

IMPROVED HEALTH TRAINING IN MALAWI

**Peer Evaluation Of Skills Laboratory
Interventions in Malawian Nursing Colleges**

Building Competence of Nursing Students

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We are also grateful for the input we got from the faculty members and students

Abbreviations

Bsc.N	Bachelor of Science in Nursing
CHAM	Christian Health Association of Malawi
DVD	Digital Versatile Disc
KCN	Kamuzu College of Nursing
MCHS	Malawi College of Health Sciences
NCA	Norwegian Church Aid
OSCE	Objective Structured Clinical Examination
VSO	Volunteers Services Organization

Executive Summary

Improved Health Training is a program that started in 2005 with the main purpose of improving nursing education in Malawi. The program is implemented by Norwegian church Aid (NCA) in collaboration with Christian Health Association of Malawi (CHAM). In 2007 the Malawian nursing colleges expressed a need for improving skills laboratories teaching and learning. A needs assessment in the existing skills laboratories was agreed upon to be done in 2008 in order to meet this need. Having done several interventions in the skills laboratory for five years, it became necessary to find out the extent to which the recommendations were implemented.

The Evaluation was conducted in nursing colleges under NCA Cooperation project which comprise of CHAM colleges including Kamuzu College of Nursing and Malawi College of Health Sciences -Zomba and Blantyre Campuses. The questionnaires were used to gather the information, which was collected in a guided interview format from the college principal, then visit to the skills laboratory with the responsible person and interviews of other faculty members and students. Digital photos for the skills laboratory were taken at all sites and have been used to describe the realities in the report. Information was compiled in an excel-file and content analysis was used to understand the qualitative data.

Findings in this evaluation exercise indicated the majority of the recommendations were implemented. Five new skills laboratory were constructed, and four old ones were modernized. Equipment for the skills laboratory were also purchased and distributed to the colleges which comprised of solid equipment, models, classroom teaching and learning aids including a computer, LCD and video camera among other equipment. On their part the colleges included purchase of skills lab requirements in their college budget, formulated committees to govern the skills laboratory, deployed special nurses to man the laboratory.

However there are some areas that still need to be improved. Not all colleges have implemented the recommendations in full and there were some areas which were omitted during the construction of the skills which would have added more value had they not been omitted.

It has been recommended that those colleges that are still falling short of implementing the recommendations should do so that they utilization of the skills laboratory can be more beneficial to tutors and students in acquisition of nursing and midwifery skills.

REPORT ON PEER EVALUATION OF SKILLS LABORATORY IN NURSING COLLEGES

1.0 Introduction/Back ground

Improved Health Training in is a program that started in 2005 with the main purpose of improving nursing education in Malawi. The program is implemented by Norwegian church Aid (NCA) in collaboration with Christian Health Association of Malawi (CHAM). This was in response to the critical shortage of nurses and midwives in country. The program therefore, increased and modernized infrastructure in nine CHAM Colleges on one hand and on the other, improved the quality of the nursing training. Interventions for quality improvement included provision of teaching and learning materials in libraries, computers, other Technological equipment as well as review of curriculum implementation tools such curriculum, course outlines, lesson plans and master plans. Capacity of tutors was built in various areas to improve the process of teaching. This was done in training on teaching methodologies, mental health, human rights, ethics and professionalism.

In 2007 the Malawian nursing colleges expressed a need for improving skills laboratories teaching and learning during a national meeting in Mangochi. In addition to this, tutors who went to Norway in that same year experienced the positive role that skills laboratory plays in providing quality education in nursing. (NCA, 2007, p 4, 7) A needs assessment in the existing skills laboratories was agreed upon to be done in 2008 in order to meet this need. Recommendations from the needs assessment resulted into building and renovating nine skills laboratories and procuring skills laboratory equipment. The colleges had a role to play regarding the improvement of the colleges' skills laboratories.

Year 2008 to 2012 the Improved Health Training in partnership with the colleges has been implementing the recommendations. Therefore it became necessary to know to what extent the recommendations were implemented. An evaluation exercise was then planned.

1. Develop data collection tools with guidance from Programme Coordinator
2. Training nurse educators as enumerators on the data collection tool,
3. Conduct pre-test of the tool,
4. Supervise the data collection,
5. Analyse the data collected
6. And compile an evaluation report

The data enumerators were tutors from the 9 CHAM colleges and MCHS i.e. north, central, south group within the network

This report presents findings of the peer skills lab evaluation which was conducted in all CHAM

nursing colleges and MCHS in September 2012.

