroom and clinical training of the students in all departments whenever they are allocated for the teaching. The researcher found that majority of students who sit for the MTIs Final Qualifying Examinations pass the examination well only for a good number to fail in the National Clinical Officers' Council Examinations. Those who fail wait to reseat the examinations when they are next offered. Declaration of the examination is not done in the private and faith based MTIs and so invitations for the declaration is not as well done. Behavior that was said to be retrogressive in the students' performance in their studies is lack of concentration and hyperactive to many suspected of being drugs and substance abusers. Majority (88%) of respondents in the clinical placement sites mentioned that they were sure Clinical Medicine students attended to classes and clinical rotations by seeing them in their clinical placement sites. The relationship between the different carders of health providers and Clinical Medicine students was said to be good in 80% of the responses. Knowledge imparted to the students of Clinical Medicine by the trained health workers ranged from classroom lectures, learning about management of health facilities in its triad, time management, procurement and supplies, diagnosing various medical and surgical diseases, treatment of patients and referrals, community diagnosis, assisting the communities and research. In all these to be included theory and hands on practice. The experience also to be included records keeping, retrieving and use; health systems management; M&E; Management of Antenatal, labor and postnatal care services; family planning; immunizations; community diagnosis in the field; transparency and accountability of funds; proper use of medical equipment; counseling and communication skills; laboratory diagnosis and investigations; clinical

diagnosis and management of diseases; entrepreneurship; mentorship and clinical instructorship. .

Clinical Medicine students were said to disappear from their clinical rotation areas especially when they reported immediately or soon after the ward rounds. Almost all respondents in the three RHTC clinical placement sites cited insufficient monitoring of students, laxity by MTIs in following up of the students, family and social problems, absence of lecturers, lack of guidance, negligence with lack of cooperation by students, and bad attitude of students on clinical instructors as areas that make a Clinical Medicine student not to attend class or appear for their clinical rotations. There were no class attendance registers in some clinical placement sites.

Availability of Drugs, Equipment and Supplies:

When the researcher explored presence of various equipment in the clinical placement sites, all of them were found not to have sufficient requirements conducive for training Clinical Medicine students. The departments are OPD, maternity, MCH/FP, pharmacy, laboratory, CCC, administration and public health/community health. Many (80%) OPDs in both types of health service delivery points where Clinical Medicine students go for their clinical placements did not have thermometers in their consultation rooms, and clinicians in the name of Clinical Officers are very few and involved in other duties as well. In 60% of the clinical placement sites mothers presenting for deliveries were asked to bring with them gloves supply. Though MCH/FP services were in high demand staffing was a hindrance and some types of FP pills and methods were missing. Important drugs to include antibiotics and analgesics as well as anti-snake venom, anti-malarials and anti-helminths were missing in some health facilities and those who had them did not have enough to last 3 months. Laboratories were well functional but with the little required

assistance, hence they cannot do many relevant laboratory investigations such as LFTs, and culture and sensitivity tests. The CCC clinics were found to offer the much required services but only for the staff shortage. Ambulances were present but few with most 3(60%) health facilities having 2 ambulances and only one in each health facility was functioning. The administration worked hard in all health facilities trying to ensure success but with minimal resources especially skilled staff and finances. The Public Health Department within the clinical placement sites seemed to be unaware of the surrounding environments which could easily become a health hazard given the dirt, dust and poor drainage systems present in all the five clinical placement sites. There were many patients seeking various health services in all departments and there were no departments without a patient or client. Presence of lecturing was witnessed in all the MTIs and health facilities both in the RHTCs clinical placement sites and training hospitals. The 3 heads of the RHT health facilities indicated that their lecturers for Clinical Medicine students was a mixture of those with Diploma in Clinical Medicine and Surgery, Higher National Diploma, Bachelor in Clinical Medicine and Master degrees in health related fields of specialization. At least there was a qualified clinician with some area/s of specialization. The health facilities had in-charges who were qualified with either a HND, a Bachelor degree in Clinical Medicine and Surgery or a Master degree in Public Health. The majority of respondents indicated that those students who go for clinical placements are identified and chosen as a routine after a 2nd year end trimester promotional exam, but there were those who were denied to go for the clinical placements due to lack of payment of tuition and accommodation fee as reported by the respondents. Others were denied to go for the clinical placements because of failing in their 2nd year end trimester promotional examination. There are students who were said to be financed

by donors and other funding organizations through loans such as Funzo Kenya, CDF, and Jpiego.