Objective of the evaluation

To assess the extent at which the recommendations of the skills laboratory needs assessment have been implemented.

This was achieved by assessing Student and Faculty Population, Administration, Maintenance, Physical Resources, Classroom teaching and learning aids for the skill lab and Accessibility of skills lab

2.0 Methodology

2.1 Evaluators

A team was selected which was constituted by Chimwemwe Kalambo, one of the tutors who conducted the 2007 needs assessment, Susan Sundu who joined later during capacity building sessions on utilization of the skills laboratory and Modesta Simango, a program coordinator for Norwegian Church Aid. These three worked hand in hand with one tutor from each of the colleges that participated in the evaluation. The tutors were heads of clinical departments in the colleges. See attached list.

2.2 Preparation

Prior to data collection the facilitators reviewed the questionnaire which was used during skills laboratory needs assessment in 2008. The team adjusted the questionnaire and discussed methods which should be in use during the assessment. The team decided to adapt the tool to maintain/reduce the risk of deviating from the areas of focus.

. The tutors were oriented using the draft questionnaire and necessary adjustments were made.

The 3 teams together piloted the data collection tool at Nkhoma nursing college. After the pilot the teams refined the questionnaire further more.

2.3 Sites Visited

The evaluation was done in all CHAM nursing colleges and two campuses of Malawi College of Health Sciences (MCHS).

- The CHAM Colleges include:
 - Ekwendeni College of Nursing
 - Holy Family College of Nursing
 - Malamulo college of health Sciences
 - Mulanje College of Nursing
 - Nkhoma College of Nursing
 - ST. Johns College of Nursing
 - ST. Luke's College of Nursing
 - ST. Joseph College of Nursing
 - Trinity College of Nursing

- The MCHS include
 - MCHS Zomba Campus
 - MCHS Blantyre Campus

2.4 Procedure at the Sites

During data collection teams met the college principal or dean of faculty first, and then visited the skills laboratory with the responsible person and conducted interviews with other faculty members and students at the end. Digital photos for the skills laboratory were taken in some colleges

3.0 Findings

3.1 Student and Faculty Population

The results showed a varied student population in CHAM nursing colleges ranging from 101 to 290. At MCHS the student population was 225 and 226 for Blantyre and Zomba campuses respectively (see table 1 below).

In terms of total faculty for CHAM the range was 10 to 23. MCHS had a total of 18 for Zomba campus and 21 for Blantyre campus (see table 1 below). The academic qualification of faculty members in CHAM colleges varied from Diploma to Masters in Nursing with a good number tutors specialised in Nursing Education. MCHS lecturers qualifications ranged from Bachelor Science to Masters degree in Nursing and the majority are specialized in nursing education.

In CHAM colleges there are clinical instructors while MCHS do not have any. The majority of the clinical instructors in CHAM colleges are registered nurses with a Diploma qualification.

The majority of the tutors/ lecturers and clinical instructors have clinical experience of more than 2 years. The results also revealed that most of the tutors and clinical instructors were oriented to teaching methodology and attended NMCM induction courses; only a few in some colleges did not.

Table 1 Student and Faculty population

Category	Nkhoma	Ekwendeni	St Johns	MCHS-BT	MCHS-ZA	Mulanje	St Joseph	St Lukes	Trinity	Holy Family	Malamulo	Total
Student population	124	193	180	225	226	162	290	246	150	118	101	2015
Total Faculty	10	14	14	18	21	13	23	21	11	12	12	269

3.2 Administration

The results revealed that only 7 out of the 11 colleges have a responsible person for the skills lab who reports to the head of clinical department. This is in line with Rideout (2000) who asserts that a well organized skills laboratory should have a person or a team responsible for the general day-to-day running of the skills laboratory.

Some of the duties for the responsible persons were to maintain cleanliness of the room; ensuring equipment is available for skill practice; recording borrowed items and arrange advance bookings and organising for OSCE. In terms of availability of job description only 2 colleges out of the 11 had job description for the responsible person. Nine out of the 11 colleges had rules and regulations for the skills lab although they were not yet approved.

A skills lab committee is available in 7 colleges which is either chaired by the skills lab coordinator /Dean of faculty. Composition of the committee varied among the colleges. Some had incorporated students, members from the hospital while others did not. However minutes were not available, except for one college, to confirm that meetings are conducted; and only 4 colleges had ToRs for the committee

Disposable supplies were available in all the 11 colleges with a good ordering system in place. Inventory list was available in 10 colleges though half of them were last updated in 2011 and are kept in a folder in the skills lab office. On the other hand, 3 colleges had their inventories updated in July 2012.

All the 11 colleges incorporate skills lab resources in their operational budgets and faculty members are involved in the budget preparation. The colleges have managed to buy curtains for the skills lab and disposable resources e.g. gloves, cotton, syringes. Rideout (2001) recommends that sufficient funds are required for a functioning skills laboratory.

Nonetheless, most of the colleges could not implement the budget as planned due to inadequate financial resources. Consequently, the colleges were rescued by donations from NCA, Save the Children and NEP. Some of the items that were donated to the college were mentioned oxygen concentrators, trolleys, suction machine, wheel chair, vacuum extractors, sterilizer, and models for HBB.

3.3 Maintenance

The assessment on maintenance was looking at the routine for cleaning the skill laboratory and equipment as well as repair of broken equipment.

Despite that there is no special cleaner for the skills lab, all the skills lab rooms were clean and most of the equipment had operational manuals. Cleaning of equipment in some colleges is done on weekly basis while others do that soon after a procedure. In terms of repair of the broken equipment, some colleges use both college and hospital maintenance department. On the other hand, only MCHS Zomba campus has a boarding off committee. The other colleges still keep the equipment which is beyond repair in the skills lab or college store room.

3.4 Physical Resources

It is important that the skills lab should mirror the hospital set up with a space of 1000-1500 m² (Rideout, 2001). The evaluation results show that most of the skills lab mirror the hospital set up although some were renovated structures. They have an average of 5 learning units for general nursing and 1 unit for midwifery. The skills lab space vary, ranging from 10.6m by 4.7m (49.83 m²) to 21m by 7.7m (162.7 m²); learning units ranged from 4 to 9 with units with a space of 2.1m by 1.7m (3.6 m²) to 3.1 by 2.6 (8.0 m²) capable of accommodating 6 to 10 students per unit. The learning units are demarcated using curtains. The recommended space needed per learning unit is a minimum of 8 square metres (Rideout, 2001).

On a different note all the skills lab had adequate lighting and ventilation. The office space was also used as a store room in most of the colleges. This was because the skills lab had no provision for a store room, an omission made during planning.

The sluice room in the 9 CHAM colleges are part of the skills laboratory though they do not have the sterilizing area. Both campuses of MCHS use old structures for skills lab hence did not have sluice rooms. See table 2 for the other physical resources which were noted at the 11 colleges. The findings show that the physical learning space was significantly increased, accommodating more students at a time, thereby reducing waiting time for the students to take turns during practice of skills.

It was also found that 5 college's skills lab had no emergency exit doors. This presents a health hazard for users since there is no escape door in case of fire and other emergencies.

Only two colleges have toilets within the skills lab. Although none of the colleges presented this as a problem, it could cause inconvenience at times.

Table 2: Physical resources

Category	Nkhoma	Ekwenden	St Johns	MCHS- Blantyre	MCHS- Zomba	Mulanje	St Joseph	St Lukes	Trinity	Holy Family	Malamulo
skill lab physical space (sqm)	103	162	125	50	62	96.9	95	94	74.8	87.6	82.1
number of learning units	6	9	6	0	6	5	8	8	5	4	6
physical space of learning units	3.6	6.4	6.9	0	3.7	5.0	5.5	5.2	6.1	8	4.8
electrical sockets	6	18	12	2	6	2	16	4	2	2	12
Heater	0	0	0	0	0	0	0	0	0	0	0
Fan	0	0	0	0	0	1	0	0	1	0	0
security- escaping door	1	0	0	2	0	0	1	1	1	0	2
Burglar bars	yes	yes	yes	yes	yes	Yes	yes	yes	yes	yes	yes
sink -elbow handled within ward	0	1	0	0	1	0	0	1	0	0	2
medicine cupboard	yes	yes	yes	yes	yes	Yes	yes	yes	yes	yes	yes
DDA cupboard with register	no	yes	yes	yes	yes	Yes	no	no	no	yes	no
Anatomy learning area	yes	yes	yes	No	No	Yes	yes	yes	yes	yes	yes
Folding screens	yes	yes	yes	yes	yes	Yes	yes	yes	yes	no	yes
Toilets	No	No	No	No	No	Yes	No	No	No	No	yes
kitchen area	No	No	No	No	No	no	No	No	No	No	No