Status of Infrastructure the Medical Training Institutions:

Data collected revealed presence of learning in MTIs and the clinical placement sites. Though there was learning in RHTCs, accommodation was not available for all Clinical Medicine students due to the ever expanding student population from many MTIs countrywide. This forced some of the Clinical Medicine students to seek for accommodation in the precincts outside the health facilities, and convert dining halls to be their classes wherever meals were not served. There were no libraries in some clinical placement sites especially the RHTCs. There was not enough accommodation for the students within the health facilities and within the MTIs. In some MTIs the heads of departments (HODs) were found to have lesser specifications where BSc in Clinical Medicine and surgery students trained. In the Medical Training Institutions that offer Bachelor of Science in Clinical Medicine degree, respondents reported that some lecturers' qualifications were below the CUE requirements. Some of the lecturers had Bachelors' degrees and others had higher national diploma in various specializations such as Anesthesia, pediatrics, Reproductive health/obstetric gynecology etc. when the researcher explored presence of various equipment in the clinical placement sites, all of them were found not to be sufficient for conductive training of clinical medicine students in the different departments. The major departments are OPD, maternity, MCH/FP, pharmacy, laboratory, CCC, wards, administration and public health/community health.

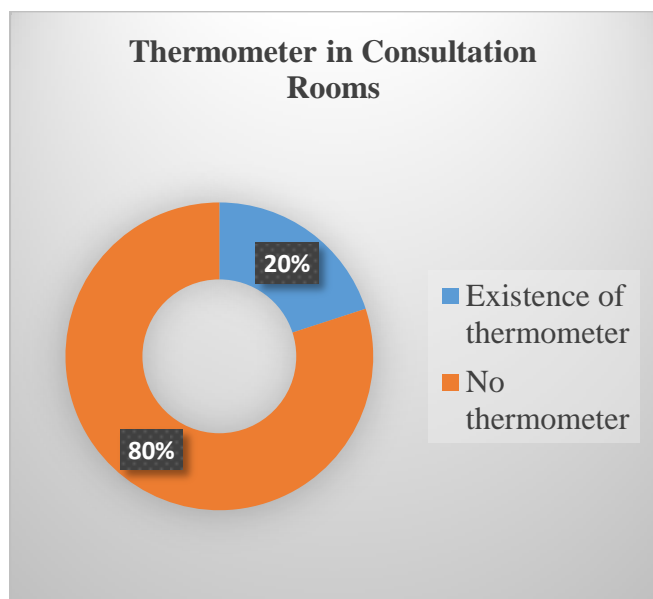


Figure 4: Thermometer in Consultation Rooms:

Many (80%) OPDs in both types of health service delivery points where Clinical Medicine students go for their clinical placements did not have thermometers in their consultation rooms; and clinicians in the name of Clinical Officers are very few and involved in other duties as well apart from administration and teaching other students on apprenticeship.

Many trainers and lecturers qualify to teach diploma classes and below, but they were instead found to teach BSc in Clinical Medicine and Surgery classes. There are no external examiners especially in theory examinations in the department of Clinical Medicine in all the MTIs. There were no libraries in the clinical placement sites and there available with few books did not allow the students to make use of them. Other researcher's observations revealed that in all MTIs there were adequate spaces for playgrounds but not in the clinical placement sites, there were enough equipment and supplies as observed.

Functional Leadership and Governance Structure of the Medical Training Institutions

The leaderships in the clinical placement sites were aware and conversant with the negative

regional politics that kept on coming and thereby affecting clinical placements of students undergoing Clinical Medicine training. Administration and managers of the clinical placement sites expressed their dissatisfaction in the staff shortages.

Table 3: Respondents in the Three KIIs and FGDs in the MTIs:

Health workers	Uzima university college	GLUK	KMTC Kisumu	Total
HODs	1	1	1	3
Lecturers	2	1	1	4
Others	0	0	0	0
Total	3	2	2	7

All the 3 HODs and lecturers were derived from the Department of Clinical Medicine in the three MTIs. All (100%) the heads of training institutions and clinical placement sites are involved in the training of Clinical Medicine students, both in class and clinical placement sites. All the clinical placement sites conduct assessment of students at the end of their clinical rotations, but those who assess them do it through supervision in practical areas during clinical ward rounds, by observations, question and answer sessions.

The final qualifying examinations at the end of Clinical Medicine training are set by the individual lecturers in their respective units as internal examiners without invitation and inclusion of external examiners. All set examinations are not sent to external examiners for counter marking hence there are no checks and balances, or referring but instead are moderated by the Heads of Departments in the MTIs. The FQEs papers are also not forwarded to external examiners for remarking or counter marking but are marked only by the lecturer who set his/her particular units. This was supported by the examination's cumulative mark sheet which confirmed no presence of a signature by an