3.5 Solid Equipment

Most of the basic equipment were available in most the skills lab. However, to mirror the hospital setting, a hospital bed environment in the skills should consist of : a mattress, a bedside locker, a chair and a lamp. Additionally, in order to meet the midwifery education needs, a delivery bed should be accessible in the skills laboratory.

Table 3. Solid Equipment

category	Nkhoma	Ekwende ni	St Johns	BT	ZA	Mulanje	St Joseph	St Lukes	Trinity	Holy	Malamulo
Hospital bed adjustable	3	2	0	0	2	4	2	4	3	3	2
Delivery bed	2	1	1	1	1	1	1	1	1	1	1
Mattress	5	6	5	4	6	5	8	7	4	4	7
Trolley with 2 shelves	4	0	3	2	8	1	3	4	1	1	3
I.V stand	2	3	1	2	1	1	1	1	2	2	2
Bed side table	3	3	4	0	2	5	9	3	3	4	3
Bed side Chair	0	0	6	4	7	5	0	0	5	0	6
Examination lamp (Angle poise)	1	1	1	0	1	1	1	1	2	1	1
Examination couch	0	0	0	0	0	0	1	1	0	1	1
Stretcher	0	0	0	0	0	0	0	0	0	0	0
Wheel chair	1	1	1	1	1	1	1	1	1	1	1
Trolley	1	1	3	1	2	1	1	1	1	1	1
Feeding table	3	4	4	3	1	2	4	4	2	3	4
Delivery set	0*	2	2	0*	0*	0*	0*	0*	1	0*	0*
Neonatal resuscitaire	1	1	1	1	0	1	1	1	1	1	1
Baby Resuscitation tray	0	1	1	1	0	0	0	1	0	0	0

Emergency Tray	0	0	0	0	0	0	0	0	1	0	0
Vacuum extractor	1	2	1	1	4	2	1	1	1	1	2

*The colleges have the delivery equipment but they are kept in sterilizing drums instead of making a pack.

3.6 Models

There is a need for a wide range of models in a skills laboratory to meet the curriculum requirements. As such, the mannequins and models should reflect the natural body.

The findings show that most colleges have basic mannequins/ multipurpose models on which more than two procedures can be done e.g. intramuscular injections, catheterization, nasogastric tube insertion (see table 5). However, in all the colleges the models are not necessarily found in the learning unit as it was recommended (Skills lab needs assessment, 2008).

Table 4 Models

Category	Nkhoma	Ekwenden	St Johns	MCHS-Blantyre	MCHS-Zomba	Mulanje	St Joseph	St Lukes	Trinity	Holy	Malamulo
Multi-purpose models adults	3	1	1	2	4	1	2	3	1	0	1
Resuscitation adult	0	7	2	2	1	1	1	1	0	1	1
Resuscitation – child	2	2	1	2	15	3	4	3	2	3	3
Resuscitation – neonate	3	3	3	2	7	4	4	7	4	3	4
Pelvis with uterus	2	1	1	1	6	1	3	2	0	0	1
Pregnant Uterus with a fetus	3	1	1	1	6	1	2	2	1	1	1
Pelvic models	4	5	3	4	-	3	7	7	2	4	3
Pelvic model with fetus at different gestation	2	8	9	18	10	1 set	8	10	10	1 set	0
Models for cervical dilatations	1	4	4	1	3	1 set	4	2 sets	1 set	1 set	1 set

Model for perineal tear / episiotomy repair	4	4	4	3	7	3	12	9	2	3	4
Fetus in formalin	0	0	0	0	1	0	7	0	1	2	0
Placenta	5	0	0	0	6	2	6	20	2	2	4
I.V. arm, I.M./Subcut./ injection limb/dummy	3	1	2	4	4	2 for IV	4	5	3	2 for IV	3
Tourniquet	1	>5	1	0	1	0	1	0	0	3	2
Female genitalia	0	2	1	2	?	1	0	0	1	1	1
Male genitalia	3	2	1	2	11	3	3	5	4	2	3
Breasts	2	1	1	1	3	3	4	2	3	2	2
Model for manual removal of placenta	0	0	0	0	2	0	0	0	0	0	0
Baby with umbilical cord	3	2	2	3	12	2	4	7	2	2	2

3.7 Classroom teaching and learning aids for the skill lab

The purpose of a clinical skills laboratory is to create a multifunctional teaching and learning environment that provides an opportunity for independent learning, self and mediated instruction and the practice of nursing skills (Rideout 2001). The students and teachers should be able to use the skills laboratory for different teaching and learning activities and methods.

It was observed that in most of the colleges there is a black or white board and a flip chart stand in the skills laboratory. The audio visual equipment which was available in all the colleges is the desk top computer. Some colleges have functioning video cameras while others not.

The results also showed that all the college use a variety of teaching and learning methods in the skills lab such as demonstration, supervision, individualised instruction, cases studies, and OSCE. The method which is not commonly used is reflection. Nevertheless, at one of the colleges (Nkhoma) it was observed that when conducting OSCE they also use a classroom due to limited space in the skills lab. All tutors and clinical instructors teach in the skills laboratory specifically for scheduled sessions. In some colleges skill lab sessions are conducted when the students have finished learning theory (have a special week). But the students felt that the procedures should not be accumulated but should be done soon after covering that topic.

All tutors and clinical instructors teach in the skills laboratory specifically for scheduled sessions. The skills demonstrated include all general nursing and midwifery skills. Documentation in the skills lab register is done when a skill has been demonstrated. It was interesting to find that in all the colleges no extra curricula activities such as meetings take place in the skills lab.

Table 5 Classroom teaching and learning aids

ITEM	Nkhoma	Ekwendeni	St Johns	Blantyre	Zomba	Mulanje	St Joseph	St Lukes	Trinity	Holy Family	Malamulo
Blackboard/white board	2	1	2	1	1	1	2	2	1	1	1
Flip chart stand	2	1	1	3	1	1	1	1	0	1	0
VCRs	1	0	0	0	0	0	0	0	0	1	0
DVDs	0	0	3	8	0	sever al	0	1	Sever al	Sever al	Sever al
VCR player	1	0	0	2	0	0	0	0	0	0	0
DVD player	1	0	0	0	0	0	0	0	0	0	1
Video camera	1	1	1	1	1	1	1	1	1	1	1
Screen	1	0	0	0	0	0	1	1	0	0	0
LCD	0	1	1	1	0	1	1	1	1	0	1
Laptop	0	0	0	1	0	0	0	0	1	0	1
Desk top computer	1	2	1	1	1	1	1	1	1	1	1

3.8 Accessibility of skills lab

Accessibility of skills laboratory is of great importance for the students to enable them to be self-directed learners. The results show that in most colleges the skills lab is only accessible to students during working hours. The students at MCHS and the southern group colleges were of the opinion that if the college could have a special person in the skills. This could help them to use the lab at any point in time. Rideout (2001) recommends the use of the skill laboratory by students in the evening and on the weekends to enhance their learning. However in most colleges students are allowed to borrow items in the skills lab and are recorded in a book for borrowed items. However, we were not able to get the opinion of students from Malamulo because they were all on leave.

Many students were aware of the skills lab rules regulations but most of them expressed ignorance on the existence of a skills lab committee their college.

3.9 Other equipment

Other equipment consists of diagnostic, surgical, medical equipment; and anatomical resources (See table 6). A lot of equipment was found in most of the colleges. In some colleges the

equipment was arranged nicely with labels on the cup boards. However, in other colleges it was just heaped anyhow. As a result some of the faculty members were not aware that they had such equipment until we had to dig it out. Most of the anatomical models were displayed on top of cupboards while others were kept in their original bags/ cartons.