external examiner. This was said to be a tradition over time. In one of the MTI the HOD sets and marks the FQEs alone for all the six examinable units even those that he did not teach. In releasing of the FQE results, private and faith based universities do not do declaration of results for the reason that it is funds consuming, and they have meager resources. After every clinical rotation covered by a student, log books are filled and signed for by the students and later by the respective clinical instructors, preceptors, mentors and/or supervisors or ward/departmental in charges. At the end of the students' attachment to the clinical placement sites in the health facilities they are subjected to an evaluation about their experiences by use of their filled in logbooks that are signed at the end of each rotation in their areas of clinical exposure by the departmental in-charges. However not all clinical placement sites assess these students by subjecting them to examinations at the end of their clinical rotations. Commenting on the overall performance of students in clinical placement sites, many respondents noted that students had an average performance because of much theory and minimal practical experience. A general view of other respondents was that the Clinical Medicine students exemplified a good performance in the Rural Health Training Facilities. In JOOTRH it was noted that students' had a fair performance while in the Kisumu County Hospital it was noted as good. It was also noted that during one of the MTIs clinical/practical examinations for final qualifying examination in the clinical areas some students (10%) would not tell who was the in-charges of the clinical set ups or names of consultants in the units they were being examined for. Though libraries existed in all MTIs many text books for references and assignment was missing while in the Rural Health Training Facilities, there were no libraries at all. This was not supportive to the studies and performance of the Clinical Medicine students, coupled with lack

of accommodations for all the students and a single classroom in each RHTC which is also used by other students thereby causing confusion due to lack of space. Accommodations that were available are now taken over by KMTCS, after starting nursing training in those facilities. In the Kisumu county hospital and JOOTRH, libraries have very few text books and cannot be assessed by the students but by a few members of staff. In the opinion of the Heads of Departments, and the heads of health facilities, there is need to do close supervision and monitoring of students by according them attendance registers and abrupt visits in the facilities. Almost in all clinical placement sites this study was carried out there was no simulation learning given to students. This type of learning is very important because it actively involves health professions and students in learning, allows practice without harm to patients and used to expose learners to learn more. Although Libraries were found in all MTIs, there were many textbooks that were missing yet those that were found for Clinical Medicine were few on the shelves, according to the requirements by the COC. In some clinical placement sites information obtained revealed that due to lack of enough space in the health facilities some dining halls were used as classes for lecturing of students in Clinical Medicine. This also followed that these students were not accommodated within the health facility and hence interfered with students learning environment. However other areas of physical infrastructure were commendable.

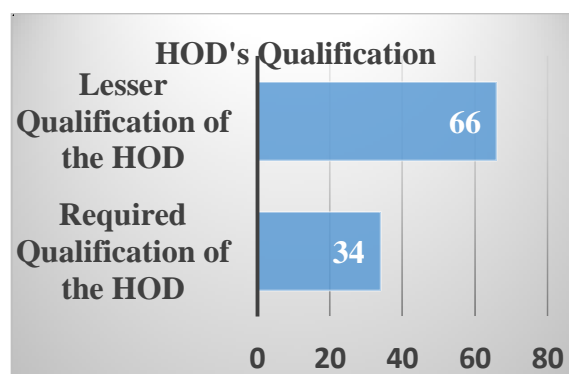


Figure 5: HODs Qualification in General:

In some 2(66%) RHTCs, the heads of departments (HODs) were found to have lesser qualifications where BSc in clinical medicine, surgery and community health students trained. The 3 heads of the RHTCs health facilities indicated that their lecturers for Clinical Medicine students was a mixture of those with Diploma in Clinical Medicine and Surgery; Higher National Diploma with various specializations such as Anaesthesia, paediatrics, Reproductive health/obstetric gynaecology and others. Bachelor of Science in clinical medicine, surgery and community health; and Master degree in any health related fields of specialization. Many trainers and lecturers qualify to teach diploma classes and below due to their qualifications as per the CUE requirement, but they were instead found to teach BSc in Clinical Medicine and Surgery classes. There are no external examiners especially in clinical examinations in the department of clinical medicine in all the RHTCs and the lecturers from the various MTIs are also not involved in the examinations. It is only the lecturers from Uzima University College that accompany their different students who ensure that learning in theory and practice as well as exams are well undertaken by being present always.

Conclusion and recommendation:

In conclusion this study found out that there are determinants that influence Clinical Medicine training outcomes when students undergo training in both the MTIs and in clinical placement sites. Some of the determinants as reported by respondents truly affected and compromised Clinical Medicine training in the MTIs and clinical placement sites. Recommendations are therefore in relation to the five thematic areas that affect practice in Clinical Medicine. This study recommends building capacity of human resource in clinical placement sites and MTIs, Availability of Drugs, Equipment and supplies. Improvement in status of infrastructure and presence of

learning. Functional leadership and governance and linkages and networking with other MTIs, Partners and collaborators.

Acknowledgement:

I sincerely thank Prof. Atieno Amadi for creating an enabling environment for this thesis to be a success. I also thank Prof. Dan Kaseje for initially having led me into identifying this area of my research study among many others. I more profusely thank Prof. Stephen Okeyo, Prof. Jane Mumma and Dr. Dominic Mogere for providing me with an insight, guidance and professional research assistance as my supervisors. I also acknowledge the support offered to me by Prof. Nancy Edward of the University of Ottawa in Canada for bringing clarity to the research process while I underwent the GLUK's international research studentship.

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