A well labeled cup board with anatomical models on top



Office area also being used as store room

Table 6:**Some of the equipment in the skills Laboratory**

Category	Nkhoma	Ekwenden	St Johns	Blantyre	Zomba	Mulanje	St Joseph	St Lukes	Trinity	Holy Family	Malamulo
Diagnostic equipment											
Sphygmomanometer	13	4	14	3	8	10	5	21	12	9	8
Thermometer	27	22	20	3	20	18	0	80	20	17	16
Glucometer	1	2	1	1	2	0	0	0	0	0	0
Baby weighing scale	1	1	1	2	2	1	1	1	1	1	2
Adult weighing scale	2	3	3	2	1	0	2	4	1	1	2
Height board & tape measure	6	4	1	0	0	2	1	1	2	2	3
Snelles chart	3	3	2	2	2	1	4	2	1	1	1
Stethoscope	23	20	15	4	7	8	1	29	13	10	18
Fetal scope	12	10	6	1	7	4	5	11	8	8	6
Doppler	0	2	4	0	0	2	0	5	2	0	3
Speculum	14	30	3	5	5	8	10	14	10	5	0
Patella hammer	4	30	0	1	1	1	10	0	0	1	3
Otoscope	1	4	1	2	3	1	1	1	0	1	1
Pen light torch	0	0	1	1	0	0	1	1	1	0	0
Pulse meter	0	2	0	0	0	0	8	0	0	0	0
Surgical equipment											
Artery forces	33	30	10	15	97	48	39	43	32	37	29
Tenniculum	5	2	1	2	1	1	1	1	0	2	0
Uterine sound	3	0	0	0	0	1	?	0	1	1	0
Gallipots	11	60	4	5	17	12	5	10	16	12	15
Bowls	3	10	3	4	11	10	4	14	10	9	12
Receivers/kidney dishes	?	60	18	6	49	15	32	46	22	14	28
Retractors	4	0	0	6	2	3	3	14	2	3	6
Needle holders	?	15	2	6	4	6	7	10	6	4	4
Sterilizing drums	?	0	2	2	6	2	0	2	1	2	3
Sterilizers	?	2	1	1	3	1	1	1	1	1	1
Measuring jug	?	6	2	3	6	2	1	5	3	2	0
Tray	?	7	5	5	13	6	6	4	8	12	8

Medical equipment											
Suction machine	5	5	5	1	2	2	1	1	2	1	2
Oxygen cylinders	0	0	0	0	1	0	0	0	0	0	0
Oxygen concentrators	1	1	1	1	1	1	1	1	1	1	1
Nebulizer	1	2	1	1	1	1	1	0	1	1	1
Manual vacuum aspiration equipment	2	0	0	0	0	0	0	1	0	0	0
Basins	3	20	0	2	15	7	6	3	8	10	10
Wall clock	0	1	0	0	1	0	0	1	1	0	1
Anatomical resources											
Skeleton	2	3	3	5	1	1	2	2	1	1	1
Torso with internal organs	1	2	2	2	1	1	2	9	1	1	0
Anatomical wall charts	2	>2	>2	>2	>2	6	10	>2	0	8	8

4.0 Progress Made on Recommendations

4.1 Administration

	2008 Recommendations	2012 Findings
	Each college should have a half yearly update of the inventory in the skills laboratory-	done in most colleges (lastly up dated 2011/ 2012)
	CHAM in cooperation with the colleges should make a recommended inventory for the skills laboratory. Donations should be given according to the recommended inventory list and the actual need at the college	being followed
	Lobby CHAM to review the staff establishment so that full time skills lab attendant can be employed to improve the accessibility of the skills lab.	Was not followed
	The colleges should include skills laboratory in their running budget to ensure availability of the required resources and to get an overview over the needs and costs for running the skills laboratory	all colleges now include skills lab requirements in budget.
	Colleges should come up with skills laboratory committee with adequate representation from faculty and students. The committee should draw the rules and regulations for the skills laboratory as well as for the expected behavior including dress code. The committee should be active with minutes to prove their activeness-	Skills lab committees are in place in most colleges, according to students not aware of the committee, rules and regulation in place though not yet approved
	There should be a responsible person(s) or routine for the general day-to-day running and planning of the skills laboratory, including timetabling and coordination	<ul style="list-style-type: none"> • - Most CHAM colleges have but MCHS not yet

4.2 Maintenance

	2008 Recommendations	2012 Findings
	There should be a responsible person for cleaning, organization and maintenance of the equipment as well as the	for cleaning no special person

	facilities-	
	There should be a written routine for maintenance of broken or discarded items.	No board off committee and written routine for maintenance
	There should a logistical system with labeling of cupboards and storeroom so students and staff can easily make use and keep order in the skills laboratory	Some cup boards are labeled while others are not.
	Equipment not in use should not be kept within the skills laboratory-	Most colleges implementing this

4.3 Educational Resources

	2008 Recommendations	2012 Findings
	There should be a work station for students sized after number of learning units within the skills laboratory to promote self directed learning and theoretical studies combined with the practical studies-	working stations in CHAM skills lab apart from MCHS (still using old structures)
	There should be adequate teaching and learning resources in the skills laboratory including blackboard and a permanent audio visual –section containing screen, a DVD player and a portable video camera	The others available in most colleges apart from DVD player
	There should be an updated procedure manual kept within the skills laboratory –	procedures manuals available –especially from Nurses council

4.4 Accessibility of skills Lab

	2008 Recommendations	2012 Findings
	The environment in the skills laboratory should be attractive for students	necessary items e.g. chairs not in the skills lab in all the colleges
	The skills laboratory should be available for students in the evenings and weekends-	according to students, this is still a challenge because most of the times the skills lab is open during the working hours.

4.5 Physical Facilities

	2008 Recommendations	2012 Findings
	The skills laboratory should consist of minimum 6 and maximum 8 learning units (done) according to the number of students at the colleges. The colleges with more than 200 students should have several ward rooms within the skills laboratory. Each learning unit should measure a minimum of 8 square metres	Most are less than 8 sq m
	Double sink with elbow handle in each unit	only is sluice room
	3 electrical sockets per learning unit/bed	done 2 or 1 but in some units there is none
	Ceiling fans and where needed, heaters	– not done
	Office space for documentation and studies-	according to design meant to be an office but Used also as store room
	showcases for the anatomical learning resources	done
	cupboards for some of the equipment and disposables	available
	sufficient lighting	very good in all the colleges
	curtains in the ceiling between the learning units	done
	One storeroom with at least three shelves-meters per learning unit. The shelves should be a minimum of 40 cm depth and 50 cm height	Not done
	<ul style="list-style-type: none"> • One disinfection room with: <ul style="list-style-type: none"> ○ benches for chlorine buckets- ○ sink with elbow handle and working area ○ electrical sockets ○ Cupboards preferable with passage to the ward room. ○ Spacious enough to install a decontaminator in the future. A decontaminator requires a toilet pipeline, water access and electricity- ○ Laundry bag stand 	None- - done -done

	<ul style="list-style-type: none"> ○ Dustbin 	<p>Not really</p> <p>Available in some colleges</p> <p>– Some improvise with cartons</p>
	<ul style="list-style-type: none"> • Kitchen 	- Not done

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4.6 Basic Equipment

	2008 Recommendations	2012 Findings
	Required equipment per learning unit:-	equipment available in skills lab not necessarily per leaning unit

4.7 Models

	2008 Recommendations	2012 Findings
	Each learning unit should have one of the following items	some equipment in one learning unit only e.g. multi purpose mannequins and others available in skills lab not necessarily per leaning unit

6.7 Other equipment and Anatomical resources

	2008 Recommendations	2012 Findings
	Each learning unit should have one of the following items	<ul style="list-style-type: none"> • - some equipment available in skills lab not necessarily per leaning unit

	<p>One learning unit should be a birth bay area with a delivery bed</p>	<ul style="list-style-type: none">• most colleges have one learning unit being used as delivery area/labour ward
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5.0 Conclusion

Both the project and the colleges were very committed to implement the recommendations made in the 2007 needs assessment. However it was observed that there are several areas that still need to be improved. These have therefore been listed as recommendations so the programme and the colleges can continue to work on them.

6.0 Recommendations

1. Colleges should make the Skills lab committees visible at the colleges. This will assist users to follow right channel of communication and therefore increase utilization of the lab.
2. Colleges need to have rules and regulation approved which makes them be formal and can enhance compliance.
3. Colleges need to purchase necessary items e.g. chairs/benches, dustbin etc for these are locally available and in abundance.
4. Access to the skills laboratory need to be improved. The users may not achieve mastery of the skills from the skills lab if they can access the skills lab during the working hours only.
5. Some important aspects of the infrastructure were omitted such as Double sink with elbow handle in each unit and emergency exit in incidences of fire. The skills lab did not have a separate store room as such some equipment are being kept in office which making the offices overcrowded. Therefore it is being recommended that these should be born in mind in construction of skills laboratory